Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions - TPSGC
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
11 Laurier St.\11, rue Laurier
Gatineau, Québec K1A 0S5
Bid Fax: (613) 997-9776

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Issuing Office - Bureau de distribution

Health Services Project Division (XF)/Division des projets de services de santé (XF)
Place du Portage, Phase III, 12C1
11 Laurier St./11 rue, Laurier
Gatineau
Gatineau
K1A 0S5

Title - Sujet Tactical Medical Training	
Solicitation No. - N° de l'invitation W3931-130167/C	**Date** 2016-11-24
Client Reference No. - N° de référence du client A3931-13-0167	
GETS Reference No. - N° de référence de SEAG PW-$$XF-004-30597	
File No. - N° de dossier 004xf.W3931-130167	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2017-01-06**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☑	
Address Enquiries to: - Adresser toutes questions à: Chalmers, Brianna	**Buyer Id - Id de l'acheteur** 004xf
Telephone No. - N° de téléphone (819) 420-2224 ( )	**FAX No. - N° de FAX** (819) 956-8303
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** See Herein	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée See Herein	**Delivery Offered - Livraison proposée**
Vendor/Firm Name and Address **Raison sociale et adresse du fournisseur/de l'entrepreneur** **Telephone No. - N° de téléphone** **Facsimile No. - N° de télécopieur**	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) **Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)** **Signature** **Date**	

Canada

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION

1.1 Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

Part 1 General Information: provides a general description of the requirement;

Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;

Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;

Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;

Part 5 Certifications: includes the certifications to be provided;

Part 6 Security, Financial and Other Requirements: includes specific requirements that must be addressed by bidders; and

Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Statement of Work, the Basis of Payment, the Security Requirements Checklist, the Electronic Payment Instruments, the Federal Contractors Program for Employment Equity - Certification, the Insurance Requirements, the DND 626 Task Authorization Form and any other annexes.

1.2 Summary

1.1.1 The Department of National Defence (DND) requires contracted support to provide a Canadian Armed Forces Tactical Medical (CAF TAC MED) training course on an ‘as and when requested basis’. This course, designed for CAF medical personnel, primarily Medical Technicians (Med Techs), is tailored to provide development and enhancement of their existing skill set to achieve high-readiness status for deployment or any other types of missions. The Bidder is required to work closely with DND to ensure required training objectives will be met and to update the training plan as DND’s Standing Committee on Operational Medicine adopts lessons learned in battlefield medicine.

1.1.2 All training will be conducted at Canadian Forces Base (CFB) Suffield, under the guidance and oversight of the Defence Research and Development Canada (DRDC) Animal Care Committee (ACC). The Bidder will be responsible to ensure that all training practices, protocols and procedures strictly align with the policies and guidelines of the Canadian Council on Animal Care (CCAC).

1.2.3 There are security requirements associated with this requirement. For additional information, consult Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, bidders should refer to the Industrial Security Program (ISP) of Public Works and Government Services Canada (http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html) website.

1.2.4 The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

1.2.5 The Federal Contractors Program (FCP) for employment equity applies to this procurement; see Part 5 - Certifications, Part 7 - Resulting Contract Clauses and the annex titled Federal Contractors Program for Employment Equity - Certification.

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada. Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2016-04-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 120 days

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.

2.3 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause,"former public servant" is any former member of a department as defined in the Financial Administration Act, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

a. an individual;
b. an individual who has incorporated;
c. a partnership made of former public servants; or
d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the Public Service Superannuation Act (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the Supplementary Retirement Benefits Act, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the Canadian Forces Superannuation Act, R.S., 1985, c. C-17, the Defence Services Pension Continuation Act, 1970, c. D-3, the Royal Canadian Mounted Police Pension Continuation Act , 1970, c. R-10, and the Royal Canadian Mounted Police Superannuation Act, R.S., 1985, c. R-11, the Members of Parliament Retiring Allowances Act, R.S. 1985, c. M-5, and that portion of pension payable to the Canada Pension Plan Act, R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? Yes ( ) No ( )

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

a. name of former public servant;
b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder’s status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? Yes ( ) No ( )

If so, the Bidder must provide the following information:

a. name of former public servant;
b. conditions of the lump sum payment incentive;
c. date of termination of employment;
d. amount of lump sum payment;
e. rate of pay on which lump sum payment is based;
f. period of lump sum payment including start date, end date and number of weeks;

g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is $5,000, including Applicable Taxes.

2.4 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 10 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as “proprietary” will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.5 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.6 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least 15 calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (5 hard copies and 1 soft copy)

Section II: Financial Bid (1 soft copy)

Section III: Certifications (1 soft copy)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the soft copy will have priority over the wording of the hard copy.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

(a) use 8.5 x 11 inch (216 mm x 279 mm) paper;

(b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html). To assist Canada in reaching its objectives, Bidders should:

1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and

2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

3.2 Section I: Technical Bid

In their technical bid, Bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that Bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, Bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

To facilitate bid preparation and bid evaluation, Bidders should prepare and submit their Technical Bid using the following Table of Contents:

3.2.1 Technical Bid Part 1

Part 1, Section 1.1 - Signed Copy of the bid solicitation

This Section should include a signed copy of page 1 of this bid solicitation (which is deemed to include all amendments) as per instructions detailed in 2003 (2016-04-04) Standard Instructions - Goods or Services - Competitive Requirements referenced in Part 2 of this bid solicitation. This Section may also contain an executive summary and/or letter of transmittal at the Bidder's discretion.

Part 1, Section 1.2 - Bidder Contact

This Section should include at a minimum the Name and Telephone Number of a single contact person that is authorized by the Bidder for this bid solicitation.

3.2.2 Technical Bid Part 2

Part 2, Section 2.1 - Mandatory Evaluation Criteria

This Part of the Bid should be prepared in response to the Mandatory Evaluation Criteria contained in Attachment 1 of this bid solicitation.

Part 2, Section 2.2 - Point-Rated Evaluation Criteria

This Part of the Bid should be prepared in response to the Point-Rated Evaluation Criteria contained in Attachment 1 of this bid solicitation.

3.3 Section II: Financial Bid

3.3.1 Bidders must submit their financial bid in accordance with Attachment 2 of this bid solicitation.

3.3.2 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex D Electronic Payment Instruments, to identify which ones are accepted.

If Annex D Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.4 Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

(a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria. There are several phases in the evaluation process, which are described below. Even though the evaluation and selection will be conducted in different phases, the fact that Canada has proceeded to a later phase does not mean that Canada has conclusively determined that the Bidder has successfully passed all the previous phases. Canada may conduct steps of the evaluation in parallel.

(b) An evaluation team composed of representatives of Canada will evaluate the bids.

(c) The evaluation team will conduct a multi-phase evaluation and selection process as follows:

(i) Phase 1: Technical Bid Evaluation (Mandatory and Point-Rated Criteria);

(ii) Phase 2: Verification of Minimum Pass Mark;

(iii) Phase 3: Financial Bid Evaluation; and

(iv) Phase 4: Determination of Evaluated Price Per Point.

(d) The Technical and Financial bids will be evaluated separately.

(e) In addition to any other time periods established in the bid solicitation:

(i) Requests for Clarifications: If Canada seeks clarification or verification from the Bidder about its bid, the Bidder will have two working days (or a longer period if specified in writing by the Contracting Authority) to provide the necessary information to Canada. Failure to meet this deadline will result in the bid being declared non-responsive.

(ii) Extension of Time: If additional time is required by the Bidder, the Contracting Authority may grant an extension at his or her sole discretion.

4.1.1 Evaluation and Selection Process

4.1.2 Phase 1: Technical Bid Evaluation (Mandatory and Point-Rated Criteria)

4.1.2.1 The Bidder's Technical Bid will be evaluated using a consensus-based approach. Technical Bids will be evaluated in accordance with the mandatory and point-rated evaluation criteria as detailed in Attachment 1 of this bid solicitation. Starting with the mandatory criteria, bids will be required to comply with each and every mandatory criterion (technical) of the bid solicitation and given a "Responsive or Non-Responsive" rating. No points will be awarded for compliance with the mandatory criteria.

4.1.2.2 A bid may be deemed non-responsive at any point in time during this phase should it be determined that it has failed to meet any mandatory criterion of the bid solicitation. Only responsive bids will move to the next phase of the evaluation process.

4.1.2.3 Following evaluation of the mandatory criteria, Bidder's written response to the point-rated criteria of the bid solicitation will be evaluated. Bid will be evaluated and scored based exclusively on the merits of the Bidder's written response in accordance with the stated evaluation criteria. A Technical Bid Score out of 300 points will be computed for each responsive bid.

4.1.3 Phase 2: Verification of Minimum Pass Mark

4.1.3.1 Following completion of Technical Bid evaluation (i.e. mandatory and point-rated criteria), each bid's score will be verified against the minimum pass mark. The Technical Bid must achieve minimum of 140 points of the 300 total points available for the point-rated criteria. Technical Bids not meeting this minimum score will be considered non-responsive and will be given no further consideration.

4.1.4 Phase 3: Financial Bid Evaluation

4.1.4.1 In the fourth phase of the evaluation process, each of the responsive bids will be subject to a Financial Bid evaluation as detailed below.

4.1.4.1.1 The Bidder's Financial Bid will be evaluated by PWGSC to ensure compliance with all submission requirements identified in the Financial Evaluation Criteria provided as Attachment 2 of this bid solicitation. Only responsive Financial Bids will move to the next step in the financial evaluation process.

4.1.4.1.2 PWGSC will conduct the financial evaluation by calculating Financial Bid Price Elements in accordance with Attachment 2, Article 2.2 Financial Bid Price Elements.

4.1.5 Phase 4: Determination of the Total Evaluated Price Per Point

4.1.5.1 Following the determination of the Financial Bid Price Elements for each responsive bid, the Total Evaluated Price Per Point will be determined in accordance with Attachment 2, Article 3.

4.2 Basis of Selection

To be declared responsive, a bid must:

(a) comply with all the requirements of the bid solicitation;

(b) meet all mandatory technical evaluation criteria; and

(c) obtain the required minimum points for the technical evaluation criteria which are subject to point rating.

Bids not meeting (a) or (b) or (c) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. PWGSC will rank the responsive bids from lowest to highest Total Evaluated Price Per Point. The responsive bid with the lowest Total Evaluated Price Per Point will be ranked number one and will be recommended for award of a Contract.

Should two or more Bids have an equal Total Evaluated Price Per Point, the bid with the lowest Total Evaluated Bid Price will be ranked number one.

Example:

Bid	Mandatory Criteria	Technical Bid Score (Pass Mark = 227)	Total Evaluated Bid Price	Total Evaluated Price Per Point	Ranking
A	Responsive	590	$3,000,000.00	$5,084.75	1
B	Responsive	250	$2,550,000.00	$10,200.00	3
C	Responsive	250	$1,995,703.74	$7,982.81	2
D	Non-Responsive	N/A	N/A	N/A	N/A
E	Responsive	200	N/A	N/A	N/A

4.2.1 Whether any bid is recommended for contract award depends on all the provisions of this bid solicitation (for example, the vendor performance provisions of Standard Instructions 2003 would affect whether an otherwise responsive bid is recommended for award). Also, Bidders should note that all contract awards are subject to Canada's internal approvals process, which includes a requirement to approve funding in the amount of any proposed contract. Despite the fact that the Bidder may have been recommended for contract award, a contract will only be awarded if internal approval is granted according to Canada's internal policies. If approval is not granted, no contract will be awarded.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Precedent to Contract Award

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

5.1.1 Integrity Provisions – Declaration of Convicted Offences and Required Documentation

In accordance with the Ineligibility and Suspension Policy *(*http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Employment and Social Development Canada (ESDC) - Labour's website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid " list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

5.1.3 Former Public Servant – Competitive Bid

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable

the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause,"former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

a. an individual;

b. an individual who has incorporated;

c. a partnership made of former public servants; or

d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c. C-17, the *Defence Services Pension Continuation Act*, 1970, c. D-3, the *Royal Canadian Mounted Police Pension Continuation Act* , 1970, c. R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c. R-11, the *Members of Parliament Retiring Allowances Act*, R.S. 1985, c. M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? Yes ( ) No ( )

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

a. name of former public servant;

b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? Yes ( ) No ( )

If so, the Bidder must provide the following information:

a. name of former public servant;

b. conditions of the lump sum payment incentive;

c. date of termination of employment;

d. amount of lump sum payment;

e. rate of pay on which lump sum payment is based;

f. period of lump sum payment including start date, end date and number of weeks;

g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is $5,000, including Applicable Taxes.

PART 6 - SECURITY, FINANCIAL AND OTHER REQUIREMENTS

6.1 Security Requirements

6.1.1 Before award of a contract, the following conditions must be met:

(a) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;

6.1.2 After award of a contract, the following conditions must be met:

(a) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirements as indicated in Part 7 - Resulting Contract Clauses;

(b) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;

6.1.3 Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.

6.1.4 For additional information on security requirements, Bidders should refer to the Industrial Security Program (ISP) of Public Works and Government Services Canada (http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html) website.

6.2 Financial Capability

SACC Manual clause A9033T (2012-07-16) Financial Capability

6.3 Insurance Requirements

The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Annex F.

If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

PART 7 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

1.0 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex A and the Contractor's technical bid entitled _____, dated _____.

1.1 Task Authorization

The Work or a portion of the Work to be performed under the Contract will be on an "as and when requested basis" using a Task Authorization (TA). The Work described in the TA must be in accordance with the scope of the Contract.

1.1.1 Task Authorization Process

1. The DND Procurement Authority will provide the Contractor with a description of the task using the "Task Authorization" form specified in Annex G.

2. The Task Authorization (TA) will contain the following:

   (a) the details of the activities to be performed;

   (b) a description of the deliverables;

   (c) a schedule indicating completion dates for the major activities or submission dates for the deliverables;

   (d) the applicable basis (bases) and methods of payment as specified in the Contract;

(e) the most current version(s) of the Medical Technician Protocols and Procedures, Tactical Medicine Guidelines, List of Medications, etc., as applicable.

The following is to be completed by the Contractor and to accompany the TA:

(a) the estimated quantities as per Appendix 8;

(b) the CVs for any replacement Lead Instructor and Course Instructor(s) which will be reviewed and accepted/approved by the DND Procurement Authority and Technical Authority.

3. Once the above has been received, reviewed and accepted/approved by the DND Procurement Authority and the Contracting Authority, the TA will be issued. The Contractor must provide the DND Procurement Authority and the Contracting Authority, within five calendar days of its receipt, the acceptance of the Task Authorization.

4. The Contractor must not commence work until a TA authorized by the DND Procurement Authority and the Contracting Authority has been received by the Contractor. The Contractor acknowledges that any work performed before a TA has been received will be done at the Contractor's own risk.

5. If updated Course Material is required, the Contractor will be given 10 calendar days after the TA has been signed by all parties to deliver the Course Material to the Technical Authority.

1.1.2 Minimum Work Guarantee - All the Work - Task Authorizations

1. In this clause,

"Maximum Contract Value" means the amount specified in the "Limitation of Expenditure" clause set out in the Contract; and

"Minimum Contract Value" means 5% of the Maximum Contract Value.

2. Canada's obligation under the Contract is to request Work in the amount of the Minimum Contract Value or, at Canada's option, to pay the Contractor at the end of the Contract in accordance with paragraph 3. In consideration of such obligation, the Contractor agrees to stand in readiness throughout the Contract period to perform the Work described in the Contract. Canada's maximum liability for work performed under the Contract must not exceed the Maximum Contract Value, unless an increase is authorized in writing by the Contracting Authority.

3. In the event that Canada does not request work in the amount of the Minimum Contract Value during the period of the Contract, Canada must pay the Contractor the difference between the Minimum Contract Value and the total cost of the Work requested.

4. Canada will have no obligation to the Contractor under this clause if Canada terminates the Contract in whole or in part for default.

1.1.3 Task Authorization – Department of National Defence

The administration of the Task Authorization process will be carried out by the DND Procurement Authority identified under the section entitled "Authorities" of the Contract. This process includes

monitoring, controlling and reporting on expenditures of the contract with task authorizations to the Contracting Authority.

1.1.4 Periodic Usage Reports – Contracts with Task Authorizations

The Contractor must compile and maintain records on its provision of services to the federal government under authorized Task Authorizations issued under the Contract.

The Contractor must provide this data in accordance with the reporting requirements detailed below. If some data is not available, the reason must be indicated. If services are not provided during a given period, the Contractor must still provide a "nil" report.

The data must be submitted on a quarterly basis to the Contracting Authority.

The quarterly periods are defined as follows:

1st quarter: April 1 to June 30;
2nd quarter: July 1 to September 30;
3rd quarter: October 1 to December 31; and
4th quarter: January 1 to March 31.

The data must be submitted to the Contracting Authority no later than 15 calendar days after the end of the reporting period.

Reporting Requirement- Details

A detailed and current record of all authorized tasks must be kept for each contract with a task authorization process. This record must contain:

For each authorized task:

i. the authorized task number or task revision number(s);
ii. a title or a brief description of each authorized task;
iii. the total estimated cost specified in the authorized Task Authorization (TA) of each task, exclusive of Applicable Taxes;
iv. the total amount, exclusive of Applicable Taxes, expended to date against each authorized task;
v. the start and completion date for each authorized task; and
vi. the active status of each authorized task, as applicable.

For all authorized tasks:

i. the amount (exclusive of Applicable Taxes) specified in the contract (as last amended, as applicable) as Canada's total liability to the contractor for all authorized TAs; and
ii. the total amount, exclusive of Applicable Taxes, expended to date against all authorized TAs.

1.2 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual(https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

1.2.1 General Conditions

2035 (2016-04-04), General Conditions - Higher Complexity - Services, apply to and form part of the Contract.

1.3 Security Requirements

1.3.1 The following security requirements apply and form part of the Contract.

1. The Contractor must, at all times during the performance of the Contract, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

2. The Contractor personnel requiring access to PROTECTED information, assets or sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.

3. The Contractor MUST NOT remove any PROTECTED information or assets from the identified work site(s), and the Contractor must ensure that its personnel are made aware of and comply with this restriction.

4. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.

5. The Contractor must comply with the provisions of the:

(a) Security Requirements Check List and security guide (if applicable), attached at Annex C;
(b) Industrial Security Manual (Latest Edition).

1.4 Term of Contract

1.4.1 Period of the Contract

The period of the Contract is from date of Contract to _____ (3 years from contract award date – to be determined prior to contract award) inclusive.

1.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to two additional one-year periods under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 30 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

1.5 Authorities

1.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Brianna Chalmers

Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Special Procurement Initiatives Directorate
Address: 11 rue Laurier, Gatineau QC KIA 0S5

Telephone: 819-420-2224
Facsimile: 819-956-8303
E-mail address: Brianna.chalmers@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

1.5.2 DND Procurement Authority

The DND Procurement Authority for the Contract is (to be completed prior to contract award):

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: ___-___-_____
Facsimile: ___-___-_____
E-mail address: _____

The DND Procurement Authority (or delegated representative) is responsible for the DND Contract administration.

1.5.3 Technical Authority

The Technical Authority for the Contract is (to be completed prior to contract award):

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: ___-___-____
Facsimile: ___-___-____
E-mail: _____

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

1.5.4 Contractor's Representative

The Contractor’s Representative is responsible for responding to contractual matters and administrative issues in relation to the contract (to be completed prior to contract award):

Name: _____
Title*:* _____
Organization*:* _____
Address*:* _____
Telephone: ___-___-_____
Facsimile: ___-___-_____
E-mail address: _____

1.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

1.7 Payment

1.7.1 Basis of Payment

The Contractor will be reimbursed for the costs reasonably and properly incurred in the performance of the Work specified in the authorized Task Authorization (TA), as determined in accordance with the Basis of Payment in Annex B, to the limitation of expenditure specified in the authorized TA.

Canada's liability to the Contractor under the authorized TA must not exceed the limitation of expenditure specified in the authorized TA. Customs duties are included and Applicable Taxes are extra.

No increase in the liability of Canada or in the price of the Work specified in the authorized TA resulting from any design changes, modifications or interpretations of the Work will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been authorized, in writing, by the Contracting Authority before their incorporation into the Work.

1.7.2 Limitation of Expenditure – Cumulative Total of all Task Authorizations

1. Canada's total liability to the Contractor under the Contract for all authorized Task Authorizations (TAs), inclusive of any revisions, must not exceed the sum of $ _____ . Customs duties are included and Applicable Taxes are extra.

2. No increase in the total liability of Canada will be authorized or paid to the Contractor unless an increase has been approved, in writing, by the Contracting Authority.

3. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

    a. when it is 75 percent committed, or
    b. four (4) months before the contract expiry date, or
    c. as soon as the Contractor considers that the sum is inadequate for the completion of the Work required in all authorized TAs, inclusive of any revisions,
    whichever comes first.

4. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority, a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

1.7.3 Single Payment

SACC Manual clause H1000C (2008-05-12), Single Payment

1.7.4 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

a) Direct Deposit (Domestic and International)

1.7.5 Discretionary Audit

SACC Manual clause C0705C (2010-01-11), Discretionary Audit

1.8 Invoicing Instructions

1.8.1 The Contractor must not submit claims until all Work identified in the claim is completed. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

a) A copy of the invoices, receipts, vouchers for all direct expenses; and
b) A copy of the DND student evaluation report, in accordance with Annex A, section 7.2.1.1.

Invoices must be distributed as follows:

The original and one (1) copy must be forwarded to the Technical Authority identified under the section entitled "Authorities" of the Contract.

One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

1.9 Certifications

1.9.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

1.9.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

1.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

1.11 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

(a) the Articles of Agreement;
(b) the general conditions 2035 (2016-04-04);
(c) Annex A, Statement of Work;
(d) Annex B, Basis of Payment;
(e) Annex C, Security Requirements Check List;
(f) Annex F, Insurance Requirements;
(g) the signed Task Authorizations (including all of its annexes, if any);
(h) the Contractor's bid dated _____, (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award:*", as clarified on _____" ***or*** ",as amended on _____" *and insert date(s) of clarification(s) or amendment(s)*).

1.12 Canadian Forces Site Regulations

SACC Manual clause A9062C (2011-05-16) Canadian Site Regulations

1.13 Foreign Nationals

SACC Manual clause A2000C (2006-06-16) Foreign Nationals (Canadian Contractor) **OR**
SACC Manual clause A2001C (2006-06-16) Foreign Nationals (Foreign Contractor)

Note to Bidders: One of these clauses, whichever applies (based on whether the successful Bidder is a Canadian Contractor or Foreign Contractor), will be included in any resulting contract.

1.14 Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex F. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within 10 calendar days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than “A-”. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

ANNEX A

STATEMENT OF WORK (SOW)

1.0 Scope

1.1 Purpose

1.1.1 The Department of National Defence (DND) requires contracted support to provide a Canadian Armed Forces Tactical Medical (CAF TAC MED) training course. This course, designed for CAF medical personnel, primarily Medical Technicians (Med Techs), is tailored to provide development and enhancement of their existing skill set to achieve high-readiness status for deployment or any other types of missions. This Statement of Work (SOW) delineates the operational and administrative requirements, as well as the instructional tasks, required by DND. The Contractor is required to work closely with DND to ensure required training objectives will be met and to update the training plan as DND's Standing Committee on Operational Medicine adopts lessons learned in battlefield medicine.

1.2 Background

1.2.1 DND has identified a critical requirement to conduct a formalized, enhanced tactical medical training program primarily for Med Techs, prior to their deployment on high risk missions and operations.

1.2.2 The standard of battlefield medical care is based on the principles of Combat Casualty Care (CCC), which is a step-wise approach of skillsets utilized on the battlefield. The CAF currently delivers training for two levels of CCC skill sets: Combat First Aid and Tactical Combat Casualty Care (TCCC), both of which are designed for non-medical personnel. The CAF does not currently deliver CCC training at the enhanced tactical-medical skill level that is required to optimize the performance of Med Tech duties on the battlefield.

1.3 Research and Development Canada (DRDC) Animal Care Committee (ACC)

1.3.1 All training will be conducted at CFB Suffield, under the guidance and oversight of the Defence Research and Development Canada (DRDC) Animal Care Committee (ACC). The Contractor will be responsible to ensure that all training practices, protocols and procedures strictly align with the policies and guidelines of the Canadian Council on Animal Care (CCAC). Information on CCAC can be found at: www.ccac.ca.

1.4 Terminology

1.4.1 Pluck: Intact porcine larynx, thyroid and cricoid cartilage and trachea. May or may not include the tongue and or lungs.

1.4.2 Live Tissue: A Domestic Swine Model (DSM) with no specific requirement for the type of DSM.

2.0 Tactical Medical Course (TAC MED Course)

2.1 TAC MED Course Scope

2.1.1 The Contractor must deliver the course on an "as-and-when-requested" basis to Med Techs. The course will be requested and authorized through the Task Authorization Process.

2.1.2 The course must provide an appropriate review and practical training in trauma care under austere conditions. This includes not only transferring knowledge and proficiency in specially adapted medical procedures, but also developing confidence in the application of tactical medicine while under high intensity military conditions.

2.1.3 The course must focus on the most current version of the Tactical Medicine Guidelines (example in Appendix 5) as developed by the Standing Committee on Operational Medicine. Guidelines/Protocols are occasionally modified based on new evidence. Updated guidelines/protocols are to be provided by the Technical Authority to the Contractor with Task Authorization. The course must provide a field experience where the student can gain confidence by integrating tactical medicine with military tactics in scenarios appropriate to any theatre of operations.

2.1.4 The course content must be delivered through a combination of didactic teaching, hands-on demonstration, practical laboratory procedures, and table-top live tissue training followed by realistic field scenarios. The field scenarios must be supported by the use of live tissue and must approximate a combat environment. Within the field portion of the course, each student must act as the primary care provider in two separate field combat scenarios developed by the Contractor.

2.1.5 As operational theaters may present with varied terrain, scenarios must be conducted in a variety of terrain as available at CFB Suffield. Terrain available includes open ground, rolling hills/valleys, ravines, rivers and small lakes, and simulated urban terrain. Forested areas are not present at CFB Suffield. Likewise, scenarios must involve a variety of tactical situations, mechanisms of injury, injuries and resultant treatments.

2.1.6 The Contractor is responsible to provide the medical scenarios and the appropriate medical environment required to execute those scenarios. However, DND is responsible to teach the military tactics required for each scenarios to students and to manage the enemy force.

2.1.7 The course will be delivered to a minimum of 12 students and up to a maximum of 36 students.

2.1.8 The number of courses will be dictated by the operational tempo. The current estimate is between 2 and 6 courses per year. This estimate is provided for information only and does not constitute a contractual commitment.

2.2 TAC MED Course Content

2.2.1 The course must include, but is not to be limited to the following teaching areas:

2.2.1.1 History and Development of CAF Tactical Medicine, as detailed in Appendix 1;

2.2.1.2 Medications, as detailed in Appendix 2;

2.2.1.3 CAF Mission Specific Medical Equipment familiarization, as detailed in Appendix 3;

2.2.1.4 Course Topics in internal medicine related to casualty care as per Appendix 4;

2.2.1.5 The DND recommended protocols, included in the Tactical Medical Guidelines as outlined in Appendix 5; and

2.2.1.6 Medical Technicians Protocols and Procedures as described in Appendix 6 should be used as reference only, and not be retaught. DND protocols and procedures must be followed at all times.

2.3 TAC MED Course Duration

2.3.1 The course duration must not exceed 14 consecutive calendar days.

2.3.2 Classroom and table top training must occur during the hours of 07:30 to 18:00; however, field training aspects of the course must be conducted at various times throughout the day and night during the conduct of this course, according to the scheduled scenarios. Courses may run during weekends and statutory holidays.

2.4 TAC MED Course Location

2.4.1 The course will be conducted at CFB Suffield.

2.5 Course Materials and Support (including medical equipment/supplies) provided by DND

2.5.1 DND will provide the materials, support and Medical Kit, listed in Appendix 7 - List of Materials and Support provided by DND and Appendix 8 - Table of Medical Kit available to be provided by DND. These items will be provided to the Contractor for use during the course and quantities are to be confirmed as part of the Task Authorization Process.

2.5.2 DND will provide a licensed physician, as the Medical Director, in order to oversee medical teaching to ensure procedures taught on the course are per the instructor's assigned delegated medical acts and DND Protocols. The Medical Director will act as the final authority regarding the clinical aspects of course content and protocols.

2.6 Course Materials and Support (including medical equipment/supplies) provided by Contractor

2.6.1 The Contractor must provide all equipment necessary for the Instructors to deliver the TAC MED Course as follows:

2.6.1.1 All material and support (including simulators and training aids) not provided by DND;

2.6.1.2 All materials identified for the course at Appendix 9 – Table of Medical Kit available to be provided by Contractor.

2.6.1.3 Medical simulators will be used as a complimentary training aid to the Domestic Swine Model (DSM) and pluck. These simulators will be used to initially review advances skill set and overall casualty management. However, skillsets must be confirmed on DSM. Medical simulators must have the following features:

2.6.1.3.1 Task trainers must be matched to the individual skill set being trained;

2.6.1.3.2 High fidelity simulators will be used for overall casualty management scenarios to best simulate physiological response; and,

2.6.1.3.3 Low fidelity simulators may be used in austere scenarios where the environment and scenario require a more rugged and durable model that is mobile.

2.6.1.4 Consumable clothing for DSM and Casualty Simulation Mannequins.

2.6.1.5 Battle simulation supplies which do not contain any explosive components, are appropriate to the each scenario, and will safely and realistically simulate the following effects:

2.6.1.5.1 Rocket propelled grenades (RPG's);

2.6.1.5.2 Mortar and artillery explosions;

2.6.1.5.3 Grenade, mine strike, Improvised Explosive Device (IED) and Vehicle Borne IED (VBIED) explosions;

2.6.1.5.4 Suicide bombs; and

2.6.1.5.5 Machine gun fire.

2.7 TAC MED Course Language Requirements

2.7.1 The Course must be delivered either in French or English as identified on the Task Authorization. Instructors must be fluent in the language of the given course identified on the Task Authorization. One instructor per course serial must be fluent in both official languages which is defined as being able to read, write and communicate in English and French without assistance.

2.7.2 The Contractor must provide all correspondence, documents, course materials, and instruction to students in either French or English, as identified on the Task Authorization.

2.8 TAC MED Course Material

2.8.1 The Contractor must prepare, maintain, and update the Course Material, in English and French and must, as a minimum, include the TAC MED Course Content and also the medical procedures covered in the course.

2.8.2 The Contractor must provide a copy of all Course Material in English (1 hard copy and 1 PDF soft copy) that will be provided to students during the course as well as the classroom presentations, to the Technical Authority for approval, no later than 30 calendar days after Contract award. The Contractor must complete changes requested by the Technical Authority within 15 calendar days from date of receipt of these changes at no additional cost.

2.8.3 After the English written version of the Course Material is approved by the Technical Authority, the Contractor must then provide 1 hard copy and 1 PDF soft copy of the Training Material in French, as well as the classroom presentations, to the Technical Authority for approval no later than 60 calendar days from the date the English version is approved. The Contractor must ensure the French translation is completed by a professional translator specialized in military and medical terminology. The Contractor must complete changes requested by the Technical Authority within 15 calendar days from date of receipt of these changes at no additional cost.

2.8.4 The Contractor must provide the students with the most current version, approved by the Technical Authority, of the TAC MED Course Material including an electronic version on the first day of the course. Students will retain all issued Course Material provided to them by the Contractor upon completion of the course.

2.8.5 After the initial Course Materials are approved by the Technical Authority, all changes to the Course Materials will be managed through the Change Request Form (described below).

2.9 Training Dates

2.9.1 The DND Procurement Authority will notify the Contractor by sending a Task Authorization at least 30 calendar days prior to the start date of a TAC MED Course, refer to the Task Authorization Process.

3.0 Refresher Course

3.1 Refresher Course Background

3.1.1 Scheduling challenges result in many Med Techs completing the course far in advance of deployment, resulting in skill fade by the time they are deployed to a theatre of operations. Experience has shown that significant skill fade occurs after training when the information and skills are not routinely utilized. For this reason, students that have completed the course outside of a twelve month period may require the Refresher Course.

3.1.2 The Contractor must deliver the Refresher Course, on an “as-and-when-requested” basis. The Refresher Course will be requested and authorized through the Task Authorization Process.

3.2 Refresher Course Content

3.2.1 The Refresher Course must focus on practical training, including:

3.2.1.1 A review and practice of the curriculum presented in the TAC MED Course specifically, but not limited to, cricothyroidotomy, haemorrhage management, and needle decompression in a tactical environment; and

3.2.1.2 An update on any developments based on lessons learned from any current missions will be provided to the Contractor by the Technical Authority when required.

3.2.1.3 Practicing procedures on DSM.

3.3 Refresher Course Duration

3.3.1 The Refresher Course must be no longer than 2 working days conducted during regular business hours (weekdays between 07:30 to 18:00).

3.4 Refresher Course Location

3.4.1 The Refresher Course will be conducted at CFB Suffield.

3.5 Refresher Course Material and Support Provided by DND

3.5.1 DND will provide the materials, support and Medical Kit, listed in Appendix 7 - List of Materials and Support provided by DND and Appendix 8 - Table of Medical Kit available to be provided by DND. The Contractor must also identify the items required from Appendix 8 as these items are provided by DND to the Contractor for use during the course. Quantities are to be provided as part of the Task Authorization Process.

3.6 Refresher Course Material and Support Provided by the Contractor

3.6.1 The Contractor must provide all equipment necessary for the Course Instructors to deliver the Refresher Course as follows:

3.6.1.1 Consumable clothing for DSM; and

3.6.1.2 Any Materials and Support not provided by DND, including simulators and training aids, which are deemed necessary by the Contractor to conduct the Refresher Course.

3.6.2 The Contractor must complete Appendix 9 – Table of Medical Kit available to be provided by Contractor, clearly indicating the materials required for the course up to 30 calendar days after Contract award.

3.7 Refresher Course Language Requirements

3.7.1 The Refresher Course must be delivered either in French or English as identified on the Task Authorization. Instructors must be fluent in the language of the given course identified on the Task Authorization. One instructor per the Refresher Course serial must be fluent in both official languages which is defined as being able to read, write and communicate in English and French without assistance.

3.7.2 The Contractor must provide all correspondence, documents, course materials, and instruction to students in either French or English, as identified on the Task Authorization.

3.8 Refresher Course Material

3.8.1 The Contractor must prepare, maintain, and update the Refresher Course Material, in English and French and must, as a minimum, include the Refresher Course Content and also the medical procedures covered in the Refresher Course.

3.8.2 The Contractor must provide a copy of all Refresher Course Materials in English (1 hard copy and 1 PDF soft copy) that will be provided to students during the Refresher Course as well as the classroom presentations, to the Technical Authority for approval, no later than 30 calendar days after Contract award. The Contractor must complete changes requested by the Technical Authority within 15 calendar days from date of receipt of these changes at no additional cost.

3.8.3 After the English written version of the Refresher Course Material is approved by the Technical Authority, the Contractor must then provide 1 hardcopy and 1 PDF soft copy of the Refresher Course Material in French, as well as the classroom presentations, to the Technical Authority for approval no later than 60 calendar days from the date the English version is approved. The Contractor must ensure the French translation is completed by a professional translator specialized in military and medical terminology. The Contractor must complete changes requested by the Technical Authority within 15 calendar days from date of receipt of these changes at no additional cost.

3.8.4 The Contractor must provide the Refresher Course students with the most current version, approved by the Technical Authority, of the Refresher Course Material including an electronic version on the first day of the Refresher Course. The students will retain all Refresher Course Material provided to them by the Contractor upon completion of the Refresher Course.

3.8.5 After the initial Refresher Course Materials are approved by the Technical Authority, all changes to the Refresher Course Materials will be managed through the Change Request Form (described below).

3.9 Refresher Course Training Dates

3.9.1 The DND Procurement Authority will notify the Contractor by sending a Task Authorization at least 30 calendar days prior to the start date of a Refresher Course, refer to the Task Authorization Process.

4.0 Post-Course Report for TAC MED Course and Refresher Course

4.1 The Contractor must complete and submit a Post-Course Report, in MS Word or PDF soft copy, after each course to the Technical Authority and the DND Procurement Authority within 30 calendar days after completion of the training. The Post-Course Report is in reference to the course only and must include, but is not limited to, identification of problems encountered and proposed improvements.

4.2 It is DND's responsibility to assess and modify the course if required. The Contractor must not submit a course evaluation to the students to evaluate the course on their behalf. DND will evaluate the course with its own survey and provide course feedback to the Contractor as required.

5.0 Lead Instructor and Course Instructor(s)

5.1 The Lead Instructor is in charge of the overall conduct of the courses and is the liaison between the Technical Authority and the Contractor's staff. The Lead Instructor provides overall guidance and supervision for all the Course Instructors teaching the TAC MED Course and/or the Refresher Course. The Lead Instructor ensures all Course Instructors are teaching in accordance with Tactical Medical Guidelines and Protocols (refer to Appendix 5 and 6) and that they transmit their knowledge in an appropriate way. The Lead Instructor is also responsible to ensure that both courses are being taught in accordance with the SOW.

5.2 Both the Lead Instructor and the Course Instructor(s) must follow the current Tactical Medicine Protocols and have tactical medicine experience in a combat theatre of operations or civilian tactical equivalent (i.e. Police organization/Tactical Team).

5.3 The CV of any additional or replacement Lead Instructor or Course Instructor must be submitted to the DND Procurement Authority and Technical Authority for acceptance/approval upon receipt of the Task Authorization.

5.3.1 The Lead Instructor(s), as a minimum, must possess the following qualifications:

5.3.1.1 A minimum of 60 months of demonstrated experience in Emergency Medical Services medicine;

5.3.1.2 A minimum of 12 months of demonstrated experience as an instructor delivering medical training to adults;

5.3.1.3 Demonstrated experience providing military tactical medicine instruction for at least one course serial within the last 48 months;

5.3.1.4 Demonstrate experience providing instruction for at least 8 course serials of at least 5 days in length with live tissue;

5.3.1.5 Demonstrated experience in course quality assurance (for example, troubleshooting and improving course content); and

5.3.1.6 Demonstrated experience in the management of others (for example, managing subordinate instructors).

5.3.2 The Course Instructor(s), as a minimum, must possess the following qualifications:

5.3.2.1 120 hours of experience in teaching within the last 2 years; and

5.3.2.2 A minimum of 6 months of tactical medicine experience in a combat theatre of operations or civilian tactical equivalent (i.e. Police organization/Tactical Team).

5.4 If the Technical Authority considers that a Course Instructor could jeopardize the learning of the students or success of either course, the Technical Authority will discuss with the Lead Instructor the options to rectify the situation. This includes but is not limited to:

5.4.1 The Lead Instructor providing counselling to the Course Instructor;

5.4.2 The Lead Instructor reassigning instructional tasks; and/or

5.4.3 The Lead Instructor replacing the Course Instructor.

5.5 The Contractor must deliver each course with the following Course Instructor to student ratio:

5.5.1 A 1:6 ratio for technical surgical procedures (classroom and table top); and

5.5.2 A 1:1 ratio for field scenarios during evaluation (not applicable for the Refresher Course).

6.0 Training Plan

6.1 Training Plan Format

6.1.1 The Training Plan must be prepared in the Contractor’s format in MS Word and must include, but not to be limited to the following:

6.1.1.1 Title Page;

6.1.1.2 Table of contents;

6.1.1.3 Document Control Log; and

6.1.1.4 Revision Record.

6.2 Training Plan – TAC MED Course

6.2.1 Section 1 – Course description must describe the layout and timing to include:

6.2.1.1 A maximum of 2 calendar days for theory portion of the course;

6.2.1.2 3 to 5 calendar days for demonstration, table top and practical training; and

6.2.1.3 5 to 7 calendar days for the field training portion of the course, to include 2 opportunities per student as primary care provider, and time allotted for weapon and equipment cleaning.

6.2.2 Section 2 – In-House Course Schedule must describe the schedule for classroom topics, demonstration, table top and practical training;

6.2.3 Section 3 – Field Training Course Schedule must describe the schedule for the field portion, including proposed scenarios;

6.2.4 Section 4 – Course Materials and Support must describe the proposed material and equipment to support training, include a combination of live tissue (DSM and Pluck), task trainers and medical simulators (including mannequins); and

6.2.5 Section 5 – Course Lesson Plans must describe the proposed course lessons for each specific subject described in Appendix 4.

6.3 Training Plan - Refresher Course

6.3.1 Section 1 – Course Description must describe the layout and timing to include:

6.3.1.1 0.5 working days of theoretical training; and

6.3.1.2 1.5 working days of practical training.

6.3.2 Section 2 – In-House Course Schedule must describe theoretical and practical training, including proposed scenarios.

6.3.3 Section 3 – Course Material and Support must describe the proposed didactic material and equipment to support training. The course must include a combination of live tissue (DSM and Pluck).

6.3.4 Section 4 – Course Lesson Plans must describe the proposed course lessons for each specific subject described in Refresher Course Content.

6.4 Submission of Training Plans

6.4.1 Any required changes by the Technical Authority to the Training Plan must be submitted at the Kick-off Meeting.

6.4.2 The Contractor must submit the Training Plan for the Refresher Course no later than 30 calendar days after Contract award.

6.4.3 Any further changes to the Training Plans mentioned above will be managed through the Change Request Form (described below).

7.0 Evaluation and Remediation Plan

7.1 Evaluation of the TAC MED Course and the Refresher Courses' Students

7.1.1 The Contractor must evaluate each student who attends a course and provide written reports in accordance with the Contractor's Evaluation and Remediation Plan described below.

7.2 Evaluation and Remediation Plan

7.2.1 The Contractor must provide the Evaluation and Remediation Plan at the Kick-off meeting. Changes to the Evaluation and Remediation Plan will be managed through the Change Request

Form (described below). The Evaluation and Remediation Plan must conform to the following constraints:

7.2.1.1 The Contractor must provide a report on the results of the DND student evaluation and performance (describing their strengths and weaknesses), in the Contractor's own format in MS Word to the Technical Authority no later than 10 working days following the completion of each course. The report is to include the following information, where applicable:

7.2.1.1.1 Course dates and title of course;

7.2.1.1.2 The total number of course students at the start of the course;

7.2.1.1.3 The number and names of course students that encountered little to no difficulty; and

7.2.1.1.4 The number and names of course students that encountered difficulties, indicating the areas of difficulty and where the students were unsuccessful;

7.2.1.2 The Contractor will provide, at a minimum, 1 Course Instructor to review previously taught material between the hours of 19:00 and 21:00 during the In-House portion of the course. The emphasis for this time will be on remediation; and

7.2.1.3 All additional training attempts must be completed prior to completion of the course cycle. In the event that a student encounters difficulty in a subsequent attempt, the Contractor must provide a summary of remediation and recommendation to the Technical Authority (as per above).

8.0 Management of Changes

8.1 Management of Changes to Scope

8.1.1 The goal is to maintain medical and tactical currency in delivering the courses, and its associated deliverables, as much as possible so as to reflect current missions and the most current materials used by the DND personnel on deployed missions.

8.1.2 Changes can be requested by DND or suggested by the Contractor for the following:

8.1.2.1 Training Plans;

8.1.2.2 Course Materials (i.e. Course content, classroom presentations, etc.);

8.1.2.3 Materials and Support provided by DND;

8.1.2.4 Materials and Support provided by Contractor; and

8.1.2.5 Evaluation and Remediation Plan

8.1.3 DND may request changes such as, but not limited to, the course content, scenarios reflecting current theatres of operations, and the latest equipment used by the deployed CAF medical personnel.

8.1.4 The Contractor may suggest changes such as, but not limited to, developments and advances relevant to the training being provided, and responding to course deficiencies and feedback identified by DND and course participants.

8.2 Change Request Form (CRF) Process

8.2.1 All requests for changes identified above must be submitted using CRF template, Appendix 10.

8.2.2 The CRF must fully describe and substantiate the change(s) required. The Contractor must neither change nor modify the items identified above without an approved CRF.

8.2.3 All CRFs require the approval of the Technical Authority and the DND Procurement Authority. The approval of the Contracting Authority is required if any of the Contract terms and conditions require change.

8.2.4 Changes driven by DND includes the following steps:

8.2.4.1 The Technical Authority will complete Sections 1 to 8 of the CRF;

8.2.4.2 The Technical Authority will send the CRF to the DND Procurement Authority for review;

8.2.4.3 The DND Procurement Authority will send the CRF to the Contractor;

8.2.4.4 The Contractor will complete Sections 9 to 16 of the CRF;

8.2.5 For changes driven by the Contractor, the Contractor will complete Sections 1 to 16 of the CRF and submit it to the Technical Authority as well as the DND Procurement Authority for review.

8.2.6 If any proposed changes result in changes to the Contract which includes any appendices, annexes, etc.; the Contracting Authority is to be notified and the steps forward will be determined at that time. It is at the sole discretion of the Contracting Authority if the changes will be accepted. If accepted the changes will result in a Contract amendment.

8.2.7 The approval and implementation process of CRF includes the following steps:

8.2.7.1 The Technical Authority will complete Section 17 of the CRF if there is no resulting change to the Contract and will submit it to the DND Procurement Authority if required;

8.2.7.2 Once the signed CRF is received, the Contractor must submit an amendment to the applicable document(s) to the Technical Authority and the DND Procurement Authority for review;

8.2.7.3 Once all amendments are approved by the Technical Authority (and DND Procurement Authority if applicable), the changes can be implemented; and

8.2.7.4 DND will implement changes, as required.

9.0 Meetings

9.1 Kick-off Meeting

9.1.1 The Contractor must participate in a Kick-off Meeting at a DND facility or by means of a teleconference or video conference, with the Contracting Authority, the Technical Authority, the DND Procurement Authority and any other authorized representative(s) no later than 14 calendar days after Contract award.

9.1.2 The purpose of the kick-off meeting is to review and clarify the requirements. The meeting is not a venue for making changes to the Contract.

9.1.3 The Kick-off Meeting must address the following items:

9.1.3.1 Roles and responsibilities of key personnel and points of contact;

9.1.3.2 Key Contract terms;

9.1.3.3 Timelines;

9.1.3.4 Deliverables;

9.1.3.5 Communication;

9.1.3.6 Procedures for monitoring and reporting progress;

9.1.3.7 Change management process; and

9.1.3.8 Contract administration.

9.2 Other Meetings

9.2.1 The Contractor or DND can convene meetings, as needed, to report progress, to raise important issues or questions associated with the course or to seek clarification. These meetings will be conducted by teleconference, videoconference or as mutually agreed upon between the Contractor and DND.

9.2.2 The Contractor or DND may schedule reviews, such as briefings and technical meetings, to help achieve the requirements of the Contract.

9.3 Agenda for all Meetings

9.3.1 The Contractor must provide an agenda for all meetings at least 2 working days prior to meeting date.

10.0 Deliverables

10.1 The deliverables are listed in Appendix 11.

Appendices

Appendix 1 History and Development of CAF TAC MED

Appendix 2 List of Medications for TAC MED Course

Appendix 3 CAF Mission Specific Medical Equipment for TAC MED Course

Appendix 4 Course Topics

Appendix 5 Tactical Medical Guidelines for Canadian Forces Medical Technicians

Appendix 6 Medical Technicians Protocols and Procedures

Appendix 7 List of Materials and Support provided by DND for TAC MED or Refresher Course

Appendix 8 Table of Medical Kit available to be provided by DND

Appendix 9 Table of Medical Kit available to be provided by Contractor

Appendix 10 Change Request Form

Appendix 11 Deliverables

For all applicable appendices, the items that are described and/or referenced may change from time to time for the duration of the Contract. These items may be replaced with a newer model or if there is change to the program that requires a different item to be used or a more efficient item is readily available. These Contract changes are not anticipated to be frequent and will be within reasonable terms.

ANNEX B

BASIS OF PAYMENT

The below pricing is for the delivery of the TAC MED Course or the Refresher Course as indicated. It is inclusive of all SOW requirements and all travel costs which includes all living expenses for the Lead Instructor and/or the Course Instructor(s).

1. Tactical Medical Course

1.1 English Tactical Medical Course at CFB Suffield - Initial Contract period

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Contract Year 1					
Contract Year 2					
Contract Year 3					

1.2 English Tactical Medical Course at CFB Suffield - Option Periods

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Option Year 1					
Option Year 2					

1.3 French Tactical Medical Course at CFB Suffield – Initial Contract period

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Contract Year 1					
Contract Year 2					
Contract Year 3					

1.4 French Tactical Medical Course at CFB Suffield - Option Periods

	Fixed Price Per Course

Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Option Year 1					
Option Year 2					

2. Tactical Medical Refresher Course

2.1 English Tactical Medical Refresher Course at CFB Suffield - Initial Contract period

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Contract Year 1					
Contract Year 2					
Contract Year 3					

2.2 English Tactical Medical Refresher Course at CFB Suffield - Option Periods

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Option Year 1					
Option Year 2					

2.3 French Tactical Medical Refresher Course at CFB Suffield – Initial Contract period

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Contract Year 1					
Contract Year 2					
Contract Year 3					

2.4 French Tactical Medical Refresher Course at CFB Suffield - Option Periods

	Fixed Price Per Course				
Task Authorizations issued during:	**Range for the maximum number of DND students in attendance at one time for a Course**				
	12	13 to 18	19 to 24	25 to 30	31 to 36
Option Year 1					
Option Year 2					

ANNEX C

SECURITY REQUIREMENTS CHECK LIST

See attached.

ANNEX D to PART 3 - BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts to be paid by any of the following Electronic Payment Instrument(s):

( ) Direct Deposit (Domestic and International)

ANNEX E to PART 5 - BID SOLICITATION

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY – CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit Employment and Social Development Canada (ESDC) – Labour's website.

Date:_____(YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

( ) A1. The Bidder certifies having no work force in Canada.

( ) A2. The Bidder certifies being a public sector employer.

( ) A3. The Bidder certifies being a federally regulated employer being subject to the *Employment Equity Act*.

( ) A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

( ) A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

OR

( ) A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

( ) B1. The Bidder is not a Joint Venture.

OR

( ) B2. The Bidder is a Joint venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

ANNEX F

INSURANCE REQUIREMENTS

COMMERCIAL GENERAL LIABILITY INSURANCE

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than $2,000,000 per accident or occurrence and in the annual aggregate.

2. The Commercial General Liability policy must include the following:

    a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.

    b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.

    c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.

    d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.

    e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.

    f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.

    g. Employees and, if applicable, Volunteers must be included as Additional Insured.

    h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)

    i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.

    j. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.

    k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.

l. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.

m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.

n. Litigation Rights: Pursuant to subsection 5(d) of the *Department of Justice Act*, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:

Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:

Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

ANNEX G

DND 626 TASK AUTHORIZATION FORM

See attached.

Appendix 1

History and development of CAF TAC MED

"Tactical Combat Casualty Care in the Canadian Forces: Lessons learned from Afghan war"

Tactical Combat Casualty Care in the Canadian Forces: lessons learned from the Afghan war

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DOI: 10.1503/cjs.025011

Tactical Combat Casualty Care (TCCC) is intended to treat potentially preventable causes of death on the battlefield, but acknowledges that application of these treatments may place the provider and even the mission in jeopardy if performed at the wrong time. Therefore, TCCC classifies the tactical situation with respect to health care provision into 3 phases (care under fire, tactical field care and tactical evacuation) and only permits certain interventions to be performed in specific phases based on the danger to the provider and casualty. In the 6 years that the Canadian Forces (CF) have been involved in sustained combat operations in Kandahar, Afghanistan, more than 1000 CF members have been injured and more than 150 have been killed. As a result, the CF gained substantial experience delivering TCCC to wounded soldiers on the battlefield. The purpose of this paper is to review the principles of TCCC and some of the lessons learned about battlefield trauma care during this conflict.

Le programme de Secourisme en situation de combat (SSC) a pour objet de dispenser les premiers soins sur le champ de bataille afin de prévenir les décès par des interventions immédiates. On reconnaît toutefois que l'administration des soins, si elle se produit au mauvais moment, peut mettre en danger la vie du soignant et parfois même compromettre la mission. Le SSC classe donc les situations tactiques en 3 phases aux fins de la prestation des soins de santé (soins sous feu ennemi, soins tactiques, soins évacuation) et n'autorise que certaines interventions selon les phrases et en fonction du danger pour le soignant et pour le blessé. Au cours des 6 années pendant lesquelles les Forces canadiennes (FC) ont participé à des missions soutenues de combat à Kandahar, en Afghanistan, plus de 1000 membres des FC ont été blessés et plus de 150 autres ont perdu la vie. En résultat, les FC ont acquis une grande expérience de la prestation de SSC à des soldats blessés. Cet article passe en revue les principes du SSC et quelques-unes des leçons apprises au sujet des traumatismes sur le champ de bataille au cours de ce conflit.

The fate of the wounded lies in the hands of the ones who apply the first dressing.
Dr. Nicholas Senn

In 2002, the Canadian Forces (CF) first deployed to Kandahar, Afghanistan, as part of the United States–led "War on Terror" in response to the Sept. 11, 2001, terrorist attacks. This was the first time Canada had deployed soldiers on combat operations since the Korean War. Prior to this deployment, the CF introduced a then-novel paradigm of prehospital trauma care designed for the battlefield: Tactical Combat Casualty Care (TCCC). Fortunately the CF sustained few casualties on that mission, but it did emerge from that phase of the conflict with a determination to further develop TCCC within the CF.

The CF subsequently deployed to Kabul, Afghanistan, in 2003 as part of the International Security Assistance Force (ISAF), which was formed under the Dec. 20, 2001, United Nations Security Council Resolution 1386. The ISAF's initial mandate was to maintain security in and around Kabul so employees of the Afghan Interim Authority (the body governing Afghanistan) and the United Nations could operate in a secure environment. In 2005, the ISAF began to extend its operations beyond Kabul to support the development and growth of Afghanistan's governmental institutions, especially its national security forces. As part of these efforts, a Canadian whole-of-government mission, including the CF, returned to Kandahar province in 2005 and relieved a US Army Task Force who had deployed under the original "War on Terror" mandate.[1]

As part of the ISAF, the CF was responsible for combat operations in Kandahar province from 2005 until our recent handover to the US Army on July 7, 2011. The 6 years of sustained combat operations in the volatile province have

resulted in more than 1000 CF members being injured and in more than 150 being killed. As a result, the CF gained substantial experience delivering TCCC to wounded soldiers on the battlefield. The purpose of this paper is to review the principles of TCCC and some of the lessons learned about battlefield trauma care during this conflict.

Background

Tactical Combat Casualty Care was originally developed for Special Operations Forces in 1996 by US Navy Capt (Ret.) Frank Butler and Lt. Col. (Ret.) John Hagmann. A review and analysis of the literature and historical medical data from the Vietnam War, the Korean War and World War II revealed that potentially preventable causes of death remained constant: about 9% of casualties died from extremity wounds, 5% from tension pneumothorax and 1% from airway obstruction.[2] Consequently, recommended treatments were tourniquet application for bleeding extremity wounds, needle decompression for tension pnemothoraces, nasopharyngeal airway placement for airway obstruction secondary to decreased level of consciousness and surgical cricothyrotomy for airway obstruction secondary to maxillofacial trauma. Butler and colleagues[3] also recognized the unique challenges faced by combat medical personnel and the requirement to combine good medicine with good tactics. Although TCCC principles aim to treat potentially preventable causes of death on the battlefield, they also acknowledge that application of these treatments may place the provider and even the mission in jeopardy if performed at the wrong time. Therefore, TCCC classifies the tactical situation with respect to health care provision into 3 phases (care under fire, tactical field care and tactical evacuation) and only permits certain interventions to be performed in specific phases based on the danger to the provider and casualty. In addition, medics were being called on to practise their trade in the face of many other adverse conditions, including austere environment, low light, limited medical equipment, prolonged evacuation times and the need to triage and treat multiple casualties with minimal backup. It rapidly became clear that the prehospital trauma courses being taught to soldiers and medics did not address these challenges and that significant change was needed.

History within the CF

Tactical Combat Casualty Care was first introduced in Canada to our Special Operations Forces in 1999. However, the utility of this approach to battlefield care within Canadian conventional forces was only identified before the initial CF deployment to Kandahar in 2002. In preparation for deployment, CF members were given a 3-hour didactic lecture on the principles of TCCC.

During the initial deployment, most soldiers saw only sporadic combat, and the Canadian casualties sustained were the result of a friendly-fire incident from a US air-dropped bomb. The incident did, however, prompt the CF to review its prehospital trauma doctrine, the result of which was a TCCC pilot course for conventional forces. After the course, participants and other stakeholders were unanimous in their belief that TCCC was invaluable and would increase the ability of medics and soldiers to save lives on the battlefield. As such, TCCC gained further momentum within the CF and training became a regular part of each brigade's predeployment training schedules across the CF. In addition, an overarching organization was made to oversee TCCC. This organization was called the Combat Casualty Care Working

Table 1. Overview of skill sets among the various levels of combat casualty care in the Canadian Forces

CFA	TCCC	TACMED
• Stop major hemorrhage with pressure, tourniquet and wound packing with hemostatic agent	• Stop major hemorrhage with pressure, tourniquet and wound packing with hemostatic agent	• Stop major hemorrhage with pressure, tourniquet and wound packing with hemostatic agent
• Maintain an airway-recovery position	• Maintain an airway-recovery position, jaw thrust and NPA	• Maintain an airway-recovery position, jaw thrust, NPA, OPA, supraglottic airways, surgical cricothyrotomy
	• Seal open chest wounds with occlusive dressing • Identification and decompression of tension pneumothorax under direction of a medic	• Seal open chest wounds with occlusive dressings • Identification and decompression of tension pneumothorax
	• Identify signs of hemorrhagic shock	• Intraveous/intraosseous administration of hypertonic saline/dextran with permissive hypotension
	• Aid medic in application of pelvic binders and splinting fractures	• Management of bowel evisceration, application of pelvic binders and splinting fractures
	• Hypothermia prevention	• Hypothermia prevention
• Assist medic as required, including calling in TACEVAC request	• Assist medic as required, including calling in TACEVAC request	• Use of narcotics for pain management in trauma
		• Antibiotic use postinjury

CFA = combat first aid; NPA = nasopharygeal airway; OPA = oropharyngeal airway; TACEVAC = tactical evacuation care; TACMED = tactical medicine; TCCC = tactical combat casualty care.

Group (CCC WG) and had representatives from both the Canadian Forces Health Services (CFHS) and Combat Arms branches of the CF. The first meeting of the CCC WG was held in December 2005. Its goals were to regulate and standardize TCCC training throughout the CF and to adapt protocols and interventions based on the most recent casualty information.

Modern TCCC training in the CF

The CF currently have 3 different levels of TCCC providers (Table 1).

Combat first aid

The 2-day combat first aid (CFA) course is taught to every soldier before each deployment to Afghanistan. Its emphasis is on treating hemorrhage, using tourniquets and applying hemostatic dressings as well as basic casualty management from the point of injury all the way to the evacuation platform. The first day of training is in lecture and laboratory format, and the second day focuses on the provision of care during simulated combat scenarios.

TCCC

Participants with no prior medical training are selected by their chain of command for the intense 2-week TCCC course. The first week is in lecture and laboratory format, whereas the major goal of the second week is to confirm these skills in increasingly complex scenarios using simulation. Like in the CFA course, soldiers are taught how to apply tourniquets and hemostatic dressings in patients with bleeding extremity wounds. However, TCCC providers have an increased scope of practice, and they are taught how to insert nasal pharyngeal airways and how to perform needle decompression under the direction of a medic. Most importantly, TCCC providers function as medic extenders; they work under the direction of medics and can help them by anticipating their next steps. Currently, 1 in 8 soldiers are trained as TCCC providers.

Tactical medicine

The tactical medicine (TACMED) course is designed exclusively for medics. The CFHS organized the first course in 2007 to provide more realistic training in advanced TCCC skills. The course has evolved over the past few years; it is currently 2 weeks in length and represents the highest level of care provided by CF members in the prehospital battlefield setting. On the course, medics are taught to manage patients using the MARCHE protocol (see next section), and they learn to do this under realistic simulated combat scenarios. The TACMED course is intensive and challenging, and it pushes the limits of knowledge in both tactics and battlefield medicine using highly regulated live tissue training and effective simulation. On return from Kandahar, medics frequently state that this training was crucial to their effectiveness on the battlefield.

The MARCHE protocol

Currently the MARCHE protocol, as shown in Box 1, is followed. Its goal is to address the potentially preventable causes of death seen in modern warfare. Therefore, the algorithm prioritizes the treatment of exsanguinating hemorrhage with a combination of direct/indirect pressure, tourniquets and packing with hemostatic agents. Once massive hemorrhage is initially managed, medics progress to airway and breathing issues. They can insert nasopharyngeal airways, but are also trained to perform surgical cricothryotomies for patients with massive facial trauma. For breathing, medics can perform needle decompression of tension pneumothoraces and apply dressings to sucking chest wounds. After airway and breathing, medics return to their "circulation" by treating hypovolemic shock through careful fluid administration, guided by field-appropriate permissive hypotension responses, via an intravenous or intraosseous route. They also assess and splint pelvic and long-bone fractures during this phase. Medics are taught to be cognizant of the possibility of severe brain injury and to prevent hypothermia. They can administer antibiotics for all wounds and narcotics for pain relief. Medics are also taught the appropriateness of providing care based on the tactical situation. In an effort to accomplish this, TCCC interventions are carried out during distinct conditions, termed "phases of care."

Box 1. The MARCHE protocol

- **M**assive hemorrhage control (tourniquets and hemostatic dressings)
- **A**irway management (including surgical cricothyroidotomy for TACMED medics)
- **R**espiratory management (occlusive dressings for open pneumothoraces and needle decompression for tension pneumothoraces)
- **C**irculation (**BIFT**)
  - **B**leeding control
  - **I**ntravenous/intraosseous access
  - **F**luid resuscitation (HSD as a volume expander)
  - **T**ourniquet assessment and removal
- **H**ypothermia
- **H**ead injury
- **E**ye injury
- **E**verything else (**M-PHAAT-D**)
  - **M**onitoring
  - **P**ain
  - **H**ead to toe
  - **A**ddress all wounds
  - **A**ntibiotics
  - **T**actical evacuation preparation
  - **D**ocumentation of care

HSD = hypertonic saline/dextran; TACMED = tactical medicine.

THE PHASES OF CARE

There are 3 objectives to TCCC: treat the casualty, prevent further casualties and complete the mission. These are united together under the guiding principle of "providing the right medicine at the right time," which is divided into phases of care.

Care under fire

Care under fire (CUF) is a situation during active combat where both the casualty and the care provider are in danger from enemy fire, may or may not be behind adequate cover and may need to contribute to the firefight. It is commonly said that "the best battlefield medicine is fire superiority;" therefore, winning the firefight and establishing a secure cordon within which to operate is the primary objective during CUF. It is emphasized that only 2 medical treatments are appropriate during this phase: tourniquet use for massive hemorrhage and the recovery position for airway obstruction.

Tactical field care

Tactical field care is the care rendered once the casualty, the care provider and their unit are no longer under effective hostile fire. It also applies to situations in which an injury has occurred on a mission, but in which hostile fire has not yet been encountered. Equipment is limited to that carried by the care provider, casualty and their team. It is during this phase of care that the bulk of the TCCC interventions are performed.

Tactical evacuation care

Tactical evacuation care is care rendered during evacuation to a medical treatment facility, usually on a vehicle, aircraft or boat. This may include dedicated personnel and prepositioned equipment on these platforms.

In a hostile environment it is important to note that these phases are fluid; the first responders may find themselves in a situation where the phases are dynamic, and they must always be ready to adapt.

LESSONS LEARNED

One of the strengths of TCCC within the CF is the constant drive for adaptation. Feedback and lessons learned have been sought out, collected and implemented in an unprecedented, timely fashion. This has included provider feedback from the battlefield and data from clinical research. The following are some of the more important and perhaps contentious key lessons learned.

Tourniquet use, the principle intervention during CUF, was potentially the most important lesson learned from this conflict. Despite the fact that the leading cause of potentially preventable deaths on the battlefield in Vietnam was exsanguination from compressible extremity injuries,[2] tourniquets were not recommended by civilian trauma experts. As a result, they fell out of military favour, were to be considered only as a last resort and were even deemed to be "an instrument of the devil that sometimes saves a life."[4] The arguments made by TCCC challenged this thinking, and tourniquets have become commonplace in modern combat medicine. Furthermore, there is now hard evidence from operations in Iraq and Afghanistan to demonstrate that tourniquets save lives, especially when applied before the onset of shock,[5] and that their benefits far outweigh their risks in the military environment.[6] The strong belief, later reinforced by data, of the military community that tourniquets save lives on the battlefield was the impetus for evolution in their design. The initial CF tourniquet was improvised from surgical tubing[7] and progressed to field-durable, user-friendly, light windlass tourniquets that have proven themselves highly effective in the laboratory and on the battlefield. Currently every deployed CF soldier is trained to use and carries at least 1 commercially available windlass tourniquet, such as a Combat Application Tourniquet (CAT; Composite Resources). The CF medical technicians also carry other types of tourniquets to give them more options for different situations.

Junctional (i.e., axillary and inguinal) hemorrhage are areas not amenable to tourniquet use and continue to be significant causes of potentially preventable death among Canadian and US soldiers.[8,9] The need for a management plan for these injuries in the military environment was another important lesson of the conflict in Afghanistan. As a result, hemostatic agents have been developed with different modes of action and in different forms. Hemostatic agents can be found in granular format or issued as impregnated gauze. Granular agents can be poured into junctional wounds, or impregnated gauze can be used to pack these wounds to control hemorrhage. The mechanisms of action of these hemostatic agents typically focus on the liquid evapourative properties of zeolite and smectite, or the tissue sealant characteristics of chitosan. Currently, the granular agent WoundStat (TraumaCure Inc.) and Combat Gauze (Z-Medica Corp.) are thought to be the most effective topical agents available for junctional hemorrhage control in noncoagulopathic patients.[10–12]

Many issues regarding the ideal hemostatic dressing remain unresolved. Current hemostatic dressings are effective in noncoagulopathic patients, but a better understanding of how they perform in coagulopathic patients is needed.[13] Also, a recent paper has questioned the safety of granular hemostatic agents owing to their ability to cause intravascular clotting and embolism.[14] Furthermore, treating brisk bleeding from puncture wounds by pouring in an agent in powder form without concurrently packing and compressing the wound may render the treatment noneffective in

the field. Finally, feedback from the medics and TCCC providers on the battlefield suggested that, although effective, granular agents, such as the zeolite Quik Clot (Z-Medica Corp.), were difficult to handle in high-wind situations caused by, for example, helicopter rotor-wash. This, combined with the highly exothermic nature of the reaction, has led the CF to abandon their initial use of granular agents and choose impregnated gauze as the preferred hemostatic agent.

Tension pneumothorax is traditionally considered to be 1 of the 3 potentially preventable causes of death on the battlefield.[15,16] As such, the CF initially included needle decompression in the armamentarium of TCCC providers, who are nonmedical personnel with enhanced medical training. As the war progressed, the length of the needle used for decompression was increased as we learned that the chest wall thickness of military members was enough to make standard needle decompression ineffective up to 75% of the time.[17-19] However, as blast injuries became more commonplace, the CCC WG began to rethink the use of needle decompression on the battlefield. The crux of the argument centred on 2 issues: first, that tension pneumothoraces were less frequently noted in casualties, likely because of the advanced personal protective equipment that CF members were wearing[8,9] and, second, that providers continued to landmark incorrectly when performing needle decompression, risking injury to the heart and great vessels.[20,21] One proposed solution to mitigate this risk has been performing needle decompression laterally in the anterior axillary line. However, preliminary research conducted by the CF suggests that needle decompression performed laterally is also likely to be ineffective because of kinking of the catheter by the patients' adducted arms.[22] As the need for needle decompression continues to be debated, the CF has limited nonmedical providers to perform needle decompression only under the direction and supervision of a medic.

In the civilian prehospital environment, spinal immobilization is an integral part of trauma management and casualty transport. However, there are significant obstacles to spinal immobilization on the battlefield. It takes 2 prehospital care providers an average of 5 minutes to immobilize a casualty,[23] requiring a significant equipment load that simply cannot be carried easily into combat. Arishita and colleagues[23] reviewed data from the Vietnam War and discovered that 10% of casualties occurred during the treatment of other casualties and that only 1.4% of penetrating neck injuries may have benefited from spinal immobilization. Similar findings have been reported in studies of penetrating neck injuries in civilians[24] and in UK casualties in Afghanistan.[25] When all of this was taken into consideration, the very real risk of creating more casualties combined with a logistically difficult skill set that might benefit only a small group led initial TCCC guidelines to de-emphasize spinal immobilization. However, the pattern of injury seen in the war in Afghanistan has changed; blast has now become the predominant mechanism of injury. The magnitude of these explosions is increasing,[9] and CF casualties are sustaining spinal injuries consistent with blunt trauma.[26] The question of how to balance the need for spinal immobilization with the imperatives of tactical field care remains. In the interim, Canadian TCCC guidelines have been amended to re-emphasize spinal precautions, especially when transporting casualties with blunt or blast trauma.

Airway compromise from penetrating neck and maxillofacial injuries was historically the third leading cause of potentially preventable deaths on the battlefield.[2] This mechanism of injury, along with the knowledge that medics do not have the training or experience to be consistently successful in rapid-sequence intubation, posed a dilemma. Medics are skilled in the use of various supraglottic airways; however, it is understood that not only are most airway casualties not obtunded enough to tolerate these airways, but also that they are not the airway of choice for treating patients with facial injuries. This led the CCC WG to recommend surgical cricothyrotomy as the definitive airway of choice.[3] Standardized procedures, protocols and medical equipment have been scrutinized and amended to maximize the probability of successful cricothyroidotomy in the prehospital environment. The recognition of skill fade with this complex procedure is minimized with live tissue training that is delivered with combat simulation to replicate stresses during the course and then again just before deployment. One of the early lessons learned was the pitfall of using cut-down endotracheal tubes for cricothyroidotomies. There were at least 2 incidents noted in patients transported to the Role 3 Multinational Medical Unit (R3MMU) at Kandahar Airfield where cricothyroidotomies using cut-down endotracheal tubes had migrated into the right mainstem bronchus resulting in hypoxia and misdiagnosis of left tension pneumothorax. The CF has since adopted the commercially available Surgical Airway Set with a cuffed 6.0 tracheostomy tube to prevent these complications.[27] Despite successes with this advanced skill, there are still airway-related deaths in both the CF[8] and the US forces[28] as well as errors made in landmarking and placement of field cricothyroidotomies. As a result, the emphasis on education and training must continue to ensure that all casualties with airway compromise are treated consistently and correctly. This procedure likely will not be delegated to providers below the level of a medic who has specifically demonstrated proficiency in this technique.

Conclusion

For the first time in decades, the CF has been involved in a war in which its members have participated in sustained combat operations and have suffered increasingly severe

injuries. Despite this, the CF experienced the highest casualty survival rate in history. Though this success is multifactorial, the determination and resolve of CF leadership to develop and deliver comprehensive, multileveled TCCC packages to soldiers and medics is a significant reason for that and has unquestionably saved the lives of Canadian, Coalition and Afghan Security Forces. Furthermore, the CFHS was in a unique position: its extensive responsibility of providing battlefield medicine in one of the most volatile areas in Afghanistan while commanding the R3MMU presented continuous occasions to collect and reflect on lessons learned. This, combined with the cohesiveness and effects-oriented mindset of CF medical leadership, ensured that these lessons learned were implemented in a timely, efficient, effective and systematic manner resulting in world-class medical care.

Despite the many advances in battlefield medicine, the constant drive among allied forces for comprehensive feedback, research and improvement continues. Current efforts in TCCC are focused on methods to improve survival of casualties with truncal and junctional hemorrhage with improved hemostatic agents for junctional bleeding and lyophilized blood products, such as fresh frozen plasma, that can be used at the point of injury.

The introduction of TCCC has fundamentally changed the way medical care is provided by the CF on the battlefield. As our mission moves away from combat operations in Afghanistan, it is imperative that momentum is not lost. Rather, we must continue to teach our soldiers and medics principles that are flexible enough to be adapted to any future mission and continue to save lives.

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Appendix 2

List of Medications for TAC MED Course

1. The list of medications will be based on recommendations by the Canadian Armed Forces (CAF) Standing Committee on Operational Medicine (SCOM).

2. The following is a list of medications administered on the battlefield which are currently approved, although subject to change:

2.1. Battlefield analgesia, including:

2.1.1. Fentanyl lozenge;

2.1.2. Intravenous Morphine;

2.1.3. Naloxone; and

2.1.4. Ibuprofen and acetaminophen.

2.2. Battefield antibiotics administered by:

2.2.1. PO (per os, through the mouth) – such as Moxifloxacin; and

2.2.2. Intravenous/Intramuscular, such as:

2.2.2.1. Cefoxitin; and

2.2.2.2. Clindamycin (if allergy).

3. The specific SCOM approved versions will be provided to the contractor no later than 30 days before the commencement of a TAC MED serial.

Appendix 3

Canadian Armed Forces Mission Specific
Medical Equipment for TAC MED Course

1. In order to achieve their competency in a life-saving mission, Med Techs must have the best equipment available to them to achieve success and save lives. This equipment has been selected as being the most effective under combat conditions and based on recommendations by the Canadian Armed Forces (CAF) Standing Committee on Operational Medicine (SCOM). These recommendations are subject to change.

2. The medical equipment for TAC MED course currently includes the SCOM approved versions of (current SOM-approved name-brands are in paratheses):

2.1 Hemostatic packing material(Combat Gauze);

2.2 chest seal (SAM);

2.2.1 Tourniquets. (Combat Application Tourniquet (C-A-T); SOFT-T and EMT Tourniquets);

2.3 wound dressings (4 X Oleas Dressing);

2.4 litters (Foxtrot and Talon II);

2.5 Intraosseus access (T.A.L.O.N EZ IO);

2.6 Burn dressings (Blast Bandage);

2.7 Traction splint (CT-6-Traction Splint);

2.8 Supraglottic airway (King-LTD);

2.9 Nasopharyngeal Airway;

2.10 Nylon medical equipment first line and second line carrying pouches and packs;

2.11 Cricothyroidotomy kit (Surgical Airway Set (SAS));

2.12 Intravenous access kit (Tactical Vascular Access Kit and Fluid Resuscitation Kit (TVAK-FRK));

2.13 Pelvic splint (SAM); and

2.14 Pelvic binder (TPOD).

3. The specific SCOM approved versions will be provided to the contractor no later than 30 days before the commencement of a TAC MED serial.

Appendix 4
Course Topics

REFERENCES	TOPICS	LECTURE	PRACTICAL (IN-CLASS)	LAB/OR		FIELD		
				DSM	Mannequin	DSM	Mannequin	Other
Appendix 6	Legal aspects of TACMED and range of authority	X						
Appendix 1	History and development of TAC MED	X						
Appendix 2	TACMED Medications IAW the most current Op Med SC approved MARCHE protocol	X						
Appendix 3	TACMED Medical equip (Including Principles of Packing Med Bag)	X	X	X	X	X	X	
Appendix 5	Most current MARCHE protocol to include care under fire, tactical field care, and tactical evacuation care	X		X	X	X	X	
Note 1 & Appendix 6	Combat Casualty Epidemiology	X						
	HEMORRHAGE CONTROL - **Main Topic 1**							
	Principals of massive hemorrhage control	X						
	Management of massive hemorrhage with direct and/or indirect pressure	X	X	X	X	X	X	
	Wound packing with a hemostatic agent	X	X	X	X	X	X	
	Tourniquet application and management. This must include both Op Med SC-recommended circumferential tourniquets for limbs and Op Med SC-recommended junctional tourniquets for use in the axilla, groin, and pelvis regions	X	X	X	X	X	X	
	Indications and appropriate use of administering tranexamic acid (TXA)	X						
	AIRWAY MANAGEMENT - **Main Topic 2**							
	Airway mgmt to include the chin-lift or jaw thrust manoeuvre, nasopharyngeal airway devices, supra-glottic airway devices, and surgical crichothyroidotomy (and an end-tidal CO2 monitor to confirm placement)	X	X	X	X	X	X	
	RESPIRATORY MANAGEMENT - **Main Topic 3**							
	Management of a tension pneumothorax using needle decompression	X		X	X	X	X	
	Management of open chest wounds to include the use of chest seals	X		X	X	X	X	
	Indications for administering oxygen to casualties	X						
	CIRCULATION **- Main Topic 4**							
	Obtaining IV and IO access and infusion of medications and fluids	X	X	X	X	X	X	
	Management of hemorrhagic shock using Op Med SC-recommended fluids	X		X	X	X	X	
	HYPOTHERMIA							
	Thermoregulation of the trauma casualty using Op Med SC-recommended hypothermia kits	X				X	X	
	HEAD INJURIES - **Main Topic 5**							
	Management of traumatic brain injuries and impending brain herniation	X		X		X	X	
	PENETRATING EYE TRAUMA							
	Management of ocular injuries	X	X	X		X	X	
	CASUALTY MONITORING							
	Causalty monitoring to include clinical monitoring and use of a pulse oximeter and end-tidal CO2 monitor	X		X	X	X	X	

Appendix 4

	PAIN MANAGEMENT - **Main Topic 6**							
	Pain Management to include use of acetominophen, ibuprofen, oral transmucosal fentanyl citrate, morphine, ketamine, ondansetron, and naloxone	X		X	X	X	X	
	HEAD TO TOE ASSESSMENT							
	Head to toe physical exam to assess for and manage wounds and fractures	X		X	X	X	X	
	ANTIBIOTICS							
	Administration of Op Med SC-recommended antibiotics	X		X	X	X	X	
	TACTICAL EVACUATION CARE							
	Casualty Transport (on various platforms)	X						
	Care Consideration in preparation for CASEVAC/MEDEVAC under combat scenario	X				X	X	
	DOCUMENTATION OF CARE							
	Documentation of care on the Op Med SC-recommended casualty card	X		X		X	X	
	Passage of information to Command with 9-liner reports	X				X	X	X
	MISCELLANEOUS INJURIES - **Main Topic 7**							
	Blast physics (injury patterns)	X						
	Management of burn injuries to include the airway and fluid replenishment	X		X	X	X	X	
	Orthopaedic injury management to include the use of Op Med SC-recommended pelvic spints and long-bone traction splints	X	X		X		X	
	C-spine control using an Op Med SC-recommended device	X	X		X		X	
	Management of bowel evisceration	X		X		X		
	Ballistic Wounding (post-mortem)	X				X		
	Management of VSA casualties	X		X	X	X	X	
	SPECIFIC ENVIRONMENTS							
	Medical consideration for operations at high altitude	X						
	Medical considerations for operations in extreme cold environments	X						
	Low light trauma management	X		X	X	X	X	
	Considerations when providing prolonged clinical care in an austere, non-permissive	X						
	Mass casualty incidents and triage	X				X	X	
	OTHER							
	Critical thinking for Med Techs	X						
	Tactical breathing management (psychotherapy for the medics)	X						
	Treatment of wounded enemy combatants	X						
	TACMED communications	X						X
	Medical aspects of mission planning	X						
	Equipment packing strategies	X						

Note 1	Injury Severity and Causes of Death From Operation Iraqi Freedom and Operation Enduring Freedom: 2003-2004 Versus 2006, by J.F Kelly et al, published in the The Journal of Trauma Injury, Infection and Critical Care 2008;64;S21-27.

Appendix 5

Tactical Medical Guidelines for Canadian Forces Medical Technicians

The following guidelines were produced in June 2009, revised in January 2010, and are currently under review. The following guidelines can be used for initial consideration of requirements, as the review is intended to produce only incremental changes. A current version will be provided no later than 30 days before the first TAC MED course.

Phases of Care – Definitions

There are 3 phases of TCCC, each with its own definition of situation. Though at times, transitions between phases may be blurred, each phase is distinct by definition.

1. **Care Under Fire**

Care Under Fire is a situation during active combat where both the casualty and the care provider may or may not be behind adequate cover, and both or at least the care provider, are required to contribute to the engagement.

Simplification – during active combat and care, provider is required to return defensive fire.

2. **Tactical Field Care**

Tactical Field Care is the care rendered once the casualty, the care provider and their unit are no longer under effective hostile fire. It also applies to situations in which an injury has occurred on a mission but hostile fire has not yet been encountered. Equipment is limited to that which is carried by the care provider, casualty and their team.

Simplification – not during active combat.

3. **Tactical Evacuation Care**

Tactical Evacuation Care is care rendered during evacuation to a Medical Treatment Facility usually on a vehicle, aircraft or boat. This may include dedicated personnel and pre-positioned equipment on these platforms.

Simplification – not during active combat, en route to a medical treatment facility.

Care Under Fire

1. Update your tactical awareness.

2. Return fire and take cover.

3. Direct casualty to remain engaged as a combatant if appropriate.

4. Direct casualty to move to cover and apply self-aid if able.
5. Plan and perform Tactical Rescue if required.

6. Consider establishing a TFC Bubble[1] if conditions permit.

7. Stop *life threatening* external hemorrhage if tactically feasible:
   a. Direct casualty to self-control hemorrhage if tactically feasible;
   b. Use a CCCWG recommended tourniquet for life threatening hemorrhage that is anatomically amenable to tourniquet application.
   c. Apply the tourniquet at least 5-7.5 cm (2-3 in.) proximal to the bleeding site, over the uniform, and tighten until bleeding stops.

8. If in proximity to, and tactically feasible, roll casualties with an altered level of consciousness into the recovery position.

9. Go to steps 1 through 3.

Tactical Field Care

[1] TFC Bubble

In order for a care provider to 'establish' a TFC Bubble the following conditions must be satisfied:

1. The situation surrounding the care provider and casualty, including individuals in proximity to them and potentially sharing the same piece of cover, are actively engaged in combat and are operating in a 'Care Under Fire' environment;

2. The care provider is not required to contribute to the engagement due to and adequate volume of outgoing fire and effective enemy suppression;

3. The care provider and the casualty are in a position of adequate cover; and

4. The casualty will likely benefit from Tactical Field Care interventions.

The CAF recommended protocols are used within these steps. The acronym does not however comprehensively cover all the steps that need to be taken in Tactical Field Care.

1. Update your Tactical Awareness.

2. Ensure adequate security prior to attendance to the casualty(ies).

3. Consider early placement of the casualty on a litter if rapid movement is anticipated.

4. A sharps and garbage management plan should be established as SOP.

5. Casualties with an altered mental status should be disarmed immediately and their radios turned off.

6. Consideration for spinal precautions:

    a. Casualties with penetrating trauma to the head and neck do not routinely benefit from c-spine immobilization and these precautions are generally not recommended in the tactical environment.
    b. Care should be directed to the c-spine with a CCCWG recommended device, for casualties of blunt and blast trauma and casualties with symptoms of spinal cord injury if equipment is available and tactically feasible.[2] Otherwise, careful movement of the casualty with particular attention to the spine should be standard for all casualties with a mechanism of injury presenting a higher risk for spinal injury as per the footnote.

[2] Injuries requiring more diligent management of the spine include:

- *history* of blast trauma, those involving parachuting, fast-roping, fall from a height >1m, high speed MVC >100km/h, ejection from a vehicle, vehicle roll-over
- and/or *symptoms/signs* of posterior mid-line cervical tenderness, parasthesias, abnormal neurological exam, and decreased LOC secondary to a head injury.
- casualties must self-declare spinal injury unless they have another distracting injury which may prevent recognition of a spinal injury.

7. **M**assive Hemorrhage Control

If not already done, assess for and treat all *life threatening* hemorrhage. In the absence of obvious massive hemorrhage, the assessment should start at the pelvis, then both legs, then the neck, axilla and both arms.

a. Immediately apply direct or indirect pressure to gain initial hemorrhage control[3]:
   i. Direct pressure with two digits directly on the damaged vessel; and/or
   ii. Indirect pressure to a pressure point proximal to the wound with the heel of hand, knee or elbow.
b. If direct pressure as described above cannot be obtained, begin tourniquet application or packing the wound immediately as described below
c. Compressible hemorrhage conducive to wound packing[4]; pack the wound cavity, toward the bleeding vessel(s) with gauze tightly and deep, filling the entire wound. The provider should start with a CCCWG recommended hemostatic agent in accordance with directions for use. Apply direct pressure until hemorrhage is controlled.[5]
d. Use a CCCWG recommended tourniquet to control life threatening external hemorrhage that is anatomically amenable to tourniquet application or for any traumatic amputations. Apply directly to the skin, 2-3 finger widths above the wound but not over a joint and tighten until bleeding stops and distal pulse(s) disappears. Document the time of application on the tourniquet and the casualty's forehead.[6]
   i. If two tourniquets are ineffective and are distal to the knee or elbow joints, apply the tourniquet mid-thigh on a leg, or one just above the elbow if on an arm.

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[3] If direct pressure is effectively controlling all life threatening hemorrhage, assess the airway. If there is no airway compromise, continue on with definitive hemorrhage control. If there is an airway compromise, both massive hemorrhage control and airway management must be done concurrently with additional help if available

[4] Packing should not be done on wounds in the abdominal, thoracic or cranial cavities.

[5] Bleeding through the gauze indicates ineffectiveness and tighter packing and more pressure is required. Use a hemostatic dressing if gauze packing and pressure is ineffective. Remove all gauze in the wound prior to hemostatic dressing application. Do not remove the gauze to assess effectiveness if blood is not soaking through the gauze.

[6] Avoid the adductor hiatus by applying the tourniquet at least 5 cm above the medial femoral condyle. The adductor hiatus is a gap between the adductor magnus muscle and the femur that allows the passage of the femoral vessels from the posterior thigh to the popliteal fossa preventing external compression of the femoral artery. It is the termination of the adductor canal and lies about 2 inches superior to the knee.

8. **A**irway Management

a. Conscious casualty without airway obstruction should assume a position of comfort.
b. Unconscious casualty without airway obstruction:
    i. Chin lift or jaw thrust manoeuvre[7];
    ii. Consider CCCWG recommended nasopharyngeal airway;
    iii. Place the casualty in the recovery position;
    iv. Consider CCCWG recommended supraglottic airway
c. Casualty with maxillofacial trauma, inhalational burn injuries or anaphylactic reaction with airway obstruction or impending airway obstruction:
    i. Suction as required;
    ii. Chin lift or jaw thrust manoeuvre if decreased level of consciousness;
    iii. Consider nasopharyngeal airway;
    iv. Allow casualty to assume any position that best ensures a patent airway, to include sitting;
    v. Place unconscious casualty in the recovery position.
d. If the above basic manoeuvres are ineffective, consider cricothroidotomy[8]
    i. If casualty is conscious and time/condition permits, infiltrate lidocaine (+/- epinephrine) into overlying skin followed by a transtracheal block prior to cricothyroidotomy.
    ii. A CCCWG recommended end-tidal CO_2 detector should be used to confirm placement if available.

9. **R**espiratory Management

a. Assess for a tension pneumothorax and needle decompress if;
    Obvious injuries to the chest:
    i) Penetrating injury to the chest or transition areas (i.e. any penetrating torso trauma above the level of the umbilicus) OR
    ii) Blunt or Blast injury: bruising, crepitus, obvious flail, asymmetry on inspection,
    AND
    With any one of:
    i) BP systolic < 90 mmHg, or loss of radial pulse OR
    ii) Significant respiratory distress OR
    iii) Oxygen saturation less than 90% OR
    iv) As per VSA protocol

[7] Jaw thrust preferred manoeuvre for casualty with a suspected cervical spine injury.
[8] Tracheostomy tubes are preferred over other options such as endotracheal tubes to avoid accidental right mainstem bronchus intubation.

b. Decompression of the affected side should be performed with a 14G – 3.25 inch long angiocatheter, through the 2nd intercostal space, above the 3rd rib at the midclavicular line, ensuring the needle remains lateral to the nipple line and is directed away from the cardiac box. Casualty may require repeated needle decompression if deterioration occurs and regular patient monitoring is required.[9]

c. All open chest wounds:
   i. Immediately cover the defect with a hand
   ii. Should be positioned injured side down or position of comfort and treated by immediately apply an occlusive material or a CCCWG recommended dressing to cover the defect and securing it in place.
   iii. Position the casualty injured side down.
   iv. Monitor the casualty for the development of a tension pneumothorax.
      (1) If a tension pneumothorax develops, vent the occlusive dressing on casualty's exhalation and re-cover the defect prior to inhalation
      (2) If the above intervention is unsuccessful and the tension is not relieved, decompress the chest as above.
      (3) If the above are ineffective, consider/search for other causes of respiratory distress.[10]

Consider - STOP
   (1) Situational Awareness Update
   (2) Triage all other casualties
   (3) Ongoing documentation and triage cards
   (4) Pass up all information for 9 Line MEDEVAC Request and MIST report

10. **C**ooling Prevention and Litter Placement

a. Minimize casualty's exposure to the elements. Keep protective gear on or with the casualty if feasible.
b. Place casualty on a litter to facilitate rapid movement if required. Place on an insulation pad and wrap in a CCCWG recommended or other appropriate casualty blanket if available.
c. Expose casualty only as required for reassessment and treatment.

[9] It is generally not advised to replace protective equipment over the thorax of an individual with a pneumothorax as it prohibits ready access for reassessment and repeat needle decompression.
[10] Respiratory distress may also result from other etiologies such as pulmonary contusion, hemothorax, inhalation injury, in addition to non-traumatic causes such as asthma.

Circulation (BIFT)

Bleeding Control

a. A CCCWG recommended pelvic splint should be applied to:
    i. Penetrating or blunt pelvic trauma after initial treatment of obvious external hemorrhage has been controlled; and/or
    ii. Casualty complaining of pelvic pain or tenderness on exam[11] and/or
    iii. Unexplained hypotension in suspected or known blunt or blast trauma.
b. Splint femur fractures using a CCCWG recommended traction device if available.

IV Access: If casualty is in shock or at risk of going into shock, start an 18G saline lock. If IV access is not obtainable and fluid therapy is indicated, use the intraosseous route (IO) with a CCCWG recommended IO device.

Fluid Resuscitation

a. Assess for hemorrhagic shock as indicated by altered mental status (in the absence of a head injury) and weak or absent peripheral pulses in uninjured limbs are the best field indicators of shock.
    i. If not in shock:
        (1) No IV fluid necessary
        (2) PO fluids permissible if conscious and casualty can swallow.
        (3) Saline lock if equipment is available and tactical situation permits.
    ii. If in shock:
        (1) Hypertonic saline dextran (HSD) 250ml IV/IO. A second 250ml may be given immediately if the casualty is still in shock.
        (2) No more than 500ml of HSD is to be administered to one casualty.
        (3) Normal Saline or Ringers Lactate may be administered if further fluids are required.
b. Continued efforts to resuscitate must be weighed against logistical and tactical considerations.
c. If a casualty with a traumatic brain injury (TBI) is unconscious and has no peripheral pulse, resuscitate to restore the radial pulse. If blood pressure (BP) measurement is available, aim for a systolic BP > 120mmHg.

[11] Assessment of the pelvic ring should be performed only once by the Senior Medical Authority attending the casualty. Repeated assessments should be avoided if initial examination reveals positive findings.

d. If casualty is burned:
    i. Estimate total body surface area (TBSA) burned to the nearest 10% using Rule of Nines
    ii. Fluid Resuscitation using the USAISR Rule of Ten:
        (1) If burns are greater than 20% of Total Body Surface Area, fluid resuscitation should be initiated as soon as IV/IO access is established. Resuscitation is to be initiated with Normal Saline or Ringers Lactate
        (2) Initial IV/IO fluid rate is calculated as: %TBSA burned x 10 cc/hr for adults weighing 40-80 kg.
        (3) For every 10kg ABOVE 80kg, increase initial rate by 100ml/hr.
    iii. If hemorrhagic shock is also present, resuscitation for hemorrhagic shock takes precedence over resuscitation for burns. Consider giving maintenance fluids if longer than 6 hour extraction.

<u>Tourniquet Assessment and Removal</u>

a. Reassess prior tourniquet applications. Expose wound and determine if tourniquet is needed based on wound characteristics and casualty's clinical condition.
b. If a tourniquet is indicated; reassess placement and effectiveness by ensuring elimination of distal pulse if applicable. If there is clothing underneath a tourniquet, it should be removed by first cutting the clothing away proximal to the tourniquet, then apply a second tourniquet (ideally pneumatic) above the initial tourniquet directly over the skin. Loosen the initial tourniquet and document the change. Use the original tourniquet time.
c. If the tourniquet is not indicated, use other methods to control hemorrhage.
d. Expose and clearly mark all tourniquet sites with the time of tourniquet application in local time (not Zulu) on the forehead using a "T" then the time, with an indelible marker.
e. Prior to removal of any tourniquet on a casualty who has been resuscitated for hemorrhagic shock, ensure a positive response to resuscitative efforts (i.e. a peripheral pulse normal in character and normal mentation (if there is no history of TBI)).
f. Trained medical technicians may consider removing a tourniquet in the following circumstances:
    i. Tourniquet has been in place for two hours and casualty is still in the field or is anticipated to remain in the field for longer than two hours (one reassessment only).
    ii. Effective hemorrhage control can be continuously maintained until arrival at the medical treatment facility by other means such as direct pressure, wound packing, hemostatic agents and bandaging.

iii. To replace a strap style tourniquet with a pneumatic tourniquet when there is minimal risk of puncture.

g. Removal is contraindicated if any of the following criteria are met:
   i. Complete amputation.
   ii. Casualty is in hemorrhagic shock or has decreased level of consciousness presumed secondary to hemorrhagic shock.
   iii. The tourniquet has been on for ≥ 4 hours.
   iv. The casualty is expected to be in a surgical facility within 2 hours of injury.
   v. If you cannot monitor the limb continuously for re-bleeding.
   vi. Bleeding cannot be controlled by other means.

11. **H**ypothermia
   a. Minimize casualty's exposure to the elements. Keep protective gear on or with the casualty if feasible.
   b. Replace wet clothing with dry if possible.
   c. Wrap in vapour barrier rescue blanket, poncho liner, sleeping bag, body bag, or anything that will retain heat and keep the casualty dry. If possible, layer blankets to trap dead air space for maximum insulation.
   d. Use CCCWG recommended hypothermia prevention kits if available.
   e. Expose casualty only as required for reassessment and treatment.

Head Injury

Assess for presence of head injury by checking pupils and basic neurological screen (i.e. AVPU).

   a. If head injury suspected, determine mechanism of injury and consider spinal precautions.
   b. Prevent secondary brain injury by actively managing hypotension (BP 110-120 systolic) and hypoxia with high flow O2 if available.

12. Penetrating **E**ye Trauma
   a. Assess for penetrating eye trauma. If noted or suspected:
      i. Perform a rapid field test of visual acuity.
      ii. Cover the eye with a rigid eye shield (NOT a pressure patch).
      iii. Give moxifloxacin 400mg PO ASAP after injury.
      iv. If casualty is unable to tolerate oral medication, give cefoxitin 2gm IM/IV/IO or clindamycin 600 mg IM/IV/IO q8h.[12] [13]

[12] Intramuscular (IM) injection of antibiotics is preferred for ease of field administration.
[13] Important to note that HSD is incompatible with all antibiotics.

13. **E**verything Else (M-PHAAT-D)

Monitoring:

a. Pulse oximetry should be available as an adjunct to clinical monitoring. Readings may be misleading in the presence of shock or marked hypothermia.

b. A CCCWG recommended end-tidal CO_2 detector should be used to confirm tube placement, if available.

Pain Management:

a. Provide analgesia as necessary:

b. Able to fight:

These medications should be carried by the Medical Technician and administered as soon as possible after the injury.

i. Ibuprofen 400mg x 2 q8hr; and

ii. Acetaminophen 500mg x 2 q6hr.

c. Unable to fight:

Note : Have naloxone readily available whenever administering narcotics

i. Does not otherwise require IV/IO access:

(1) Oral transmucosal fentanyl citrate (OTFC) 800ug transbuccally.

(2) Tape lozenge on a stick to casualty's thumb as an added safety measure.

(3) Reassess in 15 minutes.

(4) May repeat with a second lozenge as necessary to control severe pain.

(5) Monitor for respiratory depression.

(6) Ondansetron 8mg PO/IM/IV/IO q6h.

ii. If no IV IO access and no OTFC available:

(1) Morphine sulphate 10 mg IM.

(2) Reassess in 15 minutes.

(3) Ondansetron 8mg PO/IM/IV/IO q6h.

ii. If IV access obtained:

(1) Morphine sulphate 2.5 mg slow IV/IO push.

(2) Reassess in 5 minutes.

(3) Give morphine 2.5mg q5minutes prn to control severe pain.

(4) Monitor for respiratory depression.

(5) Ondansetron 8mg PO/IM/IV/IO q6hr.

Head to Toe Exam:

a. Check for additional wounds.

b. Conduct a detailed head to toe exam if time and situation permits.

c. Remove and replace clothing and equipment as required.

Address All Wounds and Splint Fractures:

a. Inspect, remove obvious contamination (if possible) and dress all wounds.

Antibiotics:
All casualties sustaining significant penetrating trauma[14] should receive antibiotics as soon as possible after injury (providing administration does not delay evacuation to a medical treatment facility).

a. Moxifloxacin 400mg PO q 24hr.
b. If unable to take PO (shock or unconscious):
    i. No hx of anaphylaxis with penicillin or cephalosporins, Cefoxitin 2gm IV/IO (slow push over 3-5 minutes)/IM (1 gm x 2 sites) q 8hr.
    ii. Hx of anaphylaxis with penicillin or cephalosporins, clindamycin 600mg IV/IO/IM (300 mg x 2 sites IM) q 8hr.[15] [16]

Tac Evac Preparation:

a. Secure any potential foreign object debris (FOD) around the casualty including blankets, casualty card and garbage.
b. Ensure mission essential equipment, explosives, fuel soaked clothing and other hazards are removed from the casualty and their weapon has been cleared if it is accompanying them. Leave PPE and weapon with ammunition with the casualty. Crew serve weapons and ammunition remain with the unit.
c. Secure casualty and blankets to the litter and protect the casualty from hypothermia, including insulation from the ground/floor.
d. Protect the casualty with goggles, ear plugs, mouth and nose and other measures from brown out and aircraft noise.

Documentation Finalization:

a. Document clinical assessments, treatments rendered and changes in the casualty's status on the CCCWG recommended casualty card. Forward this information with the casualty to the next level of care. Complete the Med Tech AAR as soon as feasible post-incident.

14. Vital Signs Absent
    a. Resuscitation, including cardiopulmonary resuscitation (CPR), on the battlefield for victims of blast or penetrating trauma who are found with no pulse, no respirations, and no other signs of life will not be successful and should not be attempted. This casualty is considered KIA.

[14] All open wounds excluding abrasions or superficial lacerations. Suspected or confirmed penetrating eye trauma and open fractures require systemic antibiotics as soon as possible.
[15] Intramuscular (IM) injection of antibiotics is preferred for ease of field administration.
[16] Important to note that HSD is incompatible with all antibiotics.

b. If a casualty becomes VSA during treatment perform the following actions, taking into consideration equipment resources and the risk of incurring further casualties:
    i. Ensure all **M**assive hemorrhage has been controlled;
    ii. Ensure the **A**irway is patent;
    iii. **R**espirations – decompress the chest bilaterally;
    iv. **C**irculation – start an IO and bolus 250ml of HSD;
    v. CPR for 2 minutes;
    vi. If no change in condition then consider termination of resuscitation efforts.

Tactical Evacuation Care

Redundancies from Tactical Field Care are listed here under Tactical Evacuation Care to accommodate the possibility that little or no Tactical Field Care has taken place prior to the evacuation.

1. Update your Tactical Awareness.
2. Casualties with an altered mental status should be disarmed immediately and their radios turned off.
3. Consideration for spinal precautions:
    a. Casualties with penetrating trauma to the head and neck do not routinely benefit from c-spine immobilization and these precautions are generally not recommended in the tactical environment.
    b. Care should be directed to the c-spine, with a CCCWG recommended device, for casualties of blunt and blast trauma and casualties with symptoms of spinal cord injury if equipment is available and tactically feasible.[17] Otherwise, careful movement of the casualty with particular attention to the spine should be standard for all casualties with a mechanism of injury presenting a higher risk for spinal injury as per the footnote.

4. **M**assive Hemorrhage Control

    If not already done, assess for and treat all *life threatening* hemorrhage. In the absence of obvious massive hemorrhage, the assessment should start at the pelvis, then both legs, then the neck, axilla and both arms.
    a. Immediately apply direct or indirect pressure to gain initial hemorrhage control[18]:
        i. Direct pressure with two digits directly on the damaged vessel; and/or
        ii. Indirect pressure to a pressure point proximal to the wound with the heel of hand, knee or elbow.

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[17] Injuries requiring more diligent management of the spine include:

- *history* of blast trauma, those involving parachuting, fast-roping, fall from a height >1m, high speed MVC >100km/h, ejection from a vehicle, vehicle roll-over
- and/or *symptoms/signs* of posterior mid-line cervical tenderness, parasthesias, abnormal neurological exam, and decreased LOC secondary to a head injury.
- casualties must self-declare spinal injury unless they have another distracting injury which may prevent recognition of a spinal injury.

[18] If direct pressure is effectively controlling all life threatening hemorrhage, assess the airway. If there is no airway compromise, continue on with definitive hemorrhage control. If there is an airway compromise, both massive hemorrhage control and airway management must be done concurrently with additional help if available

b. If direct pressure as described above cannot be obtained, begin tourniquet application or packing the wound immediately as described below
c. Compressible hemorrhage conducive to wound packing[19]; pack the wound cavity, toward the bleeding vessel(s) with gauze tightly and deep, filling the entire wound. The provider may consider starting with a CCCWG recommended hemostatic agent in accordance with directions for use. Apply direct pressure until hemorrhage is controlled.[20]
d. Use a CCCWG recommended tourniquet to control life threatening external hemorrhage that is anatomically amenable to tourniquet application or for any traumatic amputations. Apply directly to the skin, 2-3 finger widths above the wound but not over a joint and tighten until bleeding stops and distal pulse(s) disappears. Document the time of application on the tourniquet and the casualty's forehead.[21]
    i. If two tourniquets are ineffective and are distal to the knee or elbow joints, apply the tourniquet mid-thigh on a leg, or one just above the elbow if on an arm.

5. **A**irway Management

a. Conscious casualty without airway obstruction should assume a position of comfort.
b. Unconscious casualty without airway obstruction:
    i. Chin lift or jaw thrust manoeuvre[22]
    ii. CCCWG recommended nasopharyngeal airway;
    iii. Place the casualty in the recovery position;
    iv. Consider CCCWG recommended supraglottic airway
c. Casualty with maxillofacial trauma, inhalational burn injuries or anaphylactic reaction with airway obstruction or impending airway obstruction:
    i. Suction as required;
    ii. Chin lift or jaw thrust manoeuvre if decreased level of consciousness;
    iii. Consider nasopharyngeal airway;

[19] Packing should not be done on wounds in the abdominal, thoracic or cranial cavities.
[20] Bleeding through the gauze indicates ineffectiveness and tighter packing and more pressure is required. Use a hemostatic dressing if gauze packing and pressure is ineffective. Remove all gauze in the wound prior to hemostatic dressing application. Do not remove the gauze to assess effectiveness if blood is not soaking through the gauze.
[21] Avoid the adductor hiatus by applying the tourniquet at least 5 cm above the medial femoral condyle. The adductor hiatus is a gap between the adductor magnus muscle and the femur that allows the passage of the femoral vessels from the posterior thigh to the popliteal fossa preventing external compression of the femoral artery. It is the termination of the adductor canal and lies about 2 inches superior to the knee.
[22] Jaw thrust preferred manoeuvre for casualty with a suspected cervical spine injury.

iv. Allow casualty to assume any position that best ensures a patent airway, to include sitting;
v. Place unconscious casualty in the recovery position.

d. If the above basic manoeuvres are ineffective, consider cricothroidotomy[23] [24]
   i. If casualty is conscious and time/condition permits, infiltrate lidocaine (+/- epinephrine) into overlying skin followed by a transtracheal block prior to cricothyroidotomy.
   ii. A CCCWG recommended end-tidal CO_2 detector should be used to confirm placement if available.

6. **R**espiratory Management

a. Assess for a tension pneumothorax and needle decompress if;

Obvious injuries to the chest:
i) Penetrating injury to the chest or transition areas (i.e. any penetrating torso trauma above the level of the umbilicus) OR
ii) Blunt or Blast injury: bruising, crepitus, obvious flail, asymmetry on inspection,

AND

With any one of:
i) BP systolic < 90 mmHg, or loss of radial pulse OR
ii) Significant respiratory distress O
iii) Oxygen saturation less than 90% OR
iv) As per VSA protocol

b. Decompression of the affected side should be performed with a 14G – 3.25 inch long angiocatheter, through the 2nd intercostal space, above the 3rd rib at the midclavicular line, ensuring the needle remains lateral to the nipple line and is directed away from the cardiac box. Casualty may require repeated needle decompression if deterioration occurs and regular patient monitoring is required.[25]

c. All open chest wounds:
   i. Immediately cover the defect with a hand
   ii. Should be positioned injured side down or position of comfort and treated by immediately Apply an occlusive material or a CCCWG recommended dressing to cover the defect and securing it in place.
   iii. Position the casualty injured side down.

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[23] Tracheostomy tubes are preferred over other options such as endotracheal tubes to avoid accidental right mainstem bronchus intubation.
[24] Ensure all inflatable areas of the supraglottic device are filled with water or saline if evacuating in an airborne platform.
[25] It is generally not advised to replace protective equipment over the thorax of an individual with a pneumothorax as it prohibits ready access for reassessment and repeat needle decompression.

iv. Monitor the casualty for the development of a tension pneumothorax.
(1) If a tension pneumothorax develops, vent the occlusive dressing on casualty's exhalation and re-cover the defect prior to inhalation
(2) If the above intervention is unsuccessful and the tension is not relieved, decompress the chest as above.
(3) If the above are ineffective, consider/search for other causes of respiratory distress.[26]

d. For casualties with inadequate respirations, ventilate the casualty using a CCCWG recommended BVM or automated ventilator at a rate of 8-10 rpm.
e. Quantitative capnography should be utilized on all patients with advanced airway interventions.
f. If oxygen is available, it should be administered to all casualties. If there is limited supply, casualties should be prioritized according to the below:
i. Low oxygen saturation by pulse oximetry (SpO2<90%)
ii. Injuries associated with impaired oxygenation
(1) Asthma
(2) Drowning
(3) Pulmonary Contusion
(4) Blast Lung
iii. Unconscious casualty
iv. Casualty with TBI (high flow O2 if available)
v. Casualty in shock
vi. Casualty at altitude

7. **C**ooling Prevention and Litter Placement

a. Minimize casualty's exposure to the elements. Keep protective gear on or with the casualty if feasible.
b. Place on an insulation pad and wrap in a CCCWG recommended or other appropriate casualty blanket if available.
c. Expose casualty only as required for reassessment and treatment.

Circulation (BIFT)

Bleeding Control
a. A CCCWG recommended pelvic splint should be applied to:
i. Penetrating or blunt pelvic trauma after initial treatment of obvious external hemorrhage has been controlled; and/or
ii. Casualty complaining of pelvic pain or tenderness on exam[27] and/or

[26] Respiratory distress may also result from other etiologies such as pulmonary contusion, hemothorax, inhalation injury, in addition to non-traumatic causes such as asthma.

iii. Unexplained hypotension in suspected or known blunt or blast trauma.

b. Splint femur fractures using a CCCWG recommended traction device if available.

IV Access: If casualty is in shock or at risk of going into shock, start an 18G saline lock. If IV access is not obtainable and fluid therapy is indicated, use the intraosseous route (IO) with a CCCWG recommended IO device.

Fluid Resuscitation

a. Assess for hemorrhagic shock as indicated by altered mental status (in the absence of a head injury) and weak or absent peripheral pulses in uninjured limbs are the best field indicators of shock.
   i. If not in shock:
      (1) No IV fluid necessary
      (2) PO fluids permissible if conscious and casualty can swallow.
      (3) Saline lock if equipment is available and tactical situation permits.
   ii. If in shock:
      (1) Hypertonic saline dextran (HSD) 250ml IV/IO. A second 250ml may be given immediately if the casualty is still in shock.
      (2) No more than 500ml of HSD is to be administered to one casualty.
      (3) Normal Saline or Ringers Lactate may be administered if further fluids are required.
b. Continued efforts to resuscitate must be weighed against logistical and tactical considerations.
c. If a casualty with a traumatic brain injury (TBI) is unconscious and has no peripheral pulse, resuscitate to restore the radial pulse. If blood pressure (BP) measurement is available, aim for a systolic BP > 120mmHg.
d. If casualty is burned:
   i. Estimate total body surface area (TBSA) burned to the nearest 10% using Rule of Nines
   ii. Fluid Resuscitation using the USAISR Rule of Ten:
      (1) If burns are greater than 20% of Total Body Surface Area, fluid resuscitation should be initiated as soon as IV/IO access is established. Resuscitation is to be initiated with Normal Saline or Ringers Lactate .
      (2) Initial IV/IO fluid rate is calculated as: %TBSA burned x 10 cc/hr for adults weighing 40-80 kg.

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[27] Assessment of the pelvic ring should be performed only once by the Senior Medical Authority attending the casualty. Repeated assessments should be avoided if initial examination reveals positive findings.

(3) For every 10kg ABOVE 80kg, increase initial rate by 100ml/hr.

iii. If hemorrhagic shock is also present, resuscitation for hemorrhagic shock takes precedence over resuscitation for burns.

iv. Consider giving maintenance fluids if longer than 6 hour extraction.

Tourniquet Assessment and Removal

a. Reassess prior tourniquet applications. Expose wound and determine if tourniquet is needed based on wound characteristics and casualty's clinical condition.

b. If a tourniquet is indicated; reassess placement and effectiveness by ensuring elimination of distal pulse if applicable. If there is clothing underneath a tourniquet, it should be removed by first cutting the clothing away proximal to the tourniquet, then apply a second tourniquet (ideally pneumatic) above the initial tourniquet directly over the skin. Loosen the initial tourniquet and document the change. Use the original tourniquet time.

c. If the tourniquet is not indicated, use other methods to control hemorrhage.

d. Expose and clearly mark all tourniquet sites with the time of tourniquet application in local time (not Zulu) on the forehead using a "T" then the time, with an indelible marker.

e. Prior to removal of any tourniquet on a casualty who has been resuscitated for hemorrhagic shock, ensure a positive response to resuscitative efforts (i.e. a peripheral pulse normal in character and normal mentation (if there is no history of TBI)).

f. Trained medical technicians may consider removing a tourniquet in the following circumstances:
   i. Tourniquet has been in place for two hours and casualty is still in the field or is anticipated to remain in the field for longer than two hours (one reassessment only).
   ii. Effective hemorrhage control can be continuously maintained until arrival at the medical treatment facility by other means such as direct pressure, wound packing, hemostatic agents and bandaging.
   iii. To replace a strap style tourniquet with a pneumatic tourniquet when there is minimal risk of puncture.

g. Removal is contraindicated if any of the following criteria are met:
   i. Complete amputation.
   ii. Casualty is in hemorrhagic shock or has decreased level of consciousness presumed secondary to hemorrhagic shock.
   iii. The tourniquet has been on for ≥ 4 hours.
   iv. The casualty is expected to be in a surgical facility within 2 hours of injury.
   v. If you cannot monitor the limb continuously for re-bleeding.

vi. Bleeding cannot be controlled by other means.

5. **H**ypothermia

a. Minimize casualty's exposure to the elements. Keep protective gear on or with the casualty if feasible.
b. Replace wet clothing with dry if possible.
c. Wrap in vapour barrier rescue blanket, poncho liner, sleeping bag, body bag, or anything that will retain heat and keep the casualty dry. If possible, layer blankets to trap dead air space for maximum insulation.
d. Use CCCWG recommended hypothermia prevention kits if available.
e. Expose casualty only as required for reassessment and treatment.

Head Injury

Assess for presence of head injury by checking pupils and basic neurological screen (i.e. AVPU).

a. If head injury suspected, determine mechanism of injury and consider spinal precautions.
b. Prevent secondary brain injury by actively managing hypotension (BP 110-120 systolic) and hypoxia with high flow O2 if available.

6. Penetrating **E**ye Trauma

a. Assess for penetrating eye trauma. If noted or suspected:
   i. Perform a rapid field test of visual acuity.
   ii. Cover the eye with a rigid eye shield (NOT a pressure patch).
   iii. Give moxifloxacin 400mg PO ASAP after injury.
   iv. If casualty is unable to tolerate oral medication, give cefoxitin 2gm IM/IV/IO or clindamycin 600 mg IM/IV/IO q8h.[28] [29]

7. **E**verything Else (M-PHAAT-D)

Monitoring:

a. Institute electronic vital sign monitoring, if indicated, using a CCCWG recommended vital signs monitor.
b. A CCCWG recommended end-tidal CO_2 detector should be used to confirm tube placement, if available.

Pain Management:

a. Provide analgesia as necessary:
b. Able to fight:

[28] Intramuscular (IM) injection of antibiotics is preferred for ease of field administration.
[29] Important to note that HSD is incompatible with all antibiotics.

These medications should be carried by the Medical Technician and administered as soon as possible after the injury.

i. Ibuprofen 400mg x 2 q8hr; and
ii. Acetaminophen 500mg x 2 q6hr.

c. Unable to fight:

Note : Have naloxone readily available whenever administering narcotics

i. Does not otherwise require IV/IO access:
   (1) Oral transmucosal fentanyl citrate (OTFC) 800ug transbuccally.
   (2) Tape lozenge on a stick to casualty's thumb as an added safety measure.
   (3) Reassess in 15 minutes.
   (4) May repeat with a second lozenge as necessary to control severe pain.
   (5) Monitor for respiratory depression.
   (6) Ondansetron 8mg PO/IM/IV/IO q6h.

ii. If no IV IO access and no OTFC available:
   (1) Morphine sulphate 10 mg IM.
   (2) Reassess in 15 minutes.
   (3) Ondansetron 8mg PO/IM/IV/IO q6h.

ii. If IV access obtained:
   (1) Morphine sulphate 2.5 mg slow IV/IO push.
   (2) Reassess in 5 minutes.
   (3) Give morphine 2.5mg q5minutes prn to control severe pain.
   (4) Monitor for respiratory depression.
   (5) Ondansetron 8mg PO/IM/IV/IO q6hr.

Head to Toe Exam:

a. Check for additional wounds.
b. Conduct a detailed head to toe exam if time and situation permits.
c. Remove and replace clothing and equipment as required.

Address All Wounds and Splint Fractures:

a. Inspect, remove obvious contamination (if possible) and dress all wounds.

Antibiotics:

All casualties sustaining significant penetrating trauma[30] should receive antibiotics as soon as possible after injury (providing administration does not delay evacuation to a medical treatment facility).

a. Moxifloxacin 400mg PO q 24hr.
b. If unable to take PO (shock or unconscious):

[30] All open wounds excluding abrasions or superficial lacerations. Suspected or confirmed penetrating eye trauma and open fractures require systemic antibiotics as soon as possible.

i. No hx of anaphylaxis with penicillin or cephalosporins, Cefoxitin 2gm IV/IO (slow push over 3-5 minutes)/IM (1 gm x 2 sites) q 8hr.
ii. Hx of anaphylaxis with penicillin or cephalosporins, clindamycin 600mg IV/IO/IM (300 mg x 2 sites IM) q 8hr.[31] [32]

Documentation Finalization:

a. Document clinical assessments, treatments rendered and changes in the casualty's status on the CCCWG recommended casualty card. Forward this information with the casualty to the next level of care. Complete the Med Tech AAR as soon as feasible post-incident.

8. Communicate with the casualty if possible. Encourage, reassure and explain care.

9. Vital Signs Absent
   a. Resuscitation, including cardiopulmonary resuscitation (CPR), on the battlefield for victims of blast or penetrating trauma who are found with no pulse, no respirations, and no other signs of life will not be successful and should not be attempted. This casualty is considered KIA.
   b. If a casualty becomes VSA during treatment perform the following actions, taking into consideration equipment resources and the risk of incurring further casualties:
      i. Ensure all **M**assive hemorrhage has been controlled;
      ii. Ensure the **A**irway is patent;
      iii. **R**espirations – decompress the chest bilaterally;
      iv. **C**irculation – start an IO and bolus 250ml of HSD;
      v. CPR for 2 minutes;
      vi. If no change in condition then consider termination of resuscitation efforts.

[31] Intramuscular (IM) injection of antibiotics is preferred for ease of field administration.
[32] Important to note that HSD is incompatible with all antibiotics.

Canadian Forces
Health Services

Medical Technician
Protocols and Procedures

4th Edition
Approved : 18 Jun 2013
Revised: 21 July 2014

List of Effective Pages

Insert latest changed pages; dispose of superseded pages in accordance with applicable orders.

Section Change No Insert/ Replace /Amended Date

Section	Change Number	Insert/Replace/Amended	Date
TOC/1/2/3/4/5/6/7/8	001	Staff duties corrected: 1.5/2.3/2.4/3.1/3.2/3.3/3.5/3.6/3.7/4.1/4.2/4.3/4.4/4.5/4.6/5.3/5.4/6.19/ 6.20/6.21/6.23/6.26/6.27/7.2/7.3/7.6/7.9.1/8.5.1/8.5.2/8.8/8.11/8.16 Added 8.14 MACE	10 Sep 13
6	002	Changed 6.4 & 6.19 dosages to reflect protocol 1.1 / 3.6 / 4.3 dosages	18 Sep 13
6	003	Staff duties corrected 6.7, 8.12, 8.13	30 Sep 13
2/3/4/5/6/8	004	Staff duties 2.4/3.8/5.1/6.16/6.22/6.23/6.25/6.26/8.3/8.6. Changes - 4.2 (IV changed to SL), 4.3 (note 2). 6.9 (frequency of peds admin). Added 8.15 & 8.16 CUF and TFC.	25 Oct 13
1	005	Algorithm 1.1 changed to allow for fluids if initial BP is < 90 mmHg	30 Oct 13
1/2/3/6	006	Removed HES from 1.5/3.3/3.5/6.15/8.5. Staff duties changes to 2.2/2.3/2.4/3.1/3.5/6.4/TOC	8 Nov 13
1/3/4/6/8	007	Staff Duties corrected 1.3, 4.2, 6.4., 6.25 & TOC. Clarification made to 8.16 & 8.1.21 / 8.6.	10 Dec 13
4/6	008	Dose of Naloxone changed in 4.1 and 4.6 to reflect ampoule size. Corrections made to administration in 6.26	20 Feb 14
4	009	Protocol 4.3 adds the use of Clindamycin for orodental infections	21 Jul 14

EDITORIAL REVIEW BOARD

Foreword

This set of medical protocols and procedures has been developed in order to provide Medical Technicians relevant protocols. This manual is a comprehensive reference for use by Medical Technicians. These protocols are applicable to the Med Tech working in the pre-hospital, operational, primary care, and in-patient care. This manual is not intended to cover all possible situations and it is assumed that there may be a requirement for additional theatre mission specific training (TMST).

This manual should not be taken as a simple menu of procedures to perform. Indeed, doing nothing unto itself is an intervention. It is up to each Med Tech, through formal training, experience, and participation in the Maintenance of Clinical Readiness Program, to hone these skills, achieve professional excellence, and realize when these skills should or should not be performed. One of the hardest concepts in medical practice is understanding both your clinical expertise and limitations and then practicing in a manner consistent with this basic tenet of risk management.

Areas of Practice

Pre-hospital Care: This environment includes, but is not limited to, working on exercises, providing range / training / event medical coverage, moving casualties in the evacuation chain, and working outside the sick bay of a ship.

Operational Casualty Care: This environment includes named operations both domestic and expeditionary. A written order must occur for these skills to be utilized.

Primary Care: This environment includes, but is not limited to, providing sick parade in the field / on ship and whilst working in a care delivery unit.

In-Patient Care: This environment includes, but is not limited to, holding a casualty in unit medical station, sick bay, brigade medical station, advanced surgical centre, field hospital, or domestic evacuation centre.

Inquiries and suggestions for change shall be forwarded through normal channels to the Canadian Forces Health Service Chief Warrant Officer.

Legend

A YELLOW Box within a protocol indicates a QL5A and above skill set. Should a QL3 Medical Technician encounter this, they are to skip to the next white box.
A BLUE box within a protocol indicates a Class B skill which can only be performed in an operational setting. E.g. A named operation with the signed authorization from a higher medical authority.

Class A Protocols: Authorized for use in all areas of practice within the Med Tech's individual skill level.
Class B Protocols: Authorized during a **named operation** with formal authorization from the Task Force Surgeon. (please see attached form)
*** Exercises (both domestic and international) will utilize Class A protocols only***

PROTECTED A (when completed)

Authorization for Scope of Practice Utilization

_____	_____	_____	_____
SN	Rank	Name	Unit

Is hereby authorized to provide operational casualty care in accordance with Class B designated protocols from the Medical Technician Manual. While employed on operation:

_____
Operation Name

This authorization is valid as of the date below and only in the named area of operation. It expires one year from the date of signature.

Date of Commencement: _____

_____
Signature of Medical Officer

_____	_____	_____	_____
SN	Rank	Name of Medical Officer	Appointment

Copy 1: Unit Employment Record (CF 743)
Copy 2: Unit File
Copy 3: Medical Technician

PROTECTED A (when completed)

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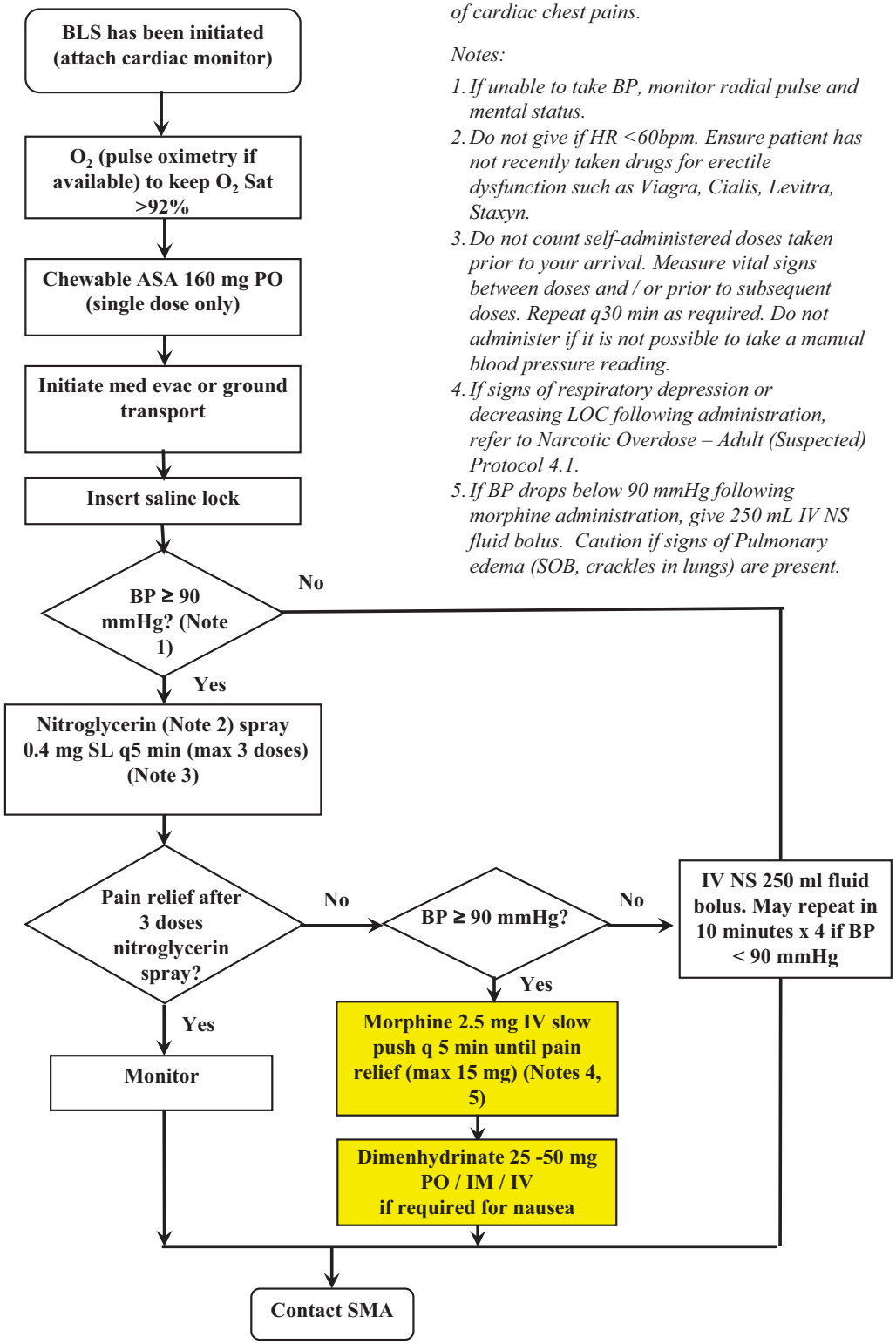
This section covers the protocols and procedures for:

1.1 Suspected Cardiac Chest Pain
1.2 Cardiac Arrest AED
1.3 Post Cardiac Arrest Stabilization
1.4 Discontinue Resuscitation
1.5 Vital Signs Absent

Implementation of all protocols assumes that patient assessment and treatment are ongoing throughout the incident.

SECTION 1 : CARDIAC PROTOCOLS

1.1 Suspected Cardiac Chest Pain - Class A



Indication – Patients with a history suggestive of cardiac chest pains.

Notes:

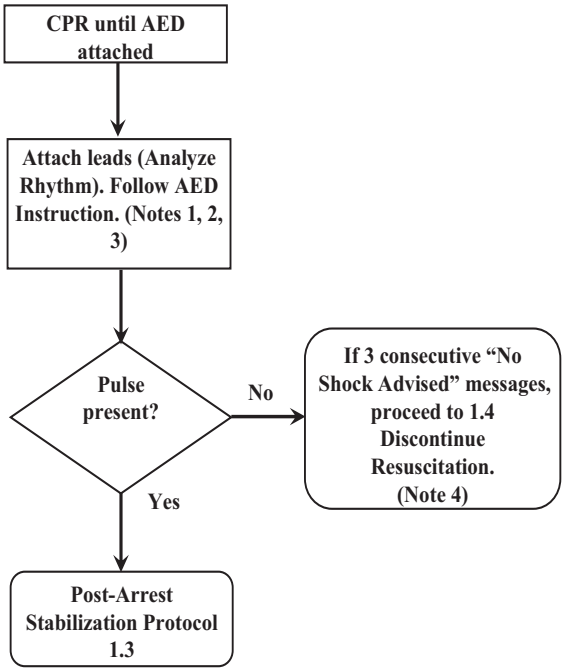
1. *If unable to take BP, monitor radial pulse and mental status.*
2. *Do not give if HR <60bpm. Ensure patient has not recently taken drugs for erectile dysfunction such as Viagra, Cialis, Levitra, Staxyn.*
3. *Do not count self-administered doses taken prior to your arrival. Measure vital signs between doses and / or prior to subsequent doses. Repeat q30 min as required. Do not administer if it is not possible to take a manual blood pressure reading.*
4. *If signs of respiratory depression or decreasing LOC following administration, refer to Narcotic Overdose – Adult (Suspected) Protocol 4.1.*
5. *If BP drops below 90 mmHg following morphine administration, give 250 mL IV NS fluid bolus. Caution if signs of Pulmonary edema (SOB, crackles in lungs) are present.*

SECTION 1 : CARDIAC PROTOCOLS

1.2 Cardiac Arrest AED Protocol - Class A

Indications – Patient with absent carotid pulse AND continued loss of consciousness AND not breathing.
Cautions -

- *Severe hypothermia*
- *Asphyxiation*
- *Traumatic Arrest*

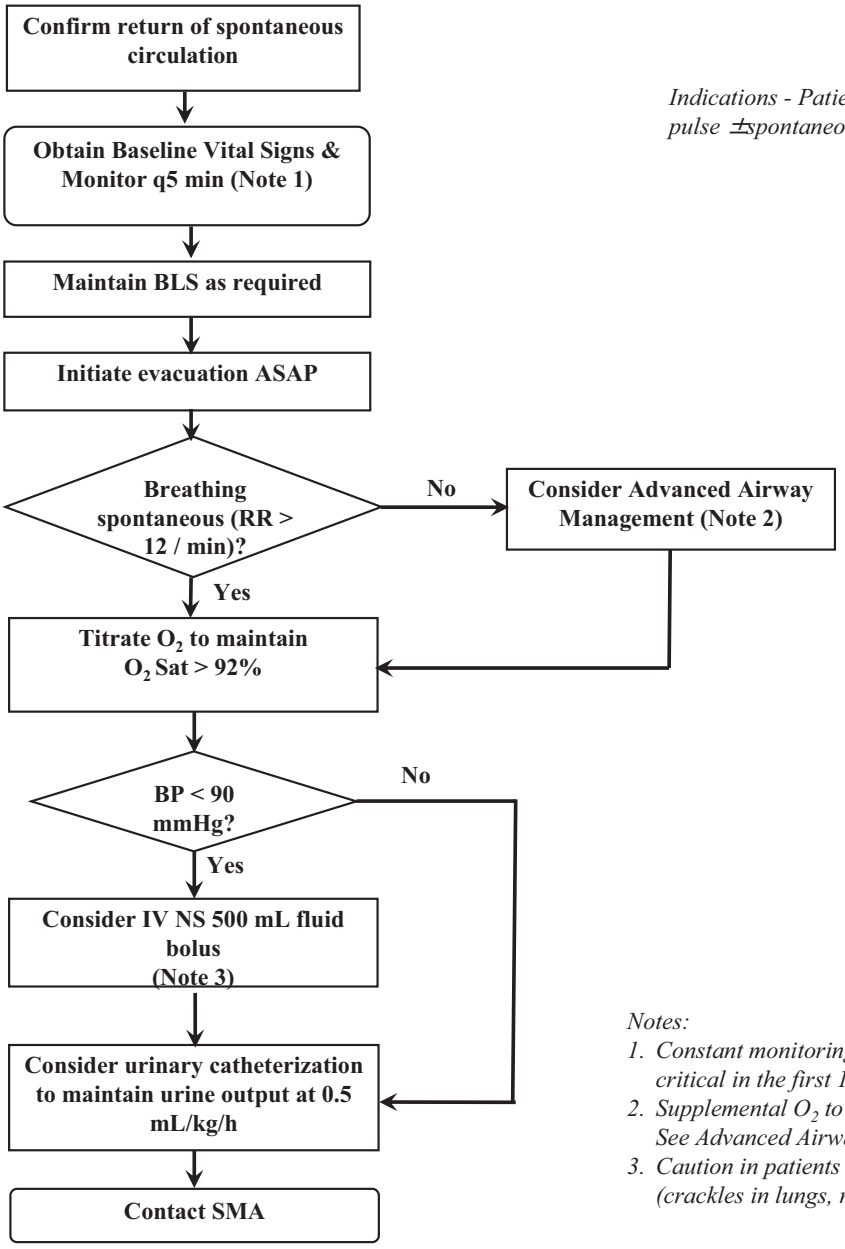


Notes

1. *Defibrillation is less likely to be effective below 30°C core body temperature. Focus efforts on CPR and rapid transport. Re-warm patient per Hypothermia Protocol 5.1. Only defibrillate once until patient rewarms to 30°C.*
2. *In asphyxiation, cardiac arrest is due to hypoxia. Emphasis should be on good oxygenation and initiating CPR before using AED. Causes may include hanging, airway obstruction, smoke inhalation, or drowning.*
3. *Use pediatric pads from 1-8 years old if available.*
4. *Cardiac arrest following trauma has a very low probability of survival. Resuscitative efforts should be based on available resources and operational requirements.*

SECTION 1 : CARDIAC PROTOCOLS

1.3 Post Cardiac Arrest Stabilization - Class A



Indications - Patient post-cardiac arrest with a pulse ±spontaneous respirations.

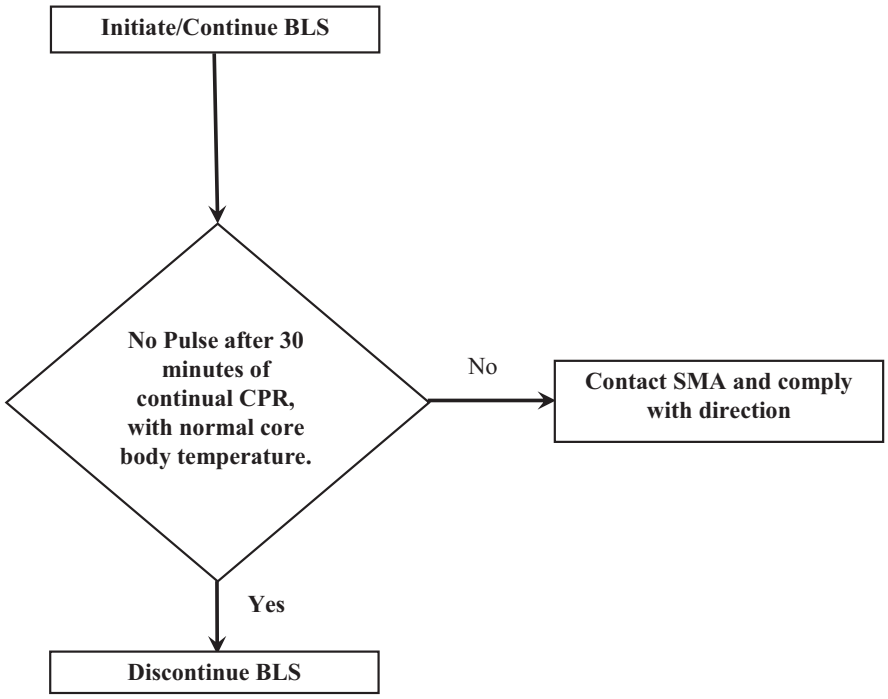
Notes:

1. *Constant monitoring of the patient's pulse is critical in the first 10 minutes post-arrest.*
2. *Supplemental O_2 to maintain O_2 Sat >92%. See Advanced Airway Algorithm 2.1*
3. *Caution in patients with pulmonary edema (crackles in lungs, respiratory distress)*

SECTION 1 : CARDIAC PROTOCOLS

1.4 Discontinue Resuscitation (Adult) – Class A

Indications – Patients in cardiac arrest who have not responded to interventions under other treatment protocols.

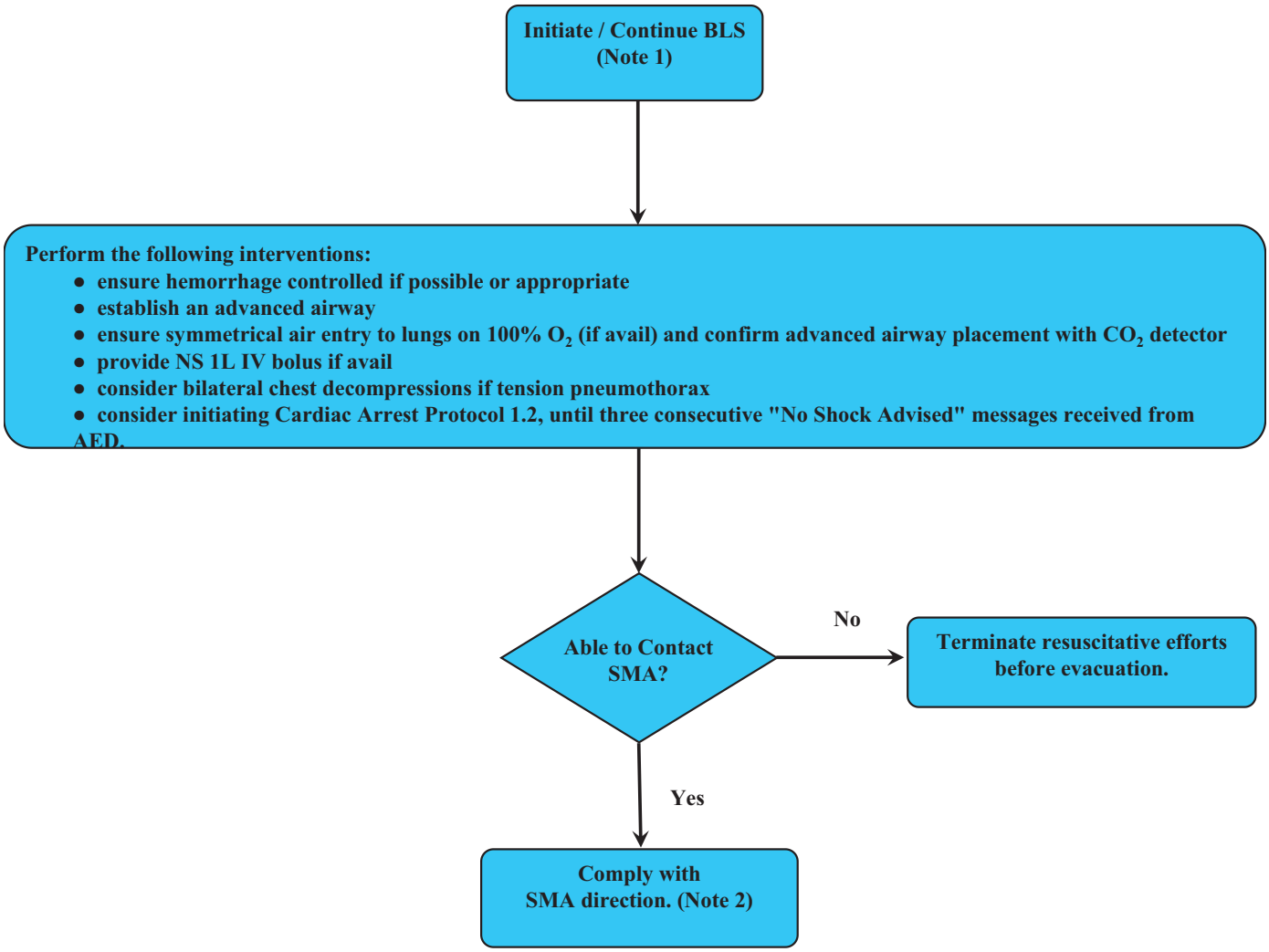


SECTION 1 : CARDIAC PROTOCOLS

1.5 Vital Signs Absent – Class B

Indications

- *Patient initially presents with a pulse, then no palpable pulse detected.*



Notes:

1. *Special considerations: continue resuscitation on hypothermic, near-drowning victims, pediatric victims or victims of electrocution or lightning strikes.*
2. *Where possible, SMA should be contacted to provide direction on the discontinuation of resuscitation.*

SECTION 2: RESPIRATORY PROTOCOLS

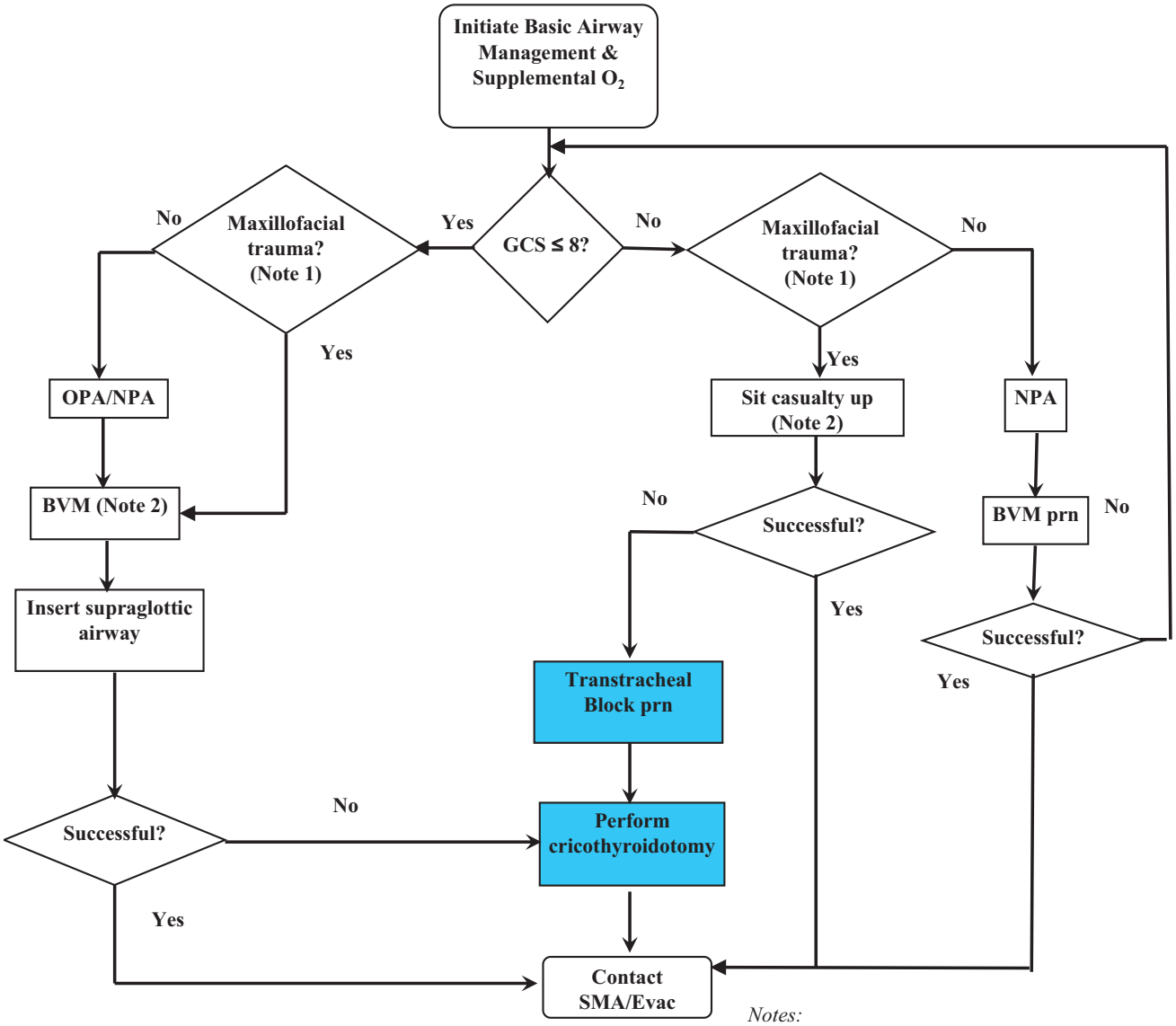
This section covers the protocols and procedures for:

2.1 Airway Management Algorithm
2.2 SOB Suggestive of Asthma/COPD
2.3 Anaphylaxis/Anaphylactic Shock – Adult & Children > 30 Kg
2.4 Anaphylaxis/Anaphylactic Shock – Adult & Children ≤ 30 Kg
2.5 Tension/Symptomatic Pneumothorax

Implementation of all protocols assumes that patient assessment and treatment are ongoing throughout the incident.

SECTION 2: RESPIRATORY PROTOCOLS

2.1 Airway Algorithm – Class A (All QL) / Class B with Cric (QL5 & above)

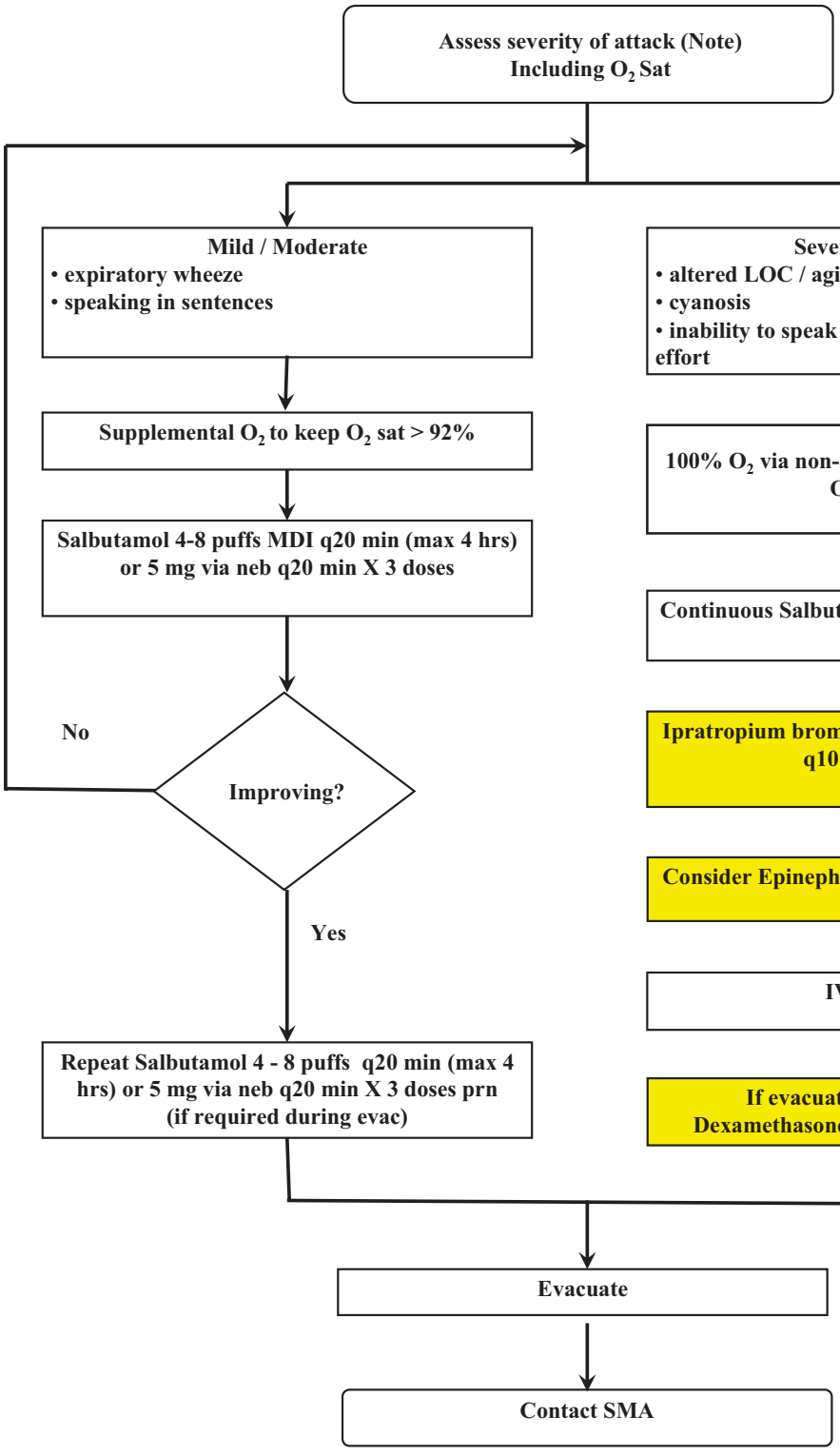


Notes:

1. *Injuries to the face or neck which distort the anatomy .*
2. *Always be prepared to move to next level of airway – Reassess at each intervention.*

SECTION 2: RESPIRATORY PROTOCOLS

2.2 SOB Suggestive of Asthma / COPD - Class A



Indications

- *Patients who are SOB with a history of asthma or chronic obstructive pulmonary disease (COPD) or are wheezing*
- *Caution in patients older than 50*

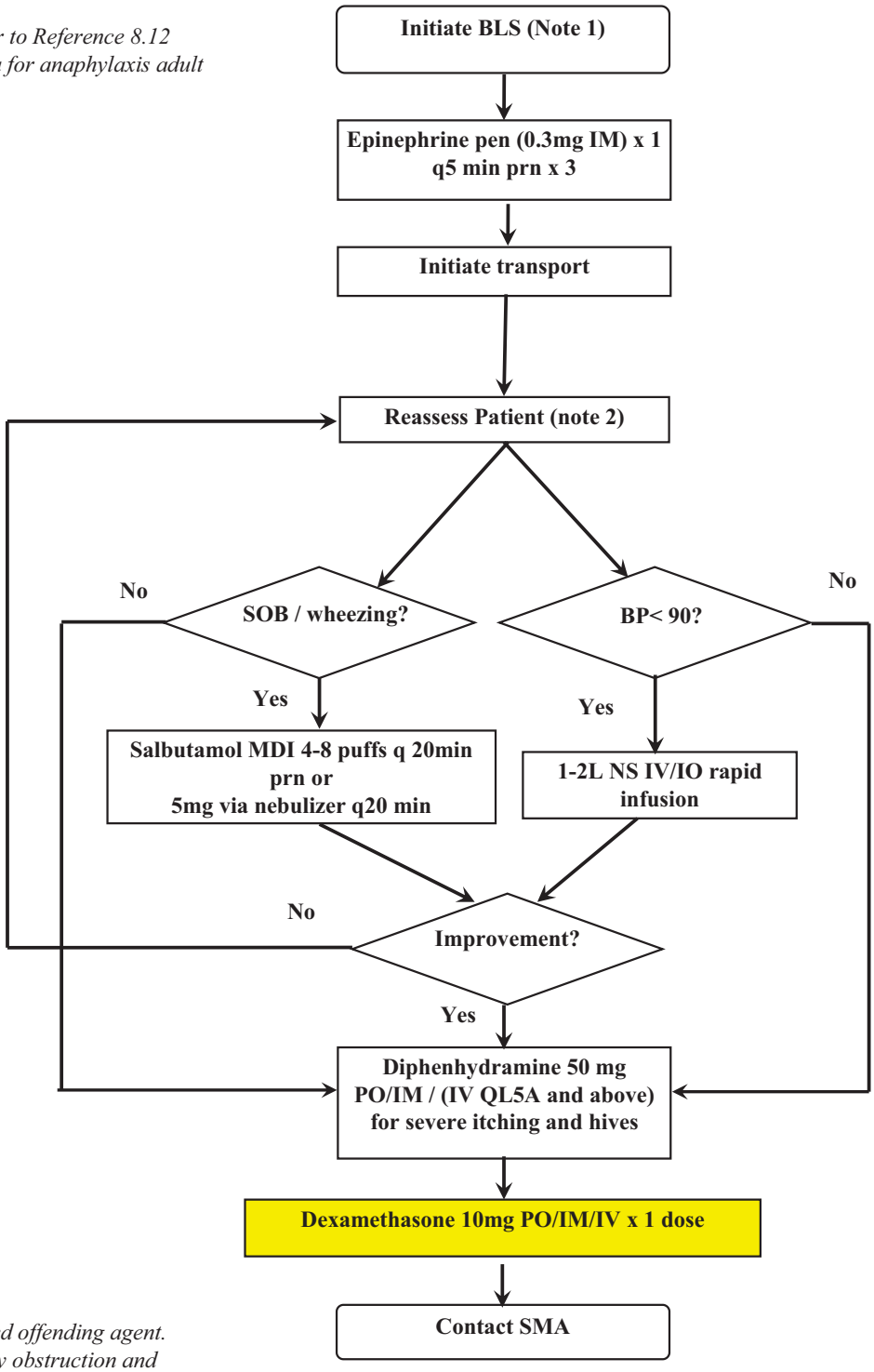
Note:

Use of accessory muscles of respiration; brief, fragmented speech; inability to lie supine; profound diaphoresis; agitation are severe symptoms. Inability to maintain respiratory effort, cyanosis, and depressed mental status predict imminent respiratory arrest. Life-threatening airway obstruction can still occur when these signs are NOT present.

SECTION 2: RESPIRATORY PROTOCOLS

2.3 Anaphylaxis / Anaphylactic Shock - Adult & Children > 30Kg - Class A

Indications - Refer to Reference 8.12 diagnostic criteria for anaphylaxis adult and child > 30 kg.



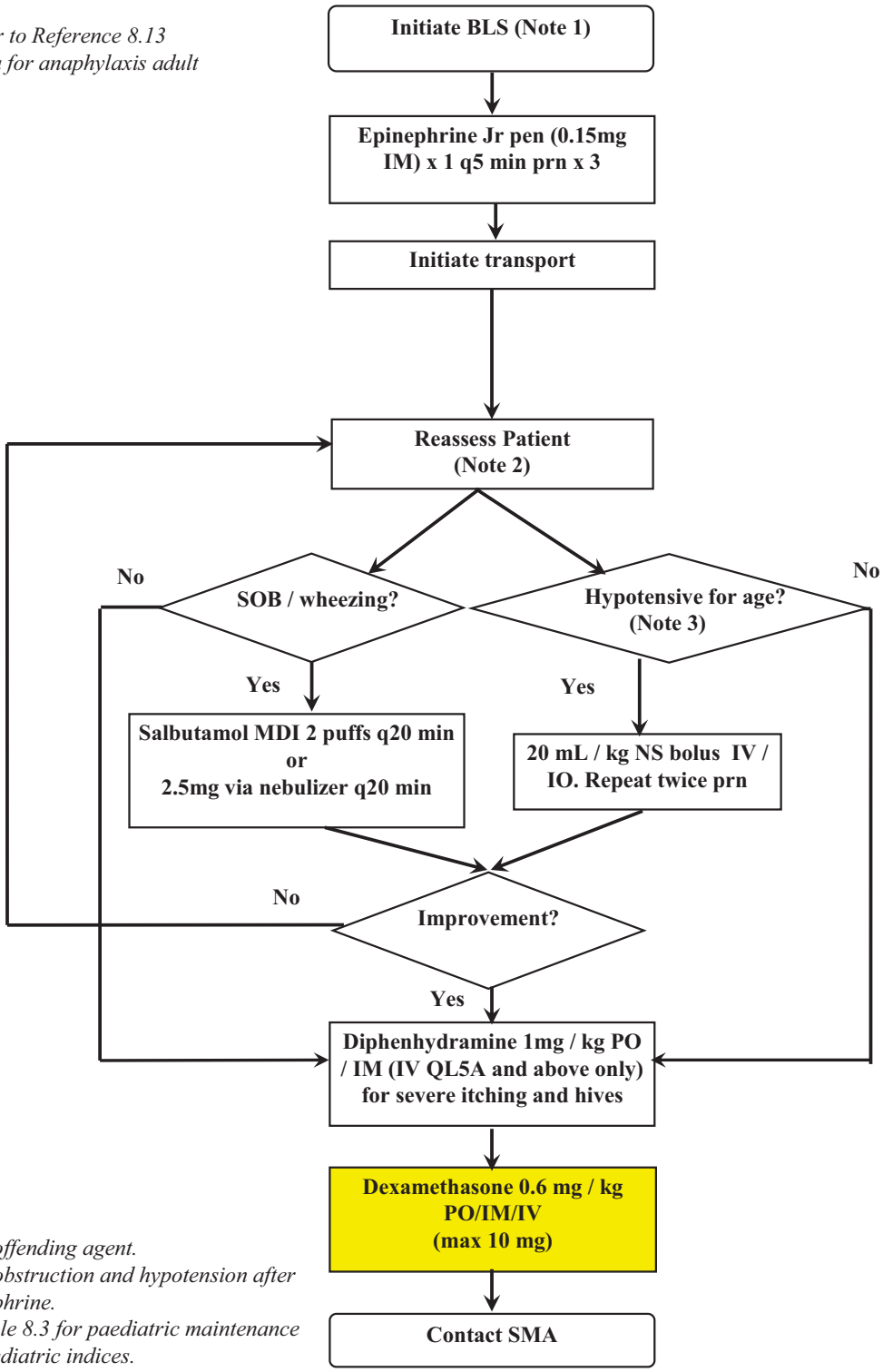
Note:

1. *Remove suspected offending agent.*
2. *Assess for airway obstruction and hypotension after each dose of epinephrine*

SECTION 2: RESPIRATORY PROTOCOLS

2.4 Anaphylaxis / Anaphylactic Shock - Adult & Children ≤ 30Kg - Class A

Indications - Refer to Reference 8.13 diagnostic criteria for anaphylaxis adult and child ≤ 30 kg.



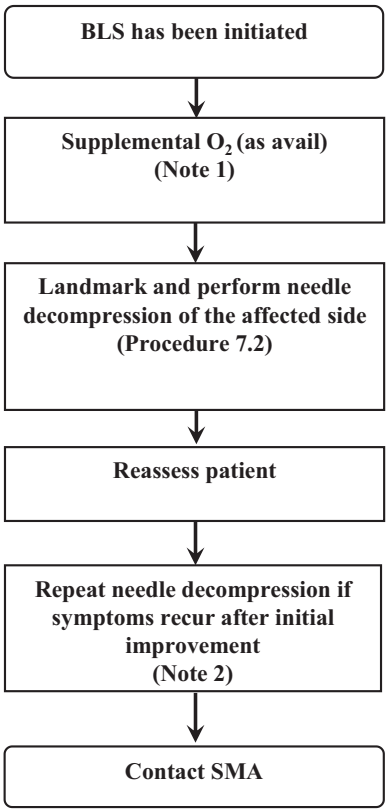
Notes:
1.Remove suspected offending agent.
2. Assess for airway obstruction and hypotension after each dose of epinephrine.
3. See Paediatric Table 8.3 for paediatric maintenance rates and other paediatric indices.

SECTION 2: RESPIRATORY PROTOCOLS

2.5 Tension / Symptomatic Pneumothorax – Class A (QL5A and above) Class B (QL3)

Indications

- *Obvious injuries to the chest such as:*
  - *penetrating injury to chest or transition areas (i.e. any penetrating torso trauma above the level of the umbilicus) OR*
  - *blunt or blast injury - bruising, crepitus, obvious flail segment, asymmetry on inspection*
- *AND any one of:*
  - ➢ *BP < 90 mm Hg, or loss of radial pulse OR*
  - ➢ *O_2 Sat < 90% OR*
  - ➢ *as per VSA protocol*



Footnotes

1. *Oxygen flow may be reduced after chest decompression to maintain O_2 Sat ≥ 92%*
2. *Continuous monitoring of the patient required as the tension pneumothorax can re-accumulate and may require repeat decompression lateral to initial successful decompression.*

SECTION 3: TRAUMA PROTOCOLS

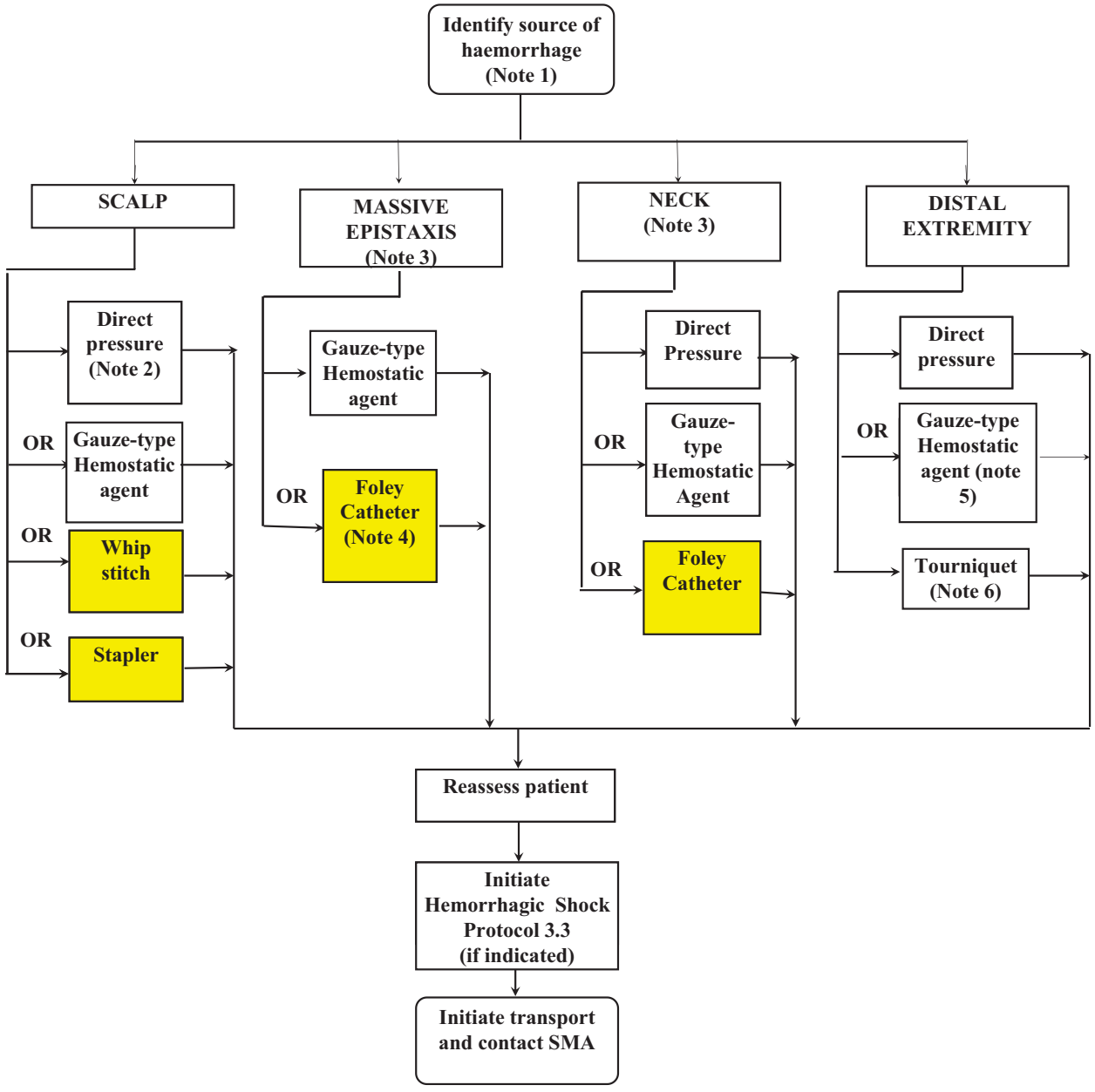
This section covers the protocols and procedures for:

3.1 External Haemorrhage
3.2 Tourniquet assessment and removal
3.3 Hemorrhagic Shock
3.4 Tranexamic Acid (TXA)
3.5 Burn Management
3.6 Pain
3.7 Medical Technicians Management of Concussions in a Remote Setting (mTBI)
3.8 Eye Injury

Implementation of all protocols assumes that patient assessment and treatment are ongoing throughout the incident.

SECTION 3: TRAUMA PROTOCOLS

3.1 External Haemorrhage - Class A



Notes

1. Refer to Assessing and Treating Haemorrhage 8.11.
2. Avoid if suspected depressed skull fracture.
3. Airway and haemorrhage must be managed concurrently.
4. Avoid if suspected basal skull fracture.
5. If gauze-type haemostatic agent not available, use plain gauze for packing.
6. Reassess as per Tourniquet Removal Protocol 3.2

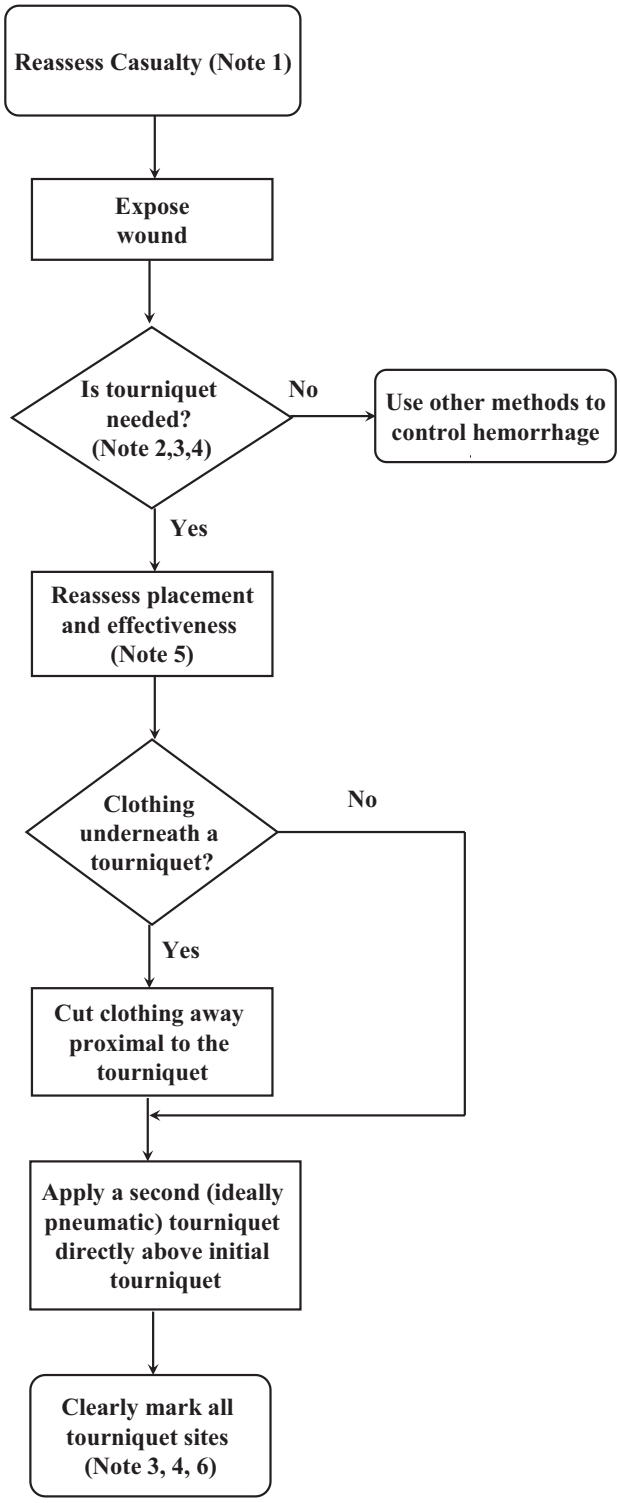
SECTION 3: TRAUMA PROTOCOLS

3.2 Tourniquet Assessment And Removal – Class A

Notes:

1. *Prior to removal of any tourniquet on a casualty who has been resuscitated for hemorrhagic shock, ensure a positive response to resuscitative efforts (i.e., a peripheral pulse normal in character and normal mentation [if there is no history of TBI]).*
2. *Determination based on wound characteristics and casualty's clinical condition.*
3. *Trained medical technicians may consider removing a tourniquet in the following circumstances:*
   a. *Effective hemorrhage control can be continuously maintained until arrival at the medical treatment facility by other means such as direct pressure,(one reassessment only), wound packing, hemostatic agents and bandaging.*
   b. *To replace a strap style tourniquet with a pneumatic tourniquet when there is minimal risk of puncture.*

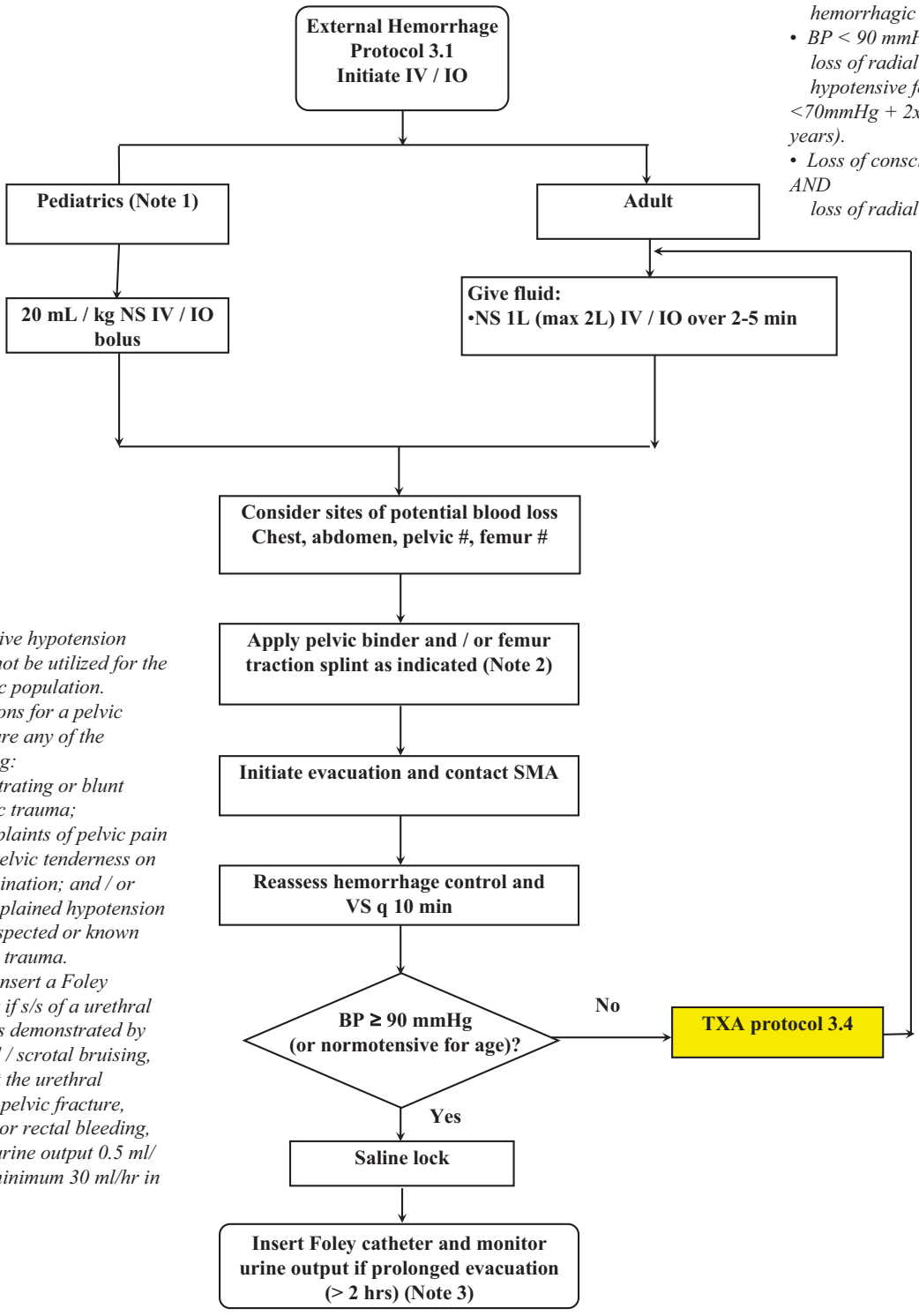
4. *Removal is contra-indicated if any of the following criteria are met:*
   a. *Complete amputation.*
   b. *Casualty is in hemorrhagic shock or has decreased level of consciousness presumed secondary to hemorrhagic shock.*
   c. *The tourniquet has been on for ≥ 4 hours.*
   d. *The casualty is expected to be in a surgical facility within 2 hours of injury.*
   e. *If you cannot monitor the limb continuously for re-bleeding.*
   f. *Bleeding cannot be controlled by other means.*
5. *Eliminate distal pulse (if applicable).*
6. *Record all tourniquet sites with the time of application on the casualty card.*



SECTION 3: TRAUMA PROTOCOLS

3.3 Hemorrhagic Shock – Class A

Indications
- *Casualties with s / s of hemorrhagic shock.*
- *BP < 90 mmHg (or loss of radial pulse) or hypotensive for age (BP <70mmHg + 2x age in years).*
- *Loss of consciousness AND loss of radial pulse.*



Notes:
1. *Permissive hypotension should not be utilized for the pediatric population.*
2. *Indications for a pelvic binder are any of the following:*
   a. *Penetrating or blunt pelvic trauma;*
   b. *Complaints of pelvic pain OR pelvic tenderness on examination; and / or*
   c. *Unexplained hypotension in suspected or known blunt trauma.*
3. *Do not insert a Foley catheter if s/s of a urethral injury as demonstrated by perineal / scrotal bruising, blood at the urethral meatus, pelvic fracture, vaginal or rectal bleeding, Target urine output 0.5 ml/ kg/hr (minimum 30 ml/hr in adults).*

SECTION 3: TRAUMA PROTOCOLS

3.4 Tranexamic Acid (TXA) Protocol – Class A (QL5A and above)

Indications –

•To be administered as soon after injury as feasible.

•For the use in the adult trauma pt with clinical evidence of significant hemorrhage (SBP < 90mmHg or HR >110, or both)

Contra-indications
•Documented allergy to TXA
•>3 hrs after initial injury

Hemorrhagic Shock Protocol 3.3 (Note 1)

↓

Draw up 1 gm of TXA (1gm/10ml) in a 10 ml syringe

↓

Give 10 ml IV/IO over 10 min slow push (1 ml per min) (Note 2)

↓

Wait 1 Hour

↓

Draw up 1 gm of TXA (1 gm/10ml) in a 10 ml syringe and push 1 ml IV/IO every hour

↓

Reassess Patient

Caution – Delivery of TXA should never delay evacuation of casualty

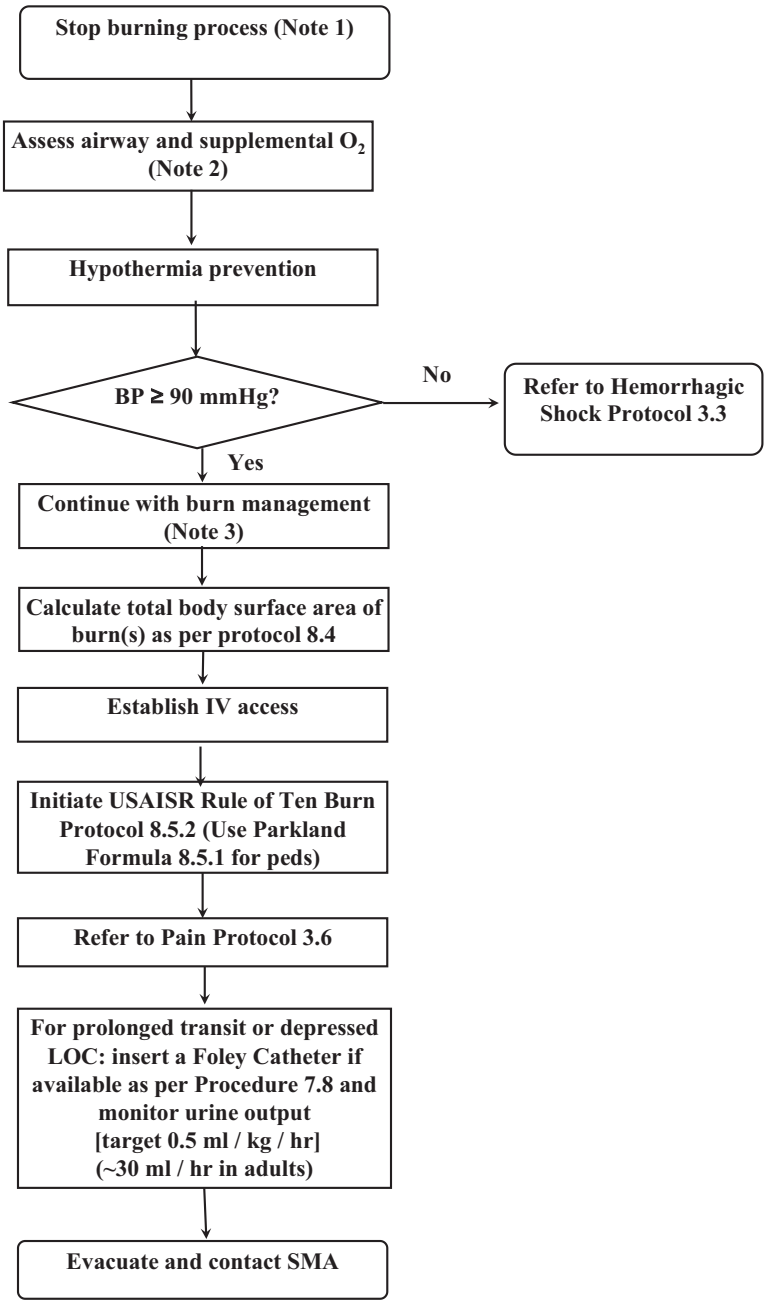
Maximum Dosage 2 grams.

Notes:
1. *Casualty is still hypotensive after initial fluid bolus via IV / IO*
2. *Watch for allergic rxn*

SECTION 3: TRAUMA PROTOCOLS

3.5 Burn Management – Class A

Indication - Patients with 2º and 3º covering greater than 20% BSA



Notes:

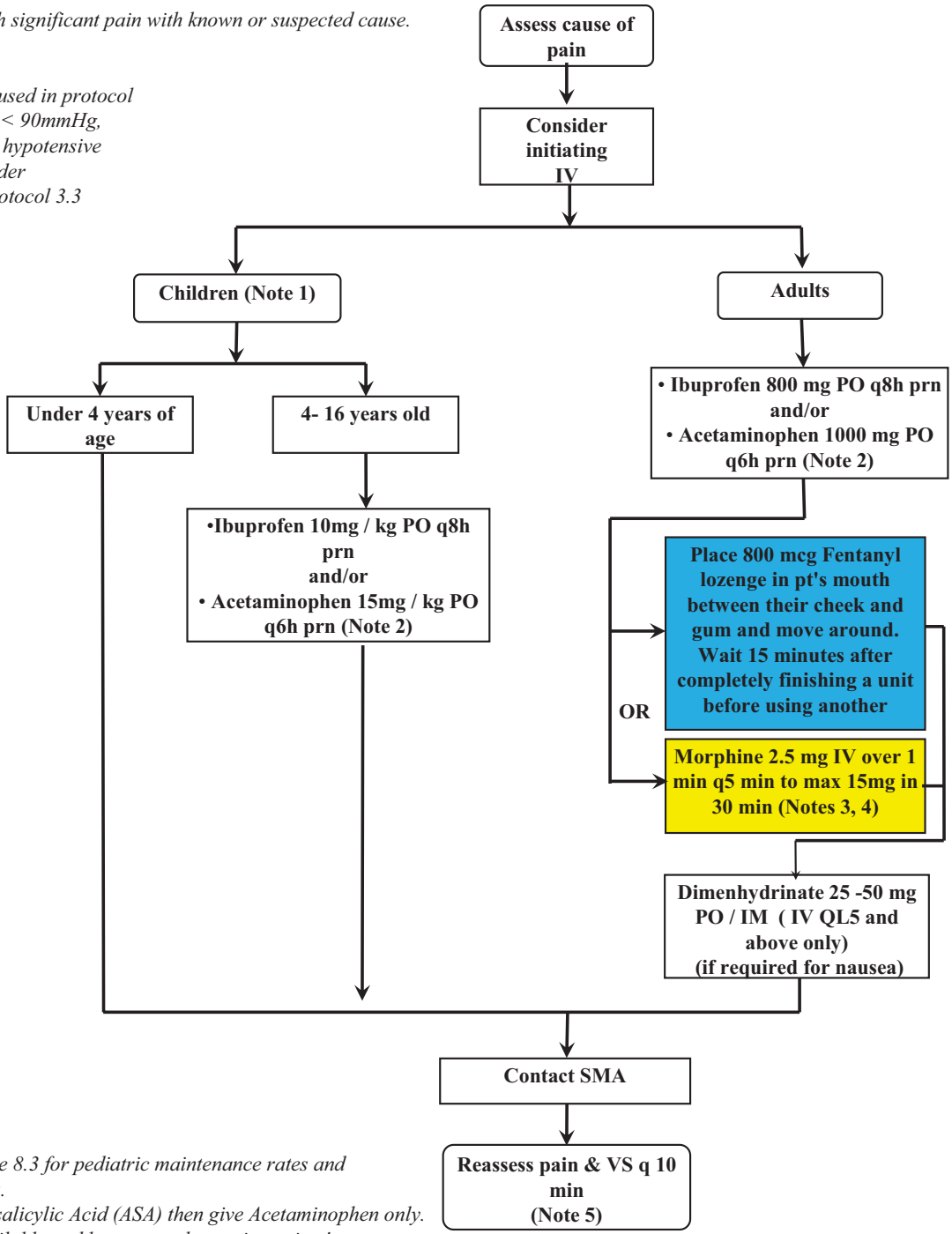
1. *Brush away caustic solids / powders prior to irrigation with copious amounts of clean water.*
2. *Assess airway for signs / symptoms of burn (i.e., soot in mouth, burns to the upper chest, carbonaceous sputum, SOB, stridor and voice changes / hoarseness). If inhalation burn suspected contact SMA, give high flow oxygen throughout transport and follow Airway Protocol 2.1*
3. *Cover burns with dry sterile dressings to help prevent hypothermia and treat pain. Cellophane wrap is effective if available.*

3.6 Pain – Class A (Class B with Fentanyl)

Indication - Patients with significant pain with known or suspected cause.

Contraindications -
- *Allergy to medication used in protocol*
- *If decreased LOC, BP < 90mmHg, loss of radial pulse or hypotensive for age (Note 1) consider Henorrhagic Shock Protocol 3.3 or Cardiac Chest Pain Protocol 1.1.*

Caution
- *Severe chest injuries*
- *Blunt or penetrating head trauma*



Notes:

1. See Pediatric Table 8.3 for pediatric maintenance rates and other pediatric indices.

2. If allergic to Acetylsalicylic Acid (ASA) then give Acetaminophen only.

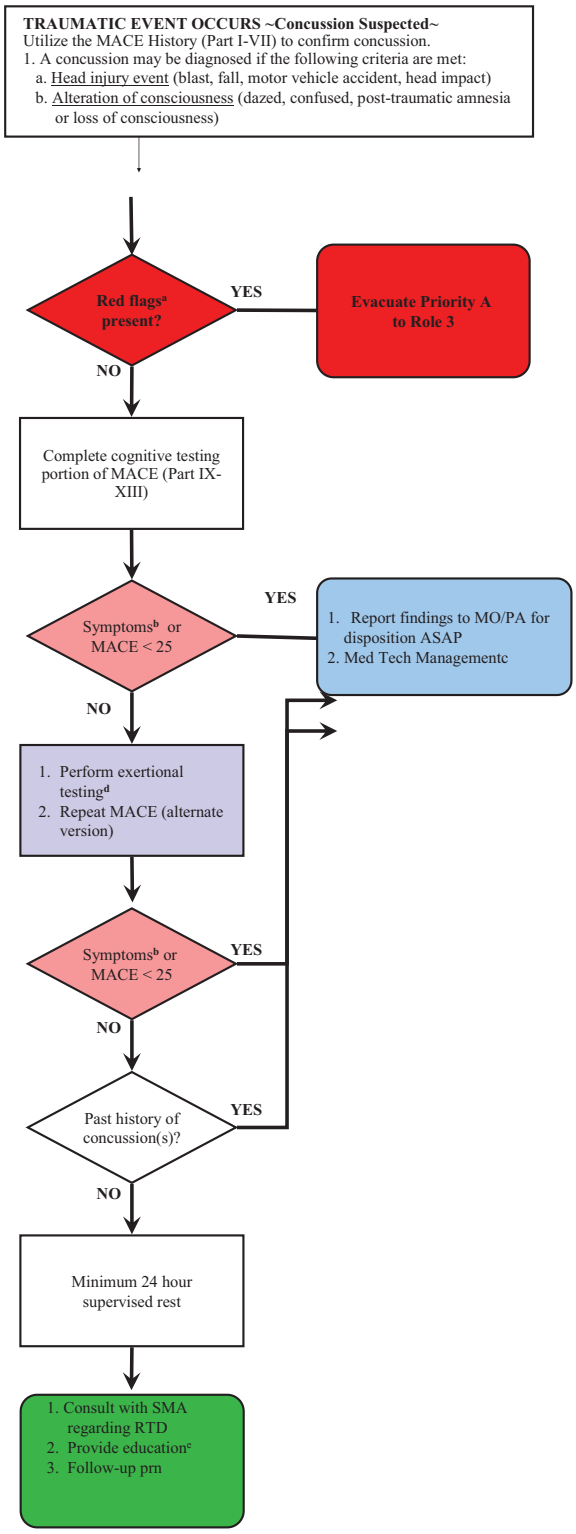
3. Have Naloxone available and be prepared to assist patient's respirations following administration. Refer to Narcotic Overdose – Adult (Suspected) Protocol 4.1 if necessary.

4. For patients with morphine allergy, fentanyl lozenge may be substituted except in the pediatric protocol

5. Vital signs should be taken 5-10min after narcotic administration and at least hourly thereafter although clinical condition may mandate more frequent monitoring.

SECTION 3: TRAUMA PROTOCOLS

3.7 Medical Technician Management of Concussion (mTBI) – Class B



[a] "Red Flags" for mTBI/concussion
1. ANY Loss of consciousness
2. Severe/worsening headache
3. GCS < 15
4. Seizure(s) with current event
5. Repeated vomiting
6. Declining neurologic status
7. Symptoms/signs of basilar skull fracture: hemotympanum, raccoon eyes, Battle's sign, rhinorrhea, otorrhea
8. Pupil asymmetry
9. Abnormal speech
10. Double vision
11. Weakness/numbness in arms, legs or face
12. Any post-traumatic amnesia
13. Unusual behavior

[b] Common Symptoms of Concussion
1. Headache
2. Irritability
3. Sleep disturbance
4. Fatigue
5. Difficulty concentrating
6. Dizziness

[c] Med Tech Management:
1. Headache management - use Acetaminophen as per protocol
2. Hydration
3. Rest (reduced stimulus)
4. Reassess every 6 hours x 24 hrs at minimum
5. Provide regular updates to MO/PA

[d] Exertional Testing Protocol
1. Calculate Target Heart Rate (THR) using push-ups, step aerobics, treadmill, hand crank. (THR = 65-85% maximum heart rate) (Maximum heart rate = 220 minus age)
2. Assess for symptoms (headache, vertigo, photo- or phonophobia, balance, dizziness, nausea, tinnitus, visual changes)

[e] Education After Concussion

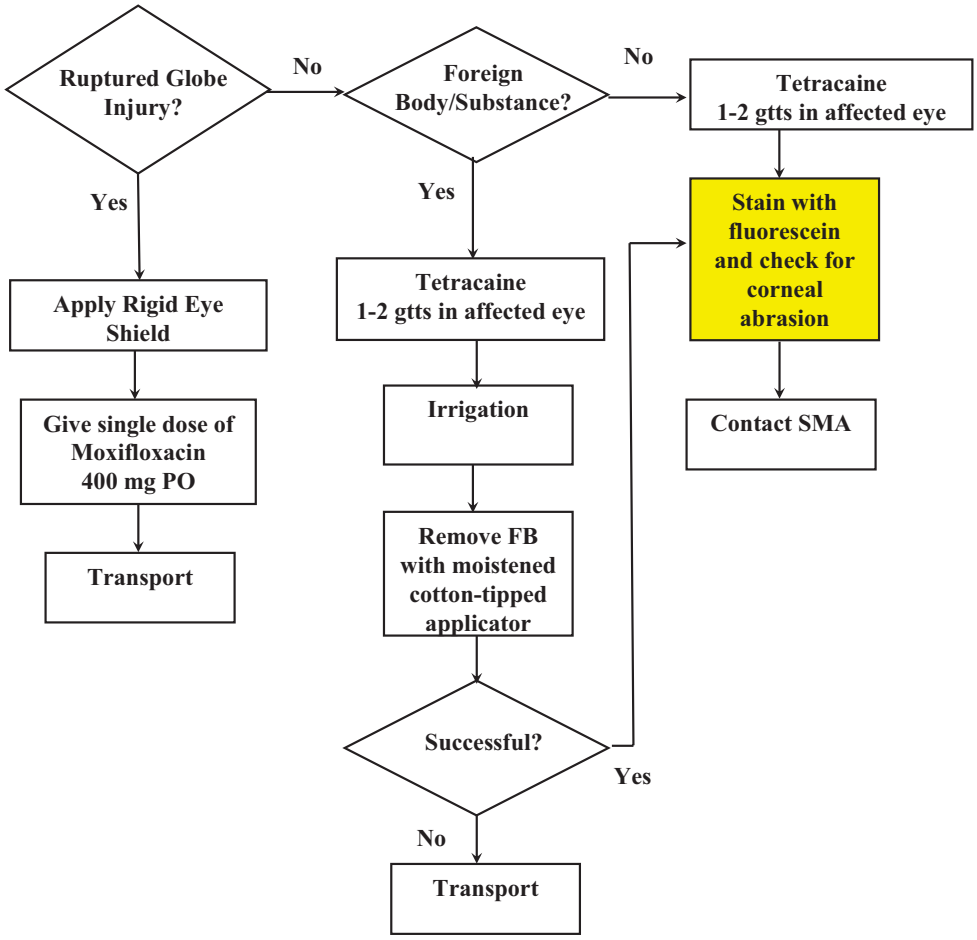
Warning Signs
If you begin to experience any of the following, seek immediate medical attention:
- Worsening headache
- Worsening balance
- Double vision or other vision changes
- Decreasing level of alertness
- Increased disorientation
- Repeated vomiting
- Seizures
- Unusual behavior
- Amnesia/Memory problems

PROVIDE DVBIC CONCUSSION/mTBI (ACUTE) INFORMATION OR OTHER APPROVED EDUCATIONAL MATERIAL (IF AVAILABLE)

Updated 31 May 2011

SECTION 3: TRAUMA PROTOCOLS

3.8 - Eye Injury – Class A



Note:
1. *Check Visual Acuity and remove contact lenses if present.*

SECTION 4: MEDICAL PROTOCOLS

This section covers the protocols and procedures for:

4.1 Narcotic Overdose – Adult (Suspected)
4.2 Seizure
4.3 Antibiotic
4.4 Hostile/Violent Patient
4.5 Hypoglycemic Emergency
4.6 Unconscious Patient NYD

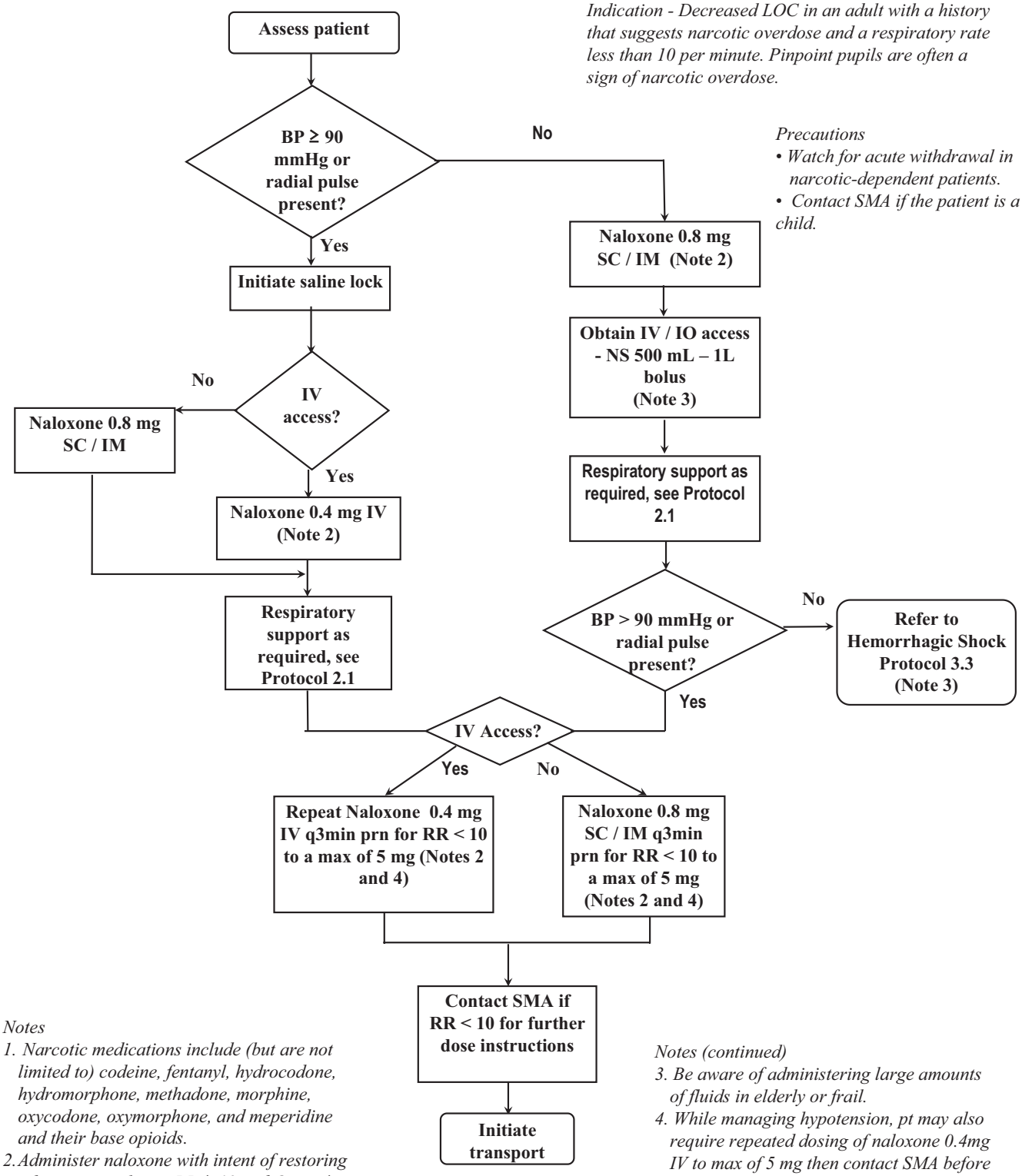
Implementation of all protocols assumes that patient assessment and treatment are ongoing throughout the incident.

SECTION 4: MEDICAL PROTOCOLS

4.1 Narcotic (Note 1) Overdose - Adult (Suspected) - Class A

Indication - Decreased LOC in an adult with a history that suggests narcotic overdose and a respiratory rate less than 10 per minute. Pinpoint pupils are often a sign of narcotic overdose.

Precautions
- *Watch for acute withdrawal in narcotic-dependent patients.*
- *Contact SMA if the patient is a child.*

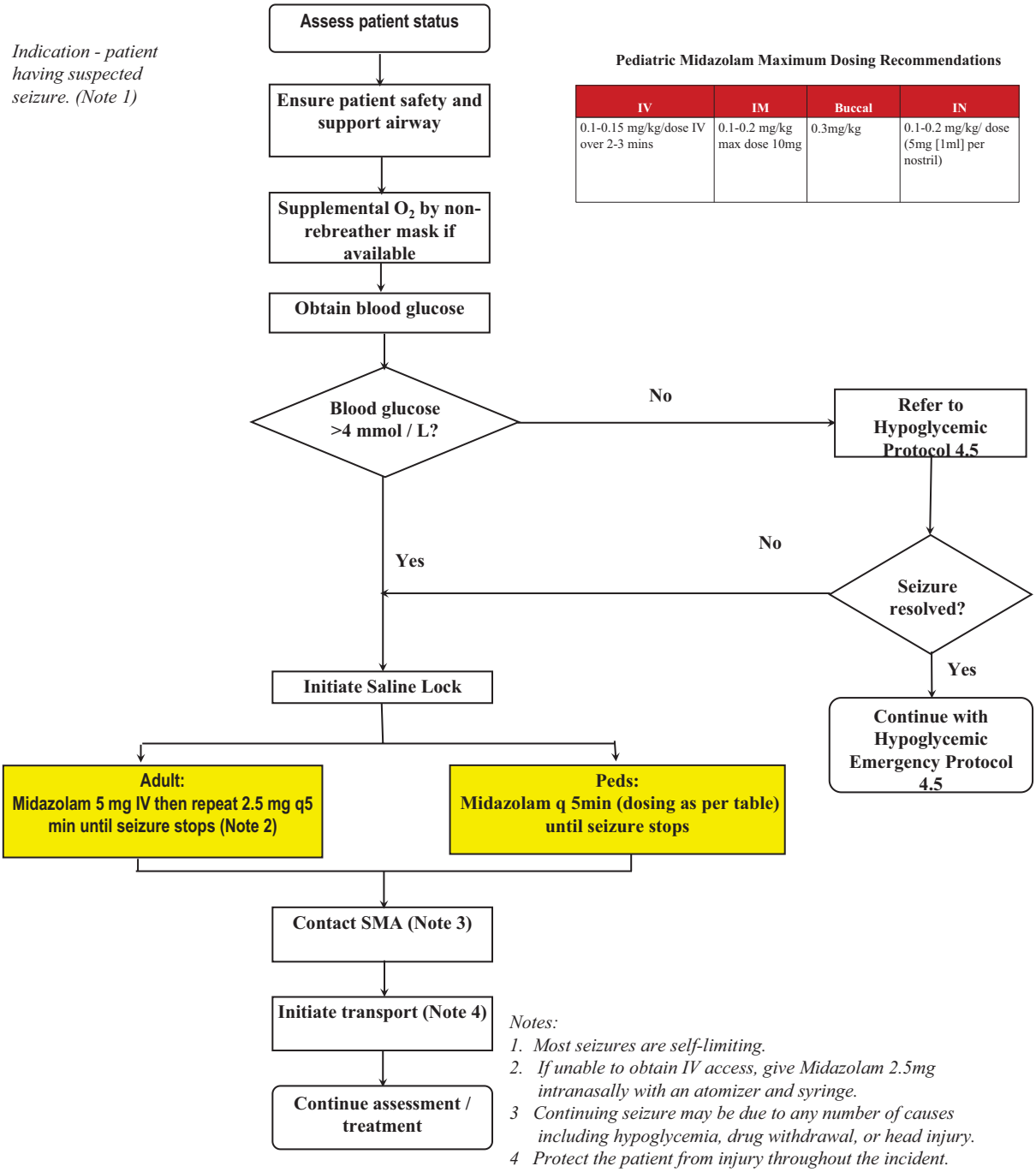


Notes
1. *Narcotic medications include (but are not limited to) codeine, fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, oxymorphone, and meperidine and their base opioids.*
2. *Administer naloxone with intent of restoring adequate ventilation RR ≥ 10 and O_2 sat ≥ 92%.*

Notes (continued)
3. *Be aware of administering large amounts of fluids in elderly or frail.*
4. *While managing hypotension, pt may also require repeated dosing of naloxone 0.4mg IV to max of 5 mg then contact SMA before further dosing.*

4.2 Seizure - Class A

Indication - patient having suspected seizure. (Note 1)



Pediatric Midazolam Maximum Dosing Recommendations

IV	IM	Buccal	IN
0.1-0.15 mg/kg/dose IV over 2-3 mins	0.1-0.2 mg/kg max dose 10mg	0.3mg/kg	0.1-0.2 mg/kg/ dose (5mg [1ml] per nostril)

Notes:

1. *Most seizures are self-limiting.*
2. *If unable to obtain IV access, give Midazolam 2.5mg intranasally with an atomizer and syringe.*
3. *Continuing seizure may be due to any number of causes including hypoglycemia, drug withdrawal, or head injury.*
4. *Protect the patient from injury throughout the incident.*

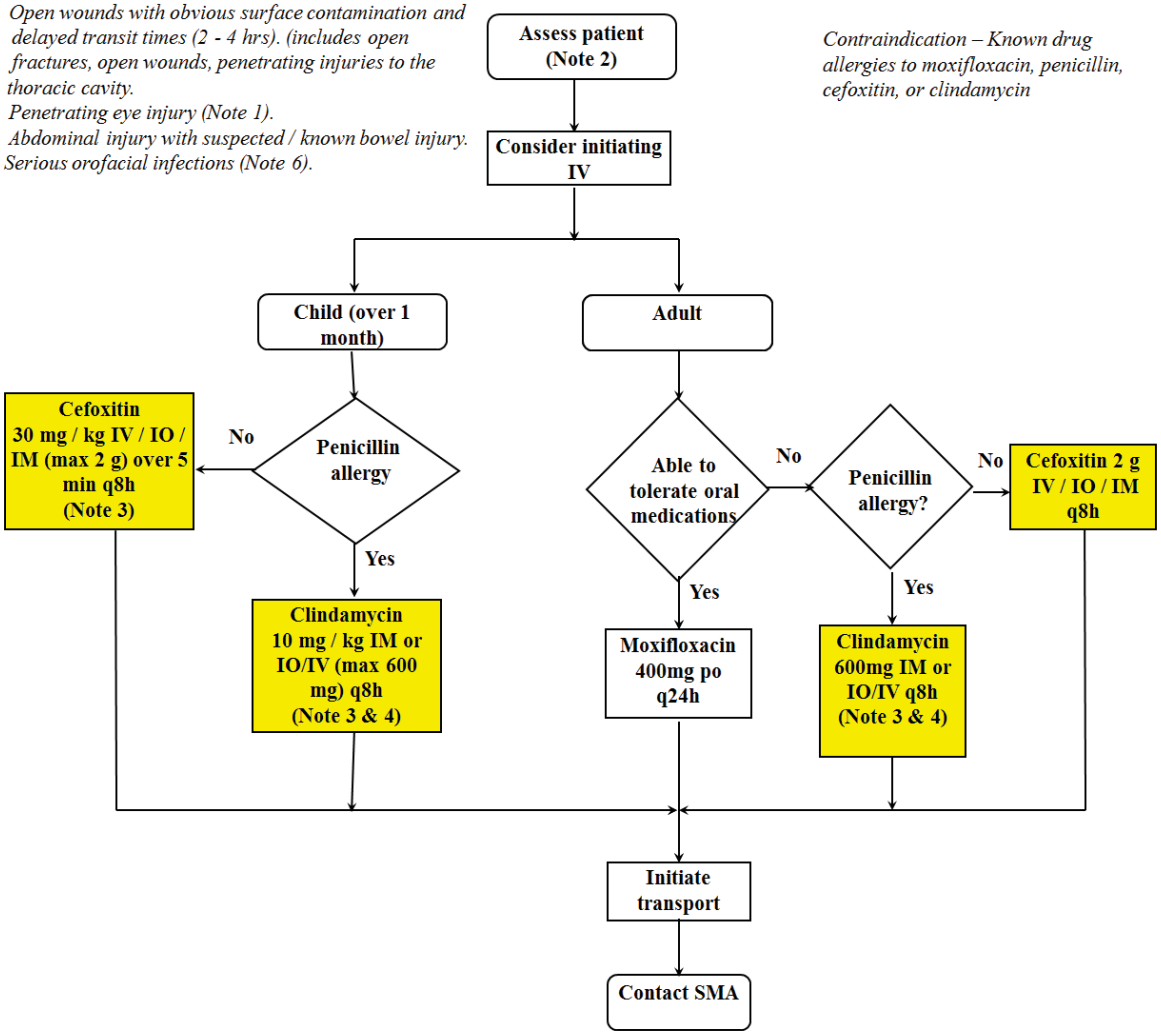
SECTION 4: MEDICAL PROTOCOLS

4.3 Antibiotic - Class A (Class B for QL3)

Indication

- *Open wounds with obvious surface contamination and delayed transit times (2 - 4 hrs). (includes open fractures, open wounds, penetrating injuries to the thoracic cavity.*
- *Penetrating eye injury (Note 1).*
- *Abdominal injury with suspected / known bowel injury.*
- *Serious orofacial infections (Note 6).*

Contraindication – Known drug allergies to moxifloxacin, penicillin, cefoxitin, or clindamycin



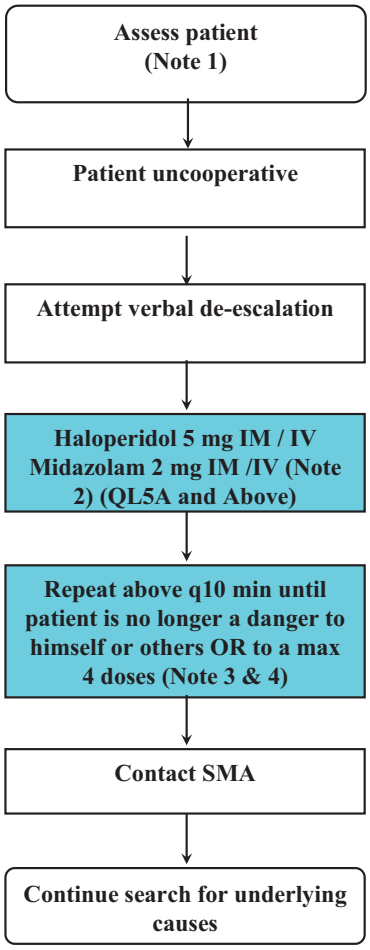
Notes:

1. *Antibiotics should be given ASAP and ideally within 60 minutes of eye trauma.*
2. *Where tactically possible cleanse wound with copious irrigation (NS) and apply dry, sterile dressing. (If NS is not available, clean water can be used.) Avoid hypothermia. Do not irrigate an eye injury until a ruptured globe as been excluded as a dianosis.*
3. *IV administration is preferred if feasible. IM administration, when required, should be into a large muscle mass. If IO already established, antibiotics can be delivered by this route.*
4. *Clindamycin is the alternative to Cefoxitin when a patient is allergic to Penicillin.*
5. *See reference section for time of administration IO/IV*
6. *Only administer Clindamycin 600 mg IV/IM q 8h (adult) or 10 mg/kg IV/IM (max 600 mg) q8h. (child). See Note 3.*

SECTION 4: MEDICAL PROTOCOLS

4.4 Hostile / Violent Patient – Class B

Indication - Uncontrollable adult patient threatening to harm himself, others or otherwise jeopardizing safety.

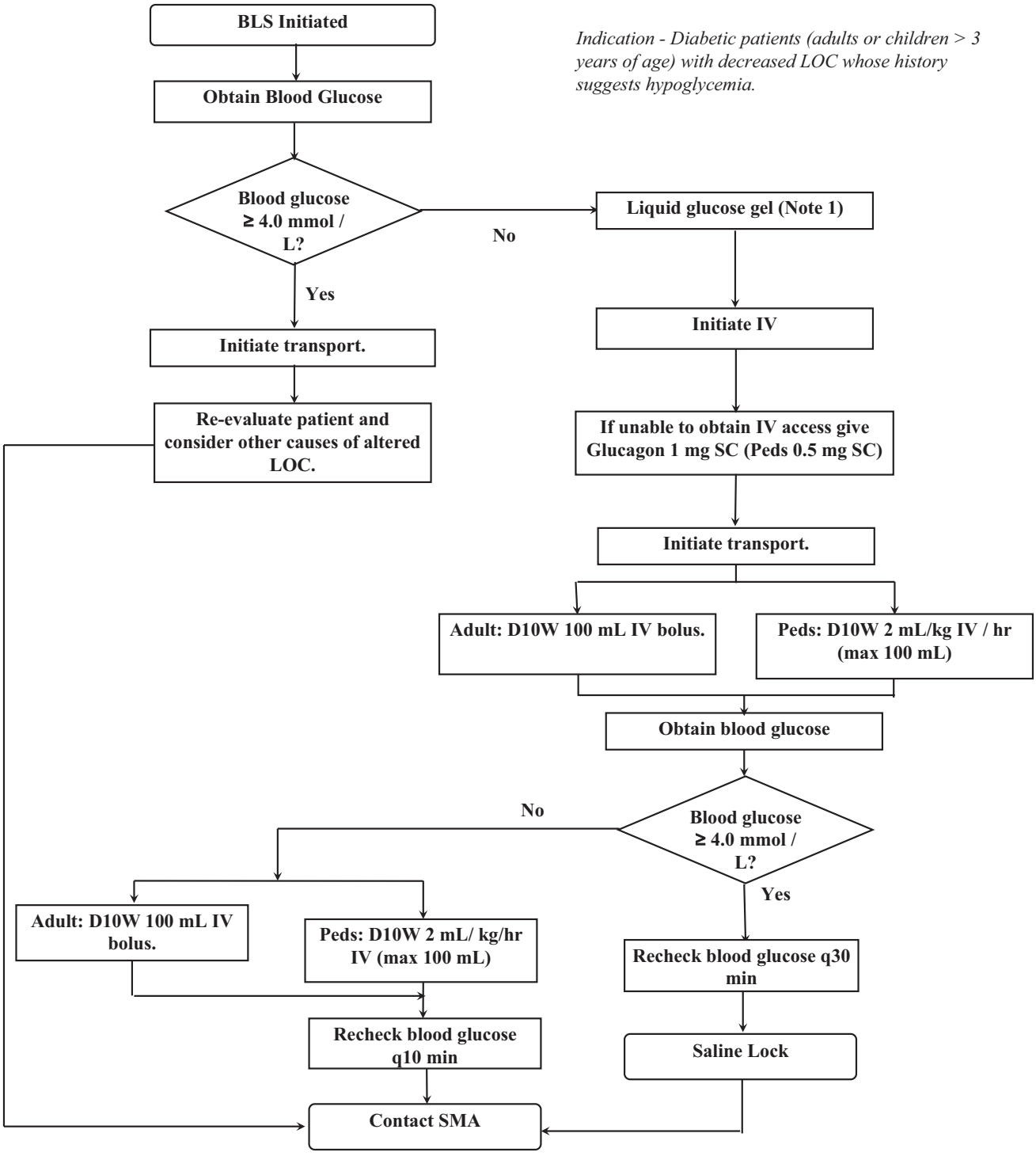


Note:

1. *Assess for medical causes of agitation including hypoglycemia, hypoxia, drug overdose / poisoning, infection, intracranial lesion, others.*
2. *Ideally in highly uncooperative patients there should be 5 people to hold patient in place for IM injection; one for the head and one for each extremity.*
3. *Monitor for adverse reactions to medications: Haloperidol – dystonic reactions (muscle spasms) may require treatment with diphenhydramine 50 mg IM / IV q 6h; Midazolam and Haloperidol may cause respiratory depression requiring ventilatory support.*
4. *If chemical restraint unsuccessful, patients may also be physically restrained with non-constrictive padded items around each extremity and pelvis. Ensure patient is restrained face up on their back and continuously monitored.*

SECTION 4: MEDICAL PROTOCOLS

4.5 Hypoglycemic Emergency - Class A



Indication - Diabetic patients (adults or children > 3 years of age) with decreased LOC whose history suggests hypoglycemia.

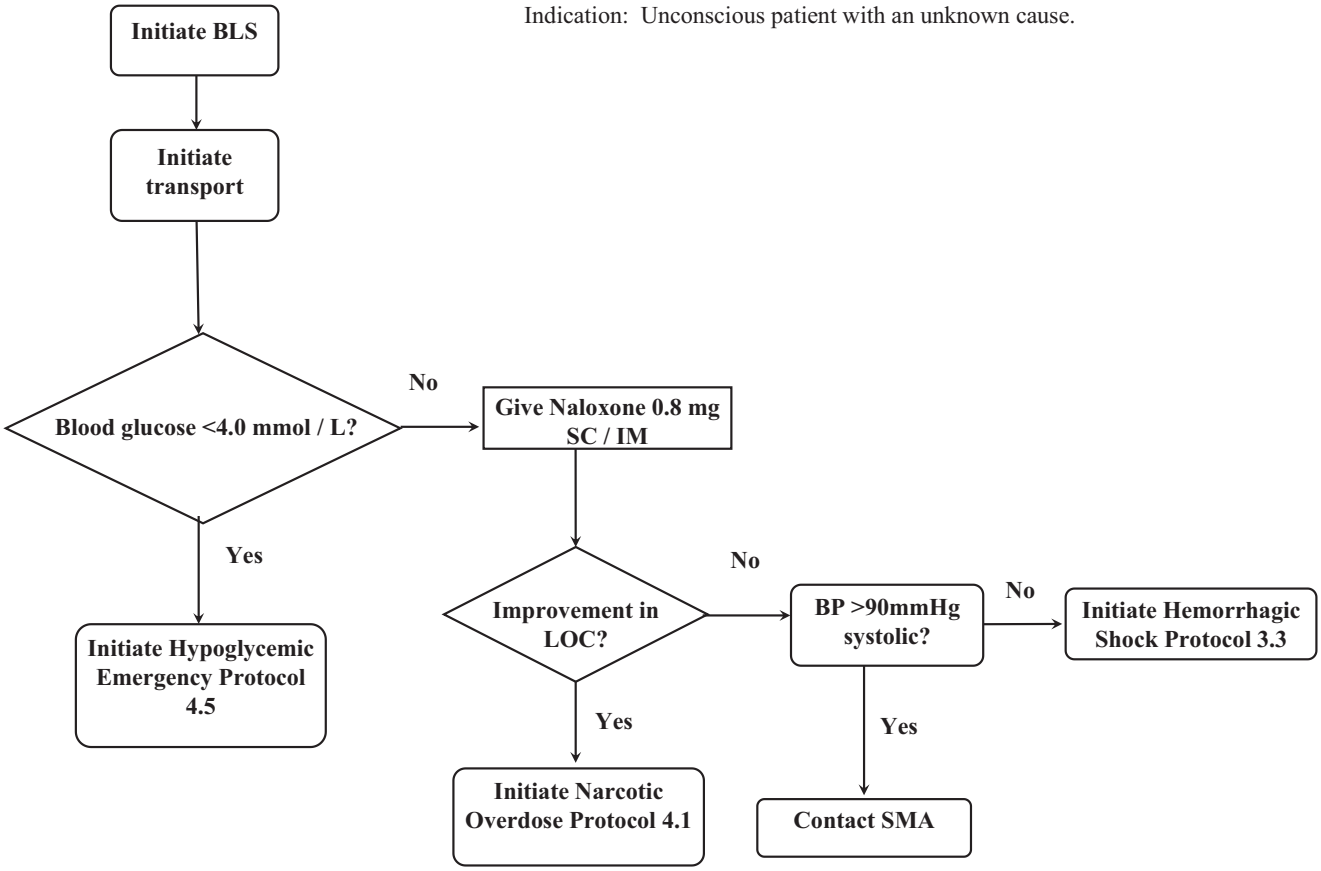
Notes

1. If able to protect airway and tolerate oral intake.

SECTION 4: MEDICAL PROTOCOLS

4.6 Unconscious NYD – Class A

Indication: Unconscious patient with an unknown cause.



SECTION 5: ENVIRONMENTAL PROTOCOLS

This section covers the protocols and procedures for:

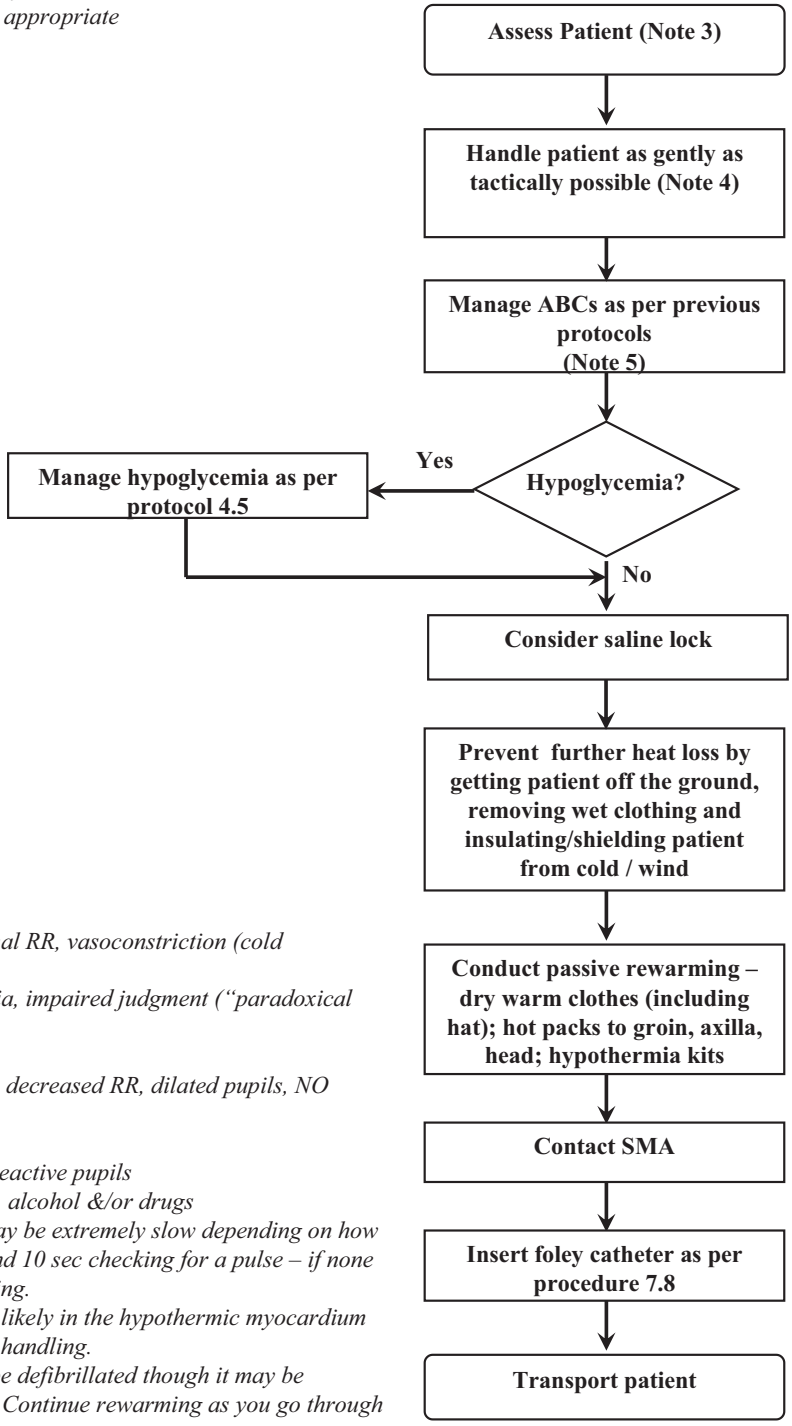
5.1 Hypothermia
5.2 Hyperthermia
5.3 Diving Related Emergencies
5.4 Nerve agent Exposure

Implementation of all protocols assumes that patient assessment and treatment are ongoing throughout the incident.

SECTION 5: ENVIRONMENTAL PROTOCOLS

5.1 Hypothermia – Class A

Indication – Core body temperature <35º C or patient with s / s of hypothermia (Note 1) in an appropriate clinical setting. (Note 2)



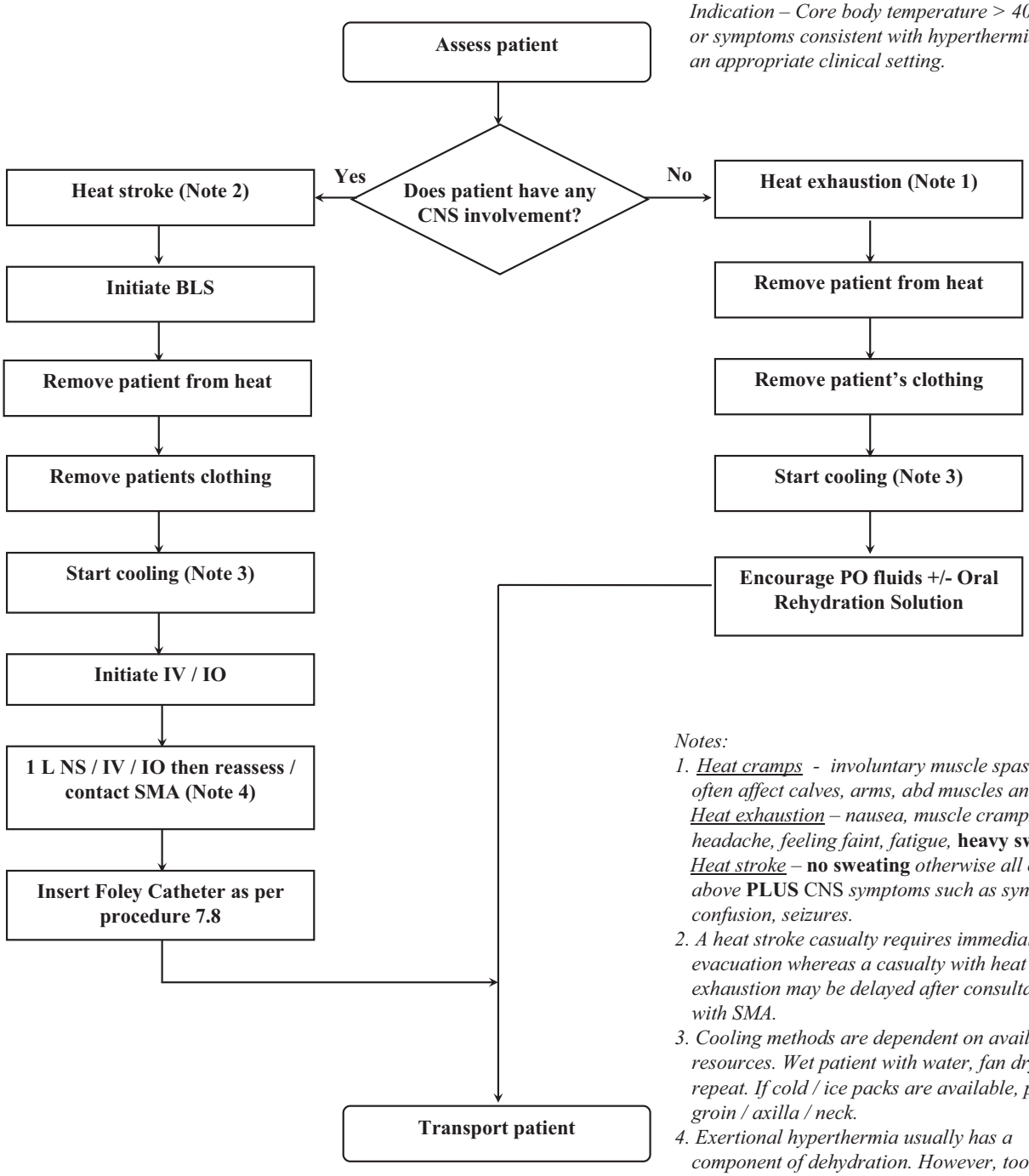
Notes:

1. *Degrees of Hypothermia*
   - ***Mild*** *(32 – 35º C)*
   - *shivering , normal HR, normal RR, vasoconstriction (cold extremities)*
   - *apathy, slurred speech, ataxia, impaired judgment ("paradoxical undressing")*
   - ***Moderate*** *(28 – 32º C) -*
   - *Altered LOC, decreased HR, decreased RR, dilated pupils, NO SHIVERING*
   - ***Severe*** *(< 28º C)*
   - *coma, apnea, asystole, nonreactive pupils*
2. *Cold exposure, wet, trauma, alcohol &/or drugs*
3. *Understand pulse and RR may be extremely slow depending on how cold the patient is. Only spend 10 sec checking for a pulse – if none felt start CPR while rewarming.*
4. *Arrhythmias are much more likely in the hypothermic myocardium and mandate careful patient handling.*
5. *A hypothermic patient may be defibrillated though it may be theoretically less successful. Continue rewarming as you go through your protocols.*

SECTION 5: ENVIRONMENTAL PROTOCOLS

5.2 Hyperthermia – Class A

Indication – Core body temperature > 40 °C or symptoms consistent with hyperthermia in an appropriate clinical setting.



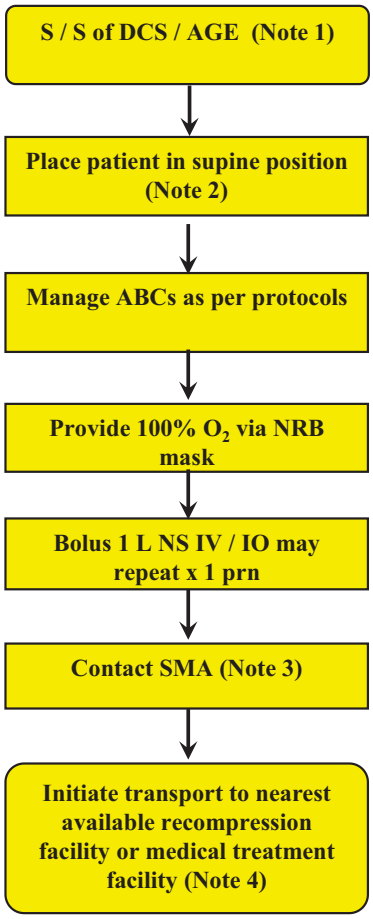
Notes:

1. *Heat cramps - involuntary muscle spasms most often affect calves, arms, abd muscles and back Heat exhaustion – nausea, muscle cramps, headache, feeling faint, fatigue,* **heavy sweating** *Heat stroke –* **no sweating** *otherwise all of the above* **PLUS** CNS *symptoms such as syncope, confusion, seizures.*
2. *A heat stroke casualty requires immediate evacuation whereas a casualty with heat exhaustion may be delayed after consultation with SMA.*
3. *Cooling methods are dependent on available resources. Wet patient with water, fan dry and repeat. If cold / ice packs are available, pack in groin / axilla / neck.*
4. *Exertional hyperthermia usually has a component of dehydration. However, too much IV fluid can also be detrimental so contact SMA after initial bolus for further direction.*

SECTION 5: ENVIRONMENTAL PROTOCOLS

5.3 Diving Related Emergencies – Class A

Indication – Diver with s / s of arterial gas embolism or decompression sickness.

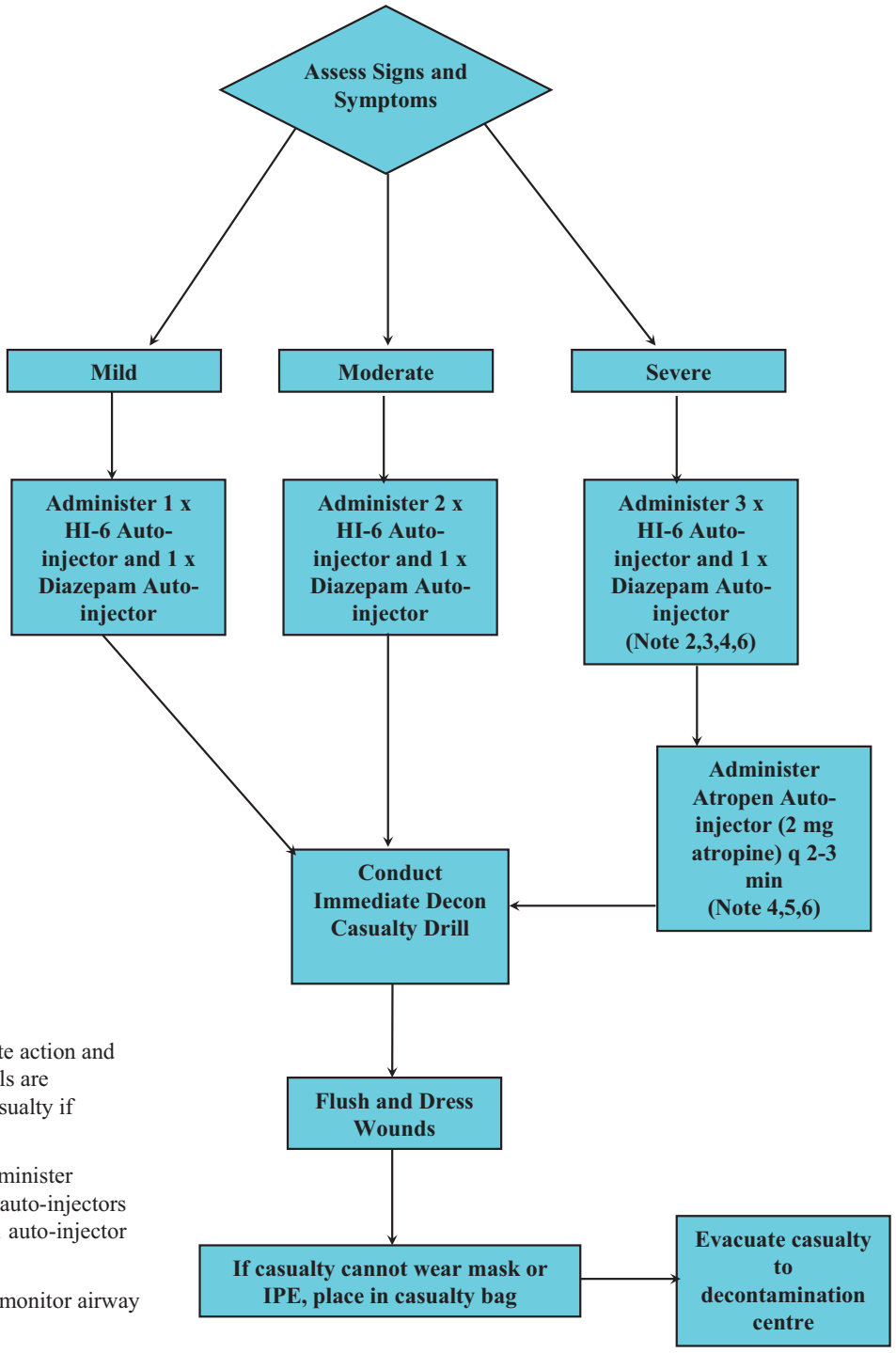


Note:

1. *Arterial Gas Embolism (AGE) – generally presents immediately upon surfacing resulting in chest pain, LOC, or neurologic symptoms. It requires immediate treatment in a decompression chamber.*
   Decompression Sickness (DCS) – generally 75% present within 1 hour (90% within 12 hrs) with a varied presentation. The most common presenting symptoms are joint pain, neurologic complications (numbness / tingling), skin mottling / itchiness, and swelling in limbs.
2. *Supine position preferred but not essential.*
3. *The CF has a consultant in Dive Medicine available 24 / 7 for consultation.*
4. *Recompression facilities often do not operate 24 / 7 and this info should be known prior to commencing dive.*

SECTION 5: ENVIRONMENTAL PROTOCOLS

5.4 Nerve Agent Exposure (Note 1) – Class B



Notes:

1. Ensure self immediate action and decontamination drills are completed. Mask casualty if possible.
2. If active seizures, administer additional diazepam auto-injectors until seizure stops. 1 auto-injector q5min.
3. When seizure stops, monitor airway and breathing.
4. Continue with administration of autoinjectors as you progress down the algorithm. Do not delay next step waiting for successful control of seizures or atropinization.
5. Stop administration of Atropen when: A) drying of secretions and/or B) reduced ventilatory resistance and/or C) increase in heart rate to 90/min.
6. Casualties who are unconscious and/or convulsing and/or post-ictal and/or breathing with difficulty and/or flaccid should be triaged as immediate only if appropriate treatment including ventilation can be provided. Otherwise triage as expectant.

SECTION 6: DRUG MONOGRAPHS

This section covers the drug monographs for:

Acetaminophen
Acetylsalicylic Acid
Cefoxitin
Clindamycin
Dexamethasone
Dextrose
Dimenhydrinate
Diphenhydramine
Epinephrine
Fentanyl Lozenges
Fluorescein
Glucose Gel
Glucagon
Haloperidol
Ibuprofen
Ipratropium Bromide
Midazolam
Morphine
Moxifloxacin
Naloxone
Nitroglycerin Spray
Normal Saline
Oxygen
Salbutamol
Tetracaine
Tranexamic Acid (TXA)
Xylocaine 1% and 2%

SECTION 6: DRUG MONOGRAPHS

6.1 Acetaminophen
(Tylenol, Atasol, Tempra)

Indications: Pain Protocol 3.6

Contraindications: Hypersensitivity to acetaminophen, known G6PD deficiency, or liver failure.

Precautions: May cause severe liver toxicity in overdose. Use cautiously in patients with alcoholic liver disease. Excessive alcohol intake can increase risk of acetaminophen-induced liver toxicity.

Adverse Effects: Uncommon, as <1% patients experience any adverse effects.

Pharmacology: Onset of action: <1 hour. Time to peak effect: Oral dosing: 10-60 minutes. Duration of action: 4-6 hours.

Dosage and Administration:

- Adults/Children over 12 yrs: 325-650 mg PO q4-6 hr prn (max/24hr : 4000mg)
- Children 12 yrs and under: 10-15 mg/kg PO q4-6 hr prn

6.2 Acetylsalicylic Acid
(ASA, Aspirin)

Indications: Suspected Cardiac Chest Pain Protocol 1.1

Contraindications: Hypersensitivity to ASA or other anti-inflammatories, bleeding disorder, or active gastrointestinal bleeding.

Precautions: Use with caution in patients with a history of asthma or nasal polyps.

Adverse Effects: Mainly gastrointestinal complaints, nausea and heartburn.

Pharmacology: Onset of action: <1 hour. Peak drug level: Oral chewable dose: 2 hours. Duration of action: 4-6 hours.

Dosage and Administration:

- Chewable ASA 160 mg PO (single dose only)
- Non-chewable ASA can be chewed if needed. Not as much absorbed.

SECTION 6: DRUG MONOGRAPHS

6.3 Cefoxitin
(Antibiotic)

Indications: Antibiotic Protocol 4.3

Contraindications: Patients who are hypersensitive to cefoxitin or to any ingredient in the formulation. Patients who are hypersensitive to other cephalosporin antibiotics

Precautions: History of allergic reactions, note type and severity of reaction. History of penicillin allergy. Cefoxitin has been associated with C. difficile-associated diarrhoea and colitis.

Adverse Effects: Diarrhoea, generally mild**,** headache, generally mild**,** rash, urticaria and/or pruritus, manifestations of allergic reaction which may be severe

Dosage and Administration:

- Adult: Cefoxitin 2gm IV/IO/IM q8h;
- Paediatric: Cefoxitin 30 mg/kg IV/IO/IM (over 5 min) q8h to a maximum of 80-160 mg/kg/day
- IV administration is preferred. IM administration, when required, should be into a large muscle mass. If IO already established, antibiotics can be delivered by this route

6.4 Clindamycin
(Dalacin-C)

Indications: Antibiotic Protocol 4.3

Contraindications: Hypersensitivity to clindamycin, liver impairment. Do not use in infants <1 month old (neonates).

Precautions: Use with caution in patients with history of Ulcerative Colitis or Crohn's

Adverse Effects: Hypotension, nausea, vomiting, diarrhoea and abdominal pain, urticaria, and rashes, thrombophlebitis, irritation at injection site.

Dosage and Administration:

- Adults: 600 mg IV/IO (over 30 min) or IM q8h
- Children (> 1 months): 10 mg/kg IV/IO (over 30 min) or IM q8h, not to exceed adult dose above

SECTION 6: DRUG MONOGRAPHS

6.5 Dexamethasone

Indications: SOB Suggestive of Asthma/COPD Protocol 2.2, Anaphylaxis/Anaphylactic Shock – Adult & Children > 30 Kg Protocol 2.3, Anaphylaxis/Anaphylactic Shock – Adult & Children ≤ 30 Kg Protocol 2.4.

Contraindications: severe allergy to other corticosteroids, systemic fungal infections

Precautions: mania, hypomania, depression or psychosis, increase susceptibility to infections

Adverse Effects: elevations of blood pressure, salt and water retention, increase potassium excretion, increase calcium excretion, anaphylactic reaction (to excipient),

Pharmacology: anti-inflammatory,

Dosage and Administration:

- Adult: Dexamethasone 10 mg PO/IM/IV (max. 10 mg)
- Children: Dexamethasone 0.6 mg/kg PO/IM/IV (max. 10 mg)

6.6 Dextrose

(D10W)

Indications: Hypoglycemic Emergency Protocol 4.5

Contraindications: Hyperglycemia.

Precautions: Contact MO- before administering to a patient with suspected head injury.

Dosage and Administration:

◊ Adult: 100 mL IV bolus x 2 prn blood glucose < 4.0 mmol/L, then 100 mL/hr (Max 250 mL)
◊ Child: 2 mL/kg over 1 hr x 2 prn blood glucose < 4.0 mmol/L (Max 100 ml)

SECTION 6: DRUG MONOGRAPHS

6.7 Dimenhydrinate
(Gravol)

Indications: Suspected Cardiac Chest Pain Protocol 1.1, Pain Protocol 3.6

Contraindications: Glaucoma, chronic lung disease, difficulty in urination due to prostatic hypertrophy.

Precautions: Use of alcohol should be avoided, occupational hazard, should not be used with other sedatives unless MO is consulted.

Adverse Effects: Drowsiness, dizziness, dry mouth, excitement in children, nausea

Pharmacology: onset: 30-60 min, duration: 4-6 hours, peak effect: 60-120 min

Dosage and Administration:
- Adult: Dimenhydrinate 12.5-50 mg PO/IV/IM as needed for nausea (max 400 mg in 24hrs).
- Children: Not recommended < 1 year. Children > 1 between 15-50 mg, consult medical officer prior to giving medication.

6.8 Diphenhydramine
(Benadryl, Allerdryl, Allernix)

Indications: Anaphylaxis/Anaphylactic Shock – Adult & Children > 30 Kg Protocol 2.3, Anaphylaxis/Anaphylactic Shock – Adult & Children ≤ 30 Kg Protocol 2.4

Contraindications: Hypersensitivity to diphenhydramine or acute asthma. Do not use in neonates.

Precautions: Use with caution in patients with angle-closure glaucoma, patients with urinary obstructions, elderly, and may cause paradoxical excitation in children.

Pharmacology: Antihistamine, Onset: < 1 hour Duration: 6-8 hours

Adverse Effects: Hypotension, tachycardia, palpitations, drowsiness, dizziness, coordination difficulties, headache, nervousness, paradoxical excitement, insomnia, euphoria, confusion, nausea, vomiting, diarrhoea, dry mouth and mucous membranes, urinary retention, urinary frequency, difficulty urinating, tremor, parasthesia, blurry vision.

Dosage and Administration:
- Anaphylaxis/Anaphylactic Shock:
  - Adults: 25-50 mg IM q2-4 hr prn (Max dose 400 mg / day)
  - Children: 1mg/kg IM q6-8 hr prn (Max dose 5 mg/kg/day), not to exceed adult dose above

- Hostile/Violent Patient (and Other Indications):
  - Adult dose: 25-50mg IM/IV/PO q6-8 hr prn (Max dose 400 mg/day)
  - Elderly (> 60 yoa): Decrease dose by ½ , as this population can be more susceptible to side effects.

SECTION 6: DRUG MONOGRAPHS

6.9 Epinephrine

(Adrenaline, EpiPen, EpiPen Jr, Twinject, Twinject Jr)

Indications: Anaphylaxis/Anaphylactic Shock – Adult & Children > 30 Kg Protocol 2.3, Anaphylaxis/Anaphylactic Shock – Adult & Children ≤ 30 Kg Protocol 2.4, SOB Suggestive of Asthma Protocol 2.2.

Contraindications: There are no contraindications to giving epinephrine for a life threatening allergic response such as anaphylaxis.

Adverse Effects: Tachycardia, arrhythmias, angina, flushing, anxiety, tremor, headache, dizziness, nausea and vomiting (in children), dry mouth, acute urinary retention in patients with bladder outflow obstruction, weakness and trembling, wheezing and dyspnoea, and increased diaphoresis.

Precautions: Use with caution in elderly, diabetes mellitus, cardiac arrhythmias, cardiovascular disease or thyroid disease. Watch for tachycardia and hypertension, which may compromise a patient with poor cardio-pulmonary reserve. Be prepared to go to the Cardiac Chest Pain Protocol 1.1.

Dosage and Administration:

- Adults: EpiPen/Twinject q5 min x 3 doses. Epinephrine 0.3 mg IM q5 min x 3 doses.
- Children: EpiPen Jr/Twinject Jr q5 min x 3 doses. Epinephrine 0.01 mg/kg (Max 0.5 mg) IM q5 min prn.

NB: The preferred site for administration of Epinephrine IM is in the thigh (use the shoulder as an alternative). Massage the site after administration to promote localized circulation of blood. Storage: Protect medication from light.

6.10 Fentanyl Lozenge

(Sublazime)

Indication: Pain Protocol 3.6

Contraindication: diabetes mellitus, head injury, heart disease, kidney disease, liver disease, seizures (convulsions)

Common Side Effects: itching, blurred vision, clumsiness, unsteadiness, constipation, decrease or difficulty passing urine, dizziness, drowsiness, dry mouth, flushing, headache, nausea/vomiting, pinpoint pupils

Precautions: Use with caution in patients with lung disease or breathing difficulties. Do not drive, use machinery, or do anything that needs mental alertness until you know how fentanyl affects you. Stand or sit up slowly, this reduces the risk of dizzy or fainting spells.

Dosage and Administration:

- place the unit in the mouth between your cheeks and gum and do not suck on the medicine.
- Move the unit around in the mouth, especially along the cheeks. Twirl the handle often.
- Finish the unit completely to get the most relief. If you finish it too quickly, you will swallow more of the medicine and get less pain relief.
- You may need to use more than one unit to control the pain. Wait at least 15 minutes after finishing a unit completely before using another.

SECTION 6: DRUG MONOGRAPHS

6.11 Fluorescein

Indication: Eye Injury Protocol 3.8

Contraindication: ruptured global injury.

Common Side Effects: local irritation on the eye, short-term blurry vision, stinging of the eye.

Precautions: brief discoloration of skin if touched.

Dosage and Administration:

- remove eyeglasses or contact lenses before the test.
- touch the blotting paper or drops to the surface of the eye.
- ask the patient to blink. Blinking spreads the dye and coats the tear film covering the surface of the cornea. The tear film contains water, oil, and mucus to protect and lubricate the eye.
- shine a blue light at the eye. Any problems on the surface of the cornea will be stained by the dye and appear green under the blue light.

6.12 Glucose Gel

(Insta-Glucose)

Indications: Hypoglycemic Emergency Protocol 4.5

Contraindications: Nil.

Precautions: Not to be administered to an unconscious patient.

Dosage and Administration:

- Apply up to 1 tube to inside lip and cheeks. Rub on and do not apply as a “clump” if any airway compromise.

6.13 Glucagon

Indications: Hypoglycemic Emergency Protocol 4.5

Contraindications: Known allergy to glucagon, pheochromocytoma (an adrenal tumour that can cause a sudden and marked increase in blood pressure

Common Side Effects: Nausea and vomiting

Precautions: .Glucagon solutions should not be used unless they are clear and of a water-like consistency.

Dosage and Administration: Glucagon 1 mg IM (peds 0.5mg IM)

SECTION 6: DRUG MONOGRAPHS

6.14 Haloperidol

(Haldol – Antipsychotic)

Indications: Hostile/Violent Patient Protocol 4.4

Contraindications: Patients with severe CNS depression. History of spastic disorders or Parkinson's disease. Hypersensitivity to haloperidol.

Precautions: Risk of orthostatic hypotension, History of seizure disorder, Severe hepatic or renal impairment.

Dosage and Administration:

- Haloperidol 5mg IM/IV. Can repeat haloperidol 5mg IM/IV q10 min prn to a maximum of 2 doses then contact MO.
- May be administered concurrently with midazolam 2mg IM/IV.

6.15 Intentionally Left Blank - Withdrawn Medication

SECTION 6: DRUG MONOGRAPHS

6.16 Ibuprofen

(Anti inflammatory, Advil, Motrin)

Indications: Pain Protocol 3.6

Contraindications: Hypersensitivity to ASA, ibuprofen, or other NSAIDs, peptic ulcer, or active inflammatory bowel disease.

Precautions: Use with caution in patients with dehydration, impaired renal function, heart failure, liver dysfunction, those taking diuretics and anticoagulants, the elderly, those with systemic lupus erythematous.

Adverse Effects: Nausea, diarrhoea, epigastric pain, abdominal cramps or pain, heartburn, bloating or flatulence, dizziness, headache, nervousness, rash, pruritus, tinnitus, anaemia, decreased appetite, edema, or fluid retention.

Pharmacology: Onset of action: <1 hr. Time to peak effect: Oral dosing: 1-1.5 hr. Duration of action: 4-6 hr.

Dosage and Administration:

- Adults: Ibuprofen 600 mg PO q4-6 hr prn (Max 2400 mg/day)
- Paediatric: Ibuprofen 10mg/kg PO q8h prn, not to exceed adult dose above

6.17 Ipratropium Bromide

(Atrovent) Inhalation aerosol (Bronchodilator)

Indications: SOB Suggestive of Asthma/COPD Protocol 2.2

Contraindications: Inhalation aerosol should not be taken by patients that are hypersensitive to Ipratropium bromide, atropinics or any other aerosol components.

Precautions: Inhalation aerosol should not be used for the abatement of the acute episodes of bronchospasm where rapid response is required, since the drug has a slower onset of effect than that of adrenergic agonist aerosol.

Adverse Effects: Constipation diarrhoea and vomiting are the more common adverse events encountered. The most frequent non-respiratory adverse events were headache, dizziness and dryness of the mouth and throat.

Pharmacology: Onset of action is noted within 5 – 15 min. with a peak response between 1 and 2 hours, lasting about two additional hours with subsequent decline.

Dosage and Administration:

- Recommended dosage is 2 metered doses, 40 ug initially then (3 or 4 times daily if required**).**
- Atrovent is recommended for use with patients 18 yrs and over.

SECTION 6: DRUG MONOGRAPHS

6.18 Midazolam
(Versed)

Indications: Seizure Protocol 4.2, Hostile / Violent Patient Protocol 4.4

Contraindications: Known hypersensitivity to midazolam or other benzodiazepines

Precautions: Use caution when administering to elderly or debilitated patients, children, and patients with liver disease or low serum albumin as they are more likely to experience CNS adverse effects.

Adverse Effects: The most common adverse effects are dose dependant CNS effects: ataxia, dizziness, light-headedness, drowsiness, weakness and fatigue. The more serious, occasionally reported adverse effects are hypersensitivity reactions, mental depression, behavioural problems, paradoxical stimulant reactions, leucopenia, jaundice, hypotension, memory impairment, phlebitis or venous thrombosis, and seizures.

Dosage and Administration: As detailed in protocols 4.2 and 4.4
4.2 Seizure Protocol:
Adult: 5mg IV then repeat 2.5 mg q5 min until seizure stops
Child: 0.1 mg/kg to a max 2.5 mg/dose IV q 5 min until seizure stops (max total dose 0.6 mg/kg)

4.4 Hostile / Violent Patient Protocol: 2mg IM/IV, repeat q10 min (max 2 doses) prn

6.19 Morphine
(Narcotic - Analgesic)

Indications: Cardiac Chest Pain Protocol 1.1, Pain Protocol 3.6.

Contraindications: Hypersensitivity to morphine, severe respiratory distress, severe hypotension, head injuries and decreased LOC.

Precautions: Use with caution in pregnancy, elderly patients, those with pre-existing respiratory conditions (COPD) and those patients that are intoxicated.

NB: If severe respiratory depression or decreased LOC refer to Narcotic Overdose-Adult (Suspected) Protocol 4.1. If the patient goes hypotensive, ensure supine head down position and consider fluid bolus.

Adverse Effects: Hypotension, dizziness, sedation and euphoria, nausea and vomiting, respiratory depression.

Pharmacology: Onset of action: PO: <1 hr, IV: 5 min. Duration of action: 2-3 hr. t ½: 2-4 hr. Time to peak: 0.5-1 hr.

Dosage and Administration:

- Adults: Morphine 2.5 mg IV over 1 min (dilute to 10 mL with NS). Repeat q 5 min as required (max 15 mg).
- Children: Morphine 0.05 mg/kg IV (max 2.5 mg) over 1 min.

SECTION 6: DRUG MONOGRAPHS

6.20 Moxifloxacin

(Avelox - Antibiotic)

Indications: Antibiotic Protocol 4.3, Eye Injury Protocol 3.8

Contraindications: Patients who are hypersensitive to Moxifloxacin hydrochloride or other quinolone antibacterial agents.

Precautions: Serious hypersensitivity and or anaphylactic reactions have been reported in patients receiving quinolone therapy, see anaphylaxis protocol 2.3/ 2.4. Seizures may occur with quinolone therapy. Moxifloxacin should be used with precaution in patients with known or suspected CNS disorders which may predispose to seizures or lower the seizure threshold. Administration of an NSAID with a quinolone may increase the risk of CNS stimulation and convulsions. Initiate seizure protocol 4.2 if required.

Adverse Effects: Most common adverse reactions are abdominal pain, headache, nausea, diarrhoea, vomiting.

Dosage and Administration:

- Recommended dose for Moxifloxacin tablets is 400 mg once daily for all indications.

6.21 Naloxone

(Narcan – Narcotic antagonist)

Indications: Suspected Narcotic Overdose Protocol 4.1, Unconscious NYD Protocol 4.6

Contraindications: Hypersensitivity to Naloxone.

Precautions: Naloxone may have a half-life as short as 30 min. In the case of narcotic overdose, the patient should be closely observed for a change in mental state. The patient may require further Naloxone if the underlying problem is narcotic overdose.

Pharmacology: Onset of action: IV: 2-3 min, SC/IM: up to 15 min. Duration of action: variable, but usually 1hr or less. t1/2: approx 1hr.

Dosage and Administration:

- Adults: Naloxone 0.4-0.8 mg IV over 1 min (or 0.8 mg IM) q3 min prn maximum dose 10 mg (discuss with MO ASAP).
- Children: Naloxone 0.01 mg/kg IV/IM (after discussion with MO) q3 min up to 0.4 mg per dose.

NB: Massage site after SC injection.

SECTION 6: DRUG MONOGRAPHS

6.22 Nitroglycerin

(Nitroglycerin Spray)

Indications: Suspected Cardiac Chest Pain Protocol 1.1

Contraindications: Hypersensitivity and severe hypotension. Due to hemodynamic concerns, nitrates of any kind should not be used within the following timeframes: Not within 24 hr of Viagra (sildenafil), not within 48 hr of Cialis (tadalafil), and not within 24 hr of Levitra (vardenafil).

Precautions: Watch for hypotension. Monitor the BP q 5-10 min.

Pharmacology: Onset of action: Sublingual spray: 1-2 min. Peak effect: 4-10 min. Duration of action: 30-60 min.

Adverse Effects: Hypotension, headache, fainting, dizziness, weakness and face flushing, burning sensation of the tongue,

Dosage and Administration:

- Nitroglycerin spray 0.4 mg SL q5 min (max 3 doses every 30 min). If administering the patient's own nitroglycerin tablets, place them under the tongue.

6.23 Normal Saline

(Crystalloid, NS, 0.9% Sodium Chloride)

Indications: Protocols requiring IV Access

Contraindications: Pulmonary edema.

Maintenance Rates (unless otherwise specified):

- Adults: 100 mL/hr
- Children: See Paediatric Table 8.3 for maintenance rates and other paediatric indices.

SECTION 6: DRUG MONOGRAPHS

6.24 Oxygen

(O_2)

Indications: All Protocols.

Contraindications: Nil.

Precautions: Caution in those patients with COPD, as it may depress respiratory drive. These patients require frequent monitoring. Be prepared to assist ventilation if required.

Dosage and Administration:

- "100% O_2" – Use face mask with reservoir bag. Oxygen flow to keep bag inflated.
- "High Flow O_2" – 6-10 L/min by simple face mask.
- "Low Flow O_2" – 2-4 L/min by nasal prongs.

6.25 Salbutamol

(Ventolin - Bronchodilator)

Indications: SOB Suggestive of Asthma/COPD 2.2. Anaphylaxis 2.3 and 2.4

Contraindications: Hypersensitivity to salbutamol.

Adverse Effects: Palpitations and tachycardia, nervousness, headache and tremor.

Pharmacology: Onset of action: 5-15 min. Duration of action: 3-6 hr. Peak effect: 30-60 min.

- **Dosage and Administration:**
- Adults/Children over 12 yrs: 4-8 puffs q20min prn for symptoms. Frequency of dosing may be adjusted in accordance with symptoms and onset of adverse effects.
- Child 12 yrs and younger: 4-8 puffs q20 min prn for symptoms. Frequency of dosing may be adjusted in accordance with symptoms and onset of adverse effects.
- Administration with a spacer (can be improvised) is preferred.

SECTION 6: DRUG MONOGRAPHS

6.26 Tetracaine

(Minims Tetracaine Hydrochloride 0.5% & 1.0%, Eye drops solution)

Indication: Eye Injury Protocol 3.8

Contraindication: Severe allergy (anaphylaxis) to other anaesthetics.

Precautions: Consult physician if:

- patient is a premature baby
- if patient is taking a sulfonamide for diabetic treatment (Gliclazide, Glyburide); for a bacterial infection (Septra); for diuresis (Hydrochlorothiazide, furosemide, indapamide, acetazolamide); for migraines (sumatriptan, other triptans).

NOTE: Tetracaine is hydrolyzed in the body to p-amino-benzoic acid and should not therefore be used in patients being treated with sulphonamides (lists under precautions)

In view of the immaturity of the enzyme system which metabolizes the ester type local anaesthetics in premature babies, tetracaine should be avoided in these patients.

-The cornea may be damaged by prolonged application of anaesthetic eye drops.

Adverse Effects: Transient blurring of vision, burning sensation, itching around the eye, corneal damage with prolonged application.

Dosage and Administration:

◊ Adults and children – one drop or as required. Each unit should be discarded after use.

Store in original package to protect from light, at room temperature.

6.27 Tranexamic Acid (TXA)

Indications: TXA Protocol 3.4

Contraindications: DVT, pulmonary embolism, cerebral thrombosis, subarachnoid haemorrhage, hypersensitivity to ingredients, hematuria

Precautions: No evidence in patients under 18 years of age.

Adverse Effects: dizziness, nausea, vomiting, diarrhoea, reduced blood pressure, allergic dermatitis, impaired color vision.

Pharmacology: Promotes clotting by stopping breakdown of clotting factors (antifibrinolytic).

Dosage and Administration:

◊ Draw up 10 mL of TXA (1 gram) into a 10 mL syringe.
◊ Slow push 10 mL IV/IO over 10 minutes.
◊ Wait one hour
◊ Then give 1 mL every 1 hour.
◊ Maximum Dose: 2 grams (20 ml)

SECTION 6: DRUG MONOGRAPHS

6.28 Xylocaine 1% or 2%

(Lidocaine or lidocaine with epinephrine)

Indication: Airway Algorithm 2.1

Contraindications: history of hypersensitivity reaction to other anaesthetics.

Precautions: Physician should be consulted if patient is taking:

-tricyclic antidepressants (amitriptyline, nortriptyline, Imipramine, Clomipramine)
-mono-amine oxidase inhibitors (uncommon)
-phenothiazines (chlorpromazine, prochlorperazine)
-butyrophenones (domperidone, haloperidol)
-vasopressors (epinephrine other than in product, dopamine, systemic corticosteroids, methylphenidate, methamphetamine, bupropion, venlafaxine, desvenlafaxine, duloxetine, digoxin)

** Lists are not exhaustive. Most likely medications listed.

Adverse Effects: Depend on dosage, concentration, and administration rate/method. Most common: bradycardia, hypotension, CNS depression (dizziness, confusion, light-headedness, euphoria), allergic reactions (cutaneous lesions, urticarial, edema, anaphylactic), headache, backache, double vision.

Dosage and Administration:

◊ Inject using a needle placed directly into the body area to be numbed.

SECTION 7: STANDARD MEDICAL PROCEDURES

This section covers the procedures for:

7.1 Supraglottic Airway Insertion Principles
7.2 Management of Tension Pneumothorax
7.3 Transtracheal Block
7.4 Cricothyroidotomy
7.5 Saline Lock
7.6 Medication Calculation, Dilution, Reconstitution
7.7 Intraosseous Access
7.8 Bladder Catheterization
7.9 Emergency Child Birth
7.10 Transfer of Care to Higher Medical Authority

SECTION 7: STANDARD MEDICAL PROCEDURES

7.1 Supraglottic Airway Insertion Principles

Read the directions for the specific device you are carrying.

Recognize the requirement and review indications
• Cardio-respiratory arrest
• Directed by SMA

Pre-oxygenate patient
• monitor O_2 Saturation
• ventilate with 100% O_2 (BVM) for 2-3 minutes to get SPO_2 to 100%
• position head in sniffing position (if no suspected C-spine injury)

Assemble the necessary equipment
• select appropriate size airway
• check seal integrity
• deflate cuff

Insert Airway as per manufacturer's instructions

- Ventilate patient with 100% O_2 (BVM; maximum inflation pressure 30 cm H_2O)
- Auscultate chest to confirm air entry and check for leaks
- Inflate cuff to sufficient volume (consider using NS if being evacuated by air)
- Secure airway

Monitor patient, record and document procedure

SECTION 7: STANDARD MEDICAL PROCEDURES

7.2 Management of Tension Pneumothorax[1, 2]

Signs and Symptoms:

Chest pain on the affected side, Dyspnoea / Shortness of Breath, Diminished breath sounds on affected side, Tachypnea – marked, Tachycardia – marked, Cyanosis, Absent breath sounds on affected side, Asymmetrical chest expansion

Procedure for Burp

Indications:

a. Assess patient's chest and respiratory status
b. Cover all penetrating chest injuries with a chest seal
c. If S/S of tension pneumothorax are present peel back the chest seal, place gloved hands around chest opening and press down allowing the air to escape.
d. Immediately replace chest seal
e. If this procedure fails proceed with needle decompression

Procedure for Needle Decompression (Thoracostomy)

Indications: Unable to perform a burp

a. Assess the patient's chest and respiratory status;
b. Apply O_2 at 100% with a non-rebreather mask or BVM device (if available);
c. Landmark is 2nd intercostal space in the mid-clavicular line – always err on the approach of going too lateral rather than risk going too medial;
d. Prepare site by wiping with an alcohol swab;
e. Insert 14 gauge Cathlon, 3.5 inches (8.9cm), along the upper border of the 3rd rib (mid-clavicular). You should feel a "pop" as the Cathlon enters the pleural space;
f. Continue to advance **only** the Cathlon 3 to 4 cm;
g. Withdraw needle from Cathlon. You may feel a rush of air.
h. Continually reassess for effectiveness and consider the need to initiate new one.

[1] A tension pneumothorax is a life-threatening condition. Observe patient for improvement; another catheter may be required.
[2] During air transport, advise the crew to maintain cabin pressure at sea level if possible or at the lowest altitude possible to prevent complications from air expansion.

SECTION 7: STANDARD MEDICAL PROCEDURES

7.3 TRANSTRACHEAL BLOCK

Indication

- Performing cricothyroidotomy on an awake patient

Contraindication

- Hematoma or burn over the anterior neck

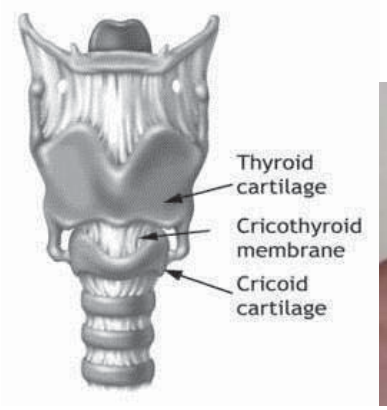
Procedure:

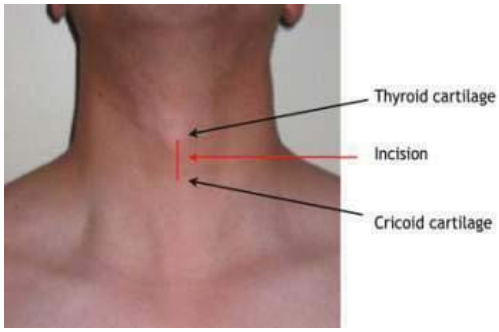
1. Draw up 10 mL 1% Xylocaine
2. Palpate patient's neck and identify cricothyroid membrane
3. Inject 2 mL Xylocaine subcutaneously directly over cricothyroid membrane
4. Inject 2 mL Xylocaine subcutaneously 2 cm cephalad above the cricothyroid membrane
5. Inject 2 mL Xylocaine subcutaneously 2 cm caudad below the cricothyroid membrane
6. Re-landmark and identify cricothyroid membrane
7. At 90 degrees push needle through cricothyroid membrane into trachea
8. Withdraw air into syringe to confirm placement in trachea
9. Rapidly inject remaining 4 mL Xylocaine into trachea and immediately withdraw needle[1]
10. Perform cricothyroidotomy

[1] Expect patient to cough. Though this improves anaesthesia, it will potentially push your needles posterior which might injure the posterior trachea or penetrate the oesophagus.

SECTION 7: STANDARD MEDICAL PROCEDURES

7.4 Cricothyroidotomy Procedure





Indications:

- Airway obstruction due to injuries to the face or neck in which blood or disrupted anatomy precludes the ability to secure an airway by any other means.
- Inhalation burns that compromise the airway.
- Chemical inhalation injury that compromises the airway.
- Anaphylaxis that compromises the airway.

Procedure:

1. If patient is conscious, perform a transtracheal block.
2. Assemble equipment: cricothyroidotomy kit, end-tidal CO_2 Detector
3. Place casualty in supine position.
4. Hyperextend the casualty's neck unless you suspect a C-Spine injury
5. Clean the area with iodine and or alcohol swabs using aseptic technique.
6. Stabilize the larynx between your thumb and middle finger ensuring not to pull the skin over the larynx to the left or right. Make a vertical incision 1 1.5 inches long midline over the cricothyroid membrane.
7. Retract the skin around the incision by applying slight downward pressure. Palpate the cricothyroid membrane with your index finger.
8. Lift your index finger and while still maintaining stabilization with your thumb and middle finger, puncture the membrane with the scalpel at 90 degrees to the patient. Extend the incision one scalpel blade width in both directions, to the patient's left and right.
9. Using your non-dominant hand, slide the tracheal hook along the scalpel on the inferior side of the blade until you feel the posterior wall of the trachea and lift upward hooking the trachea.
10. Once trachea hooked, remove the scalpel.
11. While maintaining tracheal traction, insert tube approximately 3 inches into trachea.
12. Inflate balloon.
13. Auscultate breath sounds. Ensure symmetrical rise of chest and good breath sounds bilaterally in the axillae, and confirm with an end-tidal CO_2 monitor.
14. Secure tube in place with supplied device.

    Monitor and reassess casualty's respirations on a regular basis.

SECTION 7: STANDARD MEDICAL PROCEDURES

7.5 Saline Lock

Indications

- Any time IV access is required but fluid volume replacement is not immediately indicated. [1]

Procedure

1. Gain IV access if not already achieved;
2. Secure catheter with tape;
3. Secure lock onto catheter hub; then
4. Slowly flush catheter with 3-5 mL NS. [2]

Where possible warm IV solutions

[1] The saline lock may facilitate the loading and transporting of a patient. If the patient's condition changes, it may require changing to an appropriate IV solution.

[2] Flush catheter slowly after each medication, if blood is visible in the lock, or after 6 hours if not used.

SECTION 7: STANDARD MEDICAL PROCEDURES

7.6 Medication Calculations, Dilutions & Reconstitutions

CALCULATIONS

Principle Calculations:

1.) Basics Conversions:

1 kg = 2.2 lbs

Examples: kg to lbs 30kg x $\frac{2.2 \text{ lbs}}{1 \text{ kg}}$ = 66 lbs

lbs to kg 30lbs x $\frac{1 \text{kg}}{2.2 \text{ lbs}}$ = 13kg

NOTE: Always round down to the nearest kilogram or pound.

1 kg = 1000 g

1 g = 1000 mg

1 L = 1000 ml

2.) What amount do I have to draw from the ampoule/vial to get the correct dose?

$$\left(\text{Concentration of drug I have}\right) \times \left(\frac{\text{Dose of drug needed}}{\text{X ml}}\right)$$

X=# of ml to draw from ampoule/vial

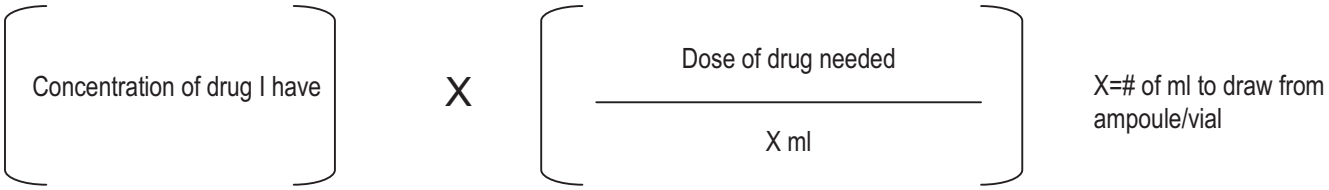
Example:

Protocol 3.5: I have to give Morphine 2.5mg IV over 1 min q 5 min to a max 15mg in 30 minutes.

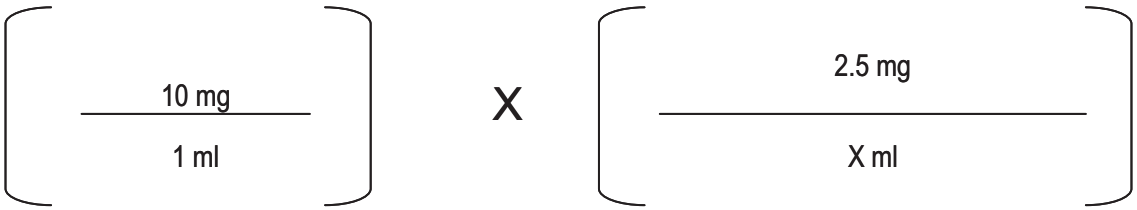
How much do I draw from the ampoule?

Concentration of morphine: 10mg/ml
Dose of drug needed: 2.5 mg

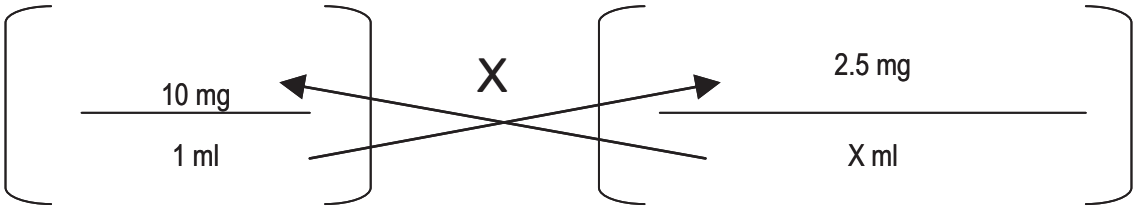
SECTION 7: STANDARD MEDICAL PROCEDURES



Step 1:



Step 2:



(10mg)(X) = (2.5mg) (1.0 ml)

$X = \frac{(2.5mg)(1.0ml)}{10\ ml}$

X = 0.25 ml

SECTION 7: STANDARD MEDICAL PROCEDURES

3. Paediatric Dosing: What dose do I give this child?

Dosing I have to use	X	Child's Weight in Kg	= Dose in mg according to protocol

Example:

Protocol 3.5: I have to give Morphine 0.1 mg/ kg (max 2.5 mg) IV over 1 min q 5 min to a max of 5mg in 1 hour to a 2 year old child that is 30 lbs.

What dose do I give this child?

Dosing I have to use according to my protocol	X	Child's weight In Kg	=	Dose in mg

Dosing I have to use: 0.1 mg/kg to a maximum of 2.5 mg

Child's weight in kg : 30 lbs x $\frac{1\text{kg}}{2.2\text{ lbs}}$ = 13.6 kg = 13 kg

$\frac{0.1\text{ mg}}{\text{kg of child's weight}}$ X 13 kg = 1.3 mg

This child's dose is 1.3 mg. Now refer to principle calculation 2 to find out how much you have to draw form your ampoule.

Withdraw a medication or diluent from a vial:

- Determine how much you need to withdraw.
- Attach needle to the syringe
- Wipe vial with alcohol swab
- Pull syringe plunger back to fill the syringe with air equal to the amount of substance you will need.
- At a 90 degree angle, inject air into the substance vial. Keep needle in the vial.
- Tilt the needle and vial on a 45 degree angle and pull the syringe plunger back to obtain the correct amount of the substance needed. Remove any large bubbles by taping side of syringe.
- Remove needle from vial.
- Substance is now ready for next step (e.g. dilution, reconstitution, IM injection, IV push).

SECTION 7: STANDARD MEDICAL PROCEDURES

RECONSTITUION

-Ensure you have: 10 mL syringe; needle attachment; sterile water for injection (10 mL); 2 x alcohol swabs.
- Determine what dose you need to treat the patient (i.e. adult vs. child).
- Read label on drug vial to ensure you are using the exact amount of diluent needed.
- Determine what type of diluent you need.
- Use withdrawal of diluents technique to get the determined amount of diluent.
- Shake powder in drug vial.
- At a 90 degree angle, inject the diluent into the drug vial and remove needle.
- Manipulate vial gently to ensure all powder has dissolved with no precipitates visible.
- The drug is now ready for use.
- Use withdrawal of medications from a vial technique to prep the dose for the next step.

Drug: Cefoxitin

I.M. RECONSTITUTION TABLE

Strength	Amount of Diluent to be Added* (mL)	Approximate Withdrawable Volume (mL)	Nominal Concentration (mg/mL)
1 g vial	2	2.5	400
2 g vial	4	5.0	400

*Shake to dissolve and let stand until clear.

Product Monograph, Cefoxitin, USP

Solutions that can be used for IM reconstitution:

- Sterile Water for Injection
- Bacteriostatic Water for Injection

SECTION 7: STANDARD MEDICAL PROCEDURES

I.V. RECONSTITUTION TABLE

Strength	Amount of Diluent to be Added* (mL)	Approximate Withdrawable Volume (mL)	Nominal Concentration (mg/mL)
1 g vial	10	10.5	95
2 g vial	10 or 20	11.1 or 21.0	180 or 95

* Shake to dissolve and let stand until clear. The prepared solution may be further diluted to the desired volume with any of the solutions for I.V. infusion listed below.

Product Monograph, Cefoxitin, USP

Solutions that can be used for IV reconstitution:

- Sterile Water for Injection
- 0.9% Sodium Chloride
- Dextrose 5 % Water
- Dextrose 10% Water

DILUTION:

- Read label on medication vial.
- Determine dosage of medication needed.
- Determine the type of diluent needed.
- Use withdrawal of drug technique to get determined amount of drug from the vial.
- Wipe IV bag injection port with an alcohol swab.
- Inject drug into the IV bag and remove the needle.
- Manipulate bag to ensure full dispersion of drug.
- Check IV bag for precipitates and large bubbles.
- IV bag is now ready for administration.

Drug: Clindamycin

Dilution and infusion rates:

Dose (mg)	Diluent (mL)	Time (Minutes)
300	50	10
600	50	20
900	100	30
1200	100	45

Product Monograph, Clindamycin, USP

Solutions that can be used for IV administration:

- 0.9& Sodium Chloride
- Dextrose 5% Water

SECTION 7: STANDARD MEDICAL PROCEDURES

7.6.1 IV Drip Rate

Macro Infusion Set – 10 Gtt Per Milliliter (Gtt/mL)

Solution Per Hour	Drop Rate Interval (Seconds)
50 mL	7.2
100 mL	3.6
150 mL	2.4
200 mL	1.8
250 mL	1.4
300 mL	1.2
360 mL	1.0

Micro Infusion Set – 60 Gtt Per Milliliter (Gtt/mL)

Solution Per Hour	Drop Rate Interval (Seconds)
10 mL	6
20 mL	3
30 mL	2
40 mL	1.5
50 mL	1.2
60 mL	1.0

SECTION 7: STANDARD MEDICAL PROCEDURES

7.6.2 Formulae

IV FLOW RATES

$$\frac{\text{Vol to be Infused in (mL)} \times \text{Drops of Admin Set in (Gtt/mL)}}{\text{Total time of Infusion in (min)}} = \text{Gtts/min}$$

Example

- Volume to be infused 5040 mL in 8 hrs

$$\frac{5040 \text{ ml} \times 10 \text{ Gtt/mL}}{480 \text{ min}} = 105 \text{ Gtt/min or @ 2 Gtt/sec}$$

DRUG ADMINISTRATION

$$\frac{\text{Desired dose in (mg)}}{\text{Concentration on Hand in (mg/mL)}} = \text{Volume to be Administered}$$

Example

- Desired Dose is 20 mg, Concentration on Hand is 10 mg/mL

$$\frac{20 \text{ mg}}{10 \text{mg/ml}} = 2 \text{ mL Volume to be Administered}$$

CHILD'S WEIGHT (1-6 Yrs)

2 x Age in (years) + 8 = Approx Weight in (kg)

Example

2 x 2 years + 8 = Approx 12 kg

CATHERIZATION URINARY OUTPUT

Adult = > 0.5 mL/kg/hr
Child = > 1 mL/kg/hr

Example

- Weight of Adult = 72 kg; Weight of Child = 12 kg

Adult $\frac{0.5 \text{ mL} \times 70 \text{ kg}}{\text{hr}} = 35 \text{mL/hr urinary output}$

Child $\frac{1 \text{ mL} \times 12 \text{ kg}}{\text{hr}} = 12 \text{ mL/hr urinary output}$

SECTION 7: STANDARD MEDICAL PROCEDURES
7.7 Intraosseous Access

INDICATIONS:

- Requirement to give fluid and unable to obtain IV access

CONSIDERATIONS:

- Fracture of the bone selected for IO infusion (*select an alternate site*)
- Infection at the site selected for insertion (select an *alternate site*)
- Ensure the administration of a rapid and vigorous 10mL flush with normal saline prior to infusion "**NO FLUSH = NO FLOW"**
    - Repeat syringe bolus (flush) as needed
- Paediatric patients use proximal tibial insertion site only.

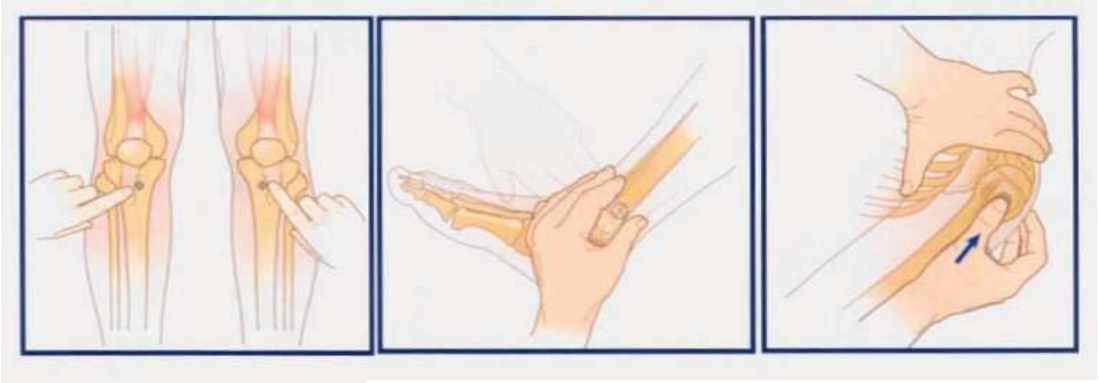
EQUIPMENT:

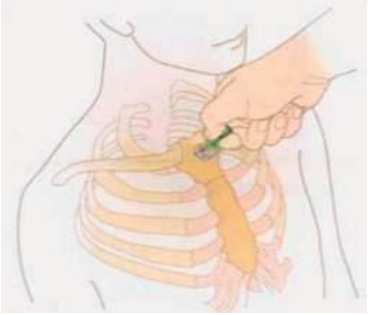
- Appropriate size intraosseous needle set based on patient weight and insertion location
- One (1)10 ml syringes with Sterile Saline solution for flush
- One (1) fluid administration set primed with fluid of choice

PROCEDURE (For EZ-IO): *If the patient is conscious, explain procedure*

1. Cleanse site. See diagram below for site selection.
2. Select appropriate Needle Set (blue manual needle or green sternal needle)
3. Stabilize site
4. Remove needle cap
5. Position the needle set at a 90-degree angle to the bone surface.
6. Gently pierce the skin with the Needle Set until the Needle Set tip touches the bone. Ensure at least one black line is visible. If not select different site.
7. Grasp the Needle Set and, rotate arm, while pushing the needle into the intraosseous space. A pop should be felt when the space is entered.
    - On adult patients when accessing the tibia and humerus using the manual Needle Set, you will stop when the hub is almost flush with the skin.
8. Remove stylet from catheter by turning counter-clockwise and immediately dispose of stylet in appropriate biohazard sharps container.
    ***NEVER** return used stylet to the EZ-IO kit
9. Secure site with EZ Stabilizer
10. Connect primed EZ-Connect to exposed Luer-Lok hub
11. Confirm placement: Flush 2-3 mL/ into the intraosseous space and draw back into syringe to observe for flashback. Then flush the contents of the syringe back.
12. Disconnect 10 mL syringe from EZ-Connect extension set
13. Connect primed EZ-Connect extension set to primed IV tubing
14. Begin infusion, secure tubing and monitor extremity for complications

SECTION 7: STANDARD MEDICAL PROCEDURES





SECTION 7: STANDARD MEDICAL PROCEDURES

7.8 Bladder Catheterization

Indications

- Patients who will be under care for an extended time period and who require urinary output monitoring.

Contraindications

- Blood at meatus, perineal bruising, blood in scrotum, or suspected pelvic fracture.

Precautions

- Physical resistance on insertion.

Procedure

1. Explain procedure to patient.
2. Position patient on back with legs apart (knees bent for females).
3. Ensure aseptic technique to prevent contamination of catheter.
4. Prepare equipment.
5. Test catheter balloon with recommended amount of air while still in sterile package.
6. Expose genitalia and clean with Betadine swabs (dispose after each wipe).
    - Females: Retract labia to expose urethral meatus and maintain this position throughout the procedure. Wipe from front to back.
    - Males: Retract foreskin (if not circumcised) and wipe in circular motion around urethra and glans.
7. Hold catheter (using sterile glove) about 3 cm from tip. Dip exposed tip in lubricant and insert into urethra. In males, hold penis at 60^{o} to patient's body and apply light traction. Advance catheter until urine flows and then a further 5 cm.
8. Inflate balloon with recommended amount of air and gently retract catheter until resistance is felt.
9. Secure catheter to bag, tape catheter to leg allowing some slack in catheter.
10. Monitor Urine output hourly.

SECTION 7: STANDARD MEDICAL PROCEDURES

7.9.1 Emergency Childbirth – Normal Delivery:

Indications: Inspect vagina to determine if head is visible. If the area of the head is larger than a $2.00 coin then birthing is likely to occur within the next few minutes.

Considerations: If birthing is going to be delayed, place in the recumbent position, on her left side. Consider transport.

Caution: Do not let the mother use the washroom.

Equipment:

- Oxygen
- Gloves (Sterile, if possible)
- Bulb Syringe
- Clamps x 2
- Scissors

Procedure:

1. Assess the mother to include discharge, length of labour, prenatal events, medical history, vital signs, pulse oximeter reading, and previous birthing history.
2. Reassure mother.
3. Administer oxygen.
4. Place mother on her back with knees bent and spread apart.
5. Place clean material under buttocks to slightly elevate.
6. Don gloves (sterile if possible)
7. Contact SMA.
8. Encourage mother not to bear down or strain during each contraction. Have her breathe with short panting breaths during contractions and deep breaths between contractions.
9. As the baby's head presents ensure that the membrane is torn. If it is not torn, gently grasp and tear with a haemostat. Ensure that the membrane is away from the nose and mouth of the baby.
10. As the head comes out place one hand over the head and apply gentle pressure in order to prevent the head from suddenly emerging. Support the head as it rotates.
11. Feel around the baby's neck for a loop of the umbilical cord (may not be present). If present, slip over the baby's head.
12. Clear mouth and nose with bulb syringe.
13. Support head and neck and lift slightly to help the shoulders emerge.
14. As the body emerges grasp firmly and support. Keep at level of the vagina.
15. Clamp and cut the umbilical cord. Place one clamp 10 cm from the baby and the second clamp 5 cm further away. Cut the cord between the two clamps.
16. Dry baby immediately and keep warm.
17. Assess baby after 30 seconds. If not breathing start artificial respiration.
18. Record time of birth and conduct initial APGAR score.
19. Assess mother. Massage fundus to help deliver the placenta and decrease bleeding.
20. If placenta delivers, place in garbage bag and transport with mother. Do not delay transport to wait for placental delivery.
21. Transport casualty.

SECTION 7: STANDARD MEDICAL PROCEDURES
7.9.2 Emergency Childbirth – Abnormal Presentation:

Indications: Inspect vagina to determine if head is visible. If abnormal presentation such as breech, prolapsed cord, or limb presentation, place mother in the Trendelenburg or knee-chest position.

Considerations: If abnormal presentation is evident, rapid transport is critical.

Caution: Do not let the mother use the washroom.

1. Assess the mother to include discharge, length of labour, prenatal events, medical history, vital signs, pulse oximeter reading, and previous birthing history.
2. Reassure mother.
3. Administer oxygen.
4. Place mother on her back with knees bent and spread apart.
5. Place clean material under buttocks to slightly elevate.
6. Don gloves (sterile if possible)
7. Initiate rapid transport.
8. Contact SMA.
9. If cord is prolapsed apply a saline moistened dressing. Do not pull or replace cord in vagina.

SECTION 7: STANDARD MEDICAL PROCEDURES
7.10 Transfer of Care to Higher Medical Authority

This format is to be adopted in order to standardize the method of providing receiving SMA with patient information.

PATIENT REPORT

- Ensure a report is given upon transfer of care.

Provide the receiving SMA with the following information:

- Age and gender
- Patient's C/C
- History of C/C
- History of vital signs
- Medical history if available
- Medications
- Allergies
- Relevant physical exam findings
- Treatment and protocol

SECTION 8: REFERENCES/ABBREVIATIONS

This section covers the following information:

SECTION 8: REFERENCES/ABBREVIATIONS

8.1 Glasgow Coma Scale

	Adult	1-5 years	0-1 years
Eye Opening			
4	Spontaneously	Spontaneously	Spontaneously
3	to command	to command	to shout
2	to pain	to pain	to pain
1	no response	no response	no response
Best Verbal Response	Adult	2-5 years	0-2 years
5	oriented	Appropriate words, phrases	Coos, babbles, cries
4	confused	Inappropriate words	Cries
3	Inappropriate words	Cries, screams	Inappropriate cries, screams
2	incomprehensible	grunts	Grunts
1	no response	no response	no response
Best Motor Response	Adult	1-5 years	0-1 years
6	obeys commands	Spontaneous	Spontaneous
5	Localizes pain	Localizes pain	Localizes pain
4	Withdraws from pain	Flexion withdrawal	Flexion withdrawal
3	Abnormal flexion	Abnormal flexion	Abnormal flexion
2	extension	extension	extension
1	no response	no response	no response

8.2 Apgar Scale

	0 Points	1 Point	2 Points	1 Min	5 Min
Heart Rate	Absent	< 100	> 100		
Resp Effort	Absent	Slow, Irreg.	Strong cry		
Muscle Tone	Flaccid	Some flex	Active motion		
Irritability	No response	Some	Vigorous		
Colour	Blue extremities, pale body	Blue extremities, pink body	Fully pink		
			Total		

SECTION 8: REFERENCES/ABBREVIATIONS

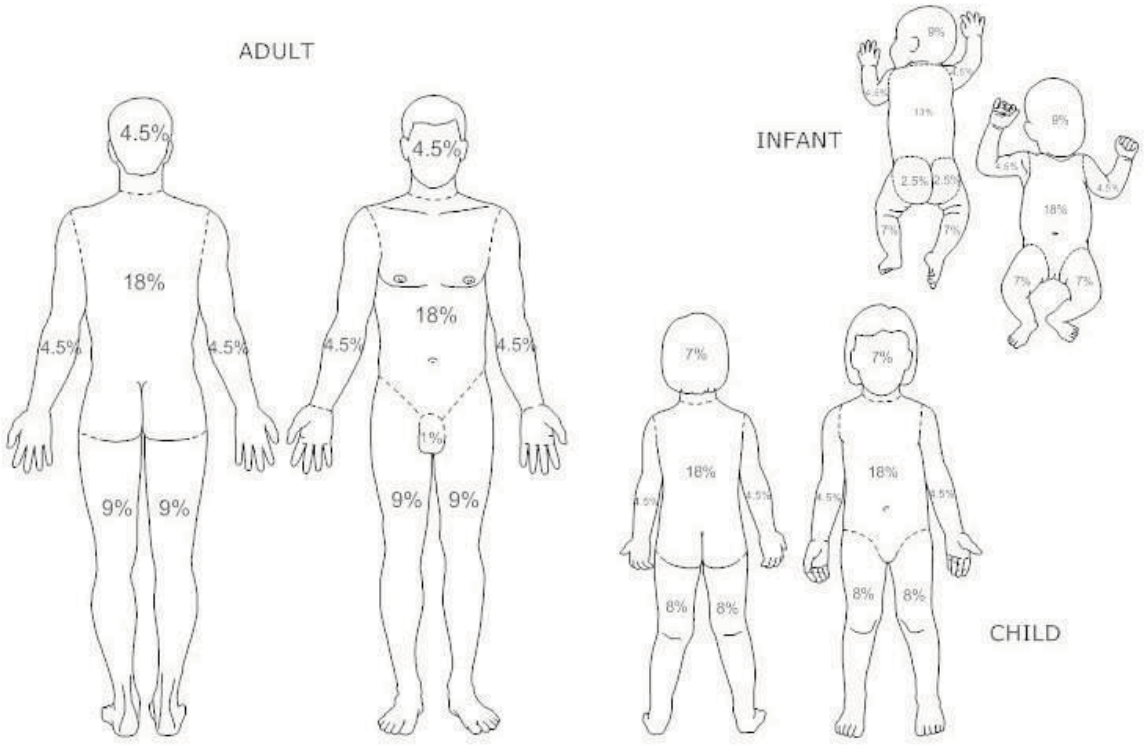
8.3 Paediatric Table

	Preterm	Term	6 Mo	1 Yr	3 Yr	6 Yr
Weight (lbs)	3	7.5	15	22	33	44
Weight (kg)	1.5	3.5	7	10	15	20
Heart Rate (bpm)	140	125	120	120	110	100
Respirations	40-60	40-60	24-26	22-30	20-26	20-24
Systolic BP (mmHg)	50-60	70	90±30	95±30	100±25	100±15
Fluid Challenge (mL)	30	70	140	200	300	400
Fluid Maint (mL/hr)	6	14	28	40	60	80

	8 Yr	10 Yr	11 Yr	12 Yr	14 Yr
Weight (lbs)	55	66	77	88	99
Weight (kg)	25	30	35	40	45
Heart Rate (bpm)	90	90	85	85	80
Respirations	18-22	18-22	16-22	16-22	14-20
Systolic BP (mmHg)	105±15	110±20	110±20	115±20	115±20
Fluid Challenge (mL)	500	500	500	500	500
Fluid Maint (mL/hr)	100	100	100	100	100

SECTION 8: REFERENCES/ABBREVIATIONS

8.4 Rule of Nines Body Surface Area (BSA) Estimation



8.5 Fluid Replacement Requirements for Burn Victims

Notes:

1. If burns are greater than 20% of Total Body Surface Area, fluid resuscitation should be initiated as soon as IV/IO access is established.
2. Resuscitation should be initiated with LR or NS.
3. If hemorrhagic shock is also present, resuscitation for hemorrhagic shock takes precedence over resuscitation for burns.

SECTION 8: REFERENCES/ABBREVIATIONS

8.5.1 Parkland Formula (for Paediatrics)

- 4 mL RL (or NS) x Weight in (kg) x Total Body Surface Area (TBSA) with 2nd & 3rd degree burns in (%) = mL/24 hrs amount.

  1/2 in 1st 8 hrs
  1/4 in 2nd 8 hrs
  1/4 in 3rd 8 hrs
  = Total in 24 hrs

Example: Pt weighing 30 kg with 36% TBSA

- 4 mL x 30 kg x 36 = 4320 mL/24 hrs

  1/2 in 1st 8 hrs = $\frac{4320\ mL}{2}$ = 2160 mL

  1/4 in 2nd 8 hrs = $\frac{4320\ mL}{4}$ = 1080 mL

  1/4 in 3rd 8 hrs = $\frac{4320\ mL}{4}$ = 1080 mL

  2160 mL (1st 8 hrs) + 1080 mL (2nd 8 hrs) + 1080 mL (3rd 8 hrs) = 4320 mL total in 24 hrs

Pt would receive 2160ml in the first 8 hours, 1080ml in the second 8 hours, and 1080ml in the third 8 hours.

8.5.2 USAISR Rule of Ten (for Adults)

Initial IV/IO fluid rate is calculated as:

%TBSA x 10 mL/hr (for adults weighing 40- 80 kg)

- For every 10 kg ABOVE 80 kg, increase initial rate by 100 ml/hr.

SECTION 8: REFERENCES/ABBREVIATIONS

8.6 Airway Management Principles

Intact Airway
Definition: Patient speaks clearly with no difficulty; no intervention required.

Advanced intervention required if:

a) Airway needs protection:

Definition: GCS ≤ 8

Treatment:
- Consider basic airway management principles including open the airway, OPA, NPA and use of Bag-Valve-Mask Device prior to advanced management.
- Consider Supraglottic airway device for long transport.
- To be done during the Tactical Evacuation Care.
- Allow two attempts before conversion to surgical airway

b) Impending airway obstruction:

Definition:
- expanding hematoma/mass causing airway distortion
- difficulty clearing secretions/blood/mucus from airway after injury
- ventilation/oxygenation are preserved

Treatment: Supraglottic airway; allow one attempt orotracheally then move to surgical airway.

c) Mechanical obstruction/direct injury:

Definition: blunt or penetrating direct tracheal injury and mechanical blockages such as food bolus or foreign object; causing impaired ventilation/oxygenation.

Treatment:
- consider accessing airway through direct tracheal injury if possible otherwise consider surgical airway as first choice.

d) Inability to oxygenate:

Definition:
- SPO_2 <92% on room air

Treatment:
- Provide supplemental oxygen if available and prepare for advanced airway management. Search for respiratory causes such as tension pneumothorax.

SECTION 8: REFERENCES/ABBREVIATIONS
8.7 Oxygen Flow Times

'D' Format O_2						
Pressure	**Litres Per Minute (LPM)**					
(PSI)	**2**	**4**	**6**	**8**	**10**	**15**
2200	160	80	53	40	32	21
2000	144	72	48	36	29	19
1800	128	64	43	32	26	17
1600	112	56	37	28	22	15
1400	96	48	32	24	19	13
1200	80	40	27	20	16	11
1000	64	32	21	16	13	9
900	56	28	19	14	11	7
800	48	24	16	12	10	6
700	40	20	13	10	8	5
600	32	16	11	8	6	
500	24	12	8	6	5	
400	16	8	5			
300	8	4				**PREPARE TO**
200						**REPLACE O_2 TANK**

8.8 LMA Selection Guidelines*

LMA™ Airway Size	Patient Size	Maximum Cuff Inflation Volumes (NS)*
1	Neonates/Infants up to 5 kg	4 mL
1½	Infants 5-10 kg	7 mL
2	Infants/Children 10-20 kg	10 mL
2½	Children 20-30 kg	14 mL
3	Children 30-50 kg	20 mL
4	Adults 50-70 kg	30 mL
5	Adults 70-100 kg	40 mL
6	Adults > 100 kg	50 mL

**Taken from LMA Instruction Manual. Revised April 2004. Laryngeal Mask Airway Limited. www.lmana.com.*

SECTION 8: REFERENCES/ABBREVIATIONS
8.9 LMA ProSeal Accessory Guidelines*

LMA ProSeal Airway Size	Introducer Size	Largest Orogastric Tube	Largest Salem Sump
1½	#1-2½	10 Fr	8 Fr
2	#1-2½	10 Fr	8 Fr
2½	#1-2½	14 Fr	12 Fr
3	#3-5	16 Fr	14 Fr
4	#3-5	16 Fr	14 Fr
5	#3-5	18 Fr	16 Fr

**Taken from LMA Instruction Manual. Revised April 2004. Laryngeal Mask Airway Limited. www.lmana.com.*

SECTION 8: REFERENCES/ABBREVIATIONS

8.10 9-Liner Med Evac Request		DTG UNIT
1	LOCATION (GRID OF PICKUP ZONE)	(1)
2	CALLSIGN & FREQ	(2)
3	NUMBER OF PATIENTS/PRECEDENCE	(3) A …….. B …….. C ……..
	A - URGENT; to be at hospital facility (R2 or R3) within 90 minutes of first notification (**P1**)	**B** - PRIORITY; to be at hospital facility (R2 or R3) within 4 hours of notification by "9-line" (**P2**)
	C - ROUTINE; to be at hospital facility R2/R3 within 24 hours of notification by '9-line" (**P3**)	
4	SPECIAL EQUIPT REQ'D	(4)
	A - NONE / B - HOIST (Winch)	C - EXTRICATION / D - VENTILATOR
5	NUMBER TO BE CARRIED LYING/SITTING	(5) L …….. A …….. E ……..
	L - LITTER (Stretcher) / A - AMBULATORY (WALKING)	E – ESCORTS (e.g. for child patient)
6	SECURITY AT PICKUP ZONE (PZ)	(6)
	N - NO ENEMY	E - ENEMY IN AREA
	P - POSSIBLE ENEMY	X - HOT PICKUP ZONE - ARMED ESCORT REQUIRED
7	PICKUP ZONE (PZ) MARKING METHOD	(7)
	A - PANELS / B - PYRO / C - SMOKE / D - NONE / E - OTHER (explain)	
8	NUMBER OF PATIENTS BY NATIONALITY/STATUS	(8) A …….. B …….. C …….. D …….. E …….. F ……..
	A - COALITION MILITARY	B - CIVILIAN WITH COALITION FORCES
	C - NON-COALITION SECURITY FORCES	D - NON-COALITION CIVILIAN
	E - OPPOSING FORCES/PW/DETAINEE	F - CHILD
9	PICKUP ZONE (PZ) TERRAIN/OBSTACLES	(9)
DO NOT DELAY LAUNCH OF MEDEVAC – SUPPLY FURTHER INFORMATION ONCE AVAILABLE:		
M	MECHANISM OF INJURY (and at what time if known)	(M) (Time: ……)
I	INJURY OR ILLNESS SUSTAINED	(I)
S	SYMPTOMS AND VITAL SIGNS A – airway B – breathing rate C – pulse rate D – conscious/unconscious E – other signs	(S) …….. A …….. B …….. C …….. D …….. E .. ……..….
T	TREATMENT GIVEN (e.g. Tourniquet and time applied, Morphine)	(T)
NOTES: Specify if critical medical supplies are needed to be brought in with EVAC '9-liner" is not used for requests to move casualties who are killed in action at the scene		
GJOC APRV'S MSN		AVN AUTH'S LAUNCH
W/U	W/D	W/U / W/D

SECTION 8: REFERENCES/ABBREVIATIONS

8.11 Assessing and Treating Haemorrhage

There are five potential sites for massive haemorrhage:

1. External/ visible
2. Thoracic
3. Abdominal
4. Retroperitoneal
5. Extremity

However, only external haemorrhage is amenable to compression in the field. Therefore, massive compressible haemorrhage will always refer to treating identified massive “external bleeding”. The **definition** of massive compressible haemorrhage is the presence of ongoing external bleeding from a wound that is of significant rate, in the opinion of the medic, enough to compromise the hemodynamic status of the patient immediately or in the near future without treatment.

A. Scalp

Scalp injuries may bleed substantially and may be associated with underlying open skull fractures and brain injury. As well, the presence of hair reduces the efficacy of hemostatic agents and dressing. Therefore, first line therapy for massive hemorrhage from the scalp is sutures or staples.

Procedure:

Note: This is not definitive repair of the laceration;

1. The area is NOT cleaned, prepped or draped;
2. If possible, the edges of the wound are anesthetised with 1% Xylocaine with epinephrine.
3. The two ends of the bleeding laceration are identified;
4. A running whip stitch is performed, using the #2 silk, taking full thickness bites of scalp.
5. The stitch is started just beyond the border of the laceration, furthest from the medic. A square knot is used to secure this stitch.
6. The running stitch is performed, and the medic tries to sew towards himself/herself.
7. Apply pressure dressing with concern for depressed skull fracture.

In tactical situations a disposable stapler may be used bring the edges of the wound together in order to control bleeding, this initial closer will require to opening in order to properly clean the wound on arrival at a surgical facility.

SECTION 8: REFERENCES/ABBREVIATIONS

B. Facial bleed - Epistaxis

Massive facial trauma can result in massive epistaxis, as bleeding continues from lacerated facial branches of the external carotid artery. First line therapy for massive epistaxis from facial trauma is posterior/anterior packing.

Procedure:

1. Prepare and check the Foley and other equipment.
2. An 18 French Foley catheter is inserted into the nares of the affected side.
3. The Foley catheter is advanced with gentle pressure into the nares.
4. Do not push through resistance. If resistance is encountered, withdraw the Foley and change the direction of insertion.
5. Once the balloon of the catheter is clearly in the nasopharynx, inflate the balloon with 10 mL of saline, and then remove the syringe.
6. Withdraw the Foley firmly until clear resistance is encountered.
7. Maintaining tension of the Foley, tape the catheter to the forehead using red tape. (Alternatively, take any clamp and clamp the catheter just at the nares, maintaining tension on the Foley).
8. Use small Kerlex and pack the anterior nares around the catheter to complete the packing.
9. Repeat on the contralateral side if necessary.

C. Distal Extremity Bleeding

The **definition** of distal extremity bleeding is any bleeding from the arms or legs that occurs from a wound distal enough from the inguinal or axillary area to allow proximal control of the bleeding with tourniquet placement (e.g. application of CAT).

Recommend the use of:

1) a Windlass style tourniquet - CAT, SOF-TT
2) Pneumatic tourniquet - EMT

i) Amputation: No distinction has to be made between arterial or venous bleeding. The tourniquet is placed on the limb as close to the wound as possible (generally 2.5 to 5cm above the level of the amputation), tightened enough to stop arterial haemorrhage. Tourniquets placed on limbs with amputations should not be removed.

ii) Limb preserved, small wound: Assessment is made as to whether or not there is pulsatile bleeding from the wound. Pulsatile bleeding is treated with a tourniquet.

If a single tourniquet is ineffective, a second should be placed adjacent to the first without removing the first tourniquet. It should be placed directly on the skin. ***The EMT is the preferred tourniquet if available and tactically feasible.***

SECTION 8: REFERENCES/ABBREVIATIONS

Tourniquet Procedure:

1. Place tourniquet on extremity approx one hand width above the wound and not over clothes.
2. Tighten tourniquet until bleeding stops.
3. If bleeding is difficult to control another tourniquet can be placed directly above the initial tourniquet. See protocol 3.2.
4. Mark tourniquet time on casualty tag (e.g. T 2230HRS).
5. Splint extremity and elevate, if possible.
6. Loosen tourniquet when safe to do so during the Tactical Field Care phase, preferably within two hours.
7. If bleeding is obviously arterial, reapply tourniquet, splint and elevate.
8. If bleeding can be controlled through other means such as a pressure dressing, it is preferred. Then reapply splint and elevate if possible. If any doubt, leave the tourniquet in place.

NOTE: If the first tourniquet does not appear to be controlling hemorrhage adequately, a second tourniquet should be placed proximal to the original one. Large vessels may retract making it difficult to get good hemorrhage control close to the wound. The EMT is the preferred option if available and feasible.

D. Proximal extremity haemorrhage

The **definition** of proximal extremity haemorrhage is any haemorrhage in the crease (inguinal/axillary) areas of the body, such that proximal control of the bleeding cannot be achieved using a tourniquet. If the bleeding is massive from wounds in this area, the bleeding is presumed to be from either the femoral artery/vein or the axillary artery/vein.

The use a dressing type of haemostatic agent such as Combat Gauze is recommended.

i) Large wounds: if the wound is large, it should be packed.
ii) Small wounds: if the wound is so small that it can't be packed, a tiered approach should be taken.

Wound Packing Procedure:

1. Identify massive haemorrhage not amenable to tourniquet application.
2. Apply direct pressure. Pressure should be applied by pressing fingers directly on the bleeder, against a bone.
3. Pack with haemostatic gauze in a proximal manner, against the bone. The gauze should be progressively unfolded into the wound, not shoved in as a ball.
4. Apply 5 minutes of direct pressure.
5. Re-evaluate measures for effectiveness

SECTION 8: REFERENCES/ABBREVIATIONS

E. Neck Wounds

Pulsatile bleeding from the neck most likely represents injury to the carotid artery. Two major consequences of this injury in the field are exsanguination and loss of airway from compression by the expanding hematoma.

Therefore, control of haemorrhage and establishment of a definitive airway must occur almost simultaneously.

Procedure:

1. Control bleeding temporarily with direct pressure.
2. If the hematoma appears to be expanding, or if there are any signs of impending airway obstruction, secure the airway. (Protocol 2.1)
3. Continue dealing with the massive compressible hemorrhage.
   a. wound is large: pack with Kerlex or bandage-type haemostatic agent, and then secure field dressing. Reinforce dressing as required.
   b. wound is small: pressure dressing with field dressing. Reinforce as needed. If ongoing exsanguinating haemorrhage continues, consider inserting Foley catheter into wound. If significant bleeding continues, a Foley catheter can be inserted gently into the wound and advanced until resistance is met. The Foley balloon should be inflated to a maximum of 10 mL of NS. Inflation can stop before 10 mL if bleeding is controlled. The Foley is then taped in place with red tape.

F. For all other external, bleeding wounds, options include:

- Apply field dressing
- For small wounds where packing is not possible, consider inserting a Foley catheter of a pressure dressing does not control haemorrhage.
- If the wound is large, pack tightly with haemostatic agent and Kerlex. Then apply pressure dressing
- Long, deep bleeding lacerations may be amenable to running whip stitches with the #2 silk.

SECTION 8: REFERENCES/ABBREVIATIONS

8.12 Diagnostic Criteria for Anaphylaxis - Adult and Child > 30 kg

Anaphylaxis is highly likely when any ONE of the following 3 criteria are fulfilled:
1. Acute onset of an illness (minutes to several hours) with involvement of the skin, mucosal tissue, or both (eg, generalized hives, pruritus or flushing, swollen lips-tongue-uvula)
AND AT LEAST ONE OF THE FOLLOWING
A. Respiratory compromise (e.g., dyspnea, wheeze-bronchospasm, stridor, SPO_2 < 92%)
B. Reduced BP or absent radial pulse or decreased level of consciousness

2. TWO OR MORE OF THE FOLLOWING that occur rapidly after exposure to a likely allergen for that patient (minutes to several hours):
A. Involvement of the skin-mucosal tissue (e.g., generalized hives, itch-flush, swollen lips-tongue-uvula)
B. Respiratory compromise (e.g., dyspnea, wheeze-bronchospasm, stridor, SPO_2 < 92%)
C. Reduced BP or absent radial pulse or decreased level of consciousness
D. Persistent gastrointestinal symptoms (e.g., crampy abdominal pain, vomiting)

3. Reduced BP after exposure to a known allergen for that patient (minutes to several hours):
A. Infants and children: low systolic BP (age specific)* or greater than 30 percent decrease in systolic BP
B. Adults: systolic BP of less than 90 mm Hg or greater than 30 percent decrease from that person's baseline

Adapted with permission from: Sampson, HA, Munoz-Furlong, A, Campbell, RL, et al. Second symposium on the definition and management of anaphylaxis: summary report-Second National Institute of Allergy and Infectious Disease/Food Allergy and Anaphylaxis Network symposium. J Allergy Clin Immunol 2006; 117:391.

SECTION 8: REFERENCES/ABBREVIATIONS

8.13 Diagnostic Criteria for Anaphylaxis – Adult & Child ≤ 30 kg

Anaphylaxis is highly likely when any ONE of the following 3 criteria are fulfilled:

1. Acute onset of an illness (minutes to several hours) with involvement of the skin, mucosal tissue, or both (eg, generalized hives, pruritus or flushing, swollen lips-tongue-uvula)
AND AT LEAST ONE OF THE FOLLOWING
A. Respiratory compromise (e.g., dyspnea, wheeze-bronchospasm, stridor, SPO_2 < 92%)
B. Reduced BP* or absent radial pulse or decreased level of consciousness

2. TWO OR MORE OF THE FOLLOWING that occur rapidly after exposure to a likely allergen for that patient (minutes to several hours):
A. Involvement of the skin-mucosal tissue (e.g., generalized hives, itch-flush, swollen lips-tongue-uvula)
B. Respiratory compromise (e.g., dyspnea, wheeze-bronchospasm, stridor, SPO_2 < 92%)
C. Reduced BP* or absent radial pulse or decreased level of consciousness
D. Persistent gastrointestinal symptoms (e.g., crampy abdominal pain, vomiting)

3. Reduced BP* after exposure to a known allergen for that patient (minutes to several hours):
A. Infants and children: low systolic BP (age specific)* or greater than 30 percent decrease in systolic BP
B. Adults: systolic BP of less than 90 mm Hg or greater than 30 percent decrease from that person's baseline

* Low systolic blood pressure for children is defined as:
- less than 70 mm Hg from 1 month to 1 year,
- less than (70 mm Hg + [2 x age]) from 1 to 10 years, and
- less than 90 mm Hg from 11 to 17 years.

Adapted with permission from: Sampson, HA, Munoz-Furlong, A, Campbell, RL, et al. Second symposium on the definition and management of anaphylaxis: summary report-Second National Institute of Allergy and Infectious Disease/Food Allergy and Anaphylaxis Network symposium. J Allergy Clin Immunol 2006; 117:391.

SECTION 8: REFERENCES/ABBREVIATIONS

8.14 Military Acute Concussion Evaluation (MACE)

Patient Name: _____ **DOB:** _____

SN: _____ **Unit:** _____

Date of Injury: _____ **Time of Injury:** _____

Examiner: _____

Date of Evaluation:_____ **Time of Evaluation:** _____

History: (I - VIII)

I. **Description of Incident**

Ask:

a) What happened?

b) Tell me what you remember.

c) Were you dazed, confused, "saw stars"? 0 Yes 0 No

d) Did you hit your head? 0 Yes 0 No

II. **Cause of Injury** (Circle all that apply):

1) Explosion/Blast
2) Blunt object
3) Motor Vehicle Crash
4) Fragment
5) Fall
6) Gunshot wound
7) Other

III. Was a helmet worn? 0 Yes 0 No Type _____

IV. Amnesia Before: Are there any events just BEFORE the injury that are not remembered? (Assess for continuous memory prior to injury)

0Yes **0** No If yes, how long _____

V. Amnesia After: Are there any events just AFTER the injuries that are not remembered? (Assess time until continuous memory after the injury)

0Yes 0 No If yes, how long _____

VI. Does the individual report loss of consciousness or "blacking out"? **0** Yes **0** No If yes, how long _____

VII. Did anyone observe a period of loss of consciousness or unresponsiveness? **0** Yes 0 No If yes, how long _____

VIII. Symptoms (circle all that apply)

1) Headache	2) Dizziness
3) Memory Problems	4) Balance Problems
5) Nausea/Vomiting	6) Difficulty Concentrating
7) Irritability	8) Visual Disturbances
9) Ringing in the ears	10) Other

SECTION 8: REFERENCES/ABBREVIATIONS

Examination: (IX — XIII)

Evaluate each domain. Total possible score is 30.

IX. Orientation: (1 point each)

Month	0	1
Date	0	1
Day of Week	0	1
Year	0	1
Time	0	1

Orientation Total Score **/5**

X. Immediate Memory:

Read all 5 words and ask the patient to recall them in any order. Repeat two more times for a total of three trials. (1 point for each correct, total over 3 trials)

List	Trial 1		Trial 2		Trial 3	
Elbow	0	1	0	1	0	1
Apple	0	1	0	1	0	1
Carpet	0	1	0	1	0	1
Saddle	0	1	0	1	0	1
Bubble	0	1	0	1	0	1
Trial Score						

Immediate Memory Total Score **/15**

XI. Neurological Screening

As the clinical condition permits, check **Eyes:** pupillary response and tracking **Verbal:** speech fluency and word finding **Motor:** pronator drift, gait/coordination Record any abnormalities. **No points are given for this.**

XII. Concentration

Reverse Digits: (go to next string length if correct on first trial. Stop if incorrect on both trials.) 1 pt. for each string length.

4-9-3	6-2-9	0	1
3-8-1-4	3-2-7-9	0	1
6-2-9-7-1	1-5-2-8-5	0	1
7-1-8-4-6-2	5-3-9-1-4-8	0	1

Months in reverse order: (1 pt. for entire sequence correct)
Dec-Nov-Oct-Sep-Aug-J ul-J un-May-Apr-Mar-Feb-Jan

0 1

Concentration Total Score **/5**

SECTION 8: REFERENCES/ABBREVIATIONS

XIII. <u>Delayed Recall</u> (1 pt. each)
Ask the patient to recall the 5 words from the earlier memory test (Do NOT reread the word list.)

Elbow	0	1
Apple	0	1
Carpet	0	1
Saddle	0	1
Bubble	0	1

Delayed Recall Total Score **/5**

TOTAL SCORE **/30**

Notes:

Diagnosis: (circle one or write in diagnoses)

No concussion
850.0 Concussion without Loss of Consciousness (LOC) 850.1 Concussion with Loss of Consciousness (LOC)

Other diagnose

SECTION 8: REFERENCES/ABBREVIATIONS

Instruction Sheet

Purpose and Use of the MACE
A concussion is a mild traumatic brain injury (TBI). The purpose of the MACE is to evaluate a person in whom a concussion is suspected.
The MACE is used to confirm the diagnosis and assess the current clinical status.

Tool Development
The MACE has been extensively reviewed by leading civilian and military experts in the field of concussion assessment and management. While the MACE is not, yet, a validated tool, the examination section is derived from the *Standardized Assessment of Concussion* (SAC) (McCrea, M., Kelly, J. & Randolph, C. (2000). *Standardized Assessment of Concussion (SAC): Manual for Administration, Scoring, and Interpretation.* (2nd ed.) Waukesa,WI: Authors.) which is a validated, widely used tool in sports medicine. Abnormalities on the SAC correlate with formal comprehensive neuropsychological testing during the first 48 hours following a concussion.

Who to Evaluate
Any one who was dazed, confused, "saw stars" or lost consciousness, even momentarily, as a result of an explosion/blast, fall, motor vehicle crash, or other event involving abrupt head movement, a direct blow to the head, or other head injury is an appropriate person for evaluation using the MACE.

Evaluation of Concussion
History: (I — VIII)

I. Ask for a description of the incident that resulted in the injury; how the injury occurred, type of force. Ask questions A — D.

II. Indicate the cause of injury.

III. Assess for helmet use. Military: Kevlar or ACH (Advanced Combat Helmet). Sports helmet, motorcycle helmet, etc.

IV — V Determine whether and length of time that the person wasn't registering continuous memory both **prior** to injury and **after** the injury. Approximate the amount of time in seconds, minutes or hours, whichever time increment is most appropriate. For example, if the assessment of the patient yields a possible time of 20 minutes, then 20 minutes should be documented in the "how long?" section.

VI — VII Determine whether and length of time of **self reported** loss of consciousness (LOC) or **witnessed/observed** LOC. Again, approximate the amount of time in second, minutes or hours, whichever time increment is most appropriate.

VIII Ask the person to report their experience of each specific symptom since injury.

SECTION 8: REFERENCES/ABBREVIATIONS

Examination: (IX — XIII)
Standardized Assessment of Concussion (SAC):
Total possible score = 30
Orientation = 5
Immediate Memory = 15
Concentration = 5
Memory Recall= 5

IX Orientation: Assess patients awareness of the accurate time Ask: WHAT MONTH IS THIS?
WHAT IS THE DATE OR DAY OF THE MONTH?
WHAT DAY OF THE WEEK IS IT? WHAT YEAR IS IT?
WHAT TIME DO YOU THINK IT IS?

One point for each correct response for a total of 5 possible points. It should be noted that a correct response on time of day must be within 1 hour of the actual time.

X Immediate memory is assessed using a brief repeated list learning test. Read the patient the list of 5 words once and then ask them to repeat it back to you, as many as they can recall in any order. Repeat this procedure 2 more times for a total of 3 trials, even if the patient scores perfectly on the first trial.

Trial 1: I'M GOING TO TEST YOUR MEMORY, I WILL READ YOU A LIST OF WORDS AND WHEN I AM DONE, REPEAT BACK AS MANY WORDS AS YOU CAN REMEMBER, IN ANY ORDER.
Trial 2 &3: I AM GOING TO REPEAT THAT LIST AGAIN. AGAIN, REPEAT BACK AS MANY AS YOU CAN REMEMBER IN ANY ORDER, EVEN IF YOU SAID THEM BEFORE.

One point is given for each correct answer for a total of 15 possible points.

XI Neurological screening
Eyes; check pupil size and reactivity.
Verbal: notice speech fluency and word finding
Motor: pronator drift- ask patient to lift arms with palms up, ask patient to then close their eyes, assess for either arm to "drift" down. Assess gait and coordination if possible. Document any abnormalities.
No points are given for this section.

SECTION 8: REFERENCES/ABBREVIATIONS

XII Concentration: Inform the patient:

I'M GOING TO READ YOU A STRING OF NUMBERS AND
WHEN I AM FINISHED, REPEAT THEM BACK TO ME BACK-
WARDS, THAT IS, IN REVERSE ORDER OF HOW I READ THEM TO YOU. FOR EXAMPLE, IF I SAY 7-1-9, YOU
WOULD SAY 9-1-7.

If the patient is correct on the first trial of each string length, proceed to the next string length. If incorrect, administer the 2nd trial of the same string length. Proceed to the next string length if correct on the second trial. Discontinue after failure on both trials of the same string length. Total of 4 different string lengths; 1 point for. each string length for a total of **4** points.

NOW TELL ME THE MONTHS IN REVERSE ORDER, THAT IS, START WITH DECEMBER AND END IN JANUARY.

1 point if able to recite ALL months in reverse order.
0 points if not able to recite ALL of them in reverse order. Total possible score for concentration portion: **5.**

XIII Delayed Recall
Assess the patient's ability to retain previously learned
information by asking he/she to recall as many words as
possible from the initial word list, without having the word list read again for this trial. DO YOU REMEMBER THAT LIST OF WORDS I READ A FEW MINUTES EARLIER? I WANT YOU TO TELL ME AS MANY WORDS FROM THE LIST AS YOU CAN REMEMBER IN ANY ORDER.
One point for each word remembered for a total of 5 possible points.

Total score= Add up from the 4 assessed domains: immediate memory, orientation, concentration and memory recall.

Significance of Scoring
In studies of non-concussed patients, the mean total score was 28.
Therefore, a score less than 30 does not imply that a concussion has occurred. Definitive normative data for a "cut-off" score are not available. However, scores below 25 may represent clinically relevant neurocognitive impairment and require further evaluation for the possibility of a more serious brain injury. The scoring system also takes on particular clinical significance during serial assessment where it can be used to document either a decline or an improvement in cognitive functioning.

Diagnosis
Circle the ICD-9 code that corresponds to the evaluation. If loss of consciousness was present, then circle 850.1. If no LOC, then document 850.0. If another diagnosis is made, write it.

SECTION 8: REFERENCES/ABBREVIATIONS

MACE Form B

Due to test- retest issues (e.g. service members memorizing words and numbers) validated, alternative versions B or C should be used.

Immediate Memory

Read all 5 words and ask the patient to recall them in any order. Repeat two more times for a total of three trials. (1 point for each correct, total over 3 trials.)

List	Trial 1		Trial 2		Trial 3	
Candle	0	1	0	1	0	1
Paper	0	1	0	1	0	1
Sugar	0	1	0	1	0	1
Sandwich	0	1	0	1	0	1
Wagon	0	1	0	1	0	1
Trial Score						

Concentration

Reverse Digits: (go to next string length if correct on first trial. Stop if incorrect on both trails.) 1 pt. for each string length.

5-2-6	4-1-5	0	1
1-7-9-5	4-9-6-8	0	1
4-8-5-2-7	6-1-8-4-3	0	1
8-3-1-9-6-4	7-2-4-8-5-6	0	1

Delayed Recall (1 pt each)

Ask the patient to recall the 5 words from the earlier memory test (DO NOT reread the word list.)

Candle	0	1
Paper	0	1
Sugar	0	1
Sandwich	0	1
Wagon	0	1

SECTION 8: REFERENCES/ABBREVIATIONS

MACE Form C

Due to test- retest issues (e.g. service members memorizing words and numbers) validated, alternative versions B or C should be used.

Immediate Memory

Read all 5 words and ask the patient to recall them in any order. Repeat two more times for a total of three trials. (1 point for each correct, total over 3 trials.)

List	Trial 1		Trial 2		Trial 3	
Baby	0	1	0	1	0	1
Monkey	0	1	0	1	0	1
Perfume	0	1	0	1	0	1
Sunset	0	1	0	1	0	1
Iron	0	1	0	1	0	1
Trial Score						

Concentration

Reverse Digits: (go to next string length if correct on first trial. Stop if incorrect on both trails.) 1 pt. for each string length.

1-4-2	6-5-8	0	1
6-8-3-1	3-4-8-1	0	1
4-9-1-5-3	6-8-2-5-1	0	1
3-7-6-5-1-9	9-2-6-5-1-4	0	1

Delayed Recall (1 pt each)

Ask the patient to recall the 5 words from the earlier memory test (DO NOT reread the word list.)

Baby	0	1
Monkey	0	1
Perfume	0	1
Sunset	0	1
Iron	0	1

SECTION 8: REFERENCES/ABBREVIATIONS

8.15 Care Under Fire

1. Update your tactical awareness.

2. Return fire and take cover.

3. Direct casualty to remain engaged as a combatant if appropriate.

4. Direct casualty to move to cover and apply self-aid if able.

5. Perform Tactical Rescue if feasible and required.

6. Consider establishing a TFC Bubble if conditions permit.

7. Stop life threatening external haemorrhage if tactically feasible:

8. Direct casualty to self-control haemorrhage if tactically feasible;

9. Use an Operational Medicine Working Group recommended tourniquet for life threatening haemorrhage that is anatomically amenable to tourniquet application;

10. Apply the tourniquet at least 2 to 3 finger widths proximal to the bleeding site, over the uniform, and tighten until bleeding stops.

11. If in proximity to, and tactically feasible, roll casualties with an altered level of consciousness into the recovery position.

12. Go to steps 1 through 3.

SECTION 8: REFERENCES/ABBREVIATIONS

8.16 Tactical Field Care

In this phase of care a secure location is established and patient care is feasible. This situation can change at any time.

The acronym MARCHE is used within these steps.

Massive Haemorrhage Control

Airway Management

Respiratory Management

STOP
(1) **S**ituational Awareness Update
(2) **T**riage all other casualties
(3) **O**ngoing documentation and triage cards
(4) **P**ass up all information for 9 Line MEDEVAC Request and MIST report

Cooling Prevention and Litter Placement

Circulation (BIFT)
- Bleeding Control
- IV Access/IO Access
- Fluid Resuscitation
- Tourniquet Assessment and Removal

Hypothermia (Prevention and Re-warming) / Head Injury

Penetrating Eye Trauma

Everything Else (M-PHAAT-D)

- Monitoring

- Pain - Provide analgesia as necessary
- Head to toe – Expose and examine for additional wounds and fractures
- Address all wounds and fractures
- Antibiotics
- Tactical Evacuation Preparation

- Documentation of Care

SECTION 8: REFERENCES/ABBREVIATIONS

8.17 Common Medical Abbreviations

1°	Primary, First Degree	Jt	Joint
2°	Secondary, Second Degree	JVD	Jugular Vein Distension
<; ≤	Less Than; Less Than Or Equal To	LOC	Level Of Consciousness
>; ≥	Greater Than; Greater Than Or Equal To	M	Male
≅	Approximately Equal To	MI	Myocardial Infarction
Ā	Before	Min	Minute(s)
Abd	Abdomen	MOA	Months Of Age
		N&V	Nausea & Vomiting
APE	Acute Pulmonary Edema	NAD	No Acute Distress, No Apparent Distress
ASAP	As Soon As Possible	NKA	No Known Allergies
BSA	Body Surface Area	NKDA	No Known Drug Allergies
C̄	With	NYD	Not Yet Diagnosed
CA	Cancer	P	After
CC	Chief Complaint	Prn	As Needed
C/O	Complaining Of	PR	Per Rectum
Cl	Clear	Q	Every
CHF	Congestive Heart Failure	Qh	Every Hour
CVA	Cerebrovascular Accident, Costo-Vertebral Angle	Q2h	Every 2 Hours
Cx	Chest	QID	4 Times A Day
$D_{10}W$	Dextrose 10% Water	Rx	Prescribed For
Dx	Diagnosis	S̄	Without
D/C	Discontinue	S/S	Signs And Symptoms
EP	Emergency Physician	SL	Sublingual
ET	Endotracheal	Sx	Seizure
ETOH	Alcohol	SOB	Shortness Of Breath
F	Female	TID	Three Times A Day
Fx	Fracture	T	Temperature
Gtt	Drop	Tx	Transport Or Treatment
GU	Genitourinary	Yr	Years Of Age
H/A	Headache	↓	Decreased
H&P	History And Physical Exam	↑	Increased
HTN	Hypertension	Ø	No, None, Null
Hx	History	TOC	Tactical Operations Centre
MA	Mortuary Affairs	NIS	National Investigation Service

SECTION 8: REFERENCES/ABBREVIATIONS

Section 8.18 References

8.1.1 Suspected Cardiac Chest Pain

American Heart Association. *Advanced Cardiac Life Support Provider Manual*. (Dallas, Tx.; American Heart Association; 2011).

8.1.2 Cardiac Arrest

Ibid

8.1.3 Post Cardiac Arrest Stabilization

Ibid

8.1.4 Discontinue Resuscitation

Ibid

8.1.5 Vital Signs Absent

Ibid

8.1.6 Airway Algorithm

ATLS Manual 9th Addition

8.1.7 SOB Suggestive of Asthma / COPD

American Heart Association. *Advanced Cardiac Life Support Provider Manual*. (Dallas, Tx.; American Heart Association; 2011).
Murphy S. et al. (eds). *Practical Guide for the Diagnosis and Management of Asthma*. (Bethesda: National Institutes of Health, 1997).

8.1.8 Anaphylaxis/Anaphylactic Shock – Adult

Nelson W.E., (ed) *Textbook of Pediatrics. 15th ed*. (Philadelphia: W.B. Saunders; 1996).
Taketomo C.K., Hodding J.H., Kraus D.M., (eds). *Pediatric Dosage Handbook. Sixth Ed*. (Hudson: Lexi-Comp; 1999).

8.1.9 Anaphylaxis/Anaphylactic Shock – Child

Nelson W.E., (ed) *Textbook of Pediatrics. 15th ed*. (Philadelphia: W.B. Saunders; 1996).
Taketomo C.K., Hodding J.H., Kraus D.M., (eds). *Pediatric Dosage Handbook. Sixth Ed*. (Hudson: Lexi-Comp; 1999).

8.1.10 Tension/Symptomatic Pneumothorax

SECTION 8: REFERENCES/ABBREVIATIONS

Cummings R.O. (ed). *Textbook of Advanced Cardiac Life Support*. (Dallas, Tx.; American Heart Association; 1994).

8.1.11 Hemorrhage/Hypovolemia

Gin-Shaw S.L., Jorden R.C. "Multiple Trauma". In: Rosen P (ed.) *(* St. Louis: Mosby. 1998) pp..352-68 Taketomo C.K., Hodding J.H., Kraus D.M.(eds) *Pediatric Dosage Handbook 6th Ed*. (Hudson Lexi-comp Inc., 1999).
Young L.Y., Koda-Kimble M.A., (eds). *Applied Therapeutics: The Clinical Use of Drugs.6th Ed*. (Vancouver, WA Applied Therapeutics, Inc). 1996; 18:10-14.

8.1.12 Burns

Joint Theater Trauma System (JTTS) Clinical Practice Guidelines on Burn Care. May 2012
Gordon M., and Goodwin C.W. *Initial Assessment, Management and Stabilization*. "Nurse Clinician" (NA. 1997) 32(2), pp.237-49.
Jordan B.S. Harrington D.T. *Management of the Burn Wound* "Nurse Clinician" (NA. 1997) 32(2): pp. 251-73.
Warren D. Burns In Gray J., (ed.) *Therapeutic Choices. 2nd Ed.* (Ottawa: Canadian Pharmacists Association. 1998) pp.447-53.

8.1.13 Pain

Gloor J.E. "Acute Pain" in: Gray J. (ed.) *Therapeutic Choices. 2nd Ed*. (Ottawa Canadian Pharmacists Association. 1998) pp.100-5.
Wellbanks L. (ed.) *Compendium of Pharmaceuticals and Specialties. 40th Ed*. (Ottawa Canadian Pharmacists Association 2005).

8.1.14 Hypoglycemic Emergency

Gelman C.R. Rumack B.H. & Hutchinson T.A. (ed): *DRUGDEXI System*. (Englewood MICROMEDEX Inc) (Edition expires 5/00)
Marshall S.A., Ruedy J. *On Call Principles and Protocols. 2nd Ed.* (Philadelphia W.B. Saunders Co. 1993).
Sperling M.A. "Hypoglycemia" in: Nelson W.E. (ed.) *Textbook of Pediatrics 15th Ed* (Philadelphia W.B. Saunders Co.,1996) pp. 420-30.

8.1.15 Narcotic Overdose – Adult (Suspected)

Gelman C.R., Rumack B.H. & Hutchinson T.A. (eds): *DRUGDEXI System*. (Englewood: MICROMEDEX Inc.) (Edition expires 5/00)
Kent D.A., Willis G.A., (eds.) *Poison Management Manual. 4th Ed* (Vancouver The B.C. Drug and Poison Information Centre. 1997).

8.1.16 Seizures

Gelman C.R., Rumack B.H. & Hutchinson T.A. (eds.) *DRUGDEXI System*. (Englewood: MICROMEDEX Inc.) (Edition expires 5/00)
Taketomo C.K., Hodding J.H., Kraus D.M. *Pediatric Dosage Handbook 6th Ed.* (Hudson: Lexi-comp Inc. 1999).
Young L.Y., Koda- Kimble M.A., (eds.) Applied Therapeutics: The Clinical Use of Drugs. 6th Ed. (Vancouver, WA: Applied Therapeutics, Inc. 1995).

SECTION 8: REFERENCES/ABBREVIATIONS

8.1.17 Antibiotic

Gilbert D.N., Moellering R.C. Jr., Sande M.A. *The Sanford Guide to Antimicrobial Therapy. 29th Ed*. (Hyde Park: Antimicrobial Therapy, Inc. 1999).

Taketomo C.K., Hodding J.H., Kraus D.M. *Pediatric Dosage Handbook 6th Ed*. (Hudson: Lexi-comp Inc. 1999).

Wellbanks L, (ed.) Compendium of Pharmaceuticals and Specialties. 40th Ed. (Ottawa: Canadian Pharmacists Association. 2005).

8.1.18 Hostile/Violent Patient

Michalon M. "The Acutely Agitated Patient" In: Gray J., (ed.) *Therapeutic Choices. 2nd Ed*. (Canadian Pharmacists Association. 1998) pp.1-7.

Pabis D.J., Stanislav S.W. *Pharmacotherapy of Aggressive Behavior*. (Ann Pharmacother 1996) 30:278-87.

8.1.19 Hypothermia

Cummings RO (ed). *Textbook of Advanced Cardiac Life Support*. (Dallas, American Heart Association; 1994).

Danzl D.F. "Accidental Hypothermia". In: Rosen P., Barkin R. (eds.) *Emergency Medicine: Concepts and Clinical Practice. 4th Ed*. (St Louis: Mosby; 1998) pp. 963-86.

8.1.20 Hyperthermia

American Heart Asociation. *Advanced Cardiac Life Support Provider Manual*. (Dallas, Tx.; American Heart Association; 2011).

8.1.21 Drug Monographs

Wellbanks L. (ed.) *Compendium of Pharmaceuticals and Specialties*. (Ottawa Canadian Pharmacists Association 2013).

Appendix 7

List of Materials and Support provided by DND
for TAC MED/Refresher Course

1. The list of materials and support provided by DND for the TAC MED course includes the following:

1.1. Live Tissue and Live Tissue Support (e.g. veterinarians; technicians; animal care; animal enclosures; and bio-hazard waste disposal);

1.2. Weapons ammunition and blank rounds for students and DND staff and, pyrotechnics;

1.3. Military vehicles for field exercise, as required;

1.4. All transportation for students and DND staff to all training venues and areas;

1.5. Night Vision Goggles for candidates, if required;

1.6. Consumable medical supplies listed at Appendix 8 as required;

1.7. Candidate's individual medical, including med pouch and military equipment and gear;

1.8. Weapons and equipment (tactical vest) for DSM and mannequins, when possible;

1.9. All stationary supplies such as, pens, paper, note pads, etc;

1.10. All cleaning supplies;

1.11. Appropriate terrain and environment;

1.12. A preparation area in proximity to the scenario area;

1.13. Modular tentage with heat, when required;

1.14. Areas with comfortable environment to facilitate hands-on learning including; tables, garbage cans and general cleaning equipment;

1.15. Auditorium-style classroom facilities with the capacity to seat 12 to 36 students with projector, sound system and screen;

1.16. Quarters and meals for Canadian Armed Forces personnel;

1.17. Tactical Directing Staff (A CAF experienced combat arms personnel for tactical training and mentorship);

1.18. Medical Director (A CAF Physician assigned by DND, whose role is to provide oversight over the delegated medical acts);

1.19. Enemy force as required;

1.20. Range Safety Officer (RSO); and

1.21. Private room for contractor staff upon request, to prepare lectures, conduct meetings, interviews, etc.

CHANGE REQUEST FORM (CFR) TEMPLATE

1. DATE (*YY/MM/DD*)

2. ORIGINATOR NAME AND ADDRESS

3. TITLE OF CHANGE

4. DESCRIPTION OF CHANGE

5. NEED FOR CHANGE

6. CONTRACT NUMBER AND LINE ITEMS

7. ESTIMATED DATE FOR IMPLEMENTATION	8. EFFECT ON TRAINING DELIVERY SCHEDULE

IMPACT ANALYSIS / EFFECTS

9. ITEMS DIRECTLY AFFECTED

- ☐ TRAINING PLAN – CF TAC MED COURSE
- ☐ TRAINING PLAN – CF TAC MED REFRESHER COURSE
- ☐ COURSE MATERIAL
- ☐ DND'S MATERIAL AND SUPPORT
- ☐ CONTRACTOR'S MATERIAL AND SUPPORT
- ☐ COST

10. DESCRIPTION OF THE IMPACT ANALYSIS / EFFECTS - TRAINING PLAN - CF TAC MED COURSE

11. DESCRIPTION OF THE IMPACT ANALYSIS / EFFECTS - TRAINING PLAN - CF TAC MED REFRESHER COURSE

12. DESCRIPTION OF THE IMPACT ANALYSIS / EFFECTS - MATERIAL COURSE
13. DESCRIPTION OF THE IMPACT ANALYSIS / EFFECTS - DND'S MATERIAL AND SUPPORT
14. DESCRIPTION OF THE IMPACT ANALYSIS / EFFECTS - CONTRACTOR'S MATERIAL AND SUPPORT
15. DESCRIPTION OF THE IMPACT ANALYSIS / EFFECTS - COST
16. SUBMITTED BY - AUTHORIZED SIGNATURE (Print Name and Sign) Date
17. TECHNICAL AUTHORITY – APPROVAL - SIGNATURE (Print Name and Sign) Date

Appendix 10

Instructions to fill out the Change Request Form (CFR) Template

CFR Template Field Descriptions.

Block 1. DATE (YY/MM/DD). Enter the submittal date of the CFR.

Block 2. Enter name, address and contact information for DND or Contractor authority submitting the CFR.

Block 3. TITLE OF CHANGE. Enter a brief title to identify the items affected by the change.

Block 4. DESCRIPTION OF CHANGE. Describe the change in definitive terms. Supplementary information shall be attached to the CFR to the extent necessary to clearly portray the proposed change and obtain approval.

Block 5. NEED FOR CHANGE. Provide an explanation of the need for the change and indicated the benefit to Canada (enhanced training course, update to reflect current deployment missions, students feedback and comments, material obsolete or malfunction). The nature of the update, enhancement, incident, malfunction, etc. substantiating the need for the change shall be provided in detail.

Block 6. CONTRACT NUMBER AND LINE ITEMS. Insert the contract number and identify reference areas of the contract, annexes, appendices and attachments, line item numbers etc., affected by the change.

Block 7. ESTIMATED DATE FOR IMPLEMENTATION. Indicate the estimated date of when change will be implemented.

Block 8. EFFECT ON TRAINING DELIVERY SCHEDULE. Indicate the effect of the change on the training delivery schedule.

Appendix 11 Deliverables		
Deliverable	**SOW Clause**	**Timeline**
Appendix 8 – Table of Medical Kit available to be provided by DND for TAC MED Course	2.5.1	Quantities are to be identified as part of the Task Authorization Process and Contractor is to complete as required.
Completed Appendix 9 – Table of Medical Kit available to be provided by Contractor for Refresher Course	3.5.1	Up to 30 calendar days after Contract award.
Appendix 8 – Table of Medical Kit available to be provided by DND for Refresher Course	3.6.2	Items are to be identified up to 30 calendar days after Contract award. Quanitites are to be identified as part of the Task Authorization Process and Contractor is to complete as required.
Copy of all Course Materials for TAC MED Course and the Refresher Course in English	2.8.2 and 3.8.2	Up to 30 calendar days after Contract award. Changes required within 15 calendar days thereafter.
Copy of all Course Materials for TAC MED Course and the Refresher Course in French	2.8.3 and 3.8.3	Up to 60 calendar days from the date of the approved English version. Changes required within 15 calendar days thereafter.
Post-Course Report after each TAC MED or Refresher Course	4.1	30 calendar days after the completion of the training.
Curriculum Vitae for any replacement lead instructor or course instructor	5.3	As part of the Task Authorization Process, Contractor to submit as required.
Final Training Plan for TAC MED Course	6.4.1	At Kick-off Meeting
Training Plan for Refresher Course	6.4.2	Up to 30 calendar days after Contract award.
Students/Candidates Evaluations	7.1.1 and 7.2.1.1	No later than 10 working days following the completion of each course.
Evaluation and Remediation Plan	7.2.1	At Kick-off Meeting
Change Request Form	8.2	As required
Kick-off Meeting	9.1	No later than 14 calendar days after Contract award.
Kick-off Meeting Agenda	9.3	At least 2 working days prior to meeting.
All Other Meetings	9.2	As required
All Other Meetings Agenda	9.3	At least 2 working days prior to meeting.
New versions of Tactical Medicine Guidelines, Medical Technician Protocols and Procedures, List of Medications, etc.	Appendix 2, 5 and 6	As part of the Task Authorization Process, provided by the DND Procurement Authority as required.

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
W3931-13-0167
Security Classification / Classification de sécurité

NOV 1 0 2015

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine: DND	2. Branch or Directorate / Direction générale ou Direction: Directorate of Health Services Operations
3. a) Subcontract Number / Numéro du contrat de sous-traitance	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant

4. Brief Description of Work / Brève description du travail

Canadian Armed Forces Tactical Medical training course. This course, designed for CAF medical personnel, primarily Medical Technicians (Med Techs), is tailored to provide development and enhancement of their existing skill set to achieve high-readiness status for deployment or any other types of missions.

5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	☑ No / Non ☐ Yes / Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	☑ No / Non ☐ Yes / Oui
6. Indicate the type of access required / Indiquer le type d'accès requis	
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	☐ No / Non ☑ Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	☑ No / Non ☐ Yes / Oui
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?	☑ No / Non ☐ Yes / Oui

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada ☑	NATO / OTAN ☐	Foreign / Étranger ☐

7. b) Release restrictions / Restrictions relatives à la diffusion

No release restrictions / Aucune restriction relative à la diffusion ☑	All NATO countries / Tous les pays de l'OTAN ☐	No release restrictions / Aucune restriction relative à la diffusion ☐
Not releasable / À ne pas diffuser ☐		
Restricted to: / Limité à : ☐	Restricted to: / Limité à : ☐	Restricted to: / Limité à : ☐
Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :

7. c) Level of information / Niveau d'information

PROTECTED A / PROTÉGÉ A ☑	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ ☐	PROTECTED A / PROTÉGÉ A ☐
PROTECTED B / PROTÉGÉ B ☑	NATO RESTRICTED / NATO DIFFUSION RESTREINTE ☐	PROTECTED B / PROTÉGÉ B ☐
PROTECTED C / PROTÉGÉ C ☐	NATO CONFIDENTIAL / NATO CONFIDENTIEL ☐	PROTECTED C / PROTÉGÉ C ☐
CONFIDENTIAL / CONFIDENTIEL ☐	NATO SECRET / NATO SECRET ☐	CONFIDENTIAL / CONFIDENTIEL ☐
SECRET / SECRET ☐	COSMIC TOP SECRET / COSMIC TRÈS SECRET ☐	SECRET / SECRET ☐
TOP SECRET / TRÈS SECRET ☐		TOP SECRET / TRÈS SECRET ☐
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐

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PART A *(continued)* / PARTIE A *(suite)*

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets? ☑ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets? ☑ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

☑ RELIABILITY STATUS / COTE DE FIABILITÉ	☐ CONFIDENTIAL / CONFIDENTIEL	☐ SECRET / SECRET	☐ TOP SECRET / TRÈS SECRET
☐ TOP SECRET– SIGINT / TRÈS SECRET – SIGINT	☐ NATO CONFIDENTIAL / NATO CONFIDENTIEL	☐ NATO SECRET / NATO SECRET	☐ COSMIC TOP SECRET / COSMIC TRÈS SECRET
☐ SITE ACCESS / ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux : _____

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work? ☐ No / Non ☑ Yes / Oui
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
If Yes, will unscreened personnel be escorted? Unscreened pers. may only access public / reception zone ☑ No / Non ☐ Yes / Oui
Dans l'affirmative, le personnel en question sera-t-il escorté?

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises? ☑ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

11. b) Will the supplier be required to safeguard COMSEC information or assets? ☑ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises? ☑ No / Non ☐ Yes / Oui
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data? ☑ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency? ☑ No / Non ☐ Yes / Oui
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

Government of Canada / Gouvernement du Canada

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PART C - *(continued)* / PARTIE C - *(suite)*

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÉS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÉS SECRET	PROTECTED / PROTÉGÉ A	PROTECTED / PROTÉGÉ B	PROTECTED / PROTÉGÉ C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRES SECRET
Information / Assets / Renseignements / Biens																
Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

National Defence / Défense nationale

TASK AUTHORIZATION
AUTORISATION DES TÂCHES

All invoices/progress claims must show the reference Contract and Task numbers.
Toutes les factures doivent indiquer les numéros du contrat et de la tâche.

Contract no. – N° du contrat

Task no. – N° de la tâche

Amendment no. – N° de la modification	Increase/Decrease – Augmentation/Réduction	Previous value – Valeur précédente

To – À

Delivery location – Expédiez à

Delivery/Completion date – Date de livraison/d'achèvement

TO THE CONTRACTOR

You are requested to supply the following services in accordance with the terms of the above reference contract. Only services included in the contract shall be supplied against this task.

Please advise the undersigned if the completion date cannot be met. Invoices/progress claims shall be prepared in accordance with the instructions set out in the contract.

À L'ENTREPRENEUR

Vous êtes prié de fournir les services suivants en conformité des termes du contrat mentionné ci-dessus. Seuls les services mentionnés dans le contrat doivent être fournis à l'appui de cette demande.

Prière d'aviser le signataire si la livraison ne peut se faire dans les délais prescrits. Les factures doivent être établies selon les instructions énoncées dans le contrat.

Date

for the Department of National Defence
pour le ministère de la Défense nationale

Contract item no. N° d'article du contrat	Services	Cost Prix
	GST/HST TPS/TVH	
	Total	

APPLICABLE ONLY TO PWGSC CONTRACTS: The Contract Authority signature is required when the total value of the DND 626 exceeds the threshold specified in the contract.

NE S'APPLIQUE QU'AUX CONTRATS DE TPSGC : La signature de l'autorité contractante est requise lorsque la valeur totale du formulaire DND 626 est supérieure au seuil précisé dans le contrat.

for the Department of Public Works and Government Services
pour le ministère des Travaux publics et services gouvernementaux

Design: Forms Management 993-4050
Conception : Gestion des formulaires 993-4062

Instructions for completing DND 626 - Task Authorization

Contract no.
Enter the PWGSC contract number in full.

Task no.
Enter the sequential Task number.

Amendment no.
Enter the amendment number.when the original Task is amended to change the scope or the value.

Increase/Decrease
Enter the increase or decrease total dollar amount including taxes.

Previous value
Enter the previous total dollar amount including taxes.

To
Name of the contractor.

Delivery location
Location where the work will be completed, if other than the contractor's location.

Delivery/Completion date
Completion date for the task.

for the Department of National Defence
Signature of the DND person who has delegated **Authority** for signing DND 626 (level of authority based on the dollar value of the task and the equivalent signing authority in the PAM 1.4). **Note:** the person signing in this block ensures that the work is within the scope of the contract, that sufficient funds remain in the contract to cover this task and that the task is affordable within the Project/Unit budget.

Services
Define the requirement briefly (attach the SOW) and identify the cost of the task using the contractor's quote on the level of effort. The Task must use the basis of payment stipulated in the contract. If there are several basis of payment then list here the one(s) that will apply to the task quote (e.g. milestone payments; per diem rates/labour category hourly rates; travel and living rates; firm price/ceiling price, etc.). All the terms and conditions of the contract apply to this Task Authorization and cannot be ignored or amended for this task. Therefore it is not necessary to restate these general contract terms and conditions on the DND 626 Task form.

Cost
The cost of the Task broken out into the individual costed items in **Services**.

GST/HST
The GST/HST cost as appropriate.

Total
The total cost of the task. The contractor may not exceed this amount without the approval of DND indicated on an amended DND 626. The amendment value may not exceed 50% (or the percentage for amendments established in the contract) of the original value of the task authorization. The total cost of a DND 626, including all amendments, may not exceed the funding limit identified in the contract.

Applicable only to PWGSC contracts
This block only applies to those Task Authorization contracts awarded by PWGSC. The contract will include a specified threshold for DND sole approval of the DND 626 and a percentage for DND to approve amendments to the original DND 626. Tasks that will exceed these thresholds must be passed to the PWGSC Contracting Authority for review and signature prior to authorizing the contractor to begin work.

Note:
Work on the task may not commence prior to the date this form is signed by the DA Authority - for tasks within the DND threshold; and by both DND and PWGSC for those tasks over the DND threshold.

Instructions pour compléter le formulaire DND 626 - Autorisation des tâches

Nº du contrat
Inscrivez le numéro du contrat de TPSGC en entier.

Nº de la tâche
Inscrivez le numéro de tâche séquentiel.

Nº de la modification
Inscrivez le numéro de modification lorsque la tâche originale est modifiée pour en changer la portée.

Augmentation/Réduction
Inscrivez le montant total de l'augmentation ou de la diminution, y compris les taxes.

Valeur précédente
Inscrivez le montant total précédent, y compris les taxes.

À
Nom de l'entrepreneur.

Expédiez à
Endroit où le travail sera effectué, si celui-ci diffère du lieu d'affaires de l'entrepreneur.

Date de livraison/d'achèvement
Date d'achèvement de la tâche.

pour le ministère de la Défense nationale
Signature du représentant du MDN auquel on a délégué le **pouvoir d'approbation** en ce qui a trait à la signature du formulaire DND 626 (niveau d'autorité basé sur la valeur de la tâche et le signataire autorisé équivalent mentionné dans le MAA 1.4). **Nota :** la personne qui signe cette attache de signature confirme que les travaux respectent la portée du contrat, que suffisamment de fonds sont prévus au contrat pour couvrir cette tâche et que le budget alloué à l'unité ou pour le projet le permet.

Services
Définissez brièvement le besoin (joignez l'ET) et établissez le coût de la tâche à l'aide de la soumission de l'entrepreneur selon le niveau de difficulté de celle-ci. Les modalités de paiement stipulées dans le contrat s'appliquent à la tâche. Si plusieurs d'entre elles sont prévues, énumérez ici celle/celles qui s'appliquera/ront à la soumission pour la tâche à accomplir (p.ex. acompte fondé sur les étapes franchies; taux quotidien ou taux horaire établi selon la catégorie de main-d'œuvre; frais de déplacement et de séjour; prix fixe ou prix plafond; etc.). Toutes les modalités du contrat s'appliquent à cette autorisation de tâche et ne peuvent être négligées ou modifiées quant à la tâche en question. Il n'est donc pas nécessaire de répéter ces modalités générales afférentes au contrat sur le formulaire DND 626.

Prix
Mentionnez le coût de la tâche en le répartissant selon les frais afférents à chaque item mentionné dans la rubrique **Services**.

TPS/TVH
Mentionnez le montant de la TPS/TVH, s'il y lieu.

Total
Mentionnez le coût total de la tâche. L'entrepreneur ne peut dépasser ce montant sans l'approbation du MDN, formulaire DND 626 modifié à l'appui. Le coût de la modification ne peut pas être supérieur à 50 p. 100 du montant initial prévu dans l'autorisation de tâche (ou au pourcentage prévu dans le contrat pour les modifications). Le coût total spécifié dans le formulaire DND 626, y compris toutes les modifications, ne peut dépasser le plafond de financement mentionné dans le contrat.

Ne s'applique qu'aux contrats de TPSGC
Le présent paragraphe s'applique uniquement aux autorisations de tâche accordées par TPSGC. On inscrira dans le formulaire DND 626 un plafond précis qui ne pourra être approuvé que par le MDN et un pourcentage selon lequel le MDN pourra approuver des modifications au formulaire DND 626 original. Les tâches dont le coût dépasse ces plafonds doivent être soumises à l'autorité contractante de TPSGC pour examen et signature avant qu'on autorise l'entrepreneur à débuter les travaux.

Nota :
Les travaux ne peuvent commencer avant la date de signature de ce formulaire par le responsable du MDN, pour les tâches dont le coût est inférieur au plafond établi par le MDN, et par le MDN et TPSGC pour les tâches dont le coût dépasse le plafond établi par le MDN.

ATTACHMENT 1 – TECHNICAL EVALUATION CRITERIA

INTRODUCTION

This document sets out the criteria that will be used to evaluate the Bidder's Technical Bid and describes the content required for conducting the technical evaluation.

Section 1 contains mandatory evaluation criteria denoted as M1 through M5.

Section 2 contains point-rated evaluation criteria organized into subsections or categories denoted as R1 through R5 respectively. Specific criteria are found under each of the subsections.

To be considered technically responsive, a bid must meet all of the following Mandatory Evaluation Criteria and meet the pass mark of the following Point-rated Evaluation Criteria.

1. MANDATORY EVALUATION CRITERIA

A bid must meet all of the following Mandatory Evaluation Criteria. Failure to meet all the Mandatory Criteria will result in the Bid being declared non-responsive and will be given no further consideration. Therefore, Bidders are encouraged to supply as much information as necessary to demonstrate clearly that the mandatory requirements have been met.

M1	Corporate Experience
	The Bidder must submit a summary of its' experience in the delivery of training to adults, including training that is similar in scope to the subject matter, processes, and products described in this Request for Proposal (RFP). The summary must not exceed 500 words and must include but is not limited to: 1. Corporate structure (management team, partnership, sole proprietorship, etc.) 2. Years in business 3. Client base (how many clients, etc.) 4. Lines of business (other training, only tactical medical, etc.)
M2	Course Delivery Experience
	The Bidder must demonstrate that it has previous experience in the management and delivery of courses that are similar in scope* to what is described in this RFP in the 36 months prior to bid issuance. *"Similar in scope" is defined as, at a minimum, a course that provides tactical training or medical training or both to a minimum of 12 students. It will include classroom and field scenarios with a course duration of at least 7 days. The Bidder should present its experience in chronological order, most recent first. The bidder must present at a minimum 2 summaries but no more than 4. Each course delivery project summary must not exceed 250 words and must contain, at minimum, the following: 1. Scope of course; 2. Date and length of course; 3. Number of students; 4. Roles and responsibilities of the Bidder.
M3	Bidder's Capacity of a Lead Instructor and Course Instructors
	The Bidder must submit a description of the following items, in sufficient detail to demonstrate its ability to initiate up to 6 courses, for a maximum of 36 students per course, per year, at the location specified in the Statement of Work (SOW):

	a) its' ability to deliver a course serial in English or French as and when required for the duration of the Contract; b) its' ability to provide at least one Course Instructor fluent in both English and French per course serial; c) Curriculum Vitae (CV) for 1 Lead Instructor must be provided. In order to be deemed responsive, the CV must describe how the instructor meets the criteria in the SOW; and, d) Curriculum Vitae's (CV's) for 3 Course Instructors must be provided. In order to be deemed responsive, the CV's must describe how the instructor meets the criteria in the SOW.
M4	Training Plan
	The Bidder must demonstrate its ability to deliver course materials and instruction to cover the topics described in this RFP by submitting a draft training plan for the TAC MED Course that covers the seven Main Topics as identified in Appendix 4 of the SOW and reflects the training requirements described in the RFP (SOW Clauses 2.2, 2.3, 2.5, 2.6, 2.8, 6.1, and 6.2). The draft training plan must include at a minimum an outline schedule that describes how the content in Appendix 4 will be organized as well as the methods of instruction including classroom, lab and field scenarios.
M5	Completion of Appendix 8 and 9
	The Bidder must identify the items required from Appendix 8 - Table of Medical Kit to be Provided by DND, in order to deliver the TAC MED course. The Bidder must complete Appendix 9 – Table of Medical Kit to be Provided by Contractor, in order to deliver the TAC MED course.

2. POINT-RATED EVALUATION CRITERIA

If the Mandatory Evaluation Criteria has been met, the bid will be further assessed against the following categories of point-rated criteria, each weighted according to the maximum points indicated.

The Technical Bid(s) will be scored out of a total of 300 available points. To be considered further, a bid must achieve a minimum of 140 points for the point-rated criteria.

Reference	Point Rated Criteria	Maximum Points
R1 a)	Lead Instructors	30
R1 b)	Course Instructors	30
R2	Course Materials – Theoretical	120
R3	Field Scenarios – Procedures & Variety	60
R4	CCAC Compliance	30
R5	Evaluation and Remediation Plan	30
	Total	300

The following sections set out, for each of the above categories, the specific criteria that will be used to evaluate the Bidder's Bid along with their sub-weightings, the detailed scoring structure and the content required for evaluation.

R1 a) Lead Instructors The Bidder should submit CVs in order to demonstrate an additional pool of qualified Lead Instructors. In order to score points the CVs must demonstrate that the Lead Instructor(s) meet the criteria in the SOW. The same CV cannot be submitted for a Lead Instructor and a Course Instructor. To demonstrate a pool of additional qualified Lead Instructors, each instructor must be different than those proposed in R1 b). "Additional" is defined as extra instructors to the instructors proposed in the Mandatory Evaluation Criteria M3.	**Weighting** **(Points)** **Max 30**
The Bidder does not have any additional qualified Lead Instructors.	0
The Bidder only has 1 additional qualified Lead Instructor.	15
The Bidder has a pool of 2 or more additional qualified Lead Instructors.	30

R1 b) Course Instructors The Bidder should submit CVs in order to demonstrate an additional pool of qualified Course Instructors. In order to score points the CVs must demonstrate that the Course Instructor(s) meet the criteria in the SOW. The same CV cannot be submitted for a Lead Instructor and a Course Instructor. To demonstrate a pool of additional qualified Course Instructors, each instructor must be different than those proposed in R1 a). "Additional" is defined as extra instructors to the instructors proposed in the Mandatory Evaluation Criteria M3.	**Weighting** **(Points)** **Max 30**
The Bidder does not have any additional qualified Course Instructors.	0
The Bidder has a pool of 1 to 2 additional qualified Course Instructors.	5
The Bidder has a pool of 3 to 4 additional qualified Course Instructors.	15
The Bidder has a pool of 5 or more additional qualified Course Instructors.	30

R2 Course Materials – Theoretical The Bidders' draft Training Plan, submitted in response to Mandatory Evaluation Criterion M4, will be assessed for its completeness with respect to the requirements of Appendix 4. "Complete" is defined as describing the Main Topics (given below) as per the Course Topics in Appendix 4 and, when applicable, in accordance with the Medical Technician Protocols and Procedures in Appendix 6. For each of the Main Topics in the draft Training Plan an incomplete assessment will score 0 points.	**Weighting** **(Points)** **Max 120**
R2 a) Hemorrhage Control (Main Topic 1)	

The draft Training Plan for Hemorrhage Control (Main Topic 1) is partially complete (3 or 4 out of 5 points are addressed).	10
The draft Training Plan for Hemorrhage Control (Main Topic 1) is complete.	20
R2 b) Airway Management (Main Topic 2)	
The draft Training Plan for Airway Management (Main Topic 2) is complete.	15
R2 c) Respiratory Management (Main Topic 3)	
The draft Training Plan for Respiratory Management (Main Topic 3) is partially complete (2 out of 3 points are addressed).	10
The draft Training Plan for Respiratory Management (Main Topic 3) is complete.	20
R2 d) Circulation (Main Topic 4)	
The draft Training Plan for Circulation (Main Topic 4) is complete.	15
R2 e) Head Injuries (Main Topic 5)	
The draft Training Plan for Head Injuries (Main Topic 5) is complete.	15
R2 f) Pain Management (Main Topic 6)	
The draft Training Plan for Pain Management (Main Topic 6) is complete.	15
R2 g) Miscellaneous Injuries (Main Topic 7)	
The draft Training Plan for Miscellaneous Injuries (Main Topic 7) is partially complete (5 or 6 out of 7 points are addressed).	10
The draft Training Plan for Miscellaneous Injuries (Main Topic 7) is complete.	20

R3 Field Scenarios – Procedures & Variety	**Weighting (Points)**
The Bidder should submit descriptions of scenarios to demonstrate how they intend to utilize the field portion of the TAC MED Course. The descriptions should include, but are not limited to: • an overview of the situation, • the cause and mechanism of injury, • the injury type, • terrain, • enemy action and • what procedures the students are expected to perform. For each scenario to be considered 'different' from each other, at least two of the aspects mentioned above must change. The Bidder should clearly number each scenario.	**Max 60**
R3 a) Procedures	

On average, the scenarios allow the candidate to practice less than 2 procedures in order for their patient to survive.	0
On average, the scenarios allow candidates to practice 2 to less than 3 procedures, including live tissue, in order for their patient to survive.	15
On average, the scenarios allow the candidate to practice 3 or more procedures, including live tissue, in order for their patient to survive.	30
R3 b) Variety	
The Bidder has 2 or less different scenarios.	0
The bidder has 3-4 different scenarios.	10
The bidder has 5-8 different scenarios.	20
The bidder has more than 8 different scenarios.	30

R4 CCAC Compliance The Bidder should demonstrate its' current status in terms of certification of Good Animal Practice from the Canadian Council on Animal Care.	**Weighting** **(Points)** **Max 30**
The Bidder does not hold a current certificate of Good Animal Practice awarded by the Canadian Council on Animal Care (CCAC).	0
The Bidder holds a current certificate of Good Animal Practice awarded by the Canadian Council on Animal Care (CCAC).	30

R5 Evaluation and Remediation Plan The Bidder should provide its' Evaluation and Remediation Plan in accordance with section 7.2 of the SOW. The plan should describe the methods that will be used to evaluate students, the type(s) of remediation that will be offered to students and the timing of remediation.	**Weighting** **(Points)** **Max 30**
The Bidder did not provide a plan.	0
The Bidder provided a plan that does not meet all of the requirements of Section 7.2 of the SOW.	15
The Bidder provided a plan that meets the requirements of Section 7.2 of the SOW.	30

ATTACHMENT 2 – FINANCIAL EVALUATION CRITERIA

1. Overview

1.1 The Financial Bid must be submitted in accordance with all the instructions herein and must include the Financial Bid Price Elements listed under article 2.2 below.

1.2 PWGSC will be solely responsible for the conduct of the financial evaluation, which will be done independently of the Technical Bid evaluation. Failure to provide any of the information as requested under article 2 below may prohibit PWGSC from evaluating the reasonableness of the bid price or calculating the bid price for evaluation purposes and may result in the bid being deemed non-responsive and being given no further consideration.

1.3 The weights provided below will be used consistently across all Bidders to calculate the bid evaluation price for prices proposed in accordance with article 2 below. The inclusion of weights provided in this bid solicitation does not represent a commitment by Canada that Canada's future usage of the services identified in this bid solicitation will be consistent with the weights provided herein. Weights are provided for bid evaluation purposes only.

2. Financial Bid Preparation Instructions

2.1 Format of Financial Bid

2.1.1 The Financial Bid is to be submitted as a separate section within the Bidder’s bid. The Bidder's Financial Bid must address each of the Financial Bid Price Elements specified in article 2.2 below and must provide prices in accordance with the stated requirements, as detailed in Annex B - Basis of Payment to the Resulting Contract, of this bid solicitation.

2.1.2 Blank Prices: Bidders are requested to insert "$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, $0.00. No Bidder will be permitted to add or change a price as part of this confirmation. Any Bidder that does not confirm that the price for a blank item is $0.00 will be declared non-responsive.

2.1.3 Bidders must not make any assumptions or restrictions that are associated with their Financial Bid.

2.1.4 All prices in the Financial Bid must be in Canadian funds, exclusive of Harmonized Sales Tax (HST), Provincial Sales Tax (PST) and Good and Services Tax (GST). The GST/HST, where applicable, is extra to these prices and will be paid by Canada.

2.1.5 Prices must be firm with Canadian customs duties and excise taxes included as applicable and pricing must be on an FOB destination basis.

2.1.6 Any and all costs associated with meeting the requirements detailed in this bid solicitation, including any travel and living expenses incurred as a consequence of any relocation required to satisfy the terms of the Contract, are the responsibility of the Bidder.

2.2 Financial Bid Price Elements

2.2.1 Price per English Tactical Medical (TAC MED) Course at CFB Suffield

2.2.1.1 The Bidder must provide its proposed firm, all-inclusive Total Price per English TAC MED Course as per article 1 of Annex B - Basis of Payment.

A	B	C	D
Task Authorization's issued during:	Total Price per English TAC MED Course	Weight (%) (used for evaluation purposes only)	B x C
Initial Contract period (Year 1)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		20	
Range of 25 to 30 DND Students		45	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 2)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		20	
Range of 25 to 30 DND Students		45	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 3)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		20	
Range of 25 to 30 DND Students		45	
Range of 31 to 36 DND Students		20	
Option Year 1			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		10	
Range of 25 to 30 DND Students		22.5	
Range of 31 to 36 DND Students		10	
Option Year 2			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		10	
Range of 25 to 30 DND Students		22.5	
Range of 31 to 36 DND Students		10	
		Subtotal	Sum of Column D
		Courses	3
	Financial Bid Price Element for 2.2.1		

2.2.1.1.1 For evaluation purposes, every price provided in column B will be multiplied with the respective weight in column C, then totalled and multiplied by 3 (estimated course demand) in order to obtain the Financial Bid Price Element for 2.2.1.

2.2.2 Price per French Tactical Medical (TAC MED) Course at CFB Suffield

2.2.2.1 The Bidder must provide its proposed firm, all-inclusive Total Price per French TAC MED Course as per article 1 of Annex B - Basis of Payment.

A	B	C	D
Task Authorization's issued during:	Total Price per French TAC MED Course	Weight (%) (used for evaluation purposes only)	B x C
Initial Contract period (Year 1)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		20	
Range of 25 to 30 DND Students		45	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 2)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		20	
Range of 25 to 30 DND Students		45	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 3)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		20	
Range of 25 to 30 DND Students		45	
Range of 31 to 36 DND Students		20	
Option Year 1			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		10	
Range of 25 to 30 DND Students		22.5	
Range of 31 to 36 DND Students		10	
Option Year 2			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		10	
Range of 25 to 30 DND Students		22.5	
Range of 31 to 36 DND Students		10	
		Subtotal	Sum of Column D
		Courses	1
	Financial Bid Price Element for 2.2.2		

2.2.2.1.1 For evaluation purposes, every price provided in column B will be multiplied with the respective weight in column C, then totalled and multiplied by 1 (estimated course demand) in order to obtain the Financial Bid Price Element for 2.2.2.

2.2.3 Price per English Refresher Course at CFB Suffield

2.2.3.1 The Bidder must provide its proposed firm, all-inclusive Total Price per English Refresher Course as per article 2 of Annex B - Basis of Payment.

A	B	C	D
Task Authorization's issued during:	Total Price per English Refresher Course	Weight (%) (used for evaluation purposes only)	B x C
Initial Contract period (Year 1)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		35	
Range of 25 to 30 DND Students		30	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 2)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		35	
Range of 25 to 30 DND Students		30	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 3)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		35	
Range of 25 to 30 DND Students		30	
Range of 31 to 36 DND Students		20	
Option Year 1			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		17.5	
Range of 25 to 30 DND Students		15	
Range of 31 to 36 DND Students		10	
Option Year 2			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		17.5	
Range of 25 to 30 DND Students		15	
Range of 31 to 36 DND Students		10	
		Subtotal	Sum of Column D
		Courses	1
	Financial Bid Price Element for 2.2.3		

2.2.3.1.1 For evaluation purposes, every price provided in column B will be multiplied with the respective weight in column C, then totalled and multiplied by 1 (estimated course demand) in order to obtain the Financial Bid Price Element for 2.2.3.

2.2.4 Price per French Refresher Course at CFB Suffield

2.2.4.1 The Bidder must provide its proposed firm, all-inclusive Total Price per French Refresher Course as per article 2 of Annex B - Basis of Payment.

A	B	C	D
Task Authorization's issued during:	Total Price per French Refresher Course	Weight (%) (used for evaluation purposes only)	B x C
Initial Contract period (Year 1)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		35	
Range of 25 to 30 DND Students		30	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 2)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		35	
Range of 25 to 30 DND Students		30	
Range of 31 to 36 DND Students		20	
Initial Contract period (Year 3)			
12 DND Students		5	
Range of 13 to 18 DND Students		10	
Range of 19 to 24 DND Students		35	
Range of 25 to 30 DND Students		30	
Range of 31 to 36 DND Students		20	
Option Year 1			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		17.5	
Range of 25 to 30 DND Students		15	
Range of 31 to 36 DND Students		10	
Option Year 2			
12 DND Students		2.5	
Range of 13 to 18 DND Students		5	
Range of 19 to 24 DND Students		17.5	
Range of 25 to 30 DND Students		15	
Range of 31 to 36 DND Students		10	
		Subtotal	Sum of Column D
		Courses	1
	Financial Bid Price Element for 2.2.4		

2.2.4.1.1 For evaluation purposes, every price provided in column B will be multiplied with the respective weight in column C, then totalled and multiplied by 1 (estimated course demand) in order to obtain the Financial Bid Price Element for 2.2.4.

3. Financial Bid Evaluation

The price of the bid will be evaluated in Canadian dollars, the Goods and Services Tax or the Harmonized Sales Tax excluded, FOB destination, Canadian customs duties and excise taxes included.

The Total Evaluated Bid Price for each Bidder will be computed by taking the sum of all of the Financial Bid Price Elements:

Financial Bid Price Element as per article 2.2.1 above
\+ Financial Bid Price Element as per article 2.2.2 above

+	Financial Bid Price Element as per article 2.2.3 above
+	Financial Bid Price Element as per article 2.2.4 above
=	Total Evaluated Bid Price