Paramedic Clinical Practice Protocols

Version 6.1.2

SASKATCHEWAN COLLEGE OF PARAMEDICS

INTENTIONALLY
BLANK

Contents

Introduction

This **Paramedic Clinical Practice Protocols** manual is produced for use by Emergency Medical Responders (EMR), Primary Care Paramedics (PCP), Intermediate Care Paramedics (ICP), and Advanced Care Paramedics (ACP) as it pertains to their particular level of training and scope of practice in the province of Saskatchewan. Each protocol clearly outlines the respective practice levels for members.

This manual reflects recommendations from SCoP's Paramedic Practice Committee (PPC), which have been approved by the College of Physicians and Surgeons of Saskatchewan (CPSS). These protocols represent a consensus of medical opinion using the best available evidence for dealing with most situations' paramedics encounter.

Individuals have a professional responsibility for ensuring they are familiar with and operate within their individually approved scope of practice. If unsure, clarification should be sought prior to practicing. The use of colour coding for interventions provides more clarity and removes the need for a separate scope of practice chart.

It is envisioned that these guidelines will be followed under normal circumstances. It is recognized that alternative methods of treatment exist, and that circumstances may arise where the patient is in a life-threatening situation that may require the guidelines to be varied in some aspect. Such variation should only be made following the protocol deviation procedure and will be subject to clinical review as part of governance processes.

One of the most notable changes to this manual is the removal of specific drug names and dosages from protocols. As well, information related to policy and specific procedures has been relocated to separate sections of the manual. These changes permit some flexibility, reflecting unique patient care situations from region to region. When determining which drug within a classification will be utilized and the proper dosing, services are expected to consult with their Medical Advisors to determine what best suits the system in their region. Medical Advisors are encouraged to consult with the medical advisory committees as part of the process. Decisions must be evidence-based, and members must complete appropriate training prior to administering or monitoring any medication. In order to be authorized for administration, controlled substances such as narcotics and benzodiazepines must be named specifically under the class exception letter issued to the Saskatchewan College of Paramedics by Health Canada.

Acknowledgments

This manual has been significantly revamped reflecting the ongoing changes of the paramedic profession. The Saskatchewan College of Paramedics is forever indebted to those who were responsible for previous editions of this manual. Merv Tippe and Darcy McKay deserve a special thank you for providing a solid framework to build upon. Last but not least thank you to Patti Lewis from the Saskatchewan College of Paramedics for their assistance in proofreading the changes.
The strength and credibility of this manual is dependent upon the knowledge, skills, attitudes, judgments, experiences and expertise of our membership. As professionals, members have the opportunity to take the lead role when a need for new or amended protocols is identified. The College is committed to continually building the capacity of our membership to take on this role.

Thank you to the following individuals for your contribution to this manual:

1. **Paramedic Practice Committee (2016-2017)**
2. **Education Committee (2016-2017)**
3. **College of Physicians and Surgeons of Saskatchewan.**

Disclaimer

This document is not intended to be a training manual. It will not always contain all the information necessary to deliver appropriate patient care. Previous versions of the protocols were much more prescriptive and detailed, which made managing changes to the document very complex. These protocols are designed to be supported by appropriate education and training found through other sources. Members using this manual must ensure they successfully complete the appropriate training and possess the necessary knowledge and skills to be competent before performing any procedure in this manual.

Every effort has been made to ensure the information in this manual is accurate and consistent. The manual is subject to constant review in light of evidence-based changes to practice. It is also intended to support decision-making processes using sound clinical judgment. PPC is not responsible for any errors or problems arising from such errors. If you find an error or omission, please contact us. Feedback is welcome as these guidelines are continually evolving. Suggested changes, or requests for new paramedic clinical practice protocols may be submitted to the College by email: office@collegeofparamedics.sk.ca

NOTE: Any material that is printed is considered an uncontrolled copy. To ensure that you are working from the current version of this protocol manual check: http://www.collegeofparamedics.sk.ca/resources/protocolmanual.php

The Ministry of Health recognizes the American Heart Association and International Trauma Life Support who hold copyright for ACLS Algorithms and ITLS assessments included in this manual.

User Guide

Manual Features

It is important to become familiar with the entire content of this document as it replaces previous versions and publications. This manual is designed to be used electronically, with the preference that individuals avoid printing in whole or in part. Document control and version management was weighted as a high priority when revamping the manual. Due to frequent changes to the manual, printed and downloaded material is regarded as an uncontrolled copy.

This manual features a number of embedded links to enhance quick navigation and encourage electronic functionality. In order to fully enjoy these features, the document should be viewed using the latest version of Adobe Reader app on either a PC, Mac, tablet or mobile device. Other software is available to view documents in portable document format (PDF), but some or all navigation functions may be lost if not using the Adobe Reader app.

Adobe Reader can be downloaded free of charge from https://get.adobe.com/reader/.

1. **Improved Navigation**

a. Search – Press Ctrl + F on a PC or Command-F on a Mac to bring up a box that will allow you to enter a key word or phrase to quickly navigate to the area of the manual you require.

Searching can also be done on a tablet or mobile device when viewing the document in Adobe Reader. Each device will vary on how this is done. Follow the directions specific to your viewing device.

At the bottom of each page there is a menu icon. Clicking on this icon will activate a number of function options.

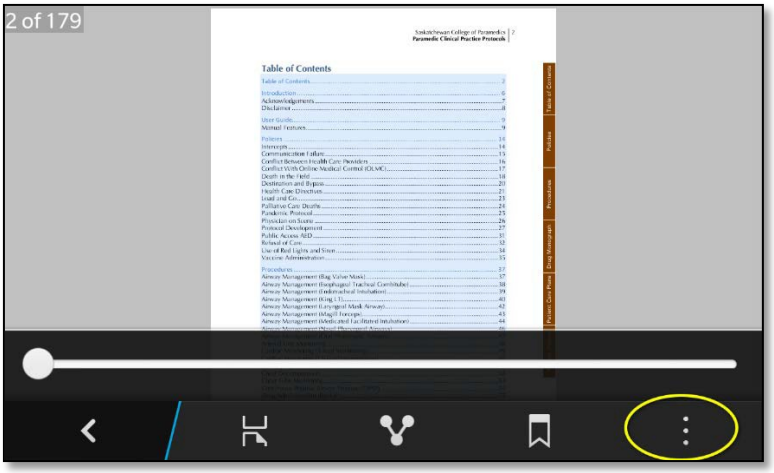


Illustration 1: Click the menu icon.

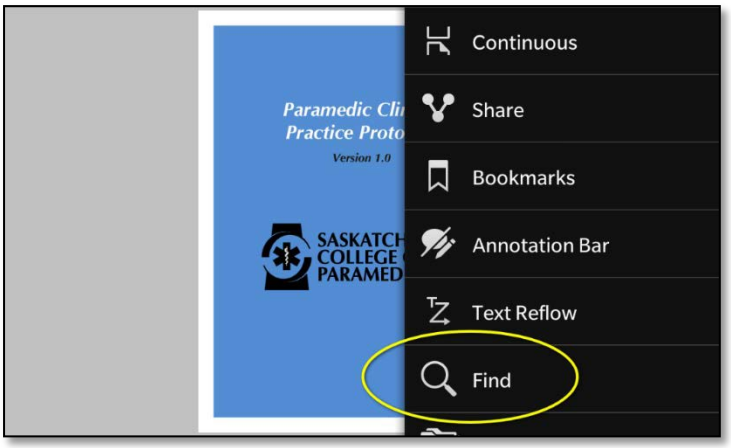


Illustration 2: Click on find.

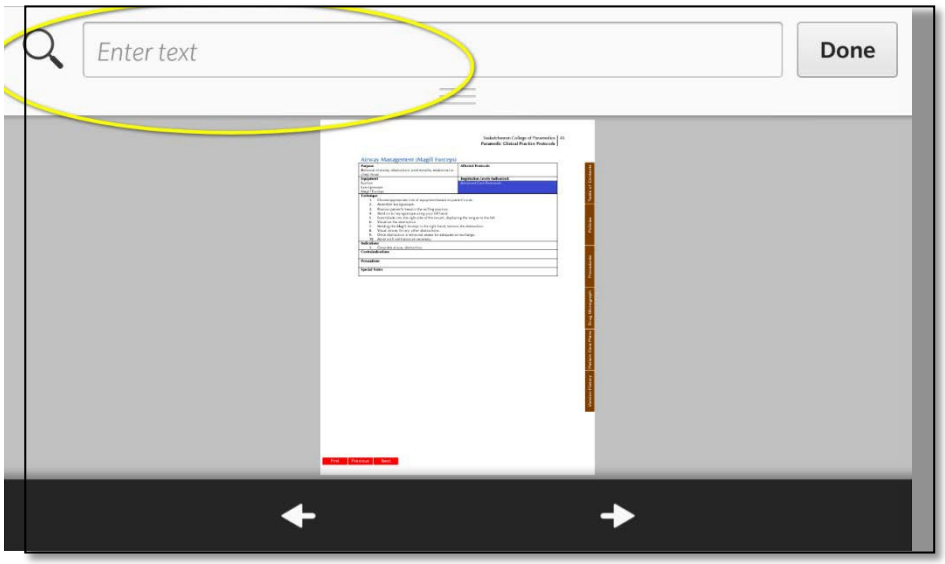
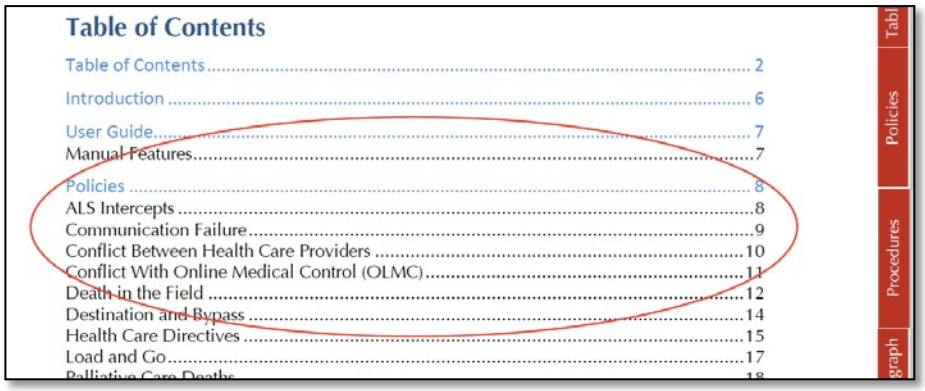


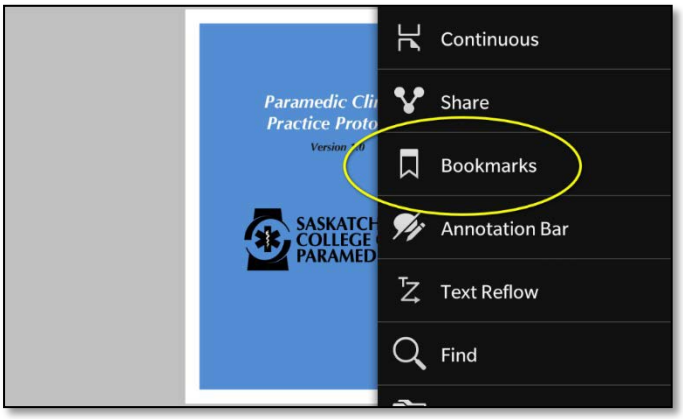
Illustration 3: Enter the key word or phrase you are searching for.

b. Table of Contents – The table of contents at the beginning of the manual contains the sections of the manual, alphabetically listing each protocol in each section. The corresponding page number is to the right of the section or protocol. The table of contents contains hyperlinks, which take you directly to the corresponding page number on the right.

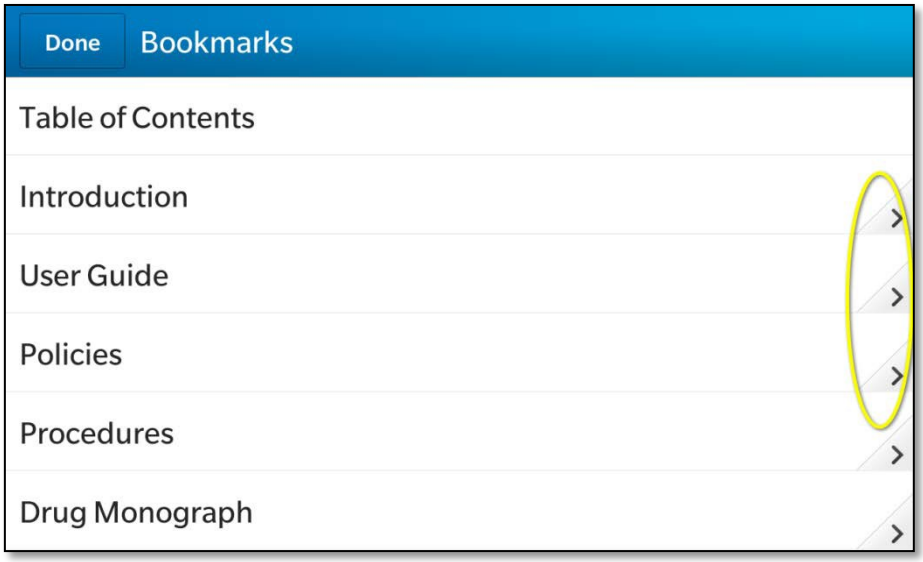
You can navigate back to the beginning of the table of contents from anywhere in the manual by clicking on the table of contents button.



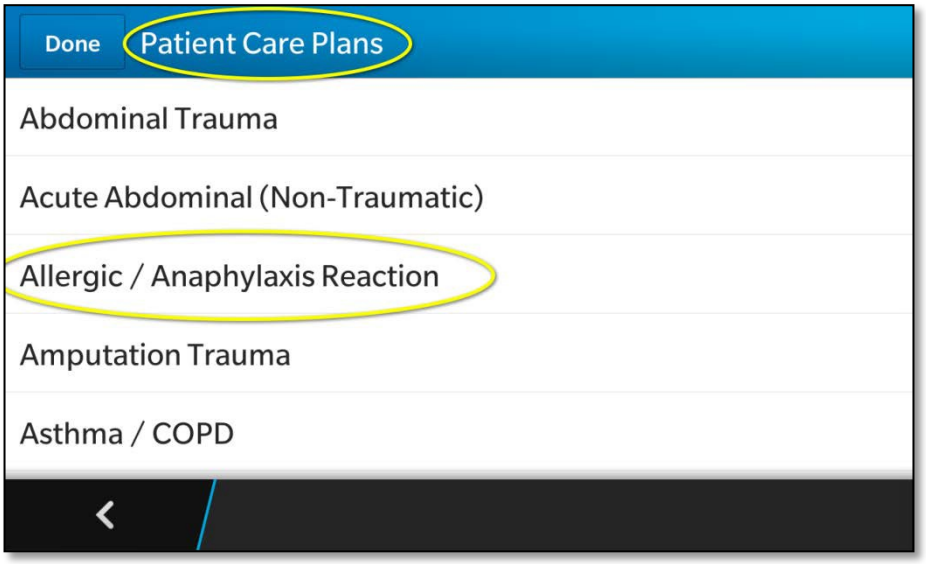
c. Navigation Buttons – Clicking on the bookmark button takes you to a list of all the sections in the manual. The sections include the Table of Contents, Introduction, User Guide, Policies, Procedures, Drug Monograph, Patient Care Plans, Version Control, and References.



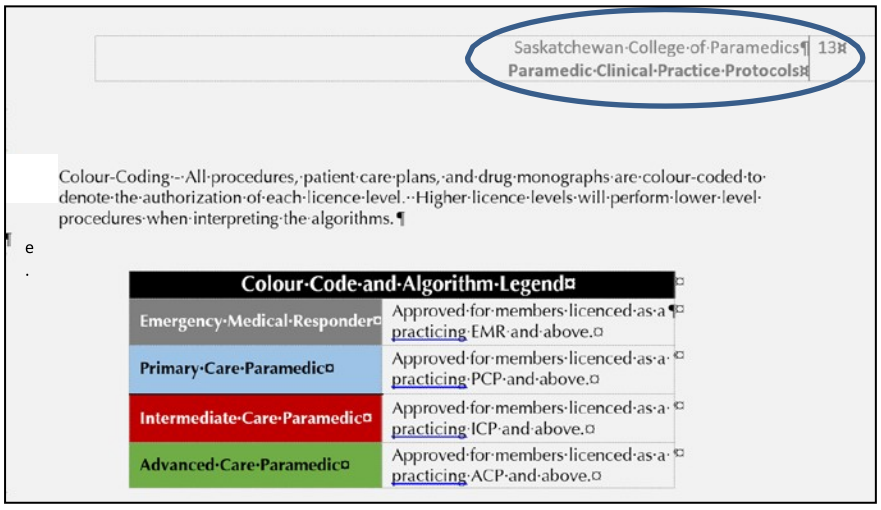
Clicking on the arrow on the right will open a submenu of topics in each section.



Clicking on the topic to view the full page.



d. Page Numbers – Page numbers are located on the top right of each page so that items can be easily located and referenced. Quickly go to a page by typing the page number in as illustrated below:



e. Colour-Coding - All procedures, patient care plans, and drug monographs are colour-coded to denote the authorization of each licence level. Higher licence levels will perform lower level procedures when interpreting the algorithms.

Colour Code and Algorithm Legend	
Emergency Medical	Approved for members licenced as a practicing EMR and above.
Primary Care Paramedic	Approved for members licenced as a practicing PCP and above.
Intermediate Care Paramedic	Approved for members licenced as a practicing ICP and above.
Advanced Care Paramedic	Approved for members licenced as a practicing ACP and above.

2. Improved Organization

The amount of complex information contained in the previous protocol manual made changes difficult to manage. In addition, the protocols were extremely prescriptive and allowed very little flexibility.

In order to address this issue, the information in the manual was divided into different sections: Policies, Procedures, Patient Care Plans, and Drug Monographs. A more detailed description of each section can be found below.

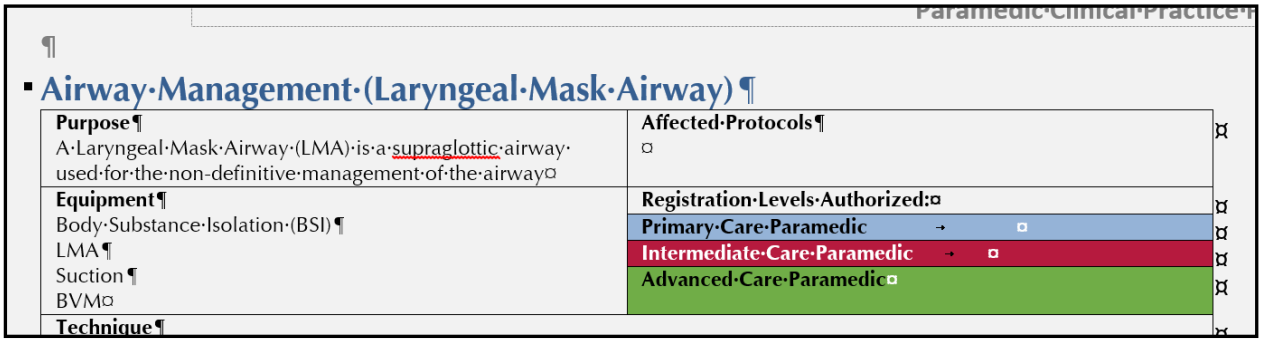
a. Policies

Certain information in the manual is more related to policy than patient care or scope of practice issues. Examples include what to do when communication failure occurs, or what to do in the event a physician is on scene. This information was placed in the policies section of the manual for easy reference. This section is intended to be applied province-wide; it does not include policies from individual services.

b. Procedures

The previous version of the manual describes how to perform each skill or procedure in great detail in a number of the protocols. This information has been removed from the

protocol and placed into the procedures area of the manual. The information found in the procedures section is not intended to be used as training material. It may not include all the information needed to effectively perform each skill. Instead it is intended to outline which licence levels are authorized to perform the specific skill or procedure. The example below demonstrates that a PCP, ICP and ACP may insert a Laryngeal Mask Airway.

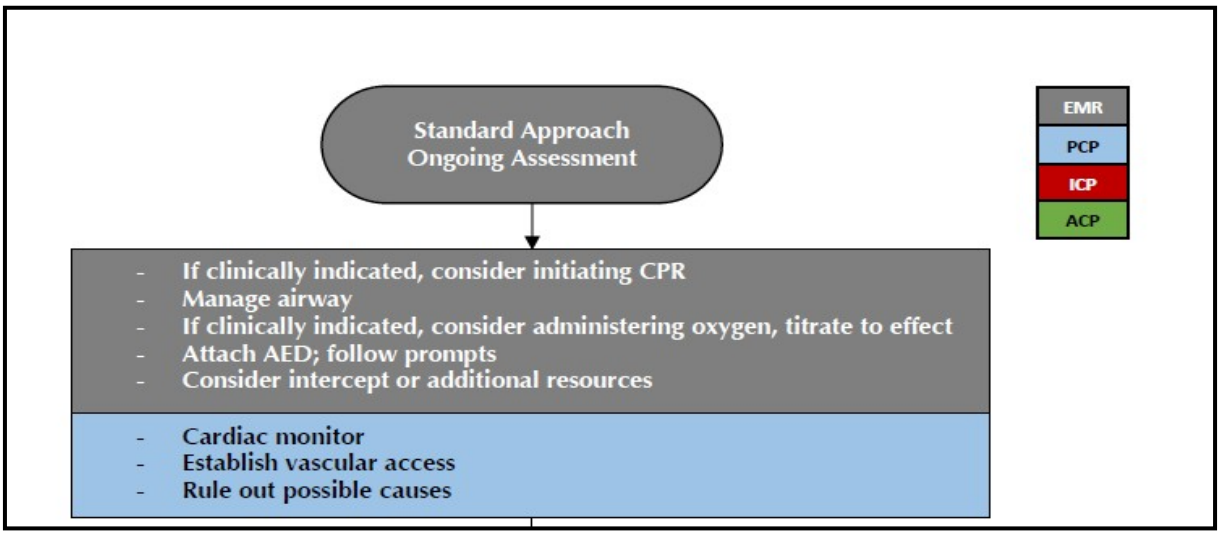


Airway Management (Laryngeal Mask Airway)

Purpose	Affected Protocols
A Laryngeal Mask Airway (LMA) is a supraglottic airway used for the non-definitive management of the airway	
Equipment	**Registration Levels Authorized:**
Body Substance Isolation (BSI) LMA Suction BVM	Primary Care Paramedic Intermediate Care Paramedic Advanced Care Paramedic
Technique	

c. Patient Care Plans

Algorithm flowcharts have replaced most of the protocols from the old manual that follow a stepwise approach to patient care. There may be situations where the order may need to vary or be done simultaneously. These flowcharts are formatted for quick reference and do not get into great detail on patient assessment, interpretation or interventions. They are colour-coded according to the description above.



These algorithms do not specify when or how to reassess patients. Patients are expected to be reassessed frequently, and after any medical intervention is performed or medication administered. Vital signs or other appropriate reassessments should be done and documented after administering any medication that could change hemodynamic

parameters, level of consciousness, etc.

Paramedics are not required to perform every step within a protocol if a step is deemed to be inappropriate for a particular patient. Although transport is listed as the last step, the paramedic's clinical judgment and patient condition should dictate when packaging and transportation of the patient occurs.

Version Controls

The version number is listed on the front of the manual. The College website has more information about the version number.

Policies

Intercepts

1. Members involved in an inter-facility transfer must ensure that the most appropriately trained staff for the patient's clinical condition is available to accompany the patient during transport. Follow Scope of Practice Protocols.
2. An intercept may be needed in patients who:
    a. Unexpectedly become unstable during an inter-facility transfer or are being transported directly from the field to a health facility in an area served by a higher level of service.
    b. Members must be aware of the communities that have a higher level of service available.
    c. When in a service area where a higher level of service is available, if the patient's condition warrants a higher level of care or additional resources, arrange an intercept. If unsure that an intercept would be of benefit to the patient, the member should discuss the case with the service.
    d. Patients who could benefit from include (but are not restricted to) those who are:
        i. undergoing CPR (artificial ventilation with or without chest massage)
        ii. in respiratory distress
        iii. hypotensive
        iv. having uncontrolled chest pain of suspected cardiac origin
        v. experiencing a grand mal seizure lasting longer than 15 minutes or where repeated grand mal seizures have occurred without a return of consciousness between seizures
        vi. experiencing a decreased level of consciousness where hypoglycemia or a narcotic overdose has not been ruled out
        vii. experiencing an arrhythmia unless known to be benign; or
        viii. imminent childbirth.
3. After the intercept the member with higher training has the following options:
    a. Transfer the patient to their unit for transport. The referring member must accompany the patient in the intercept unit to assist in patient care.
    b. Accompany the patient in the referring unit to the health care facility.
    c. Return to his/her intercept unit and allow the referring unit to complete the transport to the health care facility if it is determined that further interventions are not required.

    All crews will utilize extreme caution. Only stop in safe areas and pay strict attention to traffic and road conditions.
4. All cases of intercept will be reviewed by both services involved to ensure the intercept was appropriate.
5. Any case where an intercept was not carried out despite the presence of an indication will be reviewed by the involved services and forwarded to the SCoP and Ministry of Health.

Clinical Trials

PPC Notification of Clinical Trials Involving Paramedic Clinical Services

Overview

1. Newer clinical treatment modalities including pharmacologic approaches and medical-device technologies are rapidly being developed and may prove to have significant benefit/value to pre- hospital settings. As such, opportunities for leading, coordinating, and participating in clinical trial research initiatives may be identified by clinical groups.
2. PPC endeavors to encourage and support the furthering of clinical research knowledge through local participation but needs to be informed by all paramedic clinicians or groups who plan to participate in studies whereby there is impact or deviation on the routine use of established and approved provincial protocols.
3. Paramedics either as individuals or groups must inform (through submission) the PPC of their participation in research studies. A further expectation is that results gleaned from research conducted that may impact current or future protocols be shared with PPC for consideration upon completion of the research.

Submission to PPC

1. Any individual or group planning to participate or undertake a clinical research study whereby provincial protocol(s) are impacted or deviation from established protocols is required must submit an informational summary to the PPC committee for review by members at the next upcoming meeting. If necessary, a representative may be asked to attend the next scheduled PPC meeting as a guest to present and discuss implications with committee members as deemed appropriate.
2. Whereby time is of essence for study enrollment of short-notice participation or when a PPC meeting may not be scheduled to address the issue in a timely way, an expedited process may be considered by chairpersons from SCoP and Saskatchewan Health to review the submission.
3. In the event where the clinical trial requires paramedics to deviate from their current scope of practice, approval from the College of Physicians and Surgeons is required.
4. All submissions to the PPC committee should follow a standardized format as outlined on the below and be completed in full. Where components are deemed not relevant to the research participation occurring, the submitting parties should indicate “not applicable”.

Considerations and Role of PPC

1. It is NOT the role of PPC to approve participation however consideration by the committee on the overall safety of patients, and the deviation from currently

established protocols needs to be reviewed.

2. There is no requirement for a new protocol to be developed to accommodate deviation in protocols for the purpose of a study occurring. PPC needs to be aware and may determine that a temporary or interim protocol is warranted, given the nature of the research study. Any temporary/interim protocols would require approval from the College of Physicians and Surgeons. In some cases, no temporary/interim protocol may be needed.
3. A research study being undertaken does not automatically imply that a provincial protocol currently in existence will be modified or changed as a result of the study being conducted.

Information to Include in Submission

1. Name of the Study or investigation and a brief overview (point-form) about the research being undertaken as it applies to the working environment or paramedic clinicians:
    a. What is the study intervention proposed?
    b. What is the duration of the study?
    c. Approximately how many patients will be enrolled or studied?
    d. How will outcomes of patients or subjects be monitored for adverse events or complications throughout the study's timeframe?
    e. Briefly describe the additional training required by clinicians involved in participating in the study.
2. Is this a new drug or device not currently or commonly used in local clinical practice settings? If so, describe.
    a. If it is a new entity, has it been approved by Health Canada for study?
3. Name of principle investigators and groups most responsible for study management and oversight
    a. Who is the local physician most responsible for the study?
4. Verification and description of ethical approval through particular groups (including Hospital, Saskatchewan Health Authority or University ethics committees, etc.)
5. If the study intervention required by paramedic groups or individuals requires a deviation from provincial protocol, please describe what this is:

Communication Failure

In the event that a practitioner is out of communication range, or if contact with an OLMC physician is not possible and all other alternate methods of communication have been exhausted, the practitioner may go ahead with those procedures which are:

1. Necessary for emergency care of the patient.
2. Significant for the survival or well-being of the patient.
3. Deemed to be accepted standard of pre-hospital treatment in the Province of Saskatchewan.

In the event of a communication failure (inability to discuss the case with OLMC) the practitioner will complete a supplementary form as soon as possible. The OLMC physician will then countersign the form only if he/she is satisfied that the following criteria are met:

1. The communication failure was genuine.
2. The subsequent care provided was appropriate.

Copies of this form will be distributed as

follows:

1. Canary copy: Retained on health records.
2. Pink copy: Forwarded to Emergency Health Services, Sask. Health.
3. White copy: Kept with the operator's records.

A photocopy of the white copy marked “Communication Failure” must be forwarded immediately to:

Ministry of Health
Acute & Emergency
Services Branch 3475
Albert St.
Regina, SK S4S 6X6

Conflict Between Health Care Providers

On occasion, disagreement may occur between paramedics, or another health care professional (i.e. RN, RT, etc.). In these circumstances the following will take place:

1. Contact will be made with a physician where possible and further orders will be obtained. This is essential to resolving disagreements regarding patient care.
2. If a physician cannot be contacted:
    a. The well-being of the patient must be the first priority.
    b. Paramedic will not carry out any intervention that is outside their scope of practice.
    c. The health care professional with the highest level of training for that medical condition (i.e.: if it is a cardiac patient an ACLS provider) will be responsible for the care of the patient.
    d. The paramedic will document in detail the circumstances of the disagreement and all steps that were taken to resolve it.
    e. A copy of the PCR and any other supporting documents will be sent to the service's Medical Advisor.
    f. A paramedic can refuse to carry out any order from another health care professional, including a physician, if the paramedic believes that carrying out the order is not in the best interest of the patient.

Conflict with Online Medical Control (OLMC)

When in the judgment of the PCP, ICP and/or ACP in the field, the medical orders issued by an OLMC physician are contraindicated and/or are not in the best interest of patient care, the PCP, ICP and/or ACP is to take the following action:

1. Inform OLMC of the conflict and request a change of orders.
2. If the OLMC is unwilling to change the orders, the PCP, ICP and/or ACP should revert to treatment under treatment not requiring OLMC and make an immediate transportation decision.
3. The situation must be reported in writing, as soon as possible to the Medical Advisor, as well as Ministry of Health. All copies of the incident reports and patient care report forms must be forwarded to:

   Ministry of Health
   Acute and Emergency Services
   Branch 3475 Albert Street
   Regina,
   Saskatchewan
   S4S 6X6

Death in the Field

Coroners in the Province of Saskatchewan have two functions:

1. To investigate the circumstances of a death when it is not certain if the death was a result of natural causes; and
2. To determine whether any recommendations can be made to prevent similar deaths in the future. To assist the coroner in these duties the paramedic's duties are asfollows:

For patients pronounced dead at the scene, with or without attempted resuscitation:

a. Do not disturb the scene.
b. Call the local police, if not present.
c. After the arrival of the local police, the responsibility to call a coroner rests with the police officer(s).

In the rare circumstance where the paramedic is attending a dead body and another call is received, the paramedic will respond immediately to that call if it is deemed to be an emergency by the dispatch.

Friends/relatives of the deceased must be informed of the reasons for the departure of the paramedic, realizing that this will result in additional stress to those present. They must also be reassured that arrangements will be made as soon as possible for transportation of the deceased.

The police, if not already at the scene, should also be notified of this situation as soon as possible. It will be the decision of the paramedic, in conjunction with the coroner, police and dispatch (if available), to determine if another unit should be dispatched to transport the body or if this can be delayed until the original responding crew is available to carry out this task.

In the event that a paramedic has been called to the scene of a fatality, the provider, rather than the coroner, will have the primary responsibility of pronouncing an individual deceased based on criteria stated in this protocol.

Even if CPR has been initiated, patients may be pronounced dead in the field in the following circumstances:

1. Injuries incompatible with life (i.e. decapitation, decomposition, incineration, rigor mortis, postmortem lividity).
2. If the performance of CPR places the rescuer at personal risk of anytype.
3. Patients with a physician signed Do Not Resuscitate (DNR) Orders or Advanced Care Directives that include a DNR directive.

4. Victims of blunt or penetrating trauma who have no vital signs on arrival of the EMS and display no pupillary reflexes or who are in asystole.
5. Any traumatic cardiopulmonary arrest patient with a transport time to a health facility of greater than 15 minutes from the time the arrest is identified.
6. Cardiac arrest patients who have had no resuscitation efforts for at least 15 minutes prior to your arrival on scene (as measured from time of call received to your arrival) and who are in asystole. (See Note Below)
7. Cardiac arrest patients who have failed to respond to basic resuscitation efforts for a period of 30 minutes or full Advance Care Paramedic resuscitation efforts for a period of 20 minutes who are now in asystole or PEA. (See note below)
8. Drowning victims who are known to have been submerged longer than 60 minutes.
9. Hypothermia victims whose chest is frozen and non-compliant.
10. The rescuers are exhausted and cannot continue or procedures cause significant delay in evacuation of the patient with a core temperature of less than 30° C.

Note:

When a decision is made to pronounce death in the field under points 6 and 7, the EMS practitioner may consider contacting OLMC for consultation depending on the circumstances of the situation and the patient's past medical history. If the practitioner discontinues resuscitation efforts, they should note the following:

1. Time of death.
2. Location at the time of death (land coordinates if possible).
3. Patient's identity.
4. Past medical history and circumstances leading up to patient's death.
5. The coroner and/or police should be notified.

Resuscitation efforts should not be withheld in trauma victims in cardiopulmonary arrest where the mechanism of injury does not correlate with clinical condition thus suggesting a possible non-traumatic cause of the arrest. These patients should have standard resuscitation initiated.

Exceptions:

1. Drowning other than mentioned in point 8 above.
2. Hypothermia patients other than mentioned in point 9 above. (See Protocol TP 13)
3. Known drug overdose patients have been documented to completely recover after several hours of CPR. Therefore, these patients should undergo CPR (and ACP care, if available), until arrival at a health care facility unless documented to be in asystole on a cardiac monitor, in which case the resuscitation may be terminated if the above criteria are met.

Special Considerations:

1. If there is any doubt as to whether CPR should be started by EMRs, PCPs, and ICPs, provide CPR until OLMC can be contacted for further orders.
2. If a patient meets the criteria for "Death in the Field," and foul play is suspected, it is essential that the body and scene not be disturbed until the police/coroner authorize the removal of the body.
3. CPR should be continued to the hospital in cases where it is known the patient wished to participate in the organ donation program.

Destination and Bypass

Patients entering the Emergency Medical Services (EMS) system are entitled to safe, appropriate and timely care. It is recognized that there are categories of patients who will benefit from the bypass of a closer health care facility in order to more expediently receive a higher level of care at a more distant facility.

Numerous scoring systems (i.e. Trauma Score, Revised Trauma Score, Pre-hospital Index, etc.) have been developed based on objective physiological and anatomical parameters in an attempt to determine which patients qualify under this bypass category. Unfortunately, none of these scoring systems have been found to be sufficiently accurate to be relied upon for this purpose.

Guidelines on this subject must recognize that due to the complexity of the pre-hospital environment, the paramedic must make final decisions regarding the most appropriate destination. *The Ambulance Act* of the Province of Saskatchewan states that in the absence of a medical order from a physician, the paramedic will transport the patient "to the nearest location where, in the opinion of the attendant, the medical attention apparently required for the care of the patient is available." It must be emphasized that this may not be the health care facility that the patient has requested.

Therefore, the following guidelines have been developed to optimize the care provided to patients within the EMS system:

1. All health care facilities within an EMS system must carry out an inventory of their facility, including bed availability, human resources, including physicians, nurses, and other health care providers, x- ray and laboratory capabilities and other specialized equipment.
2. The health care facilities and EMS agency must have an agreement between themselves regarding destination and bypass policy with provisions for ongoing communication to ensure that this agreement is providing optimal patient care.

The local Destination and Bypass Protocol, if available, should be inserted as an appendix to this manual. Non-Emergency Patients (previously arranged)

Paramedics are frequently asked to undertake transportation of elective patients to a physician's office or another health care facility. If, after assessment, the paramedic feels that the patient's condition is more serious than expected and transport to a physician's office or other health care facility is inappropriate, the paramedic will:

1. Contact a physician, preferably the attending physician, to arrange re-routing to the closest appropriate health care facility. This should be done in a manner that does not result in a delay in the transportation of an acutely ill patient (i.e. while enroute to the closest appropriate health care facility).
2. If a physician is not available, continue transport to the closest appropriate health care facility; or
3. If the physician refuses to authorize re-routing to the closest appropriate health care facility, proceed to the physician's office or other prearranged health care

facility and document carefully.

Health Care Directives

Introduction:

It is accepted that a patient has the right to accept or reject any treatment recommended by a health care professional, including CPR. Unfortunately, in circumstances where the patient has become incompetent, he or she is no longer able to make their wishes known regarding treatment decisions. For this reason, Health Care Directives have been developed. A Health Care Directive is a written document, prepared by an individual, indicating the care that they wish to receive or not receive, should they be in a situation where they cannot make their wishes known. In 1997, the Government of Saskatchewan passed legislation governing Health Care Directives entitled The Health Care Directives and Substitute Health Care Decision Makers Act (the "Act").

The Act provides for two types of health care directives:

1. The first type gives specific direction to treatment providers as to the treatments consented to or refused should the patient not have the capacity to make a health care decision.
2. The second type names another person (called a "proxy") to make health care decisions on behalf of the patient, when the patient does not have the capacity to make those decisions.

A directive can also be a combination of both these types, including specific treatment decisions for certain situations, as well as a proxy named for other health care decisions. A Health Care Directive must be in writing, and is valid if the following criteria are met:

1. The patient is 16 years of age or older, and is considered competent
2. The Health Care Directive is signed and dated by the patient. There is no expiratory date on health care directives therefore renewal is not required.

A Directive may be handwritten or typed, and a specific form is not required. It also does not need to be witnessed. If a Health Care Directive, which directs treatment for pre-hospital care, meets the above criteria, the paramedic must follow its directions unless:

1. There is an indication from a bystander (i.e. family member or friend) that the patient cancelled the Health Care Directive. Directives can be cancelled orally, in writing, or by destroying the document.

Example: A patient has a valid Health Care Directive refusing CPR, however, a family member states that just prior to collapsing, the patient requested that CPR be administered.

In these circumstances, the most recent information indicates that the patient wished to undergo CPR, and therefore, CPR should be immediately started.

2. The Directive does not clearly anticipate, and give direction as to the specific circumstances, which exist. In such a case, the directive is to be used as guidance to the wishes of the patient respecting proposed treatment.

In a life-threatening situation do not delay treatment in order to locate a written health care directive. Treatment should be started immediately as per the Paramedic Clinical Practice Protocols unless a family member states that the patient did not wish to be resuscitated.

This request will be honoured, however it is essential that the paramedic is satisfied as to the identity of the patient and family member. The paramedic must document in as great a detail as possible what was said and by whom.

Where a Health Care Directive appoints a proxy, the proxy is responsible to make the treatment decisions on behalf of the incapacitated patient. In life threatening situations, treatment should not be delayed in order to contact a proxy who is not immediately available at the scene. Immediately initiate resuscitation as described in the Paramedic Clinical Practice Protocols.

The Act specifically protects from legal action any health care worker who follows a Health Care Directive, even if it results in death. It also provides protection where the paramedic provided care contrary to the Health Care Directive because the existence of the Directive was not known, it was reasonably believed that the Directive had been revoked, or if the Directive was too vague to be followed.

If there are any doubts regarding the validity or intention of a health care directive, follow the usual policy as stated in the Paramedic Clinical Practice Protocols.

If a Health Care Directive is not followed, document your reasons fully including discussions with the family and health care professionals (i.e. telephone conversation with a physician).

Every time a patient is encountered, ask the patient or family if a Health Care Directive exists regarding the treatment of the patient, or appoint a proxy to make decisions on the patient's behalf.

If a Health Care Directive exists, attach it to the patient's PCR and hand it over to the staff at the receiving health care facility.

In summary:

1. Always ask a patient (or relative if the patient cannot communicate) if there is a written Health Care Directive.
2. Document the existence of a written Health Care Directive on the PCR.
3. Respect the Health Care Directive unless its directions are not clear, and/or identity of the patient and family members cannot be substantiated.
4. Make the staff at the receiving health care facility aware of the existence of a Health Care Directive.

5. If you are unable to immediately locate a health care directive or proxy in a life-threatening situation, initiate treatment and contact a physician for advice as quickly as possible.

Load and Go

Patients with the following life-threatening conditions should be transported rapidly with the on-scene time as short as possible:

1. Airway obstruction that cannot be quickly relieved by methods such as abdominal thrusts, suction, forceps or intubation.
2. Cardiorespiratory arrest (except for ACP).
3. Shock or any condition that is likely to result in shock (i.e. bilateral fractured femurs, fractured pelvis).
4. Head injury with unconsciousness, decreasing level of consciousness, or where there is a penetrating wound to the head.
5. Respiratory distress that is not immediately relieved by oxygen.
6. Seizure activity lasting longer than fifteen minutes or where the patient does not regain consciousness between repeated seizures.

Remember, a secondary survey should not be done on these patients at the scene as this will result in a loss of valuable time as well as distract the attention of the paramedic from the management of the life-threatening problem(s). The secondary survey may be done enroute as long as it does not interfere with maintenance of the airway, breathing, and circulation.

Note:

1. When in a service area where a higher level of care is available, if the patient's condition deteriorates, arrange an intercept.

Medication Administration in Rare, Life Threatening Conditions

More frequently, paramedics are encountering patients with unique or specialized health care needs in life- threatening situations. These individuals may require specialized medications not currently described within the Clinical Practice Protocol Manual. In situations where a Paramedic (PCP or higher) is on scene and treatment beyond the current scope of practice is indicated and the patient has the necessary medication with them, the following steps may be taken:

1. The Paramedic on scene is responsible for performing a complete assessment and determining if the medication is warranted. Members must be able to demonstrate that they were aware of the risks of administering a medication in this situation.
2. Since this is to be used in situations where rare medical conditions are encountered, medical consultation must be obtained.
3. The medication administration should be in situations where it is considered a critical, life- saving intervention.
4. Any instances where this policy is used must be reported to the College within 30 days for review by the Paramedic Practice Committee (PPC). Any instances where use of this policy is not reported to the College will be referred to the Professional Conduct Committee for professional misconduct.

Palliative Care Deaths

Palliative care patients are defined as those individuals who are suffering from a terminal illness in which there is a high probability of death within a matter of days or months. This would include patients with end- stage cancer, neurological diseases, cardiac or pulmonary diseases, AIDS or other fatal systemic diseases.
These patients are under the supervision of a physician and are seen on a regular basis by the physician, a home care or palliative care nurse.
Emergency Medical Services personnel will encounter these patients in the normal course of their duties. When a patient as defined above dies in a private residence or a nursing home and the death is expected, the following procedure may be followed:

1. The patient's physician or attending nurse may pronounce death. In the event that the patient's physician or attending nurse is not present, the physician shall be contacted and informed of the death.
2. The patient's physician or attending nurse may authorize removal of the body to the funeral home of the family's choice. It is not necessary for the family, physician, nurse or paramedics to contact the coroner or the police. (See Note)
3. The patient's physician must be prepared to sign the death certificate.

Note:
In the event that there is any evidence that the death was not due to terminal illness, there remains the responsibility to contact the coroner and the police. If the attending physician or nurse is present, they are to make the contact with the coroner and the police and the body is not to be removed without permission of the coroner. In the event that neither the physician nor nurse is present, Paramedics will treat this as any other unexpected death and the coroner and police will be contacted.

Pandemic Protocol

In the event of a pandemic, Emergency Medical Responders (EMRs) and Paramedics will play an important role in the education, prevention, and treatment of patients. Immunization of the public is the primary means to decrease morbidity and mortality in the event of an epidemic and pandemic. Dependent on the Saskatchewan Health Authority (SHA) and the Athabasca Health Authority's (AHA) pandemic plans and the availability of resources, EMRs and Paramedics may be a part of the interdisciplinary health care team in mitigating a pandemic crisis.

Based on specific needs during a pandemic, the health authorities will have the responsibility of educating and informing EMS and staff on the overall response plan and the role that EMRs and Paramedics will play in it. The SHA and AHA will work with the Saskatchewan College of Paramedics to ensure their immunization training is an approved method and that it meets the regulatory bylaws of the College. Please note that this protocol may be amended periodically dependent on the pandemic and SHA and AHA plan(s).

Assessment

1. When possible, paramedics should stay 2 meters away from patients and bystanders with symptoms until appropriate routine respiratory droplet precautions can be instituted and ensure all appropriate personal protective equipment (PPE) is donned while assessing all patients for suspected influenza-like- illnesses.

2. Assess all patients for symptoms of influenza-like illness (ILI).
    a. Adults: Sudden onset of new cough, or change in existing cough plus one or more of the following:
        i. fever (≥ 38 °C on arrival or by history)
        ii. sore throat
        iii. joint pain
        iv. muscle aches
        v. severe exhaustion/ weakness
    b. Pediatric: Sudden onset of any of the following symptoms:
        i. runny nose
        ii. cough, sneezing
        iii. +/- fever
        iv. < 5years gastrointestinal symptoms may be present.

****Over age 65 and under age 5, fever may not be prominent****

Personal Protective Equipment (PPE)

When treating a patient with a high suspicion of a pandemic illness, the following PPE should be worn:

1. While performing a potential aerosol-producing procedure (e.g. endotracheal intubation, administering nebulized medications, resuscitation, etc.) disposable N95 use fit-tested respirator and eye protection (e.g., goggles; eye shield), disposable non-sterile gloves, and gown. When possible, and in accordance with the SHA or AHA's pandemic response plan, the use of metered-dose inhaler (MDI) may be warranted by the PCP/ACP practitioner to reduce the risk of transmission.
2. Place a standard surgical mask or oxygen mask on the patient, if tolerated.
3. Use good respiratory hygiene, using non-sterile gloves for contact with patient, patient secretions, or surfaces that may have been contaminated. Follow hand hygiene including hand washing or cleansing with alcohol-based hand disinfectant after contact.
4. Encourage good patient compartment vehicle airflow/ ventilation to reduce the concentration of aerosol accumulation when possible.

Refer to the Ministry of Health website, SHA and/or AHA's pandemic plan and other resources for further information on PPE, immunizations and provincial occupational health and safety standards (OHS).

Nasopharyngeal / Oropharyngeal Swabs During Pandemic

The Saskatchewan College of Paramedics and the College of Physicians and Surgeons of Saskatchewan have approved the addition of Nasopharyngeal (NP) and Oropharyngeal (OP) specimen collection to the current Primary Care Paramedic (PCP), Intermediate Care Paramedic (ICP), Advanced Care Paramedic (ACP) and Critical Care Paramedic (CCP) scope of practice for pandemic purposes only.

The College will require that Paramedic NP/OP specimen collection meet the following criteria:

- Both the AHA and the SHA will identify those paramedics targeted for NP/OP specimen collection training; only these trained individuals will be permitted to perform this skill.
- Each health service will identify specimen collection teams that will have dedicated paramedic resources to perform NP/OP swabbing.
- Paramedics designated for NP/OP specimen collection will not be permitted to work in the EMS ambulance environment. This approach is intended to address the following:
    - to limit the potential exposure to sick, immunocompromised, or other patients who are high-risk individuals who may call 9-1-1.
    - to ensure that the 9-1-1 system is not further stressed by ambulances being taken out of service to provide testing.

All paramedics performing NP/OP swabbing would be required to follow the AHA and SHA guidelines on Personal Protective Equipment (PPE). Current practice standards require that all paramedics be trained in the use of PPE and complete a refresher on a regular basis.

Physician / Medical Consultation

Medical consultation can be defined as a discussion between two health care providers about diagnosis or treatment of a particular patient. These discussions are used to develop better patient conversations around patient care. Consultation can be used, and is encouraged, in situations where the paramedic requires clarification, consultation or other guidance involving patient care. This can be part of the paramedic's effort to maintain professional knowledge or may be due to the needs of a particular patient. Consultation is part of the Code of Conduct which paramedics should "provide care within the member's ability, seeking consultation where necessary…"

Paramedics should consult, cooperate or clarify with physicians to the extent necessary to serve the best interests of the patient.[1]

1. Committee on Ethics,(May 2007). American College of Gynecologists. Seeking and giving consultation. Retrieved from https://www.acog.org/-/media/Committee-Opinions/Committee-on-Ethics/co365.pdf?dmc=1&ts=20180208T1913582886

Physician on Scene

1. If the patient's private physician is present and assumes responsibility for the patient's care, the paramedic should defer to the orders of the private physician. The care provider should notify dispatch that the patient's personal physician is on scene and is assuming responsibility for the patient's care and at what time this occurred. Dispatch should record this as an extra part of the time record. The paramedic's responsibility for the patient's care continues at any time the physician is no longer in attendance and regular channels for OLMC should be used at that time.
2. If an intervening physician is present and OLMC does not exist, the paramedic should relinquish responsibility for patient management to that physician. The physician should demonstrate willingness to assume responsibility, document interventions and sign the Patient Care Report (PCR) form. When these conditions exist, the paramedic should defer to the wishes of the physician on scene. If the treatment at the scene needs to differ from that outlined in approved protocol, the physician should agree in advance to accompany the patient to the health care facility.
3. If an intervening physician is present, and OLMC exists, the physician is ultimately responsible. Responsibility for the immediate continuing care of the patient will be decided by communication between the two physicians and the paramedic will then be informed by the OLMC as to their decision.
4. If there is any disagreement between the intervening physician and the OLMC, the paramedic should take orders from the OLMC and place the intervening physician in contact with the OLMC. The OLMC has the option of managing the case entirely, working with the intervening physician, or allowing him/her to assume responsibility.
5. In the event that the intervening physician assumes responsibility, all orders to the paramedic should be repeated over the radio for purposes of recording. The intervening physician should document his/her intervention and sign the PCR. The decision of the intervening physician to accompany the patient to the health care facility should be made in consultation with the OLMC.

Protocol Development

The College frequently receives requests to include a new medication or intervention into the protocol manual. Historically, the PPC was more of a working group and with the assistance of resources from the MOH had much more of a hands-on role with protocol development.

As part of preparing for the scope of practice transition to the College, it is imperative that members have the capacity to bring evidence-based suggestions forward along with the proper supporting documents for their suggestions to be considered. Rather than the MOH or SCoP putting resources into developing protocols, our resources will focus on providing members with the necessary tools to develop and submit protocols to PPC. When a protocol isn't as effective as expected, it is often because context can be lost when the person writing the protocol isn't the person who is proposing it.

Evidence-based medicine integrates clinical expertise, patient values, and the best research evidence into the decision-making process for patient care.

Considered one of the leading experts on evidence-based medicine, Dr. David Sackett defines one of the most widely accepted definitions as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of [EBM] means integrating individual clinical expertise with the best available external clinical evidence from systematic research."

There are many opinions on exactly what constitutes evidence. Jules Rothstein wrote "…evidence is not faith or tradition. Evidence is viable finding from research, not theories underlying practice. Evidence is data that shows whether treatments make a meaningful difference. Evidence is what is published in credible and respected journals."

Be skeptical of the evidence however, even when articles are published in reputable journals. As Rennie tells us however, there is "No study too fragmented, no hypothesis too trivial, no literature citation too biased or too egotistical, no design too warped, no methodology too bungled, no presentation of results too inaccurate, and too contradictory, no analysis too self-serving, no argument too circular, no conclusion to trifling or too unjustified, and no grammar and syntax too offensive for a paper to end up in print."[1]

Caution must be used not to exercise flexibility by only considering evidence of the highest value. Often you may find that expert opinion is all that is available or that some circumstances cannot be investigated with study designs that achieve the highest level of evidence standard.

When creating patient care guidelines, consistency is important in order to achieve consensus. The following steps should be used when presenting changes to the existing protocols:

1. Start with the patient

A clinical problem / question arising from the care of the patient.

2. What is the question?

Construct a well-built question derived from the case. The mnemonic PICO helps identify components of a well-constructed question:

P (Patient or Problem) – describe the group of patients and their most important characteristics.

I (Intervention, prognostic factor, or exposure) – which one are you considering and what do you want to do for the patient (administer a drug, perform a test, perform a procedure). What factors will influence the decision?

C (Comparison) – main alternatives to compare with proposed intervention. Are you trying to decide between two drugs etc.?

0 (Outcomes) – What do you hope to accomplish/improve/affect?

3. Literature Search

List your sources searched (i.e.: Medline, Cochrane, Ovid, Science Direct) and keywords used in search (i.e. spinal injury, c-collar, backboards).

4. Evaluate and Assess the Evidence

In order to concisely characterize and communicate information in this document, it is imperative that an explicit approach is utilized so that it is easily understood, and subsequently ensures our members make well-informed decisions when providing patient care. There are numerous methods available to us for evaluating levels of evidence and the strength of the recommendations.

Each method has its own strengths, and shortcomings.

a. Determine the Level of Evidence

Levels of Evidence	
1A	Systematic Review of Randomized Controlled
1B	RCTs with Narrow Confidence Intervals
1C	All or None Case Series
2A	Systematic Review Cohort Studies
2B	Cohort Study / Low Quality RCT
3A	Outcomes Research
3B	Case-controlled Study
4	Case Series, Poor Cohort Case Controlled
5	Expert Opinion

b. Determine the Class of Evidence (adopted from the ACC/AHA Clinical Practice Guidelines)

Class of Recommendation	
Class I	conditions for which there is evidence and/or general agreement that a given procedure or treatment is useful and effective
Class II	conditions for which there is conflicting evidence and/or a divergence of opinion about the usefulness / efficacy of a procedure or treatment
Class IIa	weight of evidence/opinion is in favor of usefulness/efficacy
Class IIb	usefulness/efficacy is less well established by evidence/opinion
Class III	conditions for which there is evidence and/or general agreement that the procedure/treatment is not useful/effective and in some cases may be harmful

c. Complete the Evidence Evaluation Tool:

Intervention: **Spinal Immobilization**		Data Base Searched: **Medline, Cochrane, Athens**			Keywords: **C-Collar, Paramedics, Spinal Immobilization, Prehospital**	
Reference	***Journal***	***Title***	***Purpose***	***Results***	***Class of Recommendation***	***Level of Evidence***
Hoffman JR et al	*N Engl J Med* 2000; 343:94-99	Validity of a set of clinical criteria to rule out injury to the cervical spine in patients with blunt trauma.	To determine if following a set of criteria can effectively eliminate the need to immobilize blunt trauma patients	In summary, study confirms the validity of a decision instrument based on five clinical criteria for identifying, with a high degree of confidence, patients with blunt trauma who have an extremely low probability of having sustained injury to the cervical spine.	2A	IIa

5. Summary of Consultation

   Consultation is a critical piece that is often not given the consideration it needs. The time to address potential tensions between a protocol and areas of the system that may be affected by a protocol is well in advance of implementation of a protocol. In order to be considered at PPC, you must demonstrate that stakeholders have been consulted, and provide their comments as part of your submission. Examples of consultation

   This needs to include feedback that supports the proposal, and feedback that is opposed.

6. Protocols Impacted

   Proposals need to articulate all areas of the document that will require change if the proposal is approve.

7. Training Requirements

   Using the core training requirements framework on the SCoP website. Describe what training would be required to ensure members are competent to perform the skill being proposed.

8. Impact Analysis (Operational and Training Costs).

   Clearly outline the estimated costs associated with not only the initial training (including wages, teaching material, instructor costs etc.), costs to purchase and maintain equipment needed to perform the skill, and costs associated with ensuring ongoing competency.

9. Assessment of merit against the criteria

   This is where the argument is made that the proposal is not only effective, but efficient as well. It needs to demonstrate that the proposal is not cost prohibited. While it is difficult to put a value on a life, we live in a world where there is a ceiling on the amount of resources put in to delivering health care. The return on investment must be clearly articulated.

There is an electronic evidence assessment tool on the SCoP website that can be used to submit the above information to PPC. Proposals must be submitted to the College 1 month prior to a PPC meeting. Proposals that are not complete will not be added to the agenda.

Protocol Deviation

Section 23 of The Paramedics Act provides the legislated framework for practicing members of the Saskatchewan College of Paramedics stating:

> A practicing member who provides an emergency treatment or administers a medication must do so in accordance with any protocols respecting the provision of emergency treatment or administration of medication by a paramedic, an emergency medical technician or an emergency medical responder that are approved by the College of Physicians and Surgeons of Saskatchewan.

Stedman's Medical Dictionary defines protocol as "the plan for a course of medical treatment or for a scientific experiment." The Saskatchewan Paramedic Clinical Practice Protocols manual consists of a number of categories that collectively provides a guideline of the standard of care, practice, actions, and procedures to be followed by our members in the province of Saskatchewan. These protocols set a standard of care established by PPC and require approval by the Saskatchewan College of Paramedics and The College of Physicians and Surgeons of Saskatchewan. PPC consists of a panel of emergency medical advisors, emergency medical professionals, employers, regulators, research and training experts that meet a minimum of twice a year.

It is not reasonable to expect any single document to cover all situations where members may make an assessment that indicates a deviation from the protocols may be necessary. These guidelines are not meant to be absolute treatment doctrines, nor are they a substitute for the judgment and experience of the provider. The guidelines should have sufficient flexibility to meet the needs of complex cases. Members are expected to utilize their best clinical judgment and deliver care and procedures according to what is reasonable and prudent for specific situations. Under rare circumstances, deviation may be necessary.

Deviation from protocol should always be done with both the public's and patient's best interest in mind and backed by documented clinical reasoning and judgment. In circumstances where it would not cause further harm and the member believes a patient may clinically benefit from an intervention, or that following the protocol would be harmful or not in the best interest of the patient, the following procedure should be followed:

1. The paramedic on scene is responsible for performing a complete assessment and determining if protocol deviation is warranted. Members must be able to demonstrate that they were aware of, and considered the guidance provided in this manual, and understood the risks associated with deviating from protocol.
2. When considering a protocol deviation, a peer with the appropriate level of expertise should be consulted (if available) or another expert member of the medical team should be sought to seek clarification and to discuss and consider all options. The Medical Profession Act, 1981,

does not authorize physicians to delegate activities that are within the scope of medical practice to a non- physician, this protocol describes the circumstances in which paramedics may deviate from standard protocols, based in part, upon a physician's authorization to do so.

3. ONLY if a member is comfortable performing the deviation; and treatment is consistent with their level of training; may they proceed with the deviation. Documentation must include the reasons for the deviation, all clinical data validating safety, mitigating risk, and the response/effects. The member must advise the receiving physician of the deviation and document it clearly on the patient care report. In all cases, members are expected to deliver care within the scope of practice for their license level.
4. Any protocol deviations will be automatically reported to the Medical Advisor and SCoP within 30 days. This serves as a safeguard to remind members that protocol deviations are considered a rare necessity. All deviations are subject to review to determine whether or not it was appropriate. Deviations not reported to the College, will be investigated by the Professional Conduct Committee for member professional misconduct.
5. SCoP will report all protocol deviations to PPC to determine if a new protocol is warranted.

Public Access AED

External Defibrillators (AED) that accurately analyze cardiac rhythms and when appropriate, advise or deliver electrical counter shock therapy have been in use for some time by emergency responders in Saskatchewan. The AED, when used by these responders, has on occasion, proved to be an essential link in the "chain of survival". The extension of the AED for use by the public through "public access defibrillation" (PAD) programs, or use by non-medical personnel with minimal training (i.e. security guards, hotel staff, first-aid trained staff) appears to be a logical next step in the chain of survival; however, public access defibrillation poses unique challenges in ensuring that both the training and the process under which the programs are set up and delivered meets a standard that can be considered to provide safety for the public

Electrical defibrillation by persons not charging a fee for the service is not defined as a "medical act" in Saskatchewan; however, it is a recognized treatment modality within the health care system. Therefore, the Ministry of Health is *recommending* that persons seeking to place these devices in public venues may choose to follow a process prior to purchase and placement.

Recommendation:

1. Prior to initiation of training, the organization contracting for the training may choose to advise the local Health Authority by letter of their intent to be a site that provides public access AED.
2. As there are a number of agencies that provide AED training, sites need to ensure the training they receive in the use of these devices is compliant with the Canadian Heart and Stroke Foundation guidelines at both the instructor and provider levels.
3. When purchasing an AED, you must ensure that it is Canadian Standards Association (CSA) approved for use in Canada.
4. As a part of protecting you against liability, a quality assurance process should be established that allows for:
    a. A process of ongoing review of the use of the device to ensure those responsible for responding with the device retain the skills required for use of the AED.
    b. A recognized process of recertification.
5. When EMS arrives on scene and at the patient's side, they assume all responsibility for patient care and as such all other rescuers come under the direction of the EMS crew.
    a. As there are risks associated with the use of the AED, the agency implementing "public access AED" should ensure that they have proper liability insurance in place to cover their staff and save them harm from any legal action.

There should be a process for Critical Incident Stress Debriefing (CISD) available to anyone responding and using the AED.

Refusal of Care

Non-transport of patients because of refusal of care is a common occurrence. While patients have the right to refuse medical evaluation and/or treatment, it is incumbent on the care provider to first ensure the following:

1. The patient must be orientated to person, time and place.
2. There must be no signs of significant impairment due to alcohol, drugs, mental or organic illness, (i.e., ataxia or slurred speech).
3. The patient must have a reasonable understanding of the provisional diagnosis and the risks of refusing treatment.
4. The patient understands the instructions given him/her, or any responsible family member or friend who is present understands a reasonable plan of action should his/her condition deteriorate and how to activate the EMS system if wishing to seek medical evaluation and transportation. The patient must also be encouraged to seek medical follow-up.

In addition to the above information being carefully documented on the PCR form, the following should also be documented:

1. Patient name when possible to obtain.
2. Date, time and location of the response.
3. Vital signs if the patient allows it during their assessment.
4. Mental status including orientation to person, place and time.
5. The names of any witnesses to the refusal.
6. The reason for refusal.

It has been accurately stated that the care provider must use creativity and compromise to persuade patients to co-operate with further evaluation, management, and transportation.

Patients under the age of eighteen years unless considered an emancipated minor (living away from home and self-sufficient from their parents) should be encouraged to receive treatment. It should be noted that patients under the age of 18 years who can comprehend their condition and the risk of refusing treatment could refuse care.

Some patients must be transported even if they meet all the criteria for discharge in the field. These patients include the following:

1. Patients who are a danger to themselves or others.
2. Victims of child abuse if there is the potential for further abuse.

Another group of patients who do not undergo transportation are those where the paramedic and patient agree that transportation is not required. It must be stressed that when any doubt exists regarding transportation of a patient, the pre-hospital care provider should err on the side of safety and undertake transportation if possible. Patients who are not transported should always be advised to seek medical attention through their family physician or the nearest hospital, as indicated by their circumstances.

Vaccine Administration

The Saskatchewan Health Authority will be responsible for the training, management and administration of the vaccination based on the needs of the region and the resources available. Please refer to that pandemic response plan. This is a guide to be used in combination with your region's pandemic plan for the delivery of a vaccination to the public. Based on the Saskatchewan Health Authority's Pandemic Response plan, the PCP, ICP and ACP may do the following:

Procedure

1. Will be largely dependent on the SHA's pandemic response plan.
2. The appropriate dose should be verified and prepared.
3. The injection site (L or R deltoid or L or R anterolateral aspect of thigh) should be identified and cleansed with alcohol pad.
4. A 21-25-gauge needle 1-1.5 inches long should be used for adults.
5. In those less than 60 kg, a 5/8 to ¾ inch needle is preferred.
6. The needle should be inserted at a 90-degree angle into the appropriate muscle.
7. An attempt at aspiration should be made.
8. If blood is obtained on aspiration, the needle should be removed without administration of the vaccine, and the vaccine should be disposed of and a second attempt shall be made with a new needle, syringe, and dose.
9. If no aspiration occurs, the appropriate dose of vaccine should be delivered into the muscle in a quick, steady manner.
10. The needle and syringe should then be removed and disposed of in a sharps container.
11. Apply bandage to site of injection as needed.

Contraindications

1. Age less than 6 months.
2. History of Guillain-Barre.
3. Serious allergic reaction to a previous dose of Influenza vaccine (intranasal or intramuscular).
4. Allergic reaction to egg or egg products.
5. Different manufacturers have additional allergy contraindications that may include gentamicin, neomycin, polymyxin, thimerosal, gelatin, and latex. It is ESSENTIAL that anyone utilizing this protocol understands the packaging insert(s) and contraindications for the specific manufacturers' product(s) being used.
6. Any acute illness more severe than the common cold.
7. Oral (or equivalent) temperature elevation $\geq$ 101.5º F (38.6° C).

Reactions

1. Pain, redness and or swelling at the injection site and mild fever. If the

patient does have a severe enough reaction, please refer to Patient Care Plan Allergic/Anaphylaxis Reaction.

Schedule

1. One dose if vaccinated for the seasonal flu in any previous year.
2. Children 6 months through 9 years of age: Two doses separated by at least 21-28 days if they have never received a seasonal flu vaccination in the past, or if their first seasonal flu vaccine was last year and they only received one dose.

Cleansing Agent

1. Alcohol pad or equivalent (chlorascrub skin preparation).

Dosage

1. Please refer to the manufacturer's guidelines and your health region's pandemic response plan.

Procedures

Airway Management (Bag Valve Mask)

Purpose Allows positive airway pressure to be applied to any patient not ventilating properly	**Affected Protocols**
Equipment Personal Protective Equipment (PPE) Bag Valve Mask Resuscitator Suction	**Registration Levels Authorized:** **Emergency Medical Responder** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE.
2. Choose appropriately sized mask ensuring a tight seal covering the patient's mouth and nose.
3. Suction airway and remove obstructions ensuring airway is patent.
4. Ideally two persons should be used to provide ventilation. One to maintain a seal of the mask and the other to control the bag and provide ventilations.
5. Two opposing c-shapes using the thumbs and index fingers should be performed while applying pressure to provide a seal around the mouth and nose. Wrap the remaining fingers around the jaw pulling upwards to assist in opening the airway further.
6. Squeeze the bag at the appropriate rate for the patient.
7. Observe for mist on the mask and expansion of the chest wall.
8. If available, consider using SP02 and EtC02 to determine effectiveness of ventilation.

Indications

1. Apneic patients.
2. Patients whose respiratory rates are too slow to provide adequate tidal volume.
3. Patients whose respiratory rates are too fast to provide adequate tidal volume.

Contraindications

Precautions

Special Notes

1. Ventilation will only be effective if airway is patent.
2. PCP, ICP, and ACP may use a PEEP Valve to increase effectiveness of ventilations after approved training has been completed.

Airway Management (Endotracheal Intubation)

Purpose	**Affected Protocols**
Equipment	**Registration Levels Authorized:** **Advanced Care Paramedic**

Technique

1. PPE.
2. Open airway and pre-oxygenate patient while maintaining BURP.
3. Assemble equipment including cardiac monitor, suction, oximeter and alternative airway devices.
4. Intubate patient.
5. Verify placement of ETT using the 5-point check and EtCO2 monitor.
6. Insert an OPA.
7. Secure the ETT and record depth.
8. Always recheck and document the ETT placement after every major movement of patient or change in vital signs.

Indications

1. Respiratory insufficiency.
2. Altered mental status with airway compromise.
3. Situation requiring positive pressure ventilation.

Contraindications

Precautions

Special Notes

1. Consider the use of a PEEP Valve to increase effectiveness of ventilations after approved training has been completed.

Airway Management (Magill Forceps)

Purpose Removal of airway obstructions unrelieved by abdominal or chest thrust	**Affected Protocols**
Equipment Suction Laryngoscope Magill Forceps	**Registration Levels Authorized:** **Advanced Care Paramedic**
Technique 1. Choose appropriate size of equipment based on patient's size. 2. Assemble laryngoscope. 3. Position patient's head in the sniffing position. 4. Hold on to laryngoscope using your left hand. 5. Insert blade into the right side of the mouth, displacing the tongue to the left. 6. Visualize the obstruction. 7. Holding the Magill forceps in the right hand, remove the obstruction. 8. Visual airway for any other obstructions. 9. Once obstruction is removed, assess for adequate air exchange. 10. Assist with ventilation as necessary.	
Indications 1. Complete airway obstruction.	
Contraindications	
Precautions	
Special Notes	

Airway Management (Medicated Facilitated Intubation)

Purpose Difficult intubations	**Affected Protocols**
Equipment PPE Rescue Airways Suction Bougie Endotracheal tube(s) Laryngoscope ETCO2 Other confirmation devices	**Registration Levels Authorized:** **Advanced Care Paramedic**

Technique

1. PPE.
2. Evaluate difficult intubation using the Intubation Difficulty Score (L-E-M-O-N).
3. Prepare equipment for intubation.
4. If clinically indicated, consider administering anticholinergic (e.g. atropine), titrate to affect.
5. If clinically indicated, consider administering sedative, titrate to affect.
6. If clinically indicated, consider administering analgesic/anesthetic, titrate to affect intubate patient.
7. Evaluate, confirm and secure ETT.
8. If unsuccessful, consider rescue airway.
9. Maintain sedation as needed.

Indications

1. Immediate need to correct a severely compromised airway or when respiratory arrest is imminent.

Contraindications

Precautions

1. A common mistake is not allowing adequate time for sedation to take effect. The same timelines apply as they do for a routine intubation: the procedure should not be rushed; it should be a careful and controlled technique.
2. The actual intubation should take no longer than 15-20 seconds to complete. If the visualization is difficult, stop and re-ventilate/oxygenate before trying again. Following 3 unsuccessful intubation attempts, a rescue airway device should be considered.

Special Notes

1. Each application and/or attempt of the MFI portion of this protocol is subject to an internal agency/service/practitioner audit report subsequently supplied to the Saskatchewan College of Paramedics respecting HIPA guidelines within 30 days of application and/or attempt.
2. Specific drug names and doses have intentionally been omitted. Services utilizing this procedure should work with health region medical advisors to determine which drug within the classification to use, as well as accepted dosing in accordance with evidence-based medicine and best practice.
3. All intubated patients must have tube placement confirmed and documented using clinical criteria and ETCO2 with waveform.
4. A rescue airway is defined as an alternate airway (Supraglottic) to be used when intubation attempts fail. Rescue airways should only be considered in circumstances where BVM ventilation proves inadequate or there is an immediate compromise of the airway.
5. Evaluate the need to maintain sedation and analgesia/anesthesia during transport. Clinical indications for continued sedation would be unexplained hypertension and tachycardia. An initial dose of a sedative/analgesic may be given and titrated slowly to effect if the blood pressure allows. If necessary, maintenance may also be used on patients that did not initially require medication to facilitate the intubation (i.e. cardiac arrest patients).

6. Each patient may present unique challenges to airway management. Before any intervention is attempted, the paramedic should contemplate a plan of action that addresses the needs of the patient as well as anticipate complications and how to manage those complications, should the need arise.
7. Airway management is a continuum of interventions, not an "all or none" treatment. Some patients may only need airway positioning to achieve adequate ventilation and oxygenation. Others will require more invasive procedures. The paramedic should choose the least invasive method that can be employed to achieve adequate ventilation and oxygenation and should only be performed when the benefits of performing the procedure outweigh the potential risk to the patient.
8. Pediatric airway management in the pre-hospital care setting is controversial, and there is evidence that pre- hospital intubation of the pediatric patient does not contribute to improved patient outcomes. As such, pediatric intubation should be deferred whenever possible, unless the patient's airway has an immediate risk of being compromised or that ventilation/oxygenation cannot be maintained by using less invasive measures
9. Mastery of basic airway skills is paramount to the successful management of a patient with respiratory compromise.
10. Provide ventilation with a bag-valve-mask; proper use of the BVM includes appropriate mask selection and positioning to ensure a good seal. If possible, BVM is best accomplished with two people: one person using both hands to seal the mask and position the airway, while the other person provides ventilation. If the patient has some respiratory effort, synchronize bagging with the patient's own inhalation effort.
11. The paramedic should consider if the use of Continuous Positive Airway Pressure (CPAP) would be a benefit to the patient. CPAP has been shown to be effective in preventing intubation and decreasing mortality in properly selected patients with acute respiratory failure.
12. Only after basic procedures are deemed either inappropriate or have proven to be inadequate should more advanced methods be used. Medicated Facilitated Intubation (MFI) is a process of pharmacological interventions provided prior to endotracheal intubation with the goal of maximizing the likelihood of success while minimizing complications.

Airway Management (Nasal Pharyngeal Airways)

Purpose Used as an alternative to an oral pharyngeal airway. Provides a conduit for airflow between the nares and the pharynx.	**Affected Protocols**
Equipment PPE Nasal Pharyngeal Airways Bag Valve Mask Resuscitator Suction	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE.
2. Measure NPA from the nostril to the earlobe.
3. Ensure circumference of the NPA is appropriate for size of nares.
4. Lubricate with a water-based lubricant.
5. Insert NPA into the right nares ensuring the bevel is towards the septum.
6. Insert slowly until it comes to rest on the nostril.
7. If resistance is felt, rotate slightly but do not force. Try other nares if necessary.

Indications

1. Basic airway management for upper airway obstruction.
2. Can be considered when patient with an intact gag reflex will not tolerate an OPA.
3. Trismus.
4. Massive trauma around the mouth.
5. Wiring of the jaw.

Contraindications

1. Head trauma may allow insertion of the NPA into the cranial cavity.

Precautions

1. Improperly sized NPAs can cause trauma to the airway causing bleeding into the pharynx.
2. May cause aspiration or vomiting.

Special Notes

Airway Management (Oral Pharyngeal Airways)

Purpose Adjunct from basic airway management	**Affected Protocols**
Equipment Personal Protective Equipment (PPE) Bag Valve Mask Resuscitator Suction Oral Pharyngeal Airways (OPA)	**Registration Levels Authorized:** **Emergency Medical Responder** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**
Technique 1. PPE. 2. Clear mouth of secretions, blood, or vomit using a suction device. 3. Select appropriate size OPA, measuring from the corner of the mouth to the ear lobe. 4. Insert OPA with the tip towards the palate without pushing the tongue posteriorly using a cross finger technique. 5. When tip approaches the posterior wall of the pharynx, rotate the OPA 180 degrees.	
Indications 1. Patient is at risk of developing airway obstruction from the tongue. 2. Used to keep the airway open during bag valve mask ventilation. 3. Unconscious patients.	
Contraindications 1. Intact gag reflex.	
Precautions	
Special Notes 1. If the patient cannot tolerate, remove by pulling directly out of the mouth towards the patient's chin. 2. Avoid inserting the OPA with the tip towards the palate in children to avoid damaging the soft tissue.	

Airway Management (Supraglottic Airways)

Purpose
Supraglottic airways are used for the non-definitive management of the airway. They are alternatives to tracheal intubation or mask ventilation. These devices offer the ability to provide positive-pressure ventilation, thus allowing maximum versatility as an airway management tool.

Affected Protocols

Equipment
Personal Protective Equipment (PPE)
Correct size airways
Syringe(s) based on type
BVM
SpO2 Monitor
Lubricant
Suction equipment

Registration Levels Authorized:

Primary Care Paramedic

Intermediate Care Paramedic

Advanced Care Paramedic

Technique

1. Attach pulse oximeter and monitor oxygen saturation.
2. If vomitus, blood or other foreign material is present in the hypopharynx, rapid and aggressive suctioning and/or manual removal must be done *prior* to attempting insertion of the supraglottic airway.
3. Ventilate patient with bag-valve-mask (BVM) prior to insertion of the airway.
4. Refer to the manufacturer recommendations for proper sizing of the device.
5. Utilize a water-soluble lubricant as recommended by the manufacturer.
6. Place patient's head into a "sniffing" position.
    a. In cases of suspected or potential cervical spine injury, place the patient's head in a neutral position.
    b. For obese patients, elevation of the shoulders and upper backmay be required to achieve "sniffing position".
7. Once airway is inserted, attach bag-valve device with supplemental oxygen to connector. Begin gently bagging the patient to assess ventilation.
8. Listen for lung sounds in both lateral lung fields and overthe epigastrium.
9. EtCO2 is recommended for tube placement confirmation.
10. As soon as feasible, secure the airway with an endotracheal tube holder. Do *not* use tape.
11. If ventilation is *not* sufficient, gently withdraw the device while ventilating and stop withdrawing once ventilation becomes easy.

Indications

1. As an adjunctive in the difficult airway algorithm.
2. As an alternative to endotracheal intubation where endotracheal intubation cannot occur.

Contraindications

1. Follow the manufacturer's recommendations for the contraindications for the device you are using.

Precautions

1. Adequacy of ventilation and position of the airway must be re-evaluated any time after a patient has been moved (e.g., floor to stretcher; stretcher to ambulance, etc.).

Special Notes

1. It is up to the paramedic to familiarize themselves with the airway carried by their employer.
2. PCP, ICP, and ACP may use a PEEP Valve to increase effectiveness of ventilations after approved training has been completed.

Arterial Line Monitoring

Purpose Commonly used to manage critically ill patients to obtain more accurate blood pressures and/or repeated blood gas samples.	**Affected Protocols**
Equipment	**Registration Levels Authorized:** **Advanced Care Paramedic**
Technique 1. Make certain arterial line is secured prior to transport, including intersection of arterial catheter and IV monitoring lines. 2. Use available equipment for monitoring of arterial pressures via arterial line. 3. Regularly inspect the area for signs of ischemia. 4. Do not use the arterial line for administration of any fluids or medications. 5. If there is any question regarding dislodgement of the arterial line and bleeding results, contact OLMC for further direction. 6. If OLMC advises to remove the line, apply direct pressure over the site for at least five minutes before checking to ensure hemostasis.	
Indications 1. Continuous direct blood pressure monitoring. 2. Frequent arterial blood gas sampling. 3. Failure of indirect blood pressure monitoring	
Contraindications 1. Absent pulse. 2. Buerger disease. 3. Full thickness burns over cannulation site. 4. Inadequate circulation to extremity. 5. Raynaud syndrome.	
Precautions	
Special Notes 1. Never turn off alarms. 2. Common sites for insertion include radial, ulnar, brachial, axillary, and occasionally dorsalis pedis arteries.	

Blood and Blood Products Monitoring

Drug Classification	**Relevant Protocol(s)** Inter-facility transfer of patients receiving medications
Supplied Red blood cells-red cells, packed cells, packed red blood cells Platelets Plasma-fresh frozen plasma (FFP)	**Authorized Administration Routes** **Primary Care Paramedic – monitor infusion** **Intermediate Care Paramedic – monitor infusion** **Advanced Care Paramedic – monitor infusion**

Indications

1. Red blood cells: anemia, red blood cell exchange,exchange transfusion.
2. Platelets: bleeding or prevention of bleeding, aplasticanemia.
3. Plasma: warfarin reversal, bleeding, disseminated intravascular coagulation (DIC), heparin resistance.

Contraindications

None

Precautions

1. Monitor for transfusion reaction.
2. Immediate reactions may include, but are not limited to allergic reaction, fever, hemolytic reaction (un-cross matched, incompatible blood), and transfusion related lunginjury.
3. Delayed reactions may include, but are not limited to delayed hemolytic reaction, post transfusion purpura, transfusion-associated graft-versus-hostdisease.

Special Notes

1. Blood and/or blood products must be administered via an IV pump and patient must be hemodynamically stable and afebrile for 30 minutes prior to transport.
2. If patient exhibits any sign of possible transfusion reaction, discontinue infusion and seek medical control for further orders.
3. A physician's written order must accompany the patient specifying the flow rate of the blood product, which should be no faster than two hours per unit and no slower than four hours per unit. A pneumatic infusion cuff cannot be utilized during transport as this increases the risk of a reaction, unless a physician is present.
4. Only normal saline can be infused through the same IV site as a blood product.
5. Vital signs, including temperature, should be done every 30 minutes.
6. Vital signs, rate of transfusion and patient status must be carefully documented on the PCR form.

Cardiac Monitoring (Continuous Monitoring)

Purpose To monitor heart rhythms of patients who are at risk of developing cardiac dysrhythmia.	**Affected Protocols**
Equipment Cardiac Monitor Skin preparation equipment (razor, dry towel) Disposable electrodes	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE.
2. Assess patient and monitor cardiac status.
3. Place electrodes in the standard Lead II configuration. (One between the right nipple and the clavicle, one between the left nipple and the clavicle, and one in the "Apex" area, between the left nipple and the iliac crest).
4. As an alternative, place the appropriate leads on the anterior aspects of the appropriate limbs. This is especially useful when a 12-Lead ECG is anticipated.
5. Attach the black wire to the left-arm electrode (Ground), the white wire to the right-arm electrode (Negative), and the red wire to the left leg electrode. (Positive). If present, the green wire is attached to the right leg electrode, and the brown wire is attached to the chest electrode in the V1 position.
6. Turn the control switch to the desired lead position.

Indications

1. Patients at risk for dysrhythmia shall receive continuous ECG monitoring.

Contraindications

None

Precautions

None

Special Notes

1. Limb lead ECG monitoring is for rhythm interpretation only. A 12-lead must be obtained to document diagnostic ECG changes (ST segment changes, Q waves, etc.).

Cardiac Monitoring (12-Lead Acquisition/Interpretation)

Purpose
As a diagnostic test to display different views of the heart's electrical activity giving a more complete picture of the heart than a single rhythm strip.

Affected Protocols

Equipment
Cardiac Monitor equipped with 12-Lead capabilities
Skin preparation equipment (razor, dry towel)
Disposable electrodes

Registration Levels Authorized:
Primary Care Paramedic (Acquisition Only)
Intermediate Care Paramedic (Acquisition Only)
Advanced Care Paramedic (Acquisition and Interpretation)

Technique
1. PPE.
2. Assess patient and monitor cardiac status.
3. Prepare ECG monitor and connect patient cable with electrodes.
4. Expose chest and prep as necessary.
5. Apply chest leads and extremity leads using the following landmarks:
    a. RA – Right Arm
    b. LA – Left Arm
    c. RL – Right Leg
    d. LL – Left Leg
    e. V1 – 4th intercostal space at right sternal border
    f. V2 – 4th intercostal space at left sternal border
    g. V3 – directly between V2 and V4
    h. V4 – 5th intercostal space at midclavicular line
    i. V5 – Level with V4 at left anterior axillary line
    j. V6 – Level with V4 at left midaxillary line.
6. Instruct patient to remain still.
7. Press appropriate button to obtain 12-Lead.
8. Continue monitoring patient while continuing with treatment protocol.
9. Document the procedure, time and results on patient care report form.

Indications
1. Known or suspected cardiac patients.
2. Suspected overdose.
3. Electrical injuries.
4. Syncope.

Contraindications

Precautions

Special Notes
1. If patient is unstable, definitive treatment is the priority.

Cardiopulmonary Resuscitation

<table>
<tr><td></td><td colspan="3">Recommendations</td></tr>
<tr><td>Component</td><td>Adults</td><td>Children</td><td>Infants</td></tr>
<tr><td rowspan="3">Recognition</td><td colspan="3">Unresponsive (for all ages)</td></tr>
<tr><td>No breathing or no normal breathing (i.e. Only gasping)</td><td colspan="2">No breathing or only gasping</td></tr>
<tr><td colspan="3">No pulse palpated within 10 seconds for all ages (HCP only)</td></tr>
<tr><td>CPR sequence</td><td colspan="3">C-A-B</td></tr>
<tr><td>Compression rate</td><td colspan="3">At least 100/min</td></tr>
<tr><td>Compression depth</td><td>At least 2 inches (5cm)</td><td>At least 1/3 AP depth or about 2 inches (5cm)</td><td>At least ¼ AP depth or about 1 ½ inches (4cm)</td></tr>
<tr><td>Chest wall recoil</td><td colspan="3">Allow complete recoil between compressions HCPs rotate compressors every 2 minutes</td></tr>
<tr><td>Compression Pause</td><td colspan="3">Minimize pauses in chest compressions
Attempt to limit pauses to < 10 seconds</td></tr>
<tr><td>Airway</td><td colspan="3">Head tilt-chin lift (HCP suspected trauma: jaw thrust)</td></tr>
<tr><td>Compression to ventilation ratio (until advanced airway placed)</td><td>30:2
1 or 2 rescuers</td><td colspan="2">30:2
single rescuer 15:2
2 HCP rescuers</td></tr>
<tr><td>Ventilations: when rescuer untrained or trained and not proficient</td><td colspan="3">Compressions only</td></tr>
<tr><td>Ventilation with advanced airway (HCP)</td><td colspan="3">1 breath every 6-8 seconds (8-10 breaths/min)
Asynchronous with chest compressions
About 1 second per breath
Visible chest rise</td></tr>
<tr><td>Defibrillation</td><td colspan="3">Attach and use AED as soon as available. Minimize chest compressions pause before and after shock; resume CPR beginning with compressions after each shock.</td></tr>
</table>

Note. From Highlights of the 2010 American Heart Association Guidelines for CPR and ECC. Copyright 2010 by The American Heart Association.

Chest Decompression

Purpose
The emergency decompression of a tension pneumothorax using an over-the-needle catheter

Affected Protocols

Equipment
PPE
Appropriately sized cathlon
Tape
Alcohol/Betadine Swabs

Registration Levels Authorized:
Advanced Care Paramedic

Technique

1. Expose the entire chest.
2. Establish landmarks to identify second intercostal space, mid-clavicular line.
3. Clean chest vigorously with appropriate antiseptic.
4. On affected side, locate the mid-clavicular line and insert a large gauge over-the-needle catheter with syringe attached along the superior margin of the third rib.
5. If the air is under tension, the barrel will pull easily and "pop" out of the syringe.
6. Remove syringe, advance catheter, and remove needle.

Indications

1. To warrant chest decompression in the field, the patient must be in immediate risk of dying with:
    a. High clinical suspicion;
    b. Progressive respiratory distress; and
    c. Shock symptoms with low or rapidly decreasing blood pressure and at least one of the following:
        i. Decreased or absent breath sounds.
        ii. Consistent history (i.e., chest trauma, COPD, asthma).
        iii. Distended neck veins.
        iv. Tracheal shift away from affected side (late sign).
        v. Asymmetrical movement on inspiration.
        vi. Hyper-expanded chest on affected side.
        vii. Drum-like percussion on affected side.
        viii. Increased resistance to positive pressure ventilation, especially if intubated.

EMS witnessed traumatic arrest patients with abdominal or chest trauma for whom resuscitation is indicated should have bilateral chest decompression performed even in the absence of the above signs.

Contraindications
None.

Precautions

1. Patient's chest should be auscultated often for return of tension or other respiratory complications.
2. Tension pneumothorax is a rare condition but can occur with trauma, spontaneously, or as a complication of intubation. Tension takes time to develop, but forceful positive ventilation may increase the rate of development.
3. Simple or non-tension pneumothorax is not life threatening and should not be decompressed in the field.
4. The ideal decompression catheter length is three inches.
5. Possible complications:
    a. Creation of pneumothorax if none existed previously.
    b. Laceration of lung or pericardium. Stop needle advancement once it has popped through the pleura and advance the catheter only.
    c. Laceration of blood vessels (always slide the needle above the rib).
    d. Infection. Clean rapidly but vigorously (use sterile gloves if possible).
    e. Tension pneumothorax can be precipitated by the occlusion of an open chest wound.

Special Notes

Chest Tube Monitoring

Purpose	**Affected Protocols**
Chest tubes facilitate the removal of fluid and/or air from the pleural space, re-establishes normal negative pressure in the pleural space, promotes re-expansion of the lung, and prevents reflux of fluid and/or air back into the pleural space.	
Equipment Personal Protective Equipment (PPE) Chest Drainage Unit or Heimlich Valve Chest Tube Suction Regulator and Tubing	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE.
2. Monitor chest tube for leaks.
3. Chest drainage apparatus should be a least one foot below the level of the insertion site.
4. Monitor underwater seal for bubbling in a pneumothorax. Occasional bubbling is normal.
5. Monitor collection change for volume, rate and type of drainage. Change collection chamber if full.
6. Ensure suction control chamber is the correct type and appropriate amount of suction. If suction is direct gentle bubbling will be noted. If suction is indirect no bubbling will be noted.
7. Water level should be according to physician's orders.

Indications

1. Hemothorax
2. Pneumothorax
3. Hemo-pneumothorax
4. Empyema
5. Pleural Effusion
6. Chylothorax

Contraindications
None

Precautions
None

Special Notes

Continuous Positive Airway Pressure (CPAP)

Purpose
Continuous Positive Airway Pressure has been shown to rapidly improve vital signs, gas exchange, and to decrease the work of breathing, the sense of dyspnea and the need for endotracheal intubation in patients who suffer from shortness of breath secondary to CHF/ pulmonary edema or COPD.

Affected Protocols
Asthma/COPD

Equipment
Personal Protective Equipment (PPE)
CPAP Device
ETCO2

Registration Levels Authorized:
Primary Care Paramedic
Intermediate Care Paramedic
Advanced Care Paramedic

Technique
1. Explain and coach the patient on the procedure.
2. Ensure adequate oxygen supply to ventilate device.
3. Place the patient on continuous pulse oximetry and ETCO2.
4. Following manufactures recommendations, start oxygen flow and adjust as needed.
5. Depending on which CPAP device you are using, place the CPAP over the mouth and nose.
6. Secure the mask with the provided straps.
7. Check for air leaks.
8. Monitor and document the patient's respiratory response to the treatment.
9. Continue to coach patient to keep mask in place and readjust as needed.
10. If respiratory status deteriorates, remove device and consider bag valve mask ventilation and/or endotracheal intubation.

Indications
1. Hypoxemia secondary to congestive heart failure.
2. Acute cardiogenic shock.
3. Pulmonary edema.
4. Asthma/COPD.
5. Respiratory distress (A respiratory rate >25 bpm, SpO2 <92%, accessory muscle use during respiration).

Contraindications
1. Pneumothorax or chest trauma.
2. Hemodynamically unstable patients.
3. Altered mental state, uncooperative or unresponsive patients.
4. Patient has a tracheotomy.
5. Patient is actively vomiting.
6. Patient has an upper GI bleed.

Precautions
1. Patient must be alert and able to follow commands (GCS>13).
2. Be able to maintain an open and patent airway on their own.
3. Patient is over 12 years of age and must be able to fit the CPAP mask.

Special Notes
1. The paramedic should follow the instructions for application of CPAP according to the manufacturer's instructions for the device they are using.
2. The operator adjusts flow and FiO2 depending on the patient's tolerance to the mask, pulse oximetry and dyspnea.
3. The practitioner should watch for gastric distension, which can result in vomiting.
4. CPAP therapy needs to be continuous and should not be removed unless the patient cannot tolerate the mask or experiences respiratory/cardiac arrest or begins to vomit. If the CPAP therapy needs to be discontinued, intermittent positive pressure ventilation with a Bag-Valve-Mask device and/or placement of an endotracheal tube should be considered.
5. On arrival at the hospital do not remove CPAP until hospital therapy is ready to be placed on patient.

Deep Tracheal Suctioning

<table>
<tr><td>Purpose
To maintain airway patency of patients with tracheal tubes.</td><td>Affected Protocols</td></tr>
<tr><td rowspan="2">Equipment
Personal Protective Equipment (PPE)
Suction Catheter
Suction
Tubing
Suction
Bottle of normal saline
Bag Valve Mask
SpO2 Monitor</td><td>Registration Levels Authorized:
Intermediate Care Paramedic</td></tr>
<tr><td>Advanced Care Paramedic</td></tr>
<tr><td colspan="2">Technique
1. PPE
2. Explain procedure to the patient.
3. Ensure patient has been properly pre-oxygenated.
4. Assess lungs sounds, and obtain a baseline set of vitalsigns.
5. Place a drape across patient for secretions.
6. Using a sterile technique attach suction catheter to suction and ensure suction is working properly by inserting tip of suction into the normal saline.
7. Using your dominant hand insert catheter into the tracheal tube until resistance is felt. Withdraw catheter approximately one inch and apply suction intermittently withnondominant hand.
8. Slowly withdraw suction catheter noting the type andamount of secretions.
9. Clear suction line using normal saline.
10. If indicated, repeat until secretions have been cleared.</td></tr>
<tr><td colspan="2">Indications
1. Patients who require tracheal tube suctioning.</td></tr>
<tr><td colspan="2">Contraindications</td></tr>
<tr><td colspan="2">Precautions</td></tr>
<tr><td colspan="2">Special Notes</td></tr>
</table>

Drug Administration (Buccal)

Purpose To administer medications via the buccal route.	**Affected Protocols** Hypoglycemic
Site Oral cavity between the cheek and gums	**Registration Levels Authorized:** **Emergency Medical Responder** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**
Technique 1. PPE 2. Confirm the indication, medication, dose, route, and expiration date. 3. Explain procedure to the patient and gain consent. 4. Confirm with the patient that he or she has no allergies to the medication, and document allergies to any other medication. 5. Place medication between the patient's gum and cheek near the location of the molar teeth. 6. Advise patient not to drink any fluids while the medication is dissolving and being absorbed. 7. Record on patient care report. 8. Evaluate desired effects and adverse effects.	
Indications 1. The administration of medications via the buccal route.	
Contraindications 1. Unconscious patients. 2. Patients without an intact gag reflex.	
Precautions	
Special Notes 1. Instruct patient not to swallow buccal medication.	

Drug Administration (Intramuscular)

Purpose A method of administering a drug into a muscle	**Affected Protocols**
Injection Sites Deltoid muscle Vastus lateralis Gluteal muscle	**Registration Levels Authorized:** Emergency Medical Responder - auto-injector Primary Care Paramedic Intermediate Care Paramedic Advanced Care Paramedic

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. If the patient's clinical presentation allows, explain the procedure to the patient and gain consent.
4. Select a retractable needle.
5. Draw up the correct dose of medication and expel any excess air from the syringe.
6. Select the appropriate site for injection and clean the area with an alcohol swab.
7. Insert the needle by piercing the skin with the needle at a 90° angle, using a quick, dart-like technique.
8. Aspirate by pulling back on the plunger of the syringe. If blood appears in the syringe, withdraw the needle a little and then aspirate again. If blood continues to appear, withdraw the needle completely and inject in a slightly different site. When blood does not appear, it is safe to inject the drug.
9. Inject the drug by holding the syringe barrel firmly and push slowly on the syringe plunger.
10. Retract the needle by depressing the plunger until the needle retracts into the barrel of the syringe. If using a standard syringe (e.g. glucagon and enoxaparin) remove the needle swiftly.

Indications

1. The administration of medications via the IM route.

Contraindications

1. Evidence of infection or trauma at the injection site.

Complications

1. Pain.
2. Bleeding.

Special Notes

1. EMRs can only administer epinephrine and naloxone by IM auto-injector.
2. Use different sites for subsequent injections.

Drug Administration (Intranasal)

Purpose A method of administering a drug into a nasal cavity	**Affected Protocols**
Site Nares	**Registration Levels Authorized:** **Emergency Medical Responder (pre-filled syringe)** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. If the patient's clinical presentation allows, explain the procedure to the patient and gain consent.
4. Calculate the dosage required.
5. Draw up dose in the one [or three] milliliter syringe:
6. For volumes > 0.5 mL and < 2.0 mL optimize drug absorption by delivering half the dose into each nostril.
7. If volumes of > 2 mL are required, an alternative route of administration should be sought.
8. Connect the atomizer to the syringe via the Luer-Lok mechanism. Twist into place.
9. Control and stabilize the patient's head with one hand.
10. Apply the atomizer gently but firmly into the nostril.
11. Aim slightly upward and towards the ear on the same side as the nostril.
12. Briskly compress the syringe plunger to deliver approximately half of the medication into the nostril.
13. Move the device over to the opposite nostril and briskly administer the remaining half of the medication into that nostril. (Administering half the dose in one nostril and half in the other doubles the surface area available for absorption).

Indications

1. To deliver fast acting medications where IM and IV access is inappropriate and/or difficult (e.g. rapid analgesia in children).

Contraindications

1. Suspected nasal fracture.
2. Blood obstructing the nasal passage.
3. Mucus obstructing the nasal passage.
4. Drug not approved to be administered via atomizer.

Precautions

1. Under dose is possible if not administered properly.
2. Mild, short lasting discomfort (typically burning) from the drug itself.

Special Notes

1. The EMR can only administer naloxone by pre-filled intranasal syringe.
2. The nasal cavity has an easily accessible, rich vascular plexus that permits topically administered drug to rapidly achieve effective blood levels. This is most effectively accomplished by distributing drug solutions as a mist rather than as larger droplets, which may run off instead of being absorbed.

Drug Administration (Intraosseous)

Purpose To initiate a rapid systemic response to medication	**Affected Protocols**
Site Intraosseous	**Registration Levels Authorized:** **Intermediate Care Paramedic** **Advanced Care Paramedic**
Technique 1. PPE 2. Confirm the indication, medication, dose, route, and expiration date. 3. Prepare medication in a syringe with protected needle system. 4. Clear all air from syringe and expel excess medication. 5. Cleanse site and attach syringe into the port of the IO line. 6. Check patency of IO by aspirating blood or by monitoring flow with no signs of infiltration. 7. Clamp IV line as medication is pushed into the IO port. 8. Flush IO line. 9. Monitor for sign of infiltration. 10. Dispose of syringe.	
Indications 1. To initiate a rapid systemic response to medication intraosseously.	
Contraindications 1. None in this setting.	
Precautions 1. None in this setting.	
Special Notes	

Drug Administration (Intravenous)

Purpose To initiate a rapid systemic response to medication	**Affected Protocols**
Site Intravenous	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. Prepare medication in a syringe with protected needle system.
4. Clear all air from syringe and expel excess medication.
5. Cleanse site and attach syringe into the port of the IV line.
6. Check patency of IV by aspirating blood or by monitoring flow with no signs of infiltration.
7. Clamp IV line as medication is pushed into the IV port.
8. Flush IV line.
9. Monitor for sign of infiltration.
10. Dispose of syringe.

Indications

1. To initiate a rapid systemic response to medication intravenously.

Contraindications

1. None in this setting.

Precautions

1. None in this setting.

Special Notes

1. PCPs are only authorized to administer dextrose, naloxone, ketorolac, and anti-emetics via IV.
2. If a member is authorized to administer a particular medication intravenously, they are also authorized to monitor the medication as an infusion.

Drug Administration (Nebulized)

Purpose Nebulization converts a drug in solution into an aerosol mist by passing a pressurized gas through it. The drug is then inhaled into the lungs.	**Affected Protocols**
Site Inhaled into the lungs	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. Position patient appropriately.
4. Explain the procedure to the patient and gain consent.
5. Place the appropriate drug in its correct presentation into the nebulizer chamber, which must be kept upright.
6. Attach the oxygen hosing to the base of nebulizer and to the oxygen source.
7. Place nebulizer face mask onto the patient and set the oxygen flow rate at 6–8 litres per minute. * (6 litres per minute for COPD).
8. Nebulize the drug until vapour stops.
9. Continue with intermittent or continuous nebulization as required.

Indications

1. Bronchospasm (e.g. asthma, COPD, allergy).
2. Isolated laryngeal edema.
3. Croup with stridor at rest.
4. Hyperkalemia.

Contraindications

1. None.

Precautions

1. None.

Special Notes

1. Nebulization is a highly effective method of delivering certain drugs into the lungs for local and systemic action.

Drug Administration (Oral)

Purpose Administration of oral medications	**Affected Protocols**
Site Mouth	**Registration Levels Authorized:** **Emergency Medical Responder** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**
Technique 1. PPE 2. Confirm the indication, medication, dose, route, and expiration date. 3. Place patient in sitting position. 4. Explain the procedure to the patient and gain consent. 5. Provide an adequate volume of water with tablets. 6. Monitor patient until all medications are swallowed. If tablets are dissolvable/dispersible, ensure the whole volume of solution is taken.	
Indications 1. Administration of oral medications.	
Contraindications 1. Impaired conscious state, or swallowing ability.	
Complications 1. Aspiration and airway compromise.	
Special Notes 1. Drugs are given orally because of convenience, absorption of the drug, and ease of administration.	

Drug Administration (Rectal)

Purpose Administration of medications rectally	**Affected Protocols**
Site Rectum	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. Draw the correct amount of medication into the syringe.
4. Place the hub of the catheter on the end of a needleless syringe.
5. Insert catheter into the rectum and inject medication.
6. Withdraw catheter and hold the patient's buttocks together, permitting retention and absorption.

Indications

1. In emergent situations where rapid drug abortion is needed, and an intravenous line cannot be established, and oral administration is contraindicated.
2. A pediatric patient who resists administration of oral medication and IV access proves impractical.

Contraindications

1. None.

Precautions

1. None.

Special Notes

1. Administration higher in the rectum may result in the medications being absorbed by veins that deliver drug to the portal circulation.

Drug Administration (Subcutaneous)

Purpose Administration of medication subcutaneously	**Affected Protocols**
Site Most widely used and preferred site is the lower abdomen approximately 3 cm from the umbilicus	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. Explain the procedure to the patient.
4. The patient should be reclined.
5. Select the appropriate site for injection and clean the area with an alcohol swab. The approved site is the lower abdomen, approximately 3–6 cm radius from the umbilicus.
6. Pinch a 5 cm fold of skin between your thumb and index finger to pull the fatty tissue away from the muscle underneath it.
7. Hold the syringe like a pencil or dart and insert the needle quickly at a 45° angle to the pinched skin.
8. The needle should be completely covered by skin.
9. Aspirate by pulling back on the plunger of the syringe. If blood appears in the syringe, withdraw the needle a little and then aspirate again. If blood continues to appear, withdraw the needle completely and inject in a slightly different site. When blood does not appear, it is safe to inject the drug.
10. Inject medication.
11. Release the skin and withdraw the needle.
12. Do not rub the area.

Indications

1. Administration of medication subcutaneously.

Contraindications

1. Injection of medications into scar tissue, bruises, infection, or broken skin.

Complications

1. Pain.
2. Bleeding.

Special Notes

1. Subcutaneous injections deliver medications by a small gauge needle into the layer of fat between the skin and muscle.
2. Use different sites for subsequent injections.

Drug Administration (Sublingual)

Purpose To administer medications sublingually	**Affected Protocols**
Site Beneath the tongue	**Registration Levels Authorized:** **Emergency Medical Responder** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. PPE
2. Confirm the indication, medication, dose, route, and expiration date.
3. Explain the procedure to the patient.
4. Have the patient open their mouth and raise the tip of their tongue to the roof of their mouth.
5. Direct the spray under the patient's tongue. Care must be taken to avoid the risk of any cross infection.

Indications

1. Administration of nitroglycerin.

Contraindications

None.

Precautions

None.

Special Notes

Emergency Tracheostomy Tube Replacements

Purpose Patients who are ventilated via tracheotomy tube are becoming more frequently encountered by paramedics in a non-hospital setting (home, extended care facilities). Therefore, the ACP and/or ICP may be called upon to provide care to a ventilated patient when a tracheotomy tube has become obstructed or dislodged.	**Affected Protocols**
Equipment	**Registration Levels Authorized:** **Intermediate Care Paramedic** **Advanced Care Paramedic**
Technique 1. As there is a geographic variation in the model of tracheotomy tube used and a method of reinsertion, a procedure will be developed by each Regional Medical Advisor which reflects the local standard of care for this equipment. 2. The procedure for tracheotomy tube replacement for your service is to be placed on the following page. Before this protocol is instituted in the field, the ACP and/or the ICP will be required to attend a training session where the medical advisor/designate will certify that the member is competent in the procedure.	
Indications	
Contraindications	
Precautions	
Special Notes 1. Having completed the training, the ICP/ACP may provide emergency care for tracheotomy tubes. 2. This will be repeated as part of the recertification every two years. Documentation of successful completion of the initial and on-going training must be kept by each service.	

End Tidal CO2 Monitoring

Purpose To measure the effectiveness of ventilation by measuring the amount of carbon dioxide in exhaled air.	**Affected Protocols**
Equipment End Tidal CO2 Monitor	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. Manage airway according to Airway Management procedure.
2. Apply ETCO2 monitor. Maintain ETCO2 output between 35-40 mmHg.
    a. The following approximates the degree of ventilation:
        i. 40 = Hypoventilation
        ii. 35-40 = Normal ventilation
        iii. 30-35 = Hyperventilation
        iv. < 30 = Aggressive hyperventilation
3. Patients with signs of increased intracranial pressure (unilateral dilated pupil, posturing, focal neurologic findings) maintain CO2 between 30-35.
4. Document pulse oximetry and ETCO2 readings in your pre-hospital care report at regular intervals, especially following movement of the patient or change in vital signs.

Indications

1. Any patient who is intubated with an endotracheal tube, King LT, or has a secured airway from any other advanced airway.

Contraindications

None.

Precautions

1. Remember: pulse oximetry does not equate to ventilation. You can have a poorly ventilated patient displaying an oxygen saturation of 100%. Excessively high PaCO2 levels can be detrimental to your patient's outcome.
2. A sudden drop in CO2 output from normal (35-40 mmHg) to 15-20 mmHg and an obvious change in the waveform is indicative of tube displacement, most likely into the hypopharynx. Re-assess tube

Special Notes

1. The ETCO2 sensor monitors the carbon dioxide that is exhaled by the patient.
2. EtCO2 monitoring cannot rule out an ETT that has been placed in the right main stem bronchus.
3. Adult filter line tubing should only be used on ET tube sizes 5.0 and larger. Pediatric filter line tubing should only be used on ET tube sizes 4.5 and smaller.
4. CO2 monitoring is immediately initiated as soon as the filter line is connected.
5. ETCO2 monitoring does NOT relieve the paramedic's responsibility of initially confirming the initial placement of an advanced airway, after every major movement, and before entering the emergency department.

Glucose Monitoring

Purpose
Field blood glucose monitoring, using a glucometer, is a quick and convenient way of obtaining an indication of a patient's blood glucose level

Affected Protocols

Equipment
PPE
Glucometer
Test
Strips

Registration Levels Authorized:
- Emergency Medical Responder
- Primary Care Paramedic
- Intermediate Care Paramedic
- Advanced Care Paramedic

Technique
1. Ensure infection control guidelines are applied.
2. Clean area to be tested using an alcohol swab and allow to dry.
3. Prepare lancing device, ensuring it is a fully disposable lancet.
4. Without touching the 'blood target area', insert the sensor electrode into the test port of the glucometer, ensuring it turns on.
5. Lance the side of the finger with the lancet and obtain a hanging drop of blood.
6. Move the glucometer to the finger and apply a drop of blood to the target area of the sensor strip.
7. The test will start automatically and the BGL reading will appear on the screen.
8. Discard the lancet and sensor electrode appropriately.
9. Cover the wound with a Band-Aid.
10. Record the patient's BGL.

Indications
1. Seizure.
2. Sick pediatric patients.
3. Decreased level of consciousness.
4. Syncope.
5. Abnormal behavior.
6. Any patient suspected of being hypoglycemic.

Contraindications
Although no actual contraindications exist for glucose monitoring, it must be remembered that this procedure is invasive and so judgment must be used as to the appropriateness of performing the procedure.

Precautions
1. BGL readings should not be interpreted in isolation, but with consideration of the other clinical signs and available history.
2. Numerous variables may distort test results such as:
    a. blood volume on the sensor;
    b. oxygen level of the blood; and
    c. glucose contaminants on the skin.

Special Notes
1. Blood may be drawn from a cannula while gaining IV access.
2. Some machine configurations allow the sensor strip to touch the skin, while others specify that the sensor must not touch the skin.
3. Ensure glucometer is calibrated as per manufacturers and health region recommendation.
4. Alcohol can affect the BGL result; the use of a new Band-Aid represents a readily available, near-sterile option for drying the site.

Interfacility Transfer of Patients Receiving Medication

Purpose

It is a frequent occurrence that paramedics are called upon to transport patients from the rural area to urban centers or in urban centers between facilities with IV infusions. The Paramedic Clinical Practice Guidelines and Scope of Practice provides for paramedics to attend on inter-facility transfers of patients receiving oral medications as well as number of IV drip medications. Any medication a paramedic can administer via IV can be monitored on an interfacility transfer in addition to those listed below.

Affected Protocols

Equipment

Registration Levels Authorized:

Primary Care Paramedic

Intermediate Care Paramedic

Advanced Care Paramedic

Technique

1. The implementation of each of these medications within the protocol requires the development of an approved training module with facilitation of the module locally to PCP, ICP, and ACP care providers. Staff will be in- serviced on the medication and a copy of a training roster will be kept on their training file.
2. All paramedics are to be trained inthe operation of the IV pumps used in their service.

Approved Medications:

1. The PCP may monitor the following IV infusions:
    a. IV Anti-microbials
    b. IV Blood
    c. IV Blood Products
    d. IV Heparin
    e. IV Oxytocin
    f. IV Potassium
    g. N- Acetylcysteine (Mucomyst)
    h. Fibrinolytics (*Stroke Only)
    i. Tranexamic Acid (TXA)
    j. Total Parenteral Nutrition (TPN)

2. The ICP may monitor the following additional IVinfusions:
    a. IV Glycoprotein IIb/IIIa Inhibitors
    b. IV Pantaloc

3. The ACP may monitor the following additional infusions:
    a. Fibrinolytics
    b. Insulin

4. Oral Medications provided the following conditions aremet:
    a. There is a written order by a physician for the medication.
    b. The medication ordered is one that normally would be self-administered by the patient in a home setting. (i.e. Gastrografin, oral analgesics such as Acetaminophen, ASA, Ibuprofen).

Contraindications

Precautions

Special Notes

1. All additions to this protocol must be submitted to the SCoP along with education materials. The addition of the medication will be discussed at the Paramedic Practice Committee and if agreed to, will then be sent for approval by the College of Physicians and Surgeons Saskatchewan prior to implementation.

Interfacility Transfer of Patients with Medical Devices in Place

Purpose

It is a frequent occurrence that paramedics are called upon to transport patients from the rural area to urban centers, in urban centers between facilities or to home residences. It is also becoming common for patients to be discharged home with various medical devices in place. It is, therefore, appropriate for paramedics to be called upon to transport patients with medical devices in place.

Affected Protocols

Equipment

Registration Levels Authorized:

- Emergency Medical Responder
- Primary Care Paramedic
- Intermediate Care Paramedic
- Advanced Care Paramedic

Technique

When transporting a patient with a medical device in place:

1. Paramedics must ensure that the device is one they are approved to manage.
2. The patient must be hemodynamically stable.
3. Vital signs must be checked q15 minutes.
4. If the patient develops any untoward effects, the paramedics will immediately stop at the nearest hospital or contact the nearest hospital for physician orders regarding the device.
5. The device must be one the patient would normally be able to care for at home.
6. Examples of these devices may include but not be limited to: Jackson Pratt drains, pacemakers, central lines, abdominal dialysis lines, etc.

Approved Devices:

The EMR, PCP, ICP and ACP may monitor the following devices:

1. Nasogastric Tubes (Gravity Drainage Only).
2. Urinary Catheters.

The PCP, ICP and ACP may monitor the following devices:

1. Naso/Orogastric Tubes (suction)
2. Tracheostomy Tubes
3. Jackson Pratt Drains.
4. Central Venous Catheters when used for fluid administration.
5. Peritoneal Dialysis Tubes.
6. Heimlich Valves.
7. Chest Tubes (with water seal).
8. PEG Tubes

The ACP may monitor the following devices:

1. If in place, Central Venous Catheters can also be used for fluid or medication administration by the ACP when attending or treating patients.
2. External Pacemaker Devices.

Contraindications

Precautions

Special Notes

1. Nasogastric suctioning: Paramedics must ensure that placement has been confirmed prior to the transfer starting. Suction should be checked beforehand (during daily unit checks) to ensure that suction can be adjusted. Default suction will be 30-40 mmHG.
2. Patients who are ventilated via a tracheostomy tube are more frequently encountered by EMS providers in a non- hospital setting (home, extended care facilities), and they may be called upon to provide care to a ventilated patient when a tracheostomy tube has become obstructed ordislodged.
3. As there is a geographic variation in the model of tracheostomy tube used and a method of reinsertion, a procedure will be developed with each Medical Advisor which reflects the local standard of care for this equipment.
4. The procedure for tracheostomy tube replacement is to forward to the SCoP for their approval prior to the education being delivered and implementation.
5. Following training, the Medical Advisor will draft a letter to the ambulance service, the Director of EMS for the service and the Ministry of Health indicating they are approving paramedics they provide oversight for, to transport patients with these devices in place. The Ministry of Health will place the letter of approval on service's file.
6. The implementation of each of the listed devices within this protocol, or others that may be added in the future requires the development of a SCoP approved training module and facilitation of this training to PCP, ICP, and ACP care providers by their Medical Advisor, or their designate. Staff will be in-serviced on the device and a copy of a training roster will be kept on their training file.
7. A review of these devices will be repeated as part of the recertification every two years. Documentation of successful completion of the initial and on-going training must be kept by each service.
8. All additions to this protocol must be submitted to the SCoP along with education materials. The addition of the device will be discussed at the Paramedic Practice Committee and if agreed to will then be sent for approval by the College of Physicians and Surgeons Saskatchewan prior toimplementation.

Manual Defibrillation

Purpose Cardiac arrest with ventricular fibrillation or pulseless ventricular tachycardia.	**Affected Protocols**
Equipment Cardiac monitor equipped with manual defibrillator.	**Registration Levels Authorized:** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

1. Ensure that chest compressions are effective and not interrupted unnecessarily.
2. Confirm patient is in cardiac arrest and rhythm is shockable.
3. Apply defibrillation pads in the proper position.
4. Set the appropriate energy level.
5. Charge the defibrillator to the selected energy level, ensuring not to interrupt chest compressions.
6. Deliver shock.
7. Immediately resume chest compressions and ventilations.
8. Repeat the procedure every two minutes as indicated by patient response and ECG rhythm.

Indications

1. Cardiac arrest with ventricular fibrillation or pulseless ventricular tachycardia.

Contraindications

Precautions

Special Notes

1. Effective uninterrupted CPR is key to successful resuscitation.

Pulse Oximetry

Purpose
A pulse oximeter, a portable device for the rapid non-invasive measurement of arterial O2 saturation, assists in the diagnosis of hypoxia.

Affected Protocols

Equipment
SpO2 Monitor

Registration Levels Authorized:
- Emergency Medical Responder
- Primary Care Paramedic
- Intermediate Care Paramedic
- Advanced Care Paramedic

Technique
To obtain readings:
1. Remove fingernail polish and artificial nails.
2. Apply probe to finger. Fifteen to thirty seconds are required for reading from this site. Probes at other sites (nose, forehead, ears) have a faster response time but are less accurate.

To confirm accuracy:
1. Pulse on the cardiac monitor should be within five beats per minute of the rate on the pulse oximeter.

If a waveform model is used, a regular waveform pattern should be present.
If waveform not regular:
1. Check the probe site, tape the device to the finger or immobilize the arm.
2. Reduce interference from fans or lights by turning off the instrument or covering the probe. If unsuccessful, use battery pack or plug in at a different site. Interference has also been reported from bright sunlight, so covering the probe may improve accuracy.

Interpretation of SpO2 results:
1. A SpO2 greater than 91% usually indicates adequate oxygenation. However, as these devices may be inaccurate by as much as five percent, the SpO2 level should be kept above 95% except in patients with COPD where O2 therapy should be guided by the patient's clinical status, not the SpO2 results.
2. O2 flow rates may be decreased to improve patient comfort and conserve oxygen if the SpO2 is above 95%.
3. If after decreasing the oxygen flow rate the patient complains of increased shortness of breath or shows evidence of increased respiratory distress, the oxygen flow rate must be increased to its previous level even if the SpO2 is above 95% at the lower flow rate.
4. SpO2 results are inaccurate in carbon monoxide patients. Therefore, patients suspected of carbon monoxide poisoning must receive 100% O2 regardless of the SpO2 reading.
5. If SpO2 readings continue to drop despite maximum O2 concentrations (i.e. 100%), suctioning of secretions, etc., be prepared to ventilate the patient.
6. SpO2 readings may not be obtained in the following circumstances:
    a. Severe peripheral vascular disease.
    b. Use of vasoconstrictors (DOPamine).
    c. Severe anemia.
    d. Hypothermia: A quality signal may be unobtainable in 10% of patients with a temperature < 35^{O} C, with a signal failure occurring at temperatures < 28.5 ^{O}C.
    e. Hypotension: Accurate readings have been obtained to values as low as 25 mmHg for mean arterial pressure although this is highly variable.
    f. Placement distal to a tourniquet, blood pressure cuff.

Indications
1. Patients in respiratory distress.
2. All critically ill patients (including intubated patients).
3. Patients requiring O2 concentrations of 40% or greater.
4. Stable patients at risk from sudden deterioration (i.e. overdose, etc.).
5. Monitoring during procedures such as suctioning and intubation.
6. Pulse oximetry is an accurate method of detecting systolic blood pressure if a waveform SpO2 monitor is used, especially in a noisy environment such as in an ambulance. Inflate the blood pressure cuff until the radial pulse disappears, then slowly deflate the cuff at a rate of 2 - 3 mmHg per second. The point at which the waveform appears is the systolic blood pressure.

Contraindications

Precautions

Special Notes
The model of pulse oximeter chosen should be made after consultation with the Medical Advisor to ensure consistency and quality control.

Standard Approach / Ongoing Assessment

Purpose	**Affected Protocols**
Primary Survey – to identify and immediately treat life-threatening conditions. Secondary Survey – obtain a detailed history along with vital signs and then perform a focused physical examination based on the patient's symptoms.	All
Equipment	**Registration Levels Authorized:** **Emergency Medical Responder** **Primary Care Paramedic** **Intermediate Care Paramedic** **Advanced Care Paramedic**

Technique

Primary Survey

1. Scene Safety – ensure the scene is safe for you, your partner, bystanders and patient.
2. Level of Consciousness – using AVPU, assess the patient's level of consciousness.
3. Circulation – check for presence/rate/quality of pulse and capillary refill. Consider defibrillation, hemorrhage control, leg elevation, vascular access and fluid therapy.
4. Airway – check airway patency. Consider simple airway maneuvers, suctioning, basic and advanced airway management like OPA, NPA, Supraglottic, and ETT.
5. Breathing – check for breathing and adequate ventilations. Consider oxygen, BVM, CPAP.

Secondary Survey

1. History – obtain a comprehensive history using OPQRST and SAMPLE.
2. Vital Signs – complete a more detailed assessment of all appropriate vital signs including pulse, respirations, blood pressure, temperature, SpO2, blood glucose, GCS, 12-lead ECG.
3. Physical Exam (head to toe) – complete a comprehensive physical examination of the patient as appropriate. This is particularly applicable in trauma but may not be relevant in many medical presentations.
    a. Head
        i. Inspect
        General – lacerations, deformity, facial muscle, or asymmetry Eyes – pupils or evidence of raccoon eyes
        Ears – Blood in canal or evidence of battle signs Nose – deformity or bleeding
        Mouth – deformity, loose teeth Voice – hoarseness
        ii. Palpate
        General – crepitus, bony tenderness, or subcutaneous emphysema
    b. Neck
        i. Inspect – deformity, lacerations, JVD
        ii. Palpate – tracheal shift, bony tenderness, carotid pulse, subcutaneous emphysema
    c. Chest
        i. Inspect – expansion, paradoxical movement, accessory muscle use, lacerations, or deformity
        ii. Palpate – tenderness, subcutaneous emphysema, bony crepitus, or apex beat
        iii. Auscultate – hearts sounds, air entry, breath sounds, and additional sounds
    d. Abdomen
        i. Inspect – laceration, bruising, distension
        ii. Palpate – tenderness, guarding, rigidity, rebound tenderness, or masses
        iii. Auscultate – bowel sounds
    e. Pelvis
        i. Inspect – lacerations, bruising, deformity
        ii. Palpate – bony tenderness
    f. Extremities
        i. Inspect – lacerations, bruising, deformity, shortening or rotation, movement
        ii. Palpate – pulses, sensation, tenderness, crepitus, capillary refill
    g. Back
        i. Inspect – lacerations, bruising, or deformity
        ii. Palpate – bony tenderness

Indications 1. All patients are to be provided with a comprehensive clinical assessment irrespective of the reason for contact.
Contraindications
Precautions
Special Notes This assessment forms an essential component of patient management. It comprises many individual and often 'stand-alone' components all of which, when viewed together, provide a comprehensive clinical picture of the patient.

Transcutaneous Pacing

Purpose Transcutaneous pacing is the technique of electronic cardiac pacing accomplished by using skin electrodes to pass repetitive electrical impulses through the thorax.	**Affected Protocols**
Equipment Cardiac monitor with pacing feature	**Registration Levels Authorized:** **Advanced Care Paramedic**

Technique

1. Ensure that the monitor leads are attached, and the monitor is displaying a cardiac rhythm.
2. Attach pacing electrodes to anterior and posterior chest just to the left of the sternum and spinal column, respectively.
3. Begin pacing at a heart rate of 80 bpm and "zero" current output.
4. Increase current by increments of 20 mAs while observing cardiac monitor for evidence of electrical capture, then confirm mechanical capture by checking pulses and BP.
5. If the patient is comfortable at this point, continue pacing. If the patient is uncomfortable at this point, decrease current output by increments of 5 mA to a point just above electrical and mechanical capture.
6. If the patient still complains of pain during pacing despite reduced current output, consider sedation and /or analgesia.
7. If the patient remains unconscious during pacing, assess capture by observing the monitor and evaluating pulse or blood pressure changes. In case of electrical capture and no pulses, follow *Cardiac Arrest — PEA* protocol.
8. If there is no response to pacing and ACLS drugs, consult OLMC.

Indications

1. Unstable patient with second degree Mobitz type 2 block.
2. Unstable patient with third degree AV block.
3. Transcutaneous pacing should be considered in bradycardia (heart rate less than 60 bpm) and evidence of inadequate perfusion (e.g., hypotension (BP less than 90 mm/Hg), altered mental status).

Contraindications

1. Asystole.
2. Patients meeting death in the field criteria.
3. Patients with signs of penetrating or blunt trauma.

Precautions

Special Notes

Urinary Catheterization

Purpose
May be used temporarily after an operation or as a method to deal with bladder problems.

Affected Protocols

Equipment
PPE
Sterile drapes
Cleansing solution
(Savlon) Cotton Swabs
Forceps
Sterile water
Foley
catheter
Syringe
Lubricant
Collection bag and tubing

Registration Levels Authorized:
Emergency Medical Responder (Monitor)
Primary Care Paramedic
Intermediate Care Paramedic
Advanced Care Paramedic

Technique

1. PPE.
2. Gather equipment and explain procedure to patient.
3. Assist patient into supine position with legs spread and feet together.
4. Open catheterization kit and catheter.
5. Prepare sterile field and apply sterile gloves.
6. Check balloon for patent, and generously coat the distal portion of the catheter with lubricant.
7. Apply sterile drape.
8. If female, separate labia using non-dominant hand. If male hold the penis with the non-dominant hand. Maintain hand position until preparing to inflate balloon.
9. Pick up catheter with gloved (and still sterile dominant hand. Hold end of catheter loosely coiled in palm of dominant hand.
10. In the male, lift the penis to a position perpendicular to the patients' body and apply light upward traction (with non-dominant hand).
11. Identify the urinary meatus and gently insert until 1 to 2 inches beyond where the urine is noted.
12. Inflate balloon, using correct amount of sterile liquid, and gently pull catheter until inflation balloon is snug against bladder next.
13. Connect catheter to drainage system.
14. Secure catheter to abdomen or thigh, without tension on tubing, and place drainage bag below level of bladder.
15. Evaluate catheter function and amount, color, odor, and quality or urine.
16. Remove gloves, dispose of equipment appropriately, and wash hands.
17. Document size of catheter inserted amount of water in balloon, patient's response to procedure, and assessment of urine.

Indications
For patients who have been assessed by and are receiving services from Home Care, the PCP, ICP or ACP may perform urinary catheterization and catheter care in the patient's home without the need for transport provided:

1. There is no other care provider immediately available on site that can perform the procedure.
2. A physician's order for catheterization exists.
3. The patient is experiencing no complications that require transport for further medical assessment/intervention.

Contraindications

1. Lack of consent
2. Where there are specific instructions that this procedure should not take place.
3. Patient who require the expertise of an Urologist or Urology Nurse Specialist.
4. Previous urethral trauma.
5. Known congenital abnormalities of the pelvis
6. Latex allergy

Precautions

The four most common complications of urinary catheterization are as follows:

1. Blockage
   If no urine has drained for 3 hours, check for kinks or bends in the tubing. Make sure nothing is lying on the tubing. Catheter irrigation may be necessary. If irrigation is unsuccessful, remove and replace the catheter.
2. Bleeding
   Urine is red, pink or tea colour. (Some foods such as beets, vitamins or medications may cause reddish colour in urine). If bleeding is suspected, transport to ED.
3. Bypass
   Urine is draining around the outside of the catheter. If due to blockage, irrigation or replacement may be required. If the catheter appears patent, pad the area with clean, dry, absorbent material for patient comfort and transport to ED.
4. Infection
   Urine may be very cloudy and/or have a foul odour. The patient may complain of a burning sensation in the urethra or pain in the bladder region (bladder spasm). This must be documented and relayed to Home Care staff. If these signs and symptoms are associated with fever and/or chills, the patient must be transported to ED.

Special Notes

1. Confused or agitated patients may be at risk of pulling catheter out.

Vascular Access (Central Venous Line)

Purpose To provide rapid and accurate access to the central venous system.	**Affected Protocols** Inter-facility Transfer of Patients with Medical Devices in Place
Equipment Types of central lines include: PICC, TICC, CVL or CVC, Dialysis Cather, Port-A-Cath	**Registration Levels Authorized:** **Primary Care Paramedic (Monitor)** **Intermediate Care Paramedic (Monitor)** **Advanced Care Paramedic (Monitor/Access)**
Technique 1. Following the health authority's training modules based on particular device.	
Indications 1. Used in emergency situations for rapid and accurate access to the central venous system. 2. Moderate and long-term care medical patients who are receiving antibiotic therapy, parenteral nutrition solutions (T.P.N.), intravenous medications (chemotherapy), blood sampling, and intravenous therapy for patients with limited IV access. 3. Dialysis patients.	
Contraindications	
Precautions	
Special Notes The ACP may access central lines for the purpose of fluid and medication administration as needed.	

Vascular Access (External Jugular Vein)

Purpose External jugular venous cannulation is used to gain emergent IV access when peripheral access is anticipated to be unobtainable.	**Affected Protocols**
Equipment	**Registration Levels Authorized:** **Primary Care Paramedic (Monitor Only)** **Intermediate Care Paramedic (Monitor Only)** **Advanced Care Paramedic**

Technique

1. Position the patient supine or head down.
2. Located the external jugular running over the posterior border of sternocleidomastoid.
3. Select the appropriate size cannula.
4. Prepare equipment and cannulation site.
5. Stabilize vein and facilitate filling by gentle occlusion.
6. Insert needle bevel up.
7. Confirm IV placement by flashback and advance further into the vein.
8. Advance catheter over the needle and into the vein.
9. Retract needle while stabilizing the vein.
10. Flush with saline and ensure patency.
11. Secure site taking care not to dislodge cannula with giving set.

Indications

Percutaneous cannulization of the external jugular vein may be carried out if the following criteria are met:

1. This route is only to be used for the administration of drugs or volume replacement in patients with hypovolemic shock where cannulization of a peripheral vein is not possible or has not been successful.
2. Cannulization of the external jugular vein will occur enroute to the health care facility unless an exception is present as described previously for peripheral IV initiation.
3. Whenever this procedure is carried out (including unsuccessful attempts) the "other" box under procedural skills must be checked off and a description of the procedure documented on the bottom of the form.

Contraindications

1. The external jugular vein is not to be used for the purpose of insertion of a Central Venous Pressure (CVP) line.

Precautions

1. Complications can include all those associated with conventional cannulation, pneumothorax and damage to the great vessels in the neck.
2. Agitated, un-cooperative patients due to the danger of damaging other structures.
3. Obvious injury to neck or requirement for C-collar.

Special Notes

Vascular Access (Intraosseous)

Purpose
An alternative technique for establishing IV access in critical adult and pediatric patients when peripheral IV access is difficult or time sensitive.

Affected Protocols

Equipment
Only those needles that have been specifically designed for intraosseous infusions may be used for this purpose.

Registration Levels Authorized:

Primary Care Paramedic (Monitor)

Intermediate Care Paramedic (Monitor)

Advanced Care Paramedic

Technique
Adult EZ-IO™ Procedure:

1. Determine patient's weight.
2. Assemble all necessary equipment.
    a. The standard EZ-IO AD® needle should be utilized on patients who weigh > 40 kg (approximately 88 lbs. or greater).
3. Site Selection (patients weighing > 40 kg).
    a. Tibial
        i. Palpate the landmarks at the proximal tibia (patella and tibial tuberosity).
        ii. Insertion site should be approximately one finger width to the medial side of the tibial tuberosity.
        iii. An alternative site may be used at the distal tibia (especially for morbidly obese patients). Insertion site should be two finger widths proximal to the medial malleolus along the midline of the tibia.
    b. Proximal Humerus
        i. Insertion site is located directly on the most prominent aspect of the greatertubercle.
        ii. Slide thumb up the anterior shaft of the humerus until you feel the greater tubercle; this is the surgical neck. Approximately 1cm (depending on patient anatomy) above the surgical neck is the insertion site.
        iii. Ensure that the patient's hand is resting on the abdomen and that the elbow is adducted (close to the body).
4. Needle Insertion
    a. Prep the surface with Betadine and wipe dry with a sterile gauzepad.
    b. Stabilize patient's leg or arm and begin insertion from a 90-degree angle to the insertion site. Gently advance the needle set into position–do not force. Stop when you feel the"pop."
    c. When needle is in proper position, remove stylet. If insertion fails, leave the needle in place and clamp the EZ-Connect; do not attempt second insertion on sameleg.
    d. Connect extension tubing or EZ-Connect, primed with saline, to IOhub.
    e. Confirm the catheter position (catheter is stable at a 90-degree angle to the bone, able to aspirate blood, and fluids flow without evidence ofextravasation).
    f. Rapid bolus or "power" flush with approximately 10 mL normal saline when using the EZ-IOAD needle.
    g. Connect IV tubing and bag to extension tubing orEZ-Connect.
    h. Consider additional bolus of salineif flow rates slower than expected.
    i. Utilize a blood pressure cuff or pressure bag to help infusefluids.
    j. Dress site and secure tubing.
5. Pain management
    a. If the procedure is performed on a conscious or semi-conscious patient, *immediately* following placement of the IO needle, administer 0.5 mg/kg 2% lidocaine (not to exceed 50 mg) *slowly* (over 30- 45 seconds) through the IO site. Wait approximately 30–60 seconds before "power" flushing with normal saline.
    b. In the event a patient regains consciousness and complains of severe pain secondary to the IO insertion, temporarily stop infusing the fluids and administer lidocaine as in 5.1 above. Wait approximately 30–60 seconds before continuing fluid administration.
    c. If fluids do not flow freely, flush IO site with an additional 10 mL normalsaline.

Pediatric EZ-IO™ Procedure (patients weighing 3-39 kg): Assemble all equipment.

1. The EZ-IO PD needle should be used on patients who weigh between 3–39 kg (approximately 6–87 lbs).
2. Site Selection
   a. Palpate the landmarks at the proximal tibia (patella and tibial tuberosity).
   b. Insertion site is one finger below the tuberosity, then medial along the flat aspect of the tibia.
   c. If the tibial tuberosity cannot be identified on the child, then the insertion site may be two finger widths below the distal portion of patella, then medial along the flat aspect of the tibia.
3. Needle Insertion
   a. Prep the surface with Betadine and wipe dry with a sterile gauze pad.
   b. Stabilize patient's leg and begin insertion from a 90-degree angle to the insertion site. Gently advance the needle set into position–do not force. Stop when you feel the "pop."
   c. When needle is in proper position, remove stylet. If insertion fails, leave the needle in place and clamp the EZ-Connect; do not attempt second insertion on same leg.
   d. Connect extension tubing or EZ-Connect, primed with saline, to IO hub.
   e. Confirm the catheter position (catheter is stable at a 90-degree angle to the bone, able to aspirate blood, and fluids flow without evidence of extravasation).
   f. Rapid bolus or "power" flush with approximately 5 mL normal saline when using the EZ-IO PD needle.
   g. Connect IV tubing and bag to extension tubing or EZ-Connect.
   h. Consider additional bolus of saline if flow rates slower than expected.
   i. Utilize a blood pressure cuff or pressure.
   j. Dress site and secure tubing.

Pediatric Procedure with Manual IO Device

1. Equipment.
   a. Approved bone marrow type needles 15- and 18-gauge size
   b. Betadine swabs
   c. Two 5 cc syringes
   d. 60 cc Luer-lock syringe
   e. Three-way stopcock
   f. Flush solution
   g. Sterile gauze pads and tape
2. Site Selection: Proximal tibia.
3. Site Preparation: Palpate the landmarks and note the entry point that is the anteromedial flat surface 1–3 cm below the tibial tuberosity. Then prep the surface with Betadine and dry with a sterile gauze pad.
4. Insert Needle: Insert at the proximal tibial site, directing the needle caudally. The needle should penetrate the skin and subcutaneous tissue and be pushed through the cortex of the bone using rotation (avoid rocking the needle!), until a "pop" or loss of resistance is felt.
5. Placement in the marrow should then be confirmed by:
   a. Firm fixation of the needle and either removal of the stylet with free aspiration of marrow/blood or:
   b. Infusion of 2–3 mL of sterile solution, palpating for extravasation or noting significant resistance. If extravasation should occur, further attempts at the site and extremity should be avoided.
   c. Note: it is not always possible to aspirate, but the line may be working.
6. Tape and secure the IO needle firmly in place.
7. Start Infusion:

   d. Although gravity drainage may suffice, pressurized infusions (using 3-way stopcock and 60 cc syringe or infusion pump) may be needed during resuscitation. When infusing medications via IO route, pressure must be applied to the fluid bag in order to maintain flow rates; the PCP must continually monitor the rate of infusion.

Indications

The ACP may attempt an intraosseous infusion in the following circumstances:

1. Children under the age of six years in a cardiac arrest where a peripheral vein is not visible (including the external jugular vein), or an IV has been unsuccessful on two attempts or 90 seconds has elapsed and a vein has not been successfully cannulized.
2. Children under the age of six years who are hypotensive where a peripheral vein is not visible (including the external jugular vein), or an IV has been unsuccessful on two attempts or 90 seconds has elapsed and a vein has not been successfully cannulized.
3. In adults where peripheral vein cannulation has been unsuccessful on two attempts or 90 seconds has elapsed and a vein has not been successfully cannulized.

Intraosseous infusions, as with IV cannulations, are to be carried out en route. Therefore, this procedure may be initiated at the scene only in the following circumstances:

1. If the patient is in cardiac arrest.
2. If there is a delay in the extrication of the patient.
3. Airway management during transportation will not allow for intraosseous initiation.
4. In those patients with "controlled hemorrhage" where ongoing blood loss will not be a problem (i.e. isolated soft tissue injury that can be controlled by pressure).
5. If the transport time is greater than 30 minutes in length.

Contraindications

1. Fracture of the bone selected for IO insertion (consider alternate site).
2. Previous *significant* orthopedic procedures (IO within 24 hours; prosthesis).
3. Infection at the site selected for insertion (consider alternate site).
4. Excessive tissue at insertion site, with absence of anatomical landmarks (consider alternate site).

Precautions

1. Remember that securing an airway, maintaining adequate ventilation, and controlling hemorrhage have priority over the initiation of an intraosseous infusion.
2. Osteomyelitis, growth plate injury (in pediatric patients), and extravasation of fluid with compression of popliteal vessels or the tibial nerve may occur.
3. Do not perform more than one attempt in each tibia.
4. Medication may be administered IO.
5. Do not use hypertonic saline through an IO.

Special Notes

1. Intraosseous infusions do not require OLMC.
2. Remember that there are effective alternate routes of administration for certain drugs such as rectal, buccal or intra-nasal administration.

Vascular Access (Peripheral Intravenous)

Purpose
Provides access to the circulation to administer drug therapy or fluids.

Affected Protocols

Equipment
PPE
Appropriate size catheter
Tourniquet
Swabs
Gauze
Tape
Drip
Set
IV bag with solution
Sharp Container

Registration Levels Authorized:
Primary Care Paramedic
Intermediate Care Paramedic
Advanced Care Paramedic

Technique

1. PPE
2. Choice of insertion site:
    a. General drug administration
        i. Small to medium gauge cannula (i.e. adult: 18 – 20 G, child: 22 – 24 G).
        ii. Best most distal available vein.
        iii. Use non-dominant limb when possible.
        iv. Avoid joints.
    b. Likely need for fluid replacement
        i. Large gauge cannula sited in a large vein (i.e. adult: 16 – 18 G, child: 20 – 22 G).
        ii. In significant trauma a 16 G cannula is sufficient to facilitate rapid fluid replacement.
    c. Difficult IV access/poor vein presentation
        i. Consider the lower limbs, or external jugular vein.
        ii. Consider IO access (Note: a small gauge cannula provides more reliable access than the IO route).
3. Procedure
    a. Explain the procedure, including why IV therapy is necessary.
    b. Select the appropriate size cannula.
    c. Prepare equipment and cannulation site.
    d. Stabilize vein and insert needle bevel up.
    e. Confirm IV placement by flashback and advance further into the vein.
    f. Advance catheter over the needle and into the vein.
    g. Retract needle while stabilizing the vein.

Indications

1. For volume expansion in patients with the clinical diagnosis of shock (hypovolemic, neurogenic or anaphylactic). Patients with suspected cardiogenic shock will have an intravenous initiated TKO, *with OLMC required* to establish the rate of flow for PCP and ICP.
2. To obtain an intravenous route for administration of essential emergency drugs. Examples include, but not limited to the following circumstances:
    a. Cardiac arrest.
    b. Diabetic shock.
    c. Anaphylactic shock.
    d. Unconsciousness of unknown etiology or significant trauma.

Contraindications

1. Whenever possible avoid sites of burns, infection or localized cellulitis.

Precautions

1. Because of the increased risk of phlebitis in IVs started in the pre-hospital scene, strict attention must be placed on an aseptic technique and secure taping of the IV.
2. The following sites are not to be used for IV access:
    a. Lower limbs when pelvis, abdominal or thoracic trauma is suspected.
    b. Distal to a complex limb injury.
    c. Limb with a fistula present.
    d. An area of phlebitis or cellulitis.
    e. When a limb has potential or existing lymphedema (e.g. the same side as lymph node clearance).

Special Notes

1. A peripheral intravenous saline lock may be used in those patients where IV access has been obtained for the purpose of administering IV medications. A saline lock is ***not*** to be used for those patients who require or may require bolus IV fluid therapy for hypotension.
    a. The procedure to be used for saline lock placement will be that which is in current use within the SHA where the service is located.
2. Each dose of IV medication administered during a cardiac arrest is followed by a bolus of IV fluid (to accelerate its entry to the central circulation) as follows:
    a. Under the age of six years: 5 mL (including IO infusions)
    b. Between six and twelve years: 10 mL
    c. Over the age of 12 years: 20 mL
3. The IVs should be established enroute unless:
    a. There is delay in extrication of the patient.
    b. Airway management during transportation will not allow for IV initiation.
    c. In patients with "controlled hemorrhage" where ongoing blood loss will not be a problem.
    d. Transport time of greater than 30 minutes in length.
    e. Crystalloids will be the fluid administered. The decision as to which fluid will be utilized will be determined by the service in discussion with their Medical Advisor.

Patient Care Plans

Abdominal Trauma

EMR
PCP
ICP
ACP

Standard Approach
Ongoing Assessment

- If clinically indicated, consider administering oxygen, titrate to effect
- If clinically indicated, consider spinal motion restriction
- Abdominal wounds or eviscerations should be covered with saline soaks and then occlusive dressing slowly sealed over the entire site
- The patient with traumatic eviscerations should be placed in a position which prevents possible strangulation of the exposed viscera by muscle tension around the wound
- Depending on the nature of the injury in most cases, this may be accomplished by raising the lower extremities or bending the knees
- If injury is high in the abdomen, consider the possibility of chest trauma
- Consider ALS intercept or additional resources

Signs & symptoms of shock?

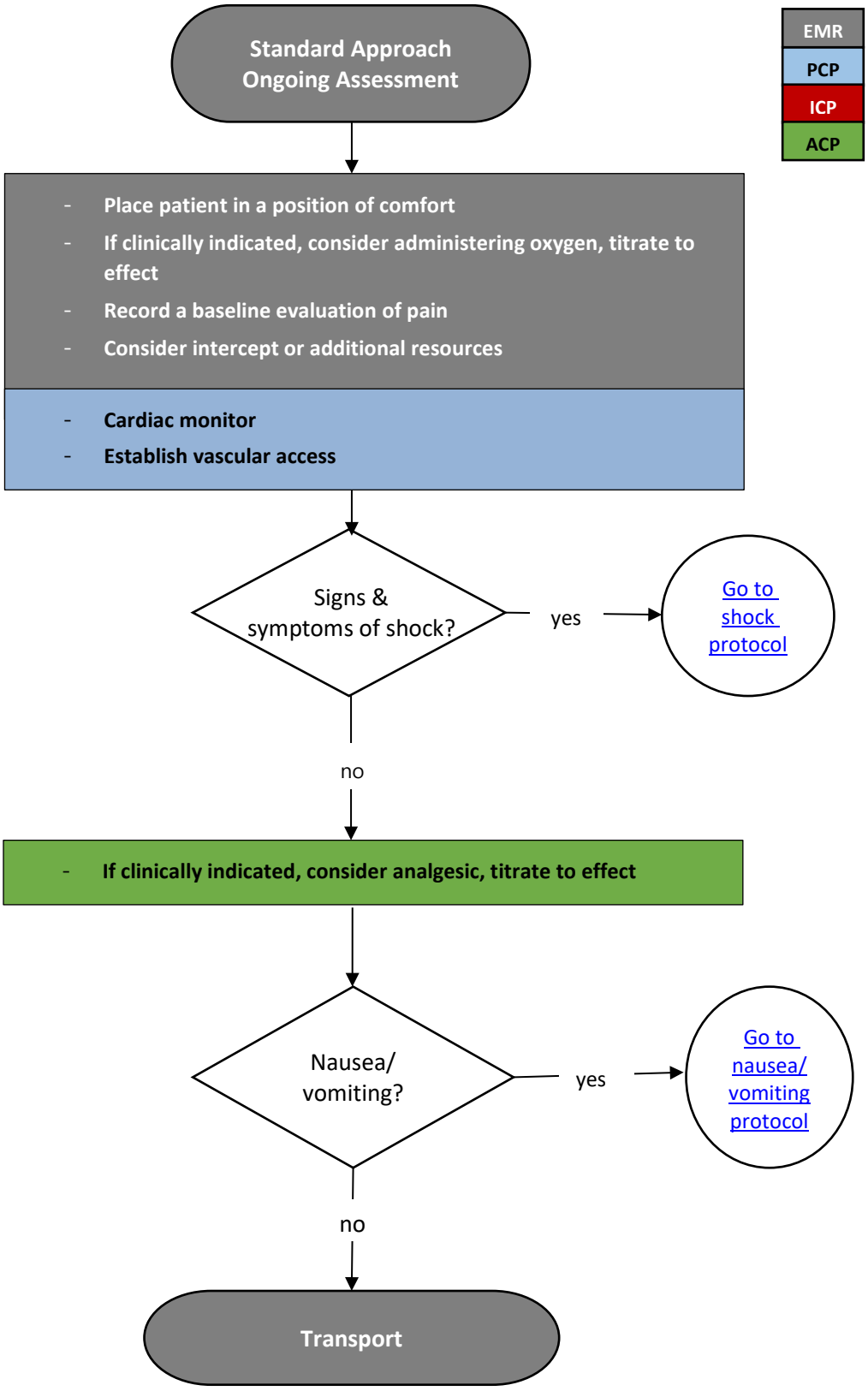
yes → Go to shock protocol

no

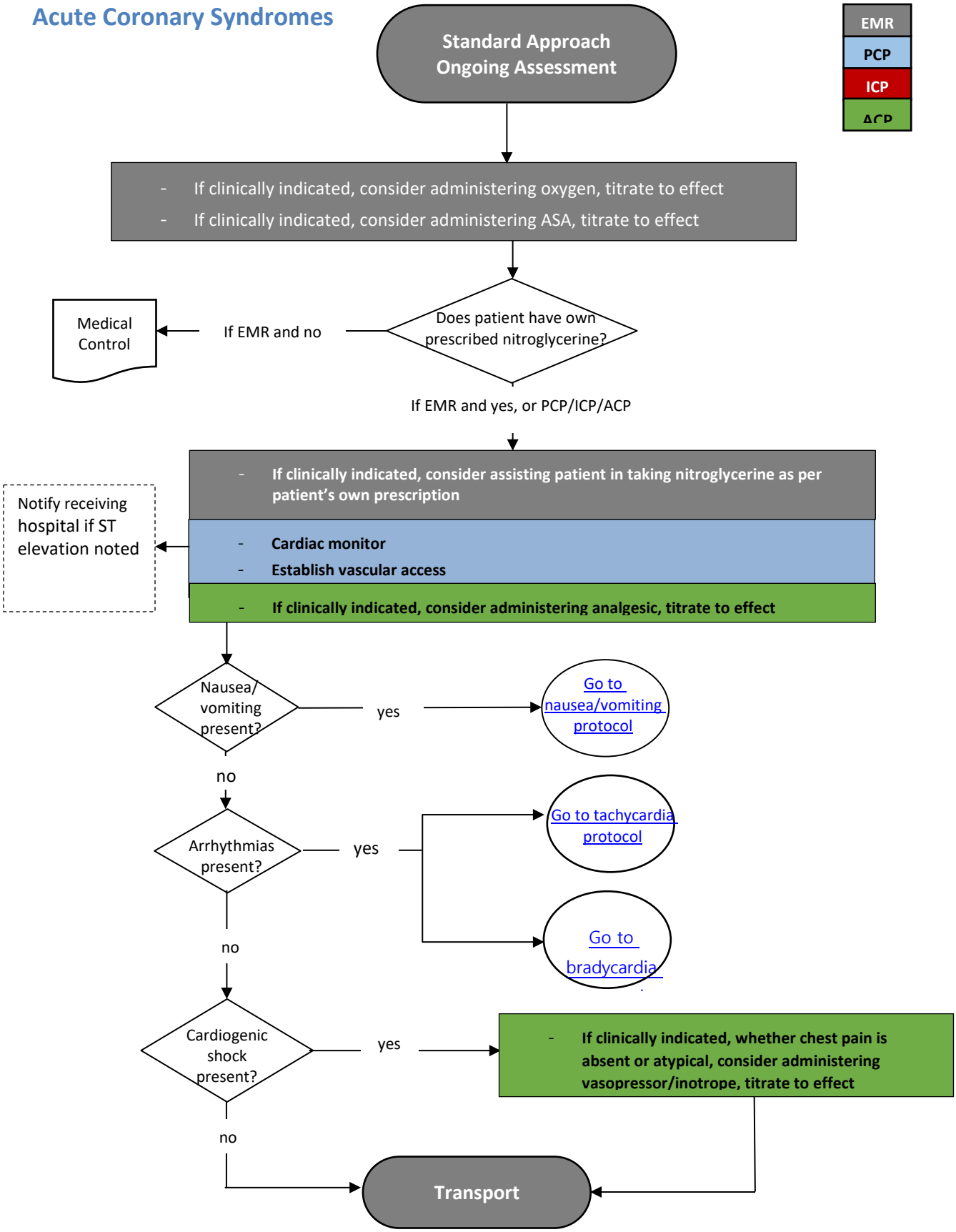
- **Cardiac monitor**
- **Establish vascular access**
- **Maintain blood pressure**

Transport

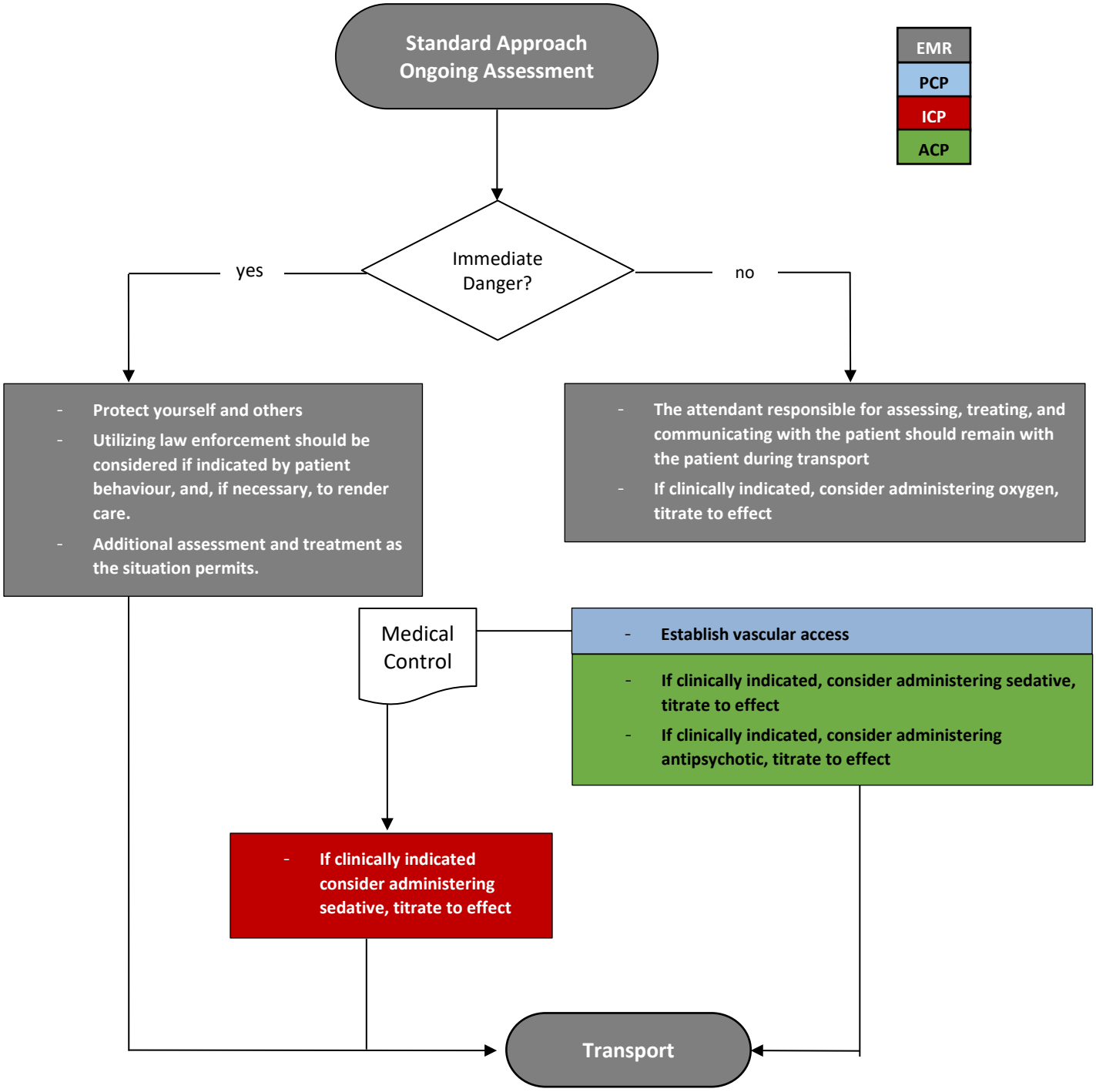
Acute Abdominal (Non-Traumatic)



Acute Coronary Syndromes



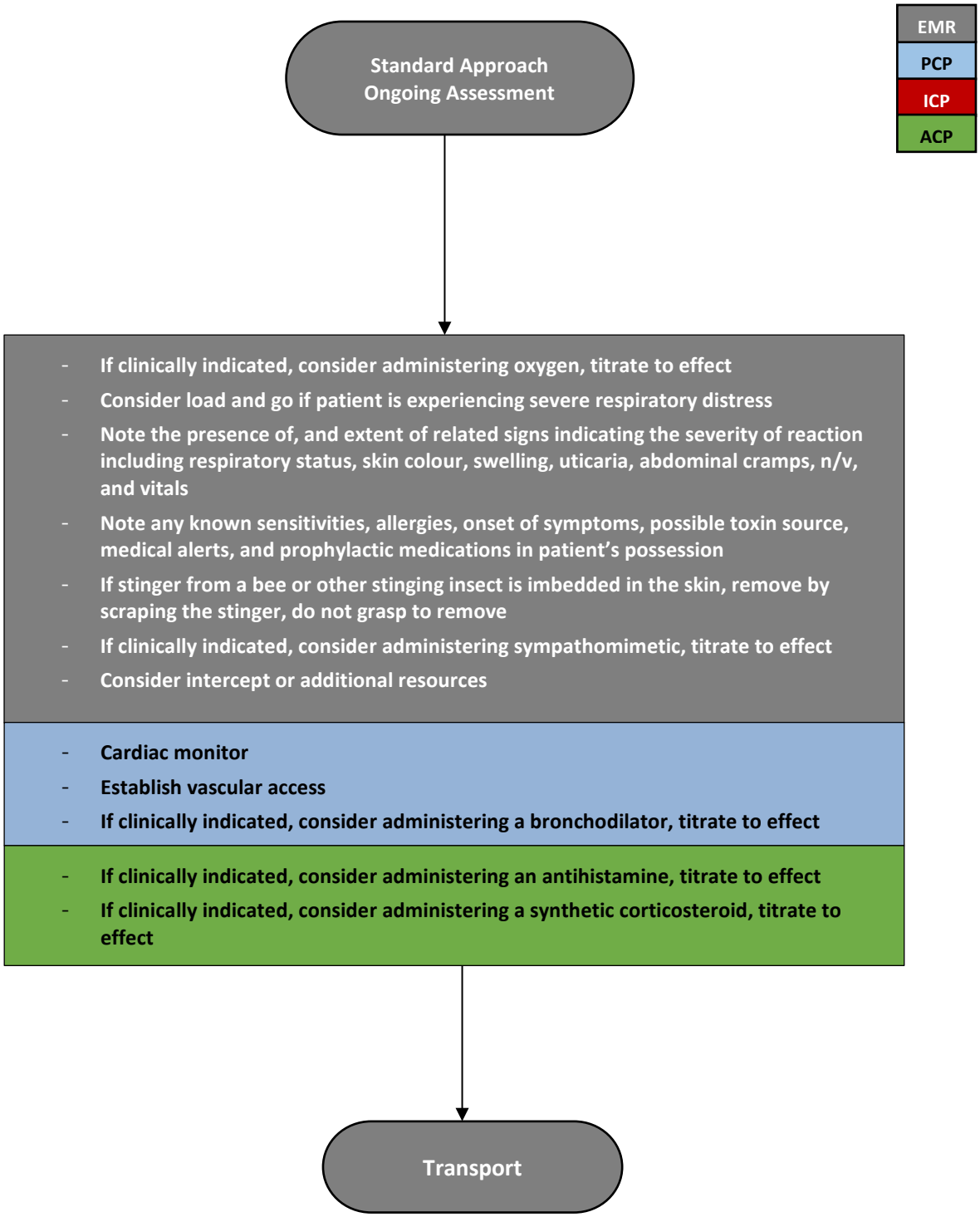
Agitated Patients



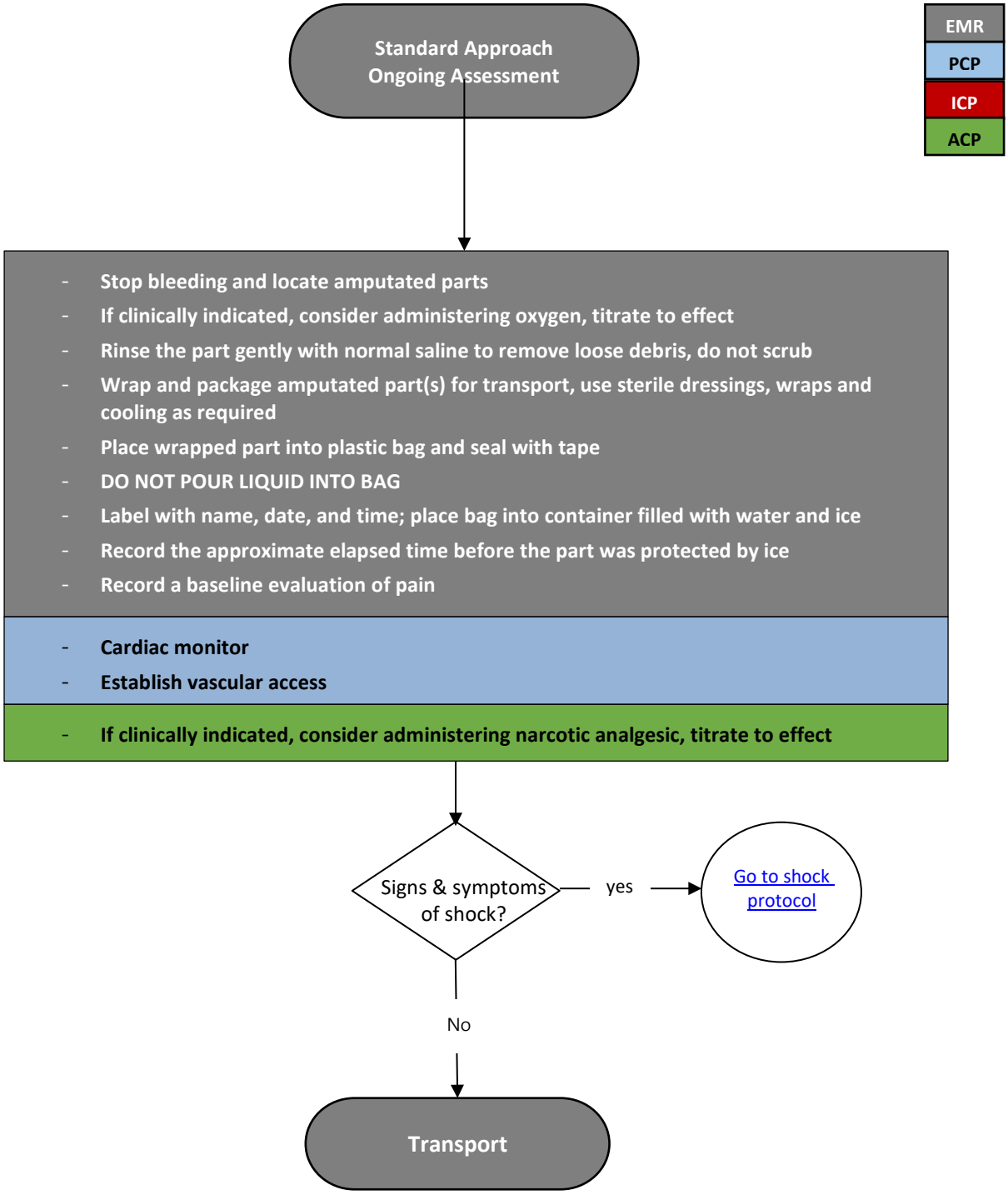
Note: Restraints may be necessary at any time if the patient becomes uncontrollable and is considered a threat to themselves or to others. These guidelines must be followed when utilizing restraints:

1. Reasonable precautions must be taken to safeguard the welfare of the patient and the providers.
2. Apply only reasonable therapeutic force.
3. Explain restraining actions to the patient's family and friends.
4. Care must be taken to restrain the patient in a manner that allows for rapid and adequate airway maintenance.
5. Document the patient's medical and mental status on the PCR and document serial examinations.

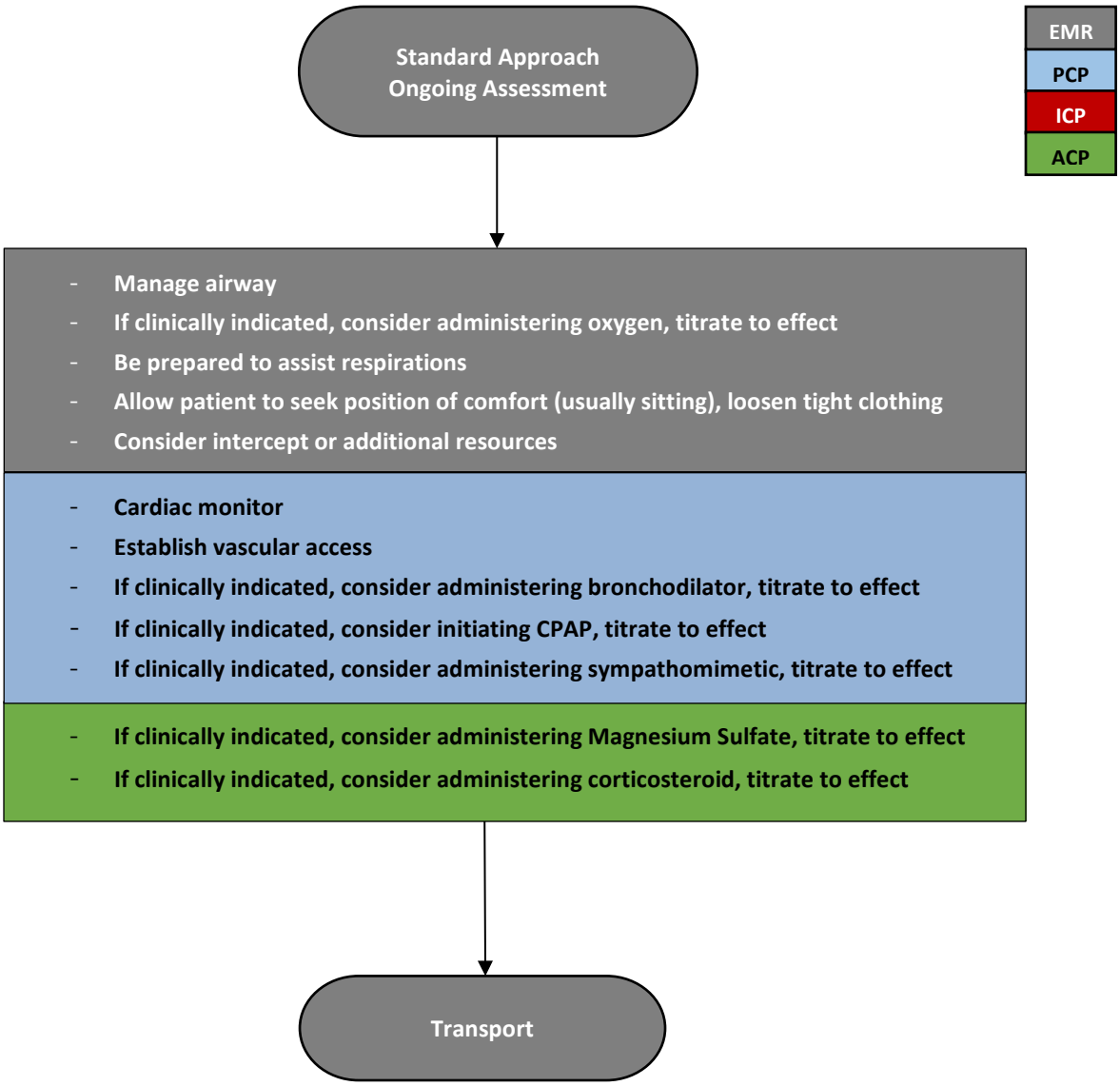
Allergic / Anaphylaxis Reaction



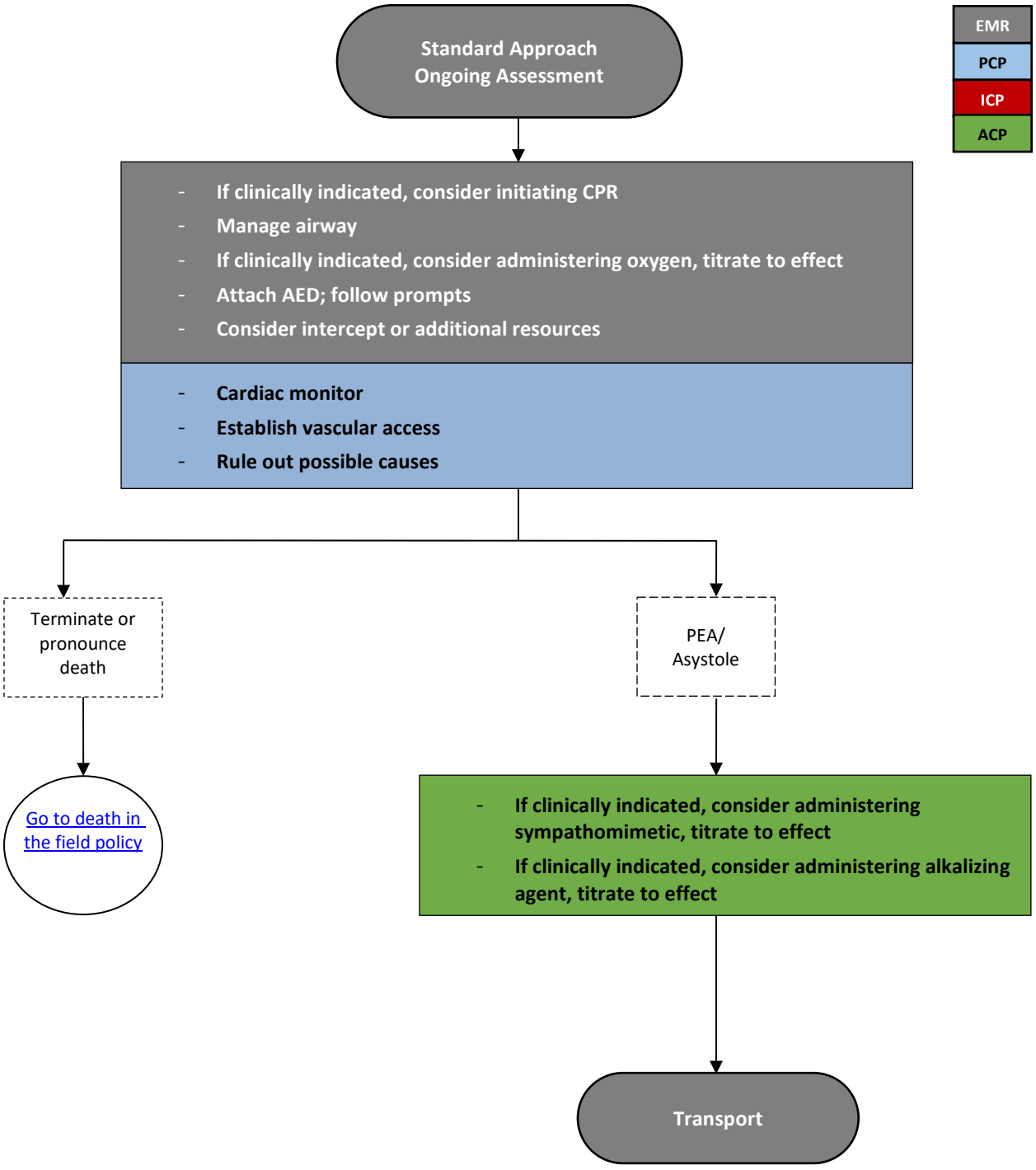
Amputation Trauma



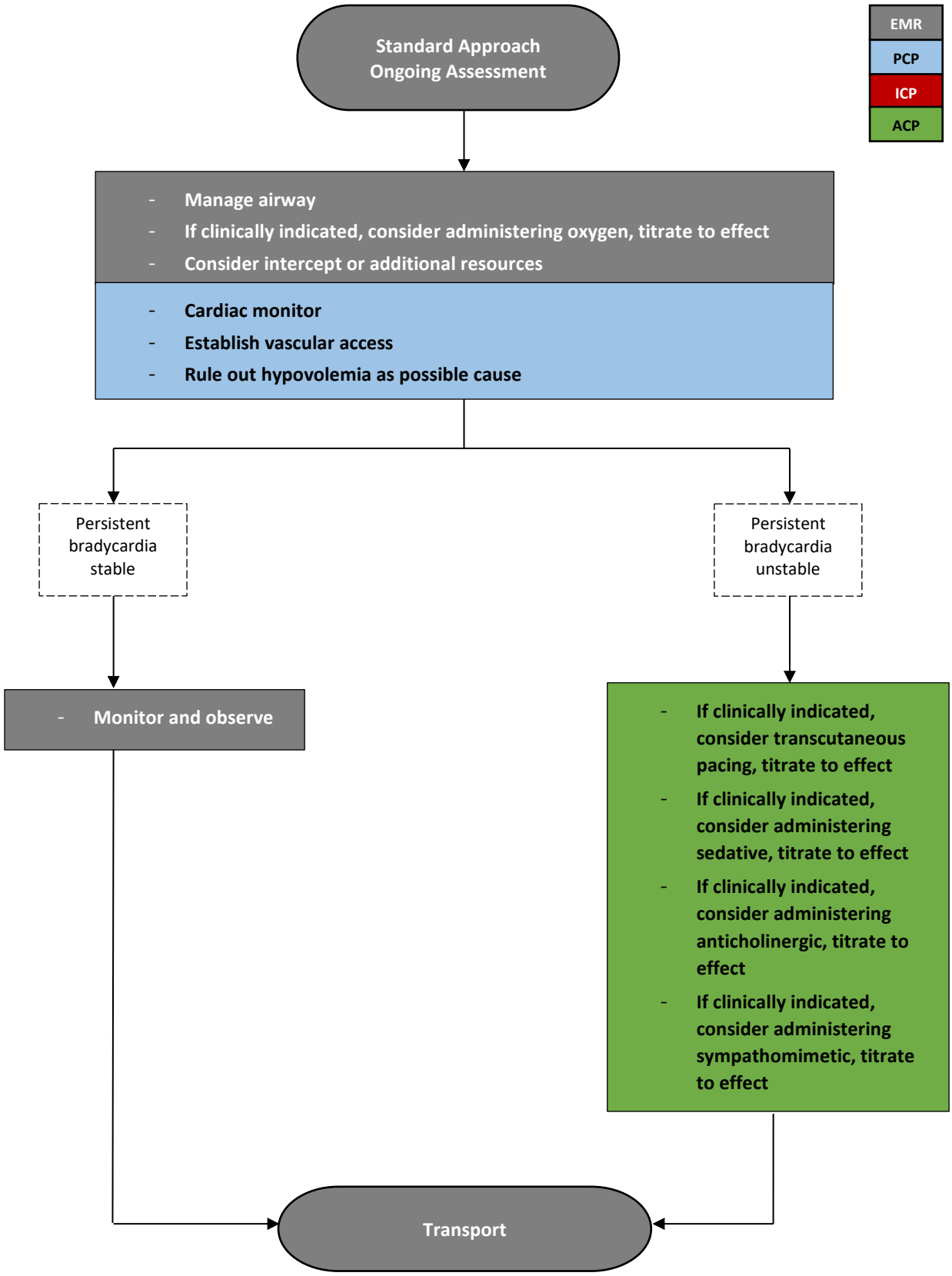
Asthma / COPD


Standard Approach
Ongoing Assessment
EMR
PCP
ICP
ACP
- Manage airway
- If clinically indicated, consider administering oxygen, titrate to effect
- Be prepared to assist respirations
- Allow patient to seek position of comfort (usually sitting), loosen tight clothing
- Consider intercept or additional resources
- Cardiac monitor
- Establish vascular access
- If clinically indicated, consider administering bronchodilator, titrate to effect
- If clinically indicated, consider initiating CPAP, titrate to effect
- If clinically indicated, consider administering sympathomimetic, titrate to effect
- If clinically indicated, consider administering Magnesium Sulfate, titrate to effect
- If clinically indicated, consider administering corticosteroid, titrate to effect
Transport

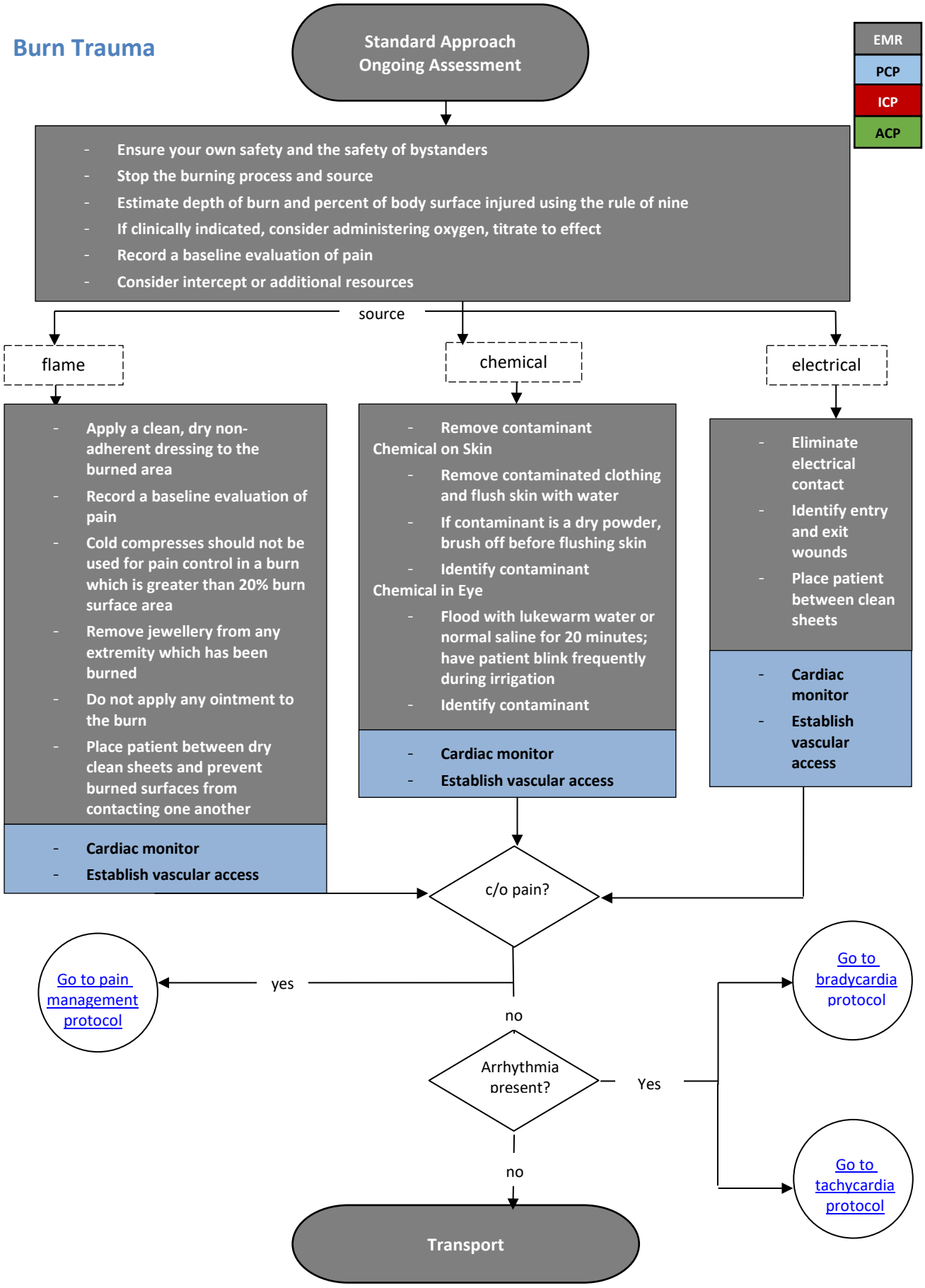
Asystole/PEA



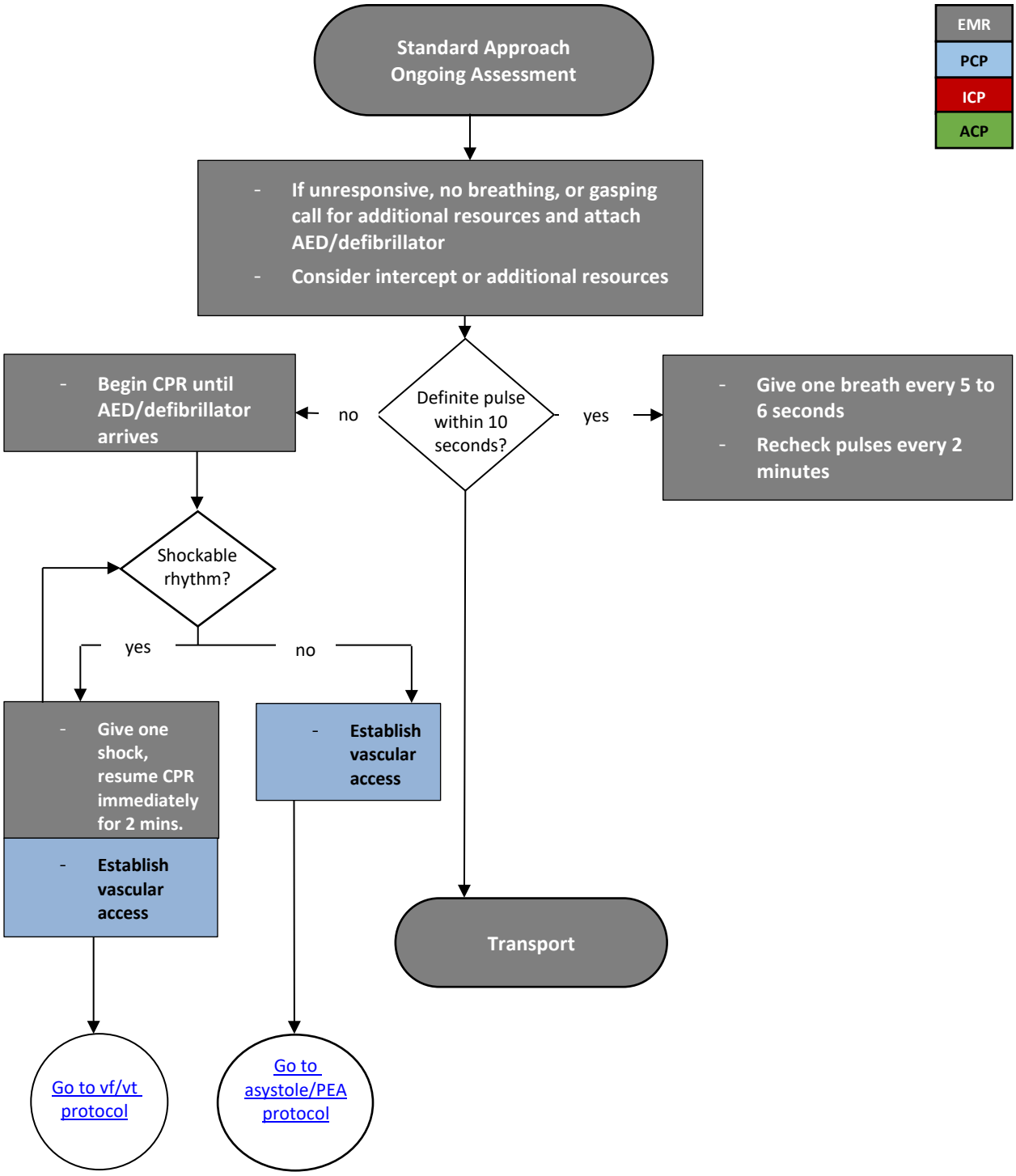
Bradycardia



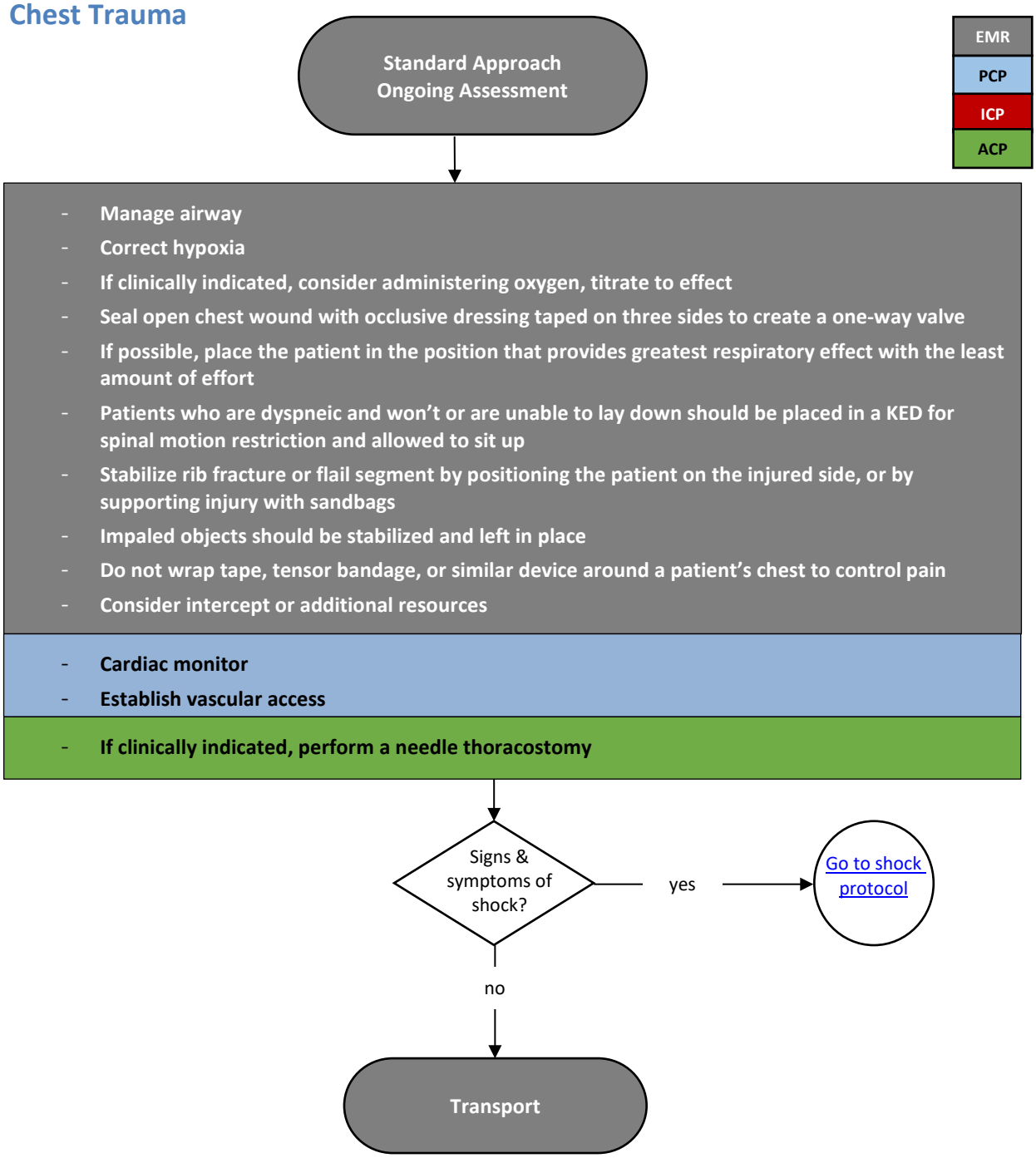
Burn Trauma


Standard Approach
Ongoing Assessment
EMR
PCP
ICP
ACP
- Ensure your own safety and the safety of bystanders
- Stop the burning process and source
- Estimate depth of burn and percent of body surface injured using the rule of nine
- If clinically indicated, consider administering oxygen, titrate to effect
- Record a baseline evaluation of pain
- Consider intercept or additional resources
source
flame
chemical
electrical
- Apply a clean, dry non-adherent dressing to the burned area
- Record a baseline evaluation of pain
- Cold compresses should not be used for pain control in a burn which is greater than 20% burn surface area
- Remove jewellery from any extremity which has been burned
- Do not apply any ointment to the burn
- Place patient between dry clean sheets and prevent burned surfaces from contacting one another
- Cardiac monitor
- Establish vascular access
- Remove contaminant
Chemical on Skin
- Remove contaminated clothing and flush skin with water
- If contaminant is a dry powder, brush off before flushing skin
- Identify contaminant
Chemical in Eye
- Flood with lukewarm water or normal saline for 20 minutes; have patient blink frequently during irrigation
- Identify contaminant
- Cardiac monitor
- Establish vascular access
- Eliminate electrical contact
- Identify entry and exit wounds
- Place patient between clean sheets
- Cardiac monitor
- Establish vascular access
c/o pain?
yes
Go to pain management protocol
no
Arrhythmia present?
Yes
Go to bradycardia protocol
Go to tachycardia protocol
no
Transport

Cardiac Arrest



Chest Trauma



Note:

- Bilateral chest expansion and possible paradoxical respirations should be included in assessment
- Check for tracheal deviation, subcutaneous emphysema, and jugular venous distention
- If not contraindicated, the patient should be allowed to seek position of comfort
- Continually assess respiratory status and watch closely for signs of developing tension pneumothorax
- If pneumothorax occurs in a patient with an open chest wound, release the seal over the wound during expiration and allow the trapped air to escape; then reseal the wound dressing on three sides during inspiration
- Endotracheal tube placement must be checked prior to the thoracostomy as this is the most common cause of unilateral breath sounds, and other signs must be present to confirm the presence of a tension pneumothorax i.e. displaced trachea, subcutaneous emphysema, increased airway resistance when bagging

Childbirth (Obstetrics)

EMR
PCP
ICP
ACP

Standard Approach
Ongoing Assessment

- Manage airway
- If clinically indicated, consider administering oxygen, titrate to effect
- Check perineum and if bulging prepare for delivery
- If multigravida and experiencing urge to push, prepare for delivery
- If not imminent, transport facing attendant
- If complications apparent, transport immediately and treat accordingly
- Consider intercept or additional resources

- **If clinically indicated, consider administering gaseous analgesic, titrate to effect**
- **Establish vascular access**

Normal Delivery

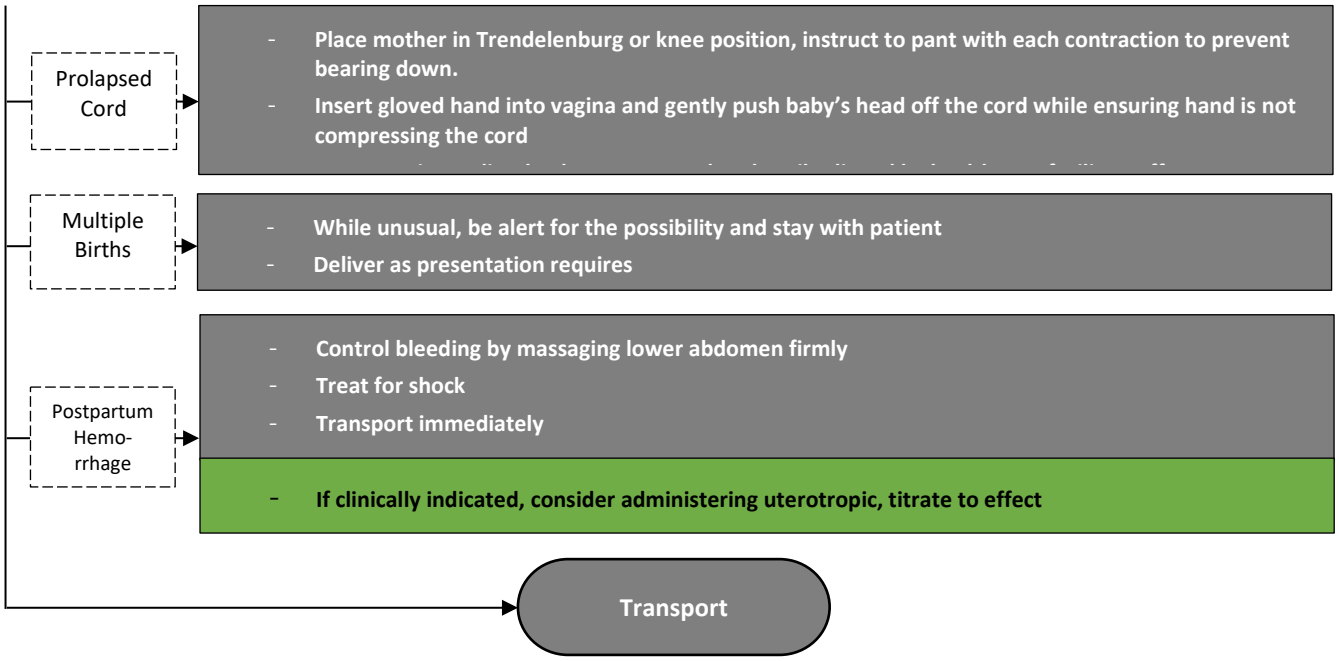
- Allow delivery to progress spontaneously, secure OB kit and prepare mother for deliver
- Suction baby's airway, mouth followed by nose, with bulb syringe as soon as head is clear of birth canal
- Deliver the head and body; do not pull baby
- Reassure the mother continuously, keeping her informed of progress and instructing her to push with contractions and mouth breathe slowly
- During the delivery process, check position of cord
- When baby is delivered, suction the mouth followed by the nose
- Stimulate crying by tapping soles of feet, if no spontaneous cry within one minute, suction again and begin resuscitation
- Wrap baby in dry blanket and place on mother's abdomen
- Clamp or tie umbilical cord approx. 6" from baby, place a second clamp or tie approx. 2" closer to mother, cut between clamps or ties
- Maintain body heat of baby and mother; monitor baby's respiratory/circulatory status carefully
- If placenta delvers spontaneously, massage mother's lower abdomen until firm, bring placenta to hospital; place a sterile pad over vaginal opening and cover mother with clean bedding

Breech Presentation

- Best handled in health facility; encourage breathing through contraction
- If delivery is imminent, prepare for delivery
- No interference is the rule
- Allow the delivery of the baby up to the level of the umbilicus, supporting the buttocks and trunk with the hand and velar surface of the arm, allow legs to deliver spontaneously, support heels to prevent perineal tearing
- When visualized, gently extract 4"-6" of umbilical cord to prevent traction of the cord
- Let baby hang with gravity for 20 sec. to allow head to flex in pelvis
- As the head delivers, the body should be extended by lifting it up over the mother's abdomen
- As the mouth appears, suction the pharynx with a bulb suction, continue extending over the abdomen until the head delivers
- You are aiding and facilitating delivery of the head; do not actively pull the baby.

Continued on next page

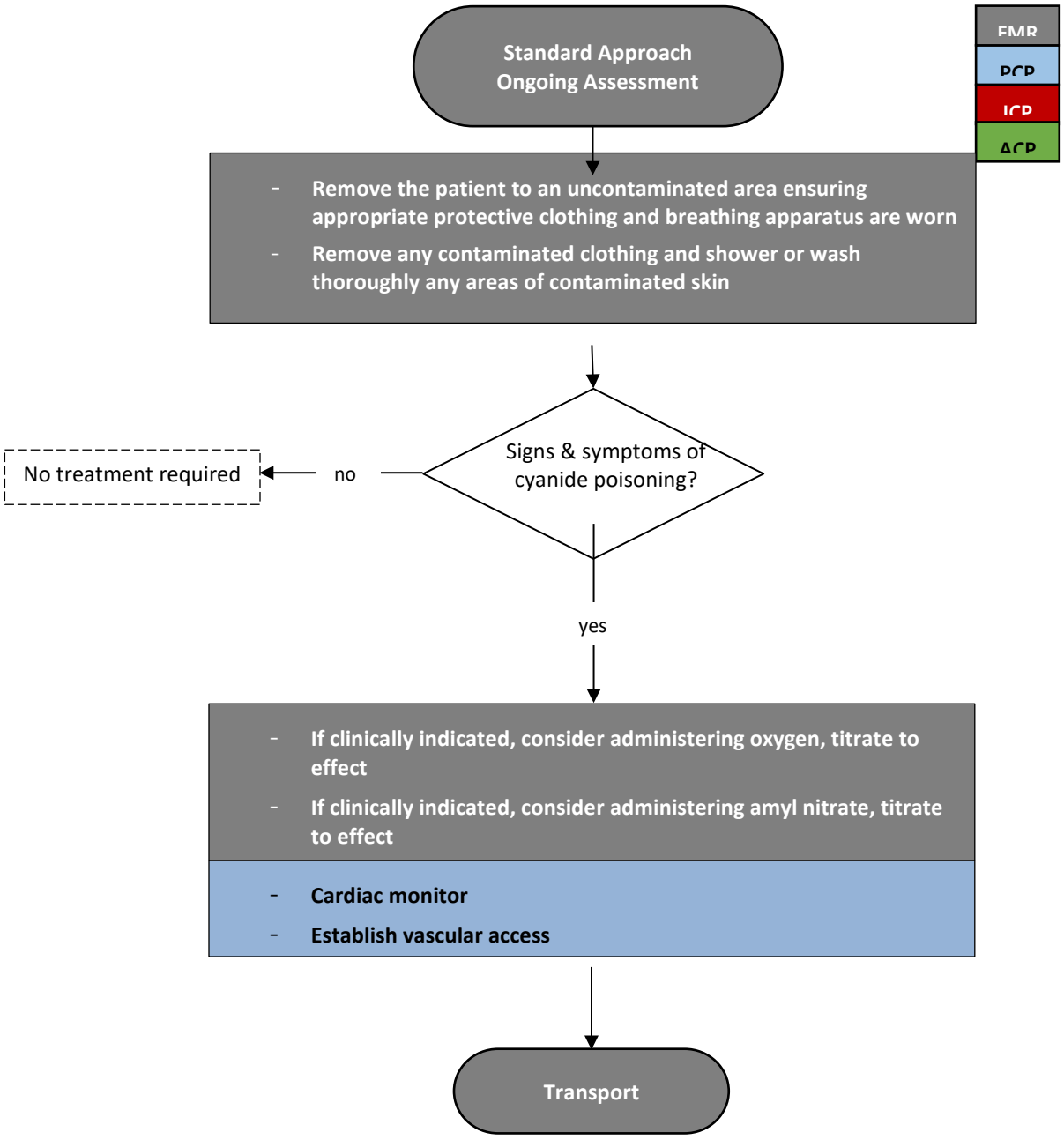
Childbirth (Obstetrics) Continued from previous page



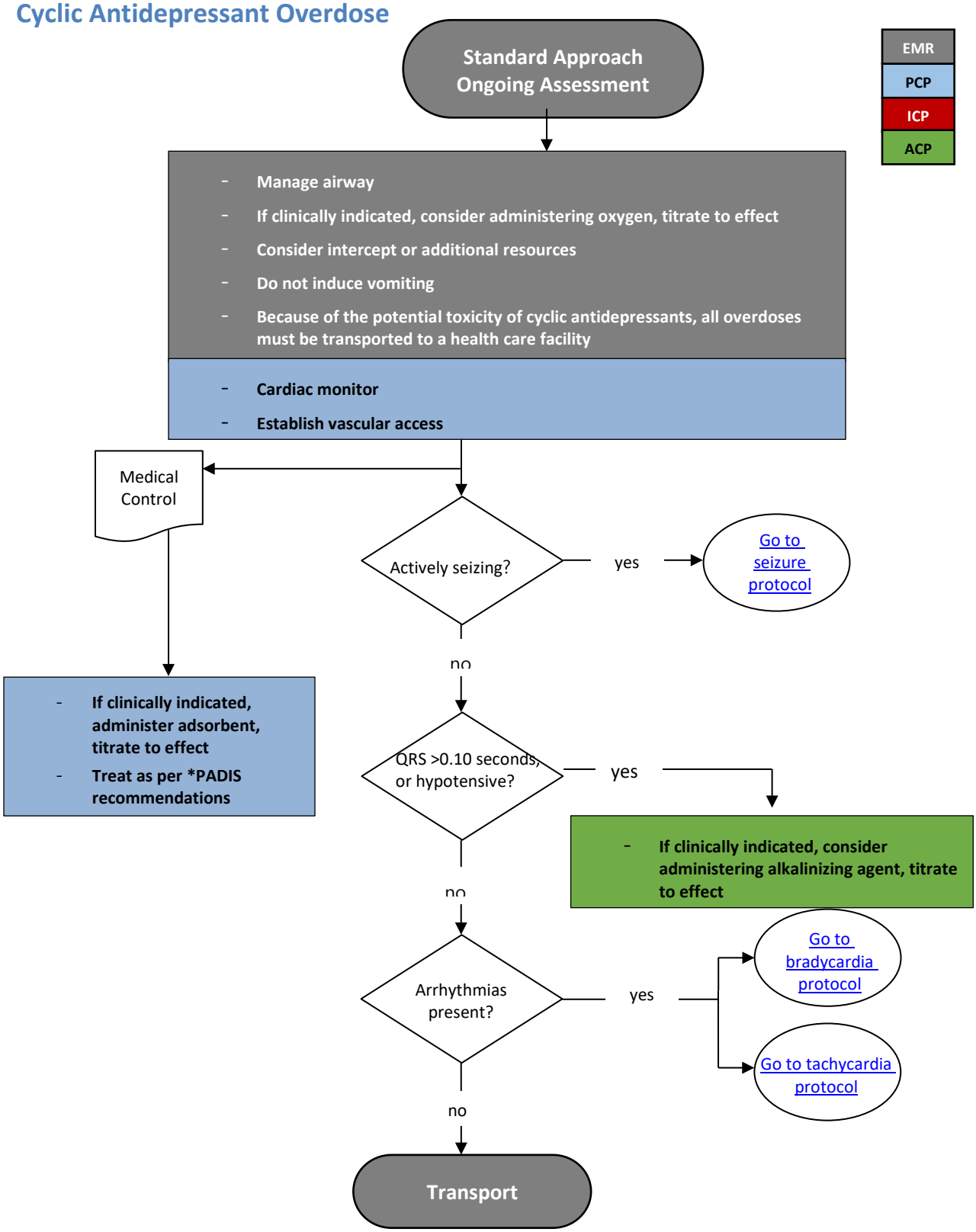
Note:

- Consider possibility of pregnancy in any female of child-bearing age with complaints of vaginal bleeding, menstrual cycle irregularity, abdominal pain or low back pain not associated with trauma
- If cord is around baby's neck during delivery, slip cord over head to avoid strangulation; if cord is too tight and cannot be slipped over baby's head, clamp and cut the cord
- The greatest risks to a newborn is airway obstruction and hypothermia; keep baby warm and dry and keep airway suctioned with bulb syringe
- When delivery is not proceeding normally and mother is displaying signs of shock, treat for shock and transport immediately
- Spontaneous or induced abortions may result in copious vaginal bleeding; reassure mother; treat for shock and transport immediately; bring fetus or any tissue passed to health care facility with

Cyanide Poisoning



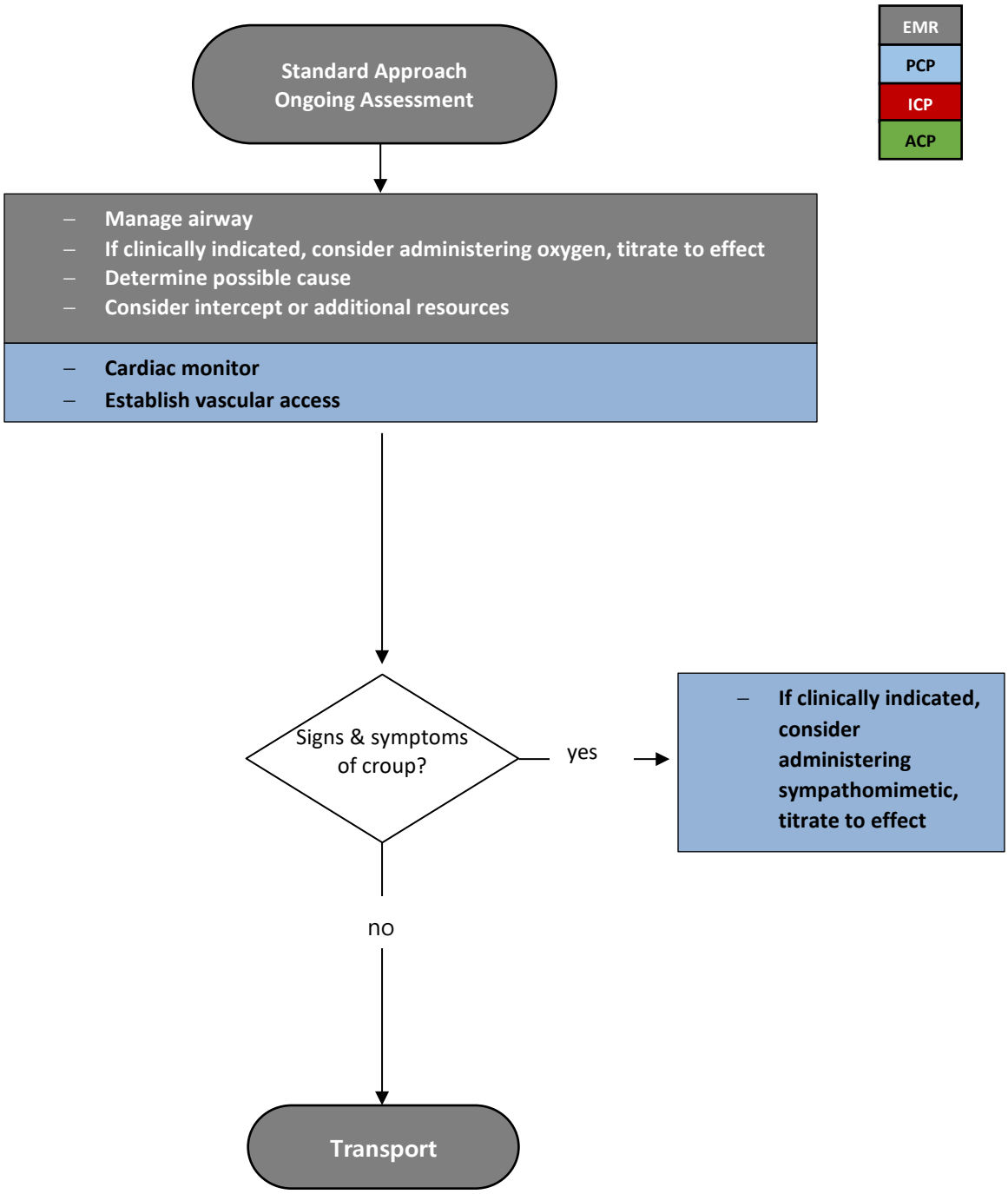
Cyclic Antidepressant Overdose



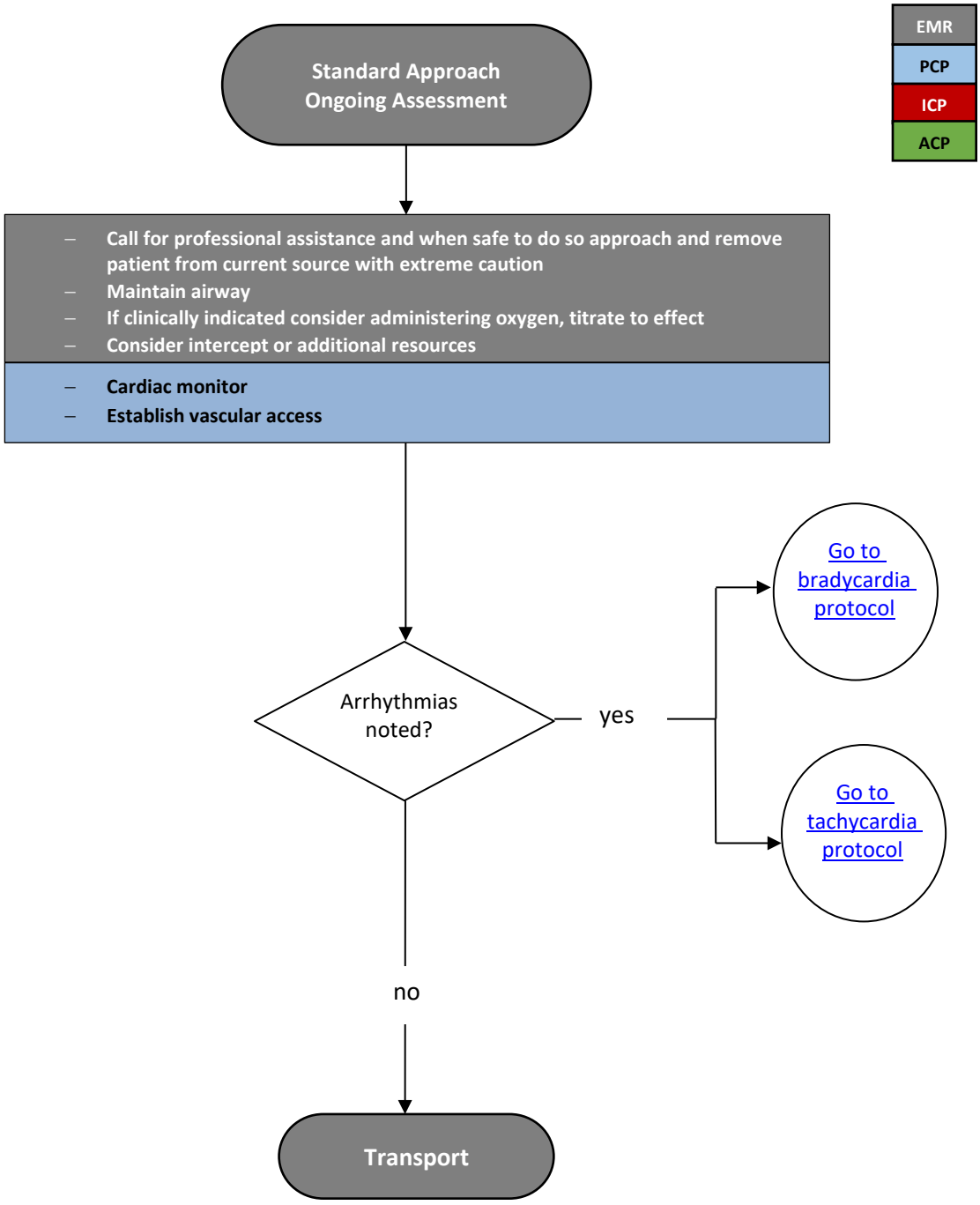
Note:

- When determining the need for adsorbent administration, online medical control, in this instance, refers to the receiving physician or Poison & Drug Information Service (*PADIS)
- The contact number for PADIS is **1-866-454-1212**

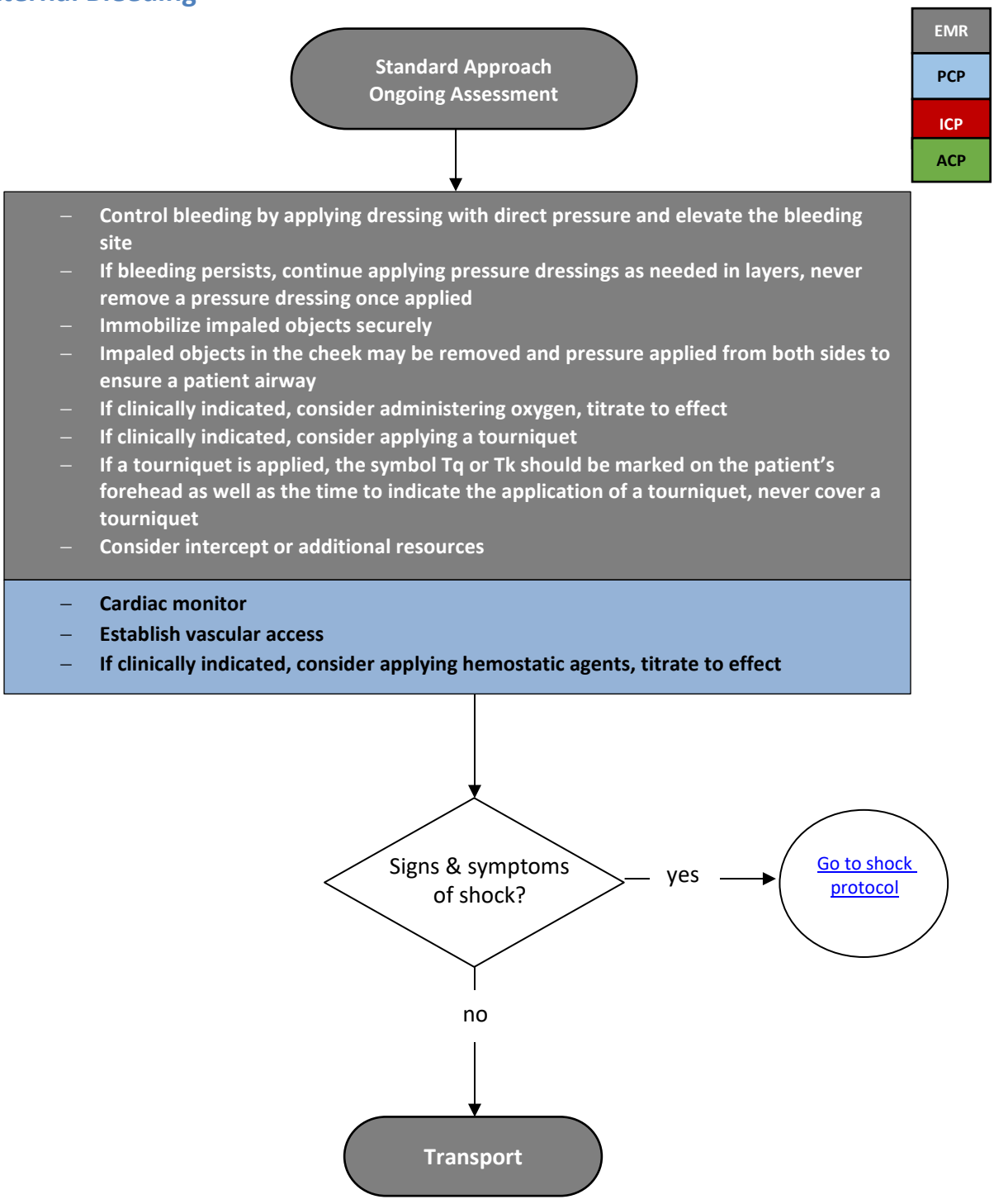
Dyspnea


EMR
PCP
ICP
ACP
Standard Approach
Ongoing Assessment
– Manage airway
– If clinically indicated, consider administering oxygen, titrate to effect
– Determine possible cause
– Consider intercept or additional resources
– Cardiac monitor
– Establish vascular access
Signs & symptoms of croup?
yes
– If clinically indicated, consider administering sympathomimetic, titrate to effect
no
Transport

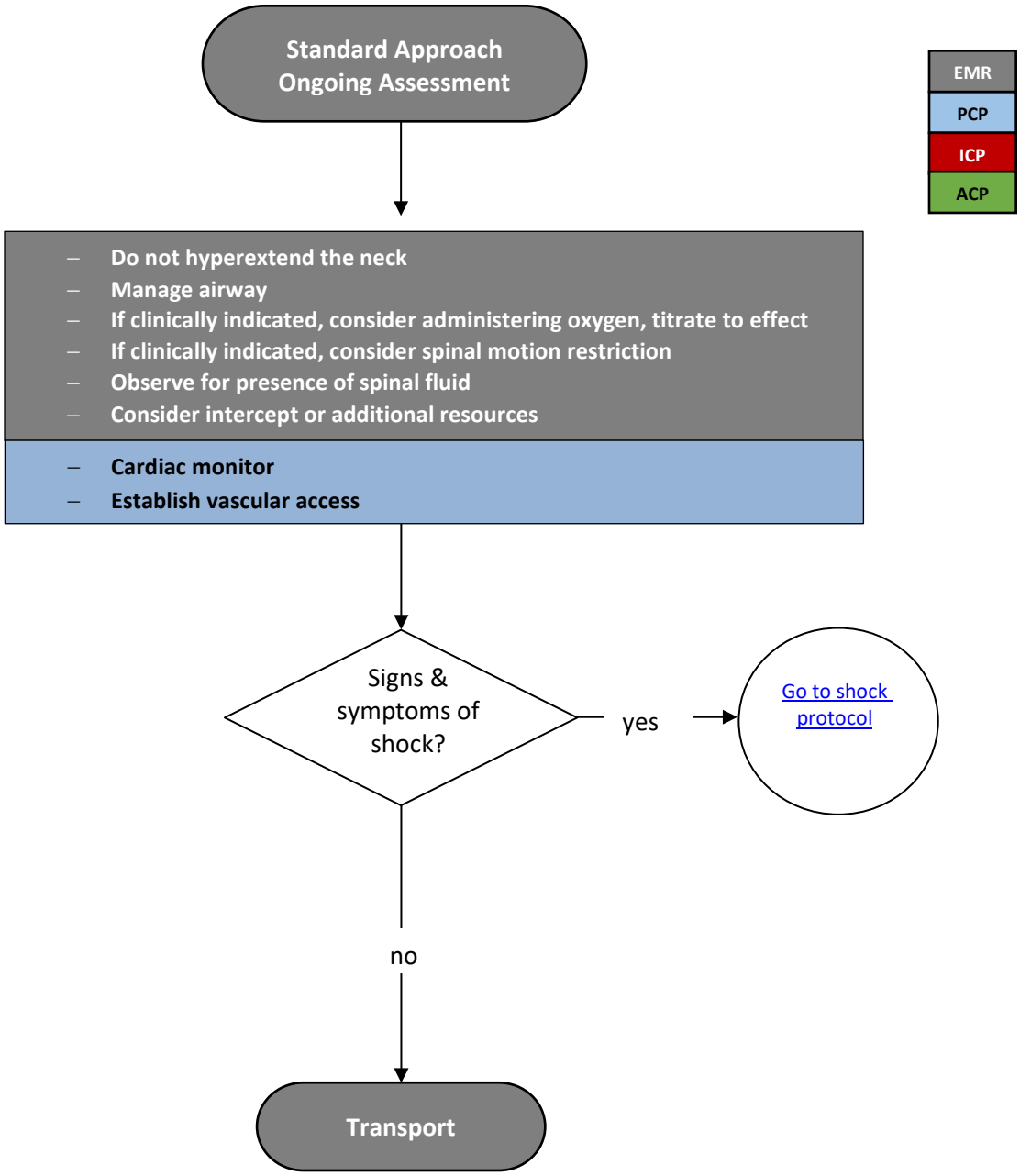
Electrical Shock



External Bleeding



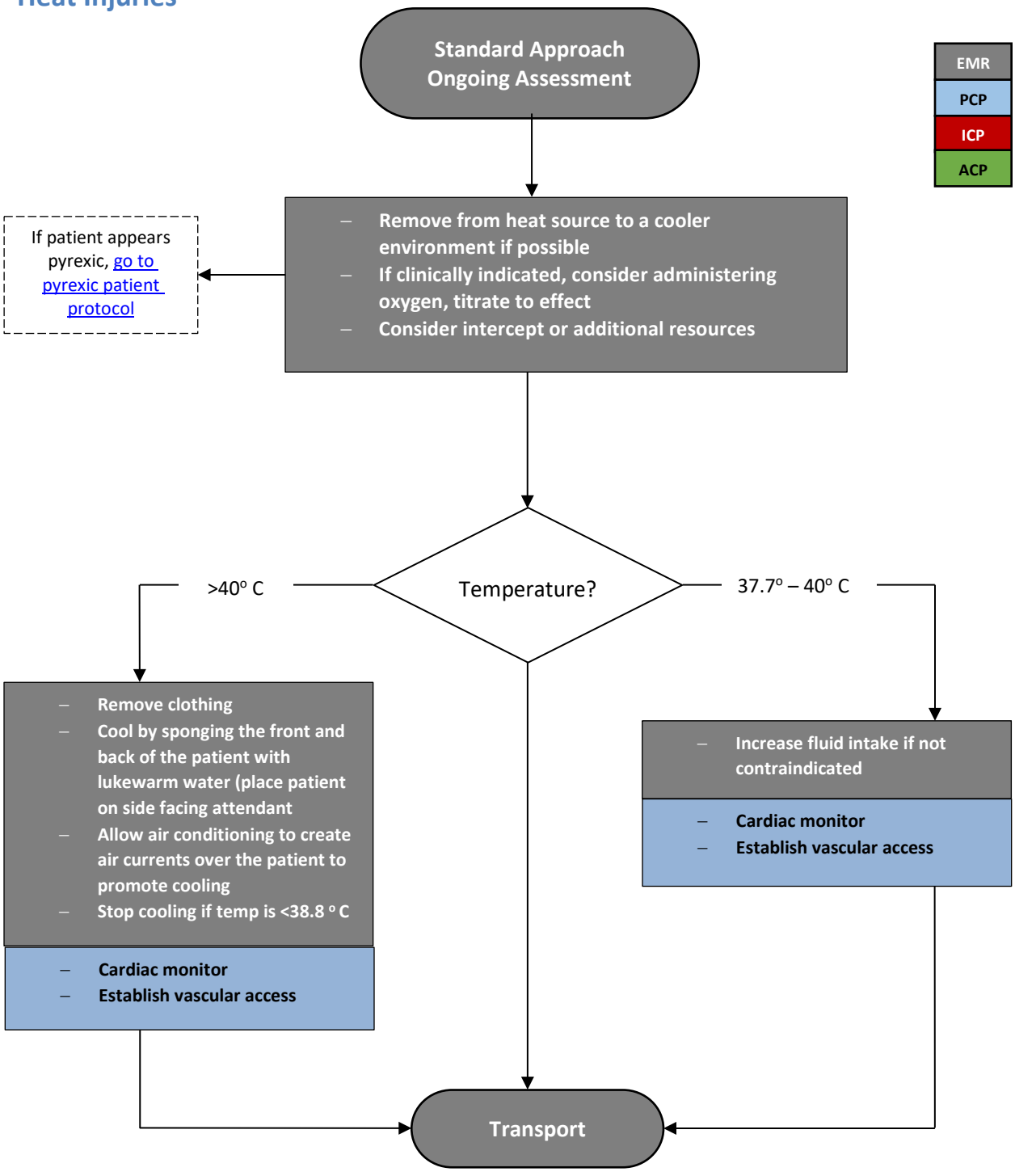
Head / Neck and Spinal Trauma



Note:

- Some patients with respiratory diseases such as COPD will experience further respiratory compromise when subjected to supine immobilization on a spine board. In these situations, you may need to place the patent in a semi-sitting position on the stretcher while applying spinal motion restriction
- Not all patients will be able to place the back of their head onto a spine board due to pre-existing conditions such as ankylosing spondylitis; therefore, padding may be required under the occiput in these cases. While less than ideal, this will facilitate easier handling of these patients
- Motor and sensory assessments should be performed before and after spinal motion restriction

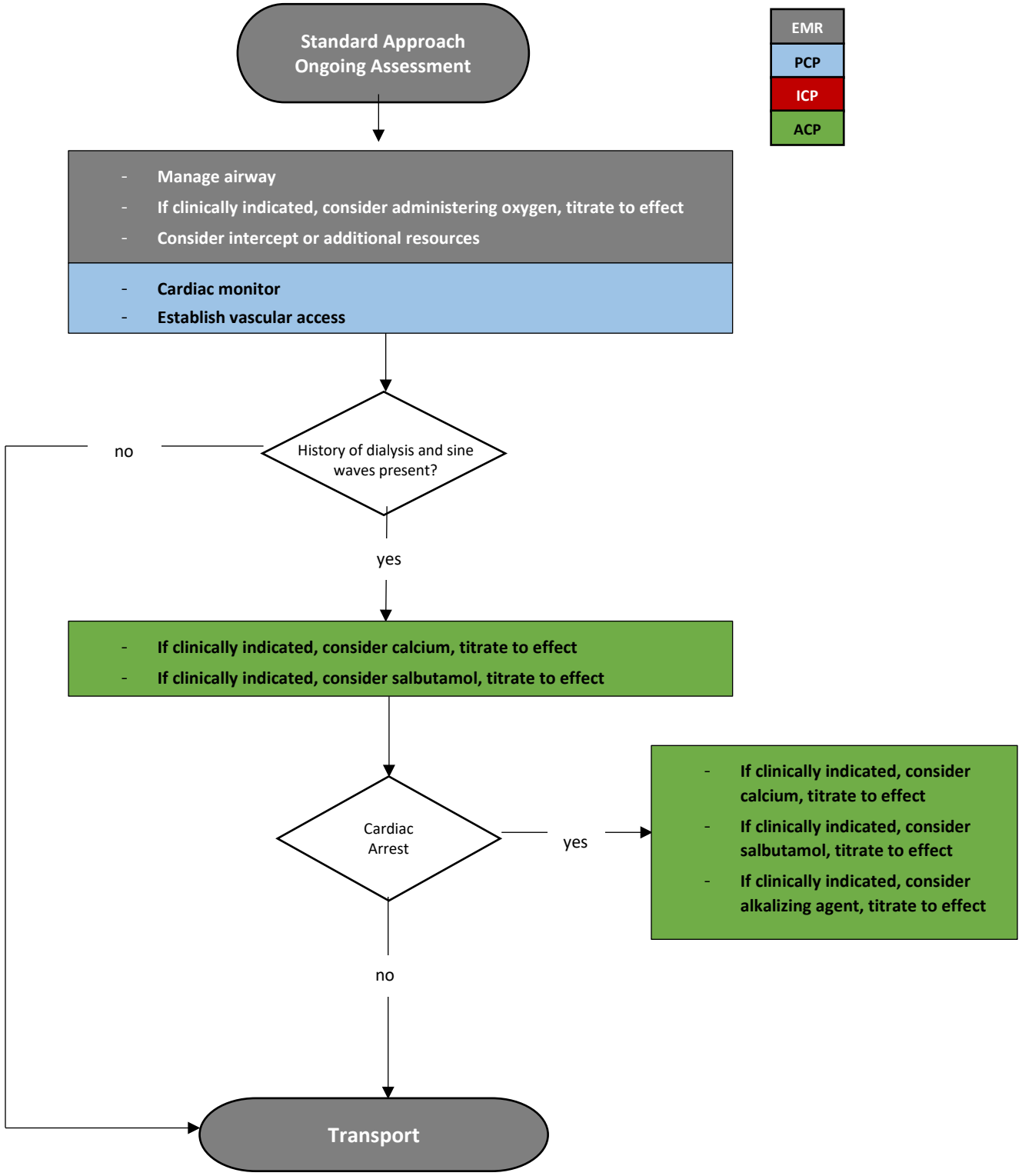
Heat Injuries



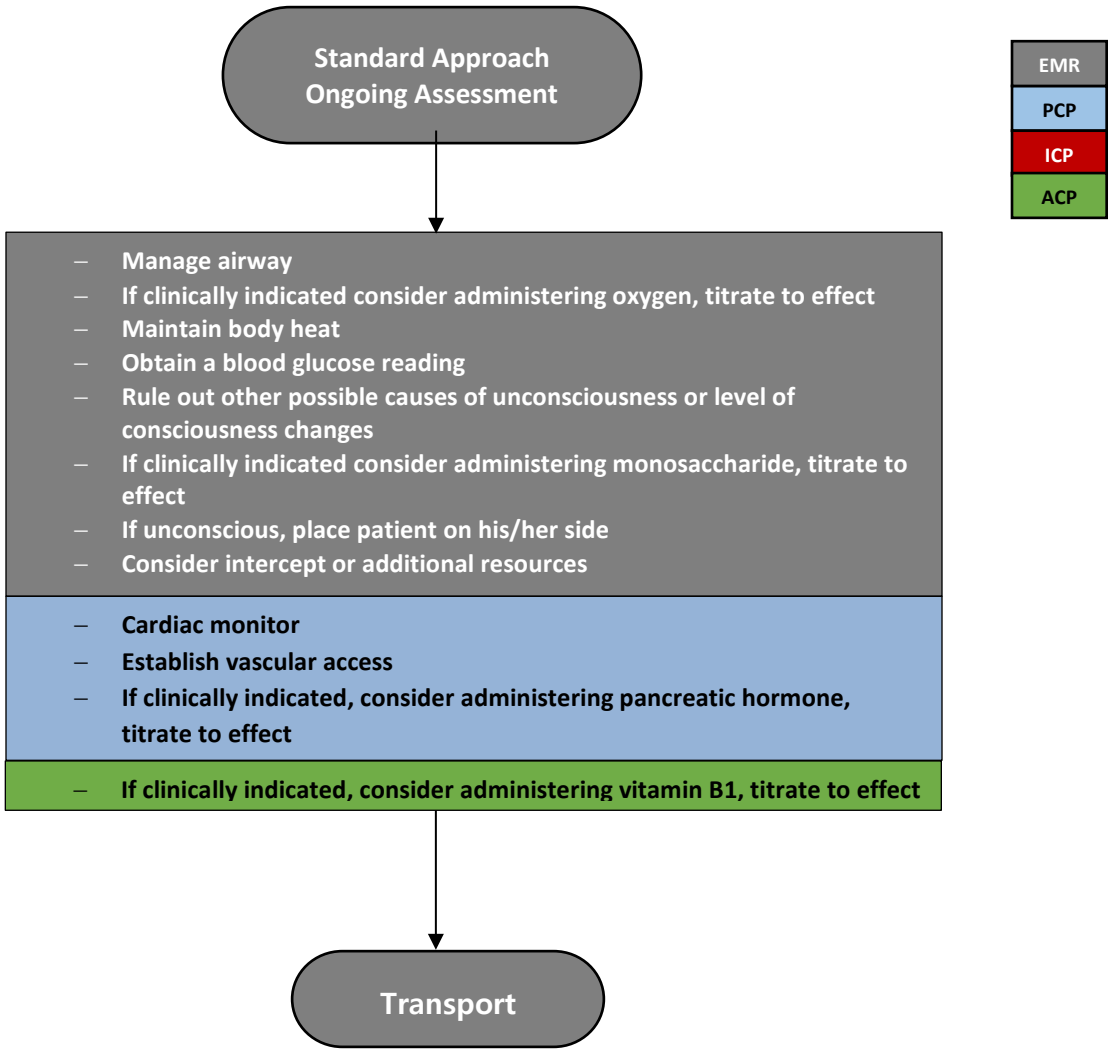
Note:

- Not all heat emergencies are environmental in nature; may have an infectious or neurological etiology
- Rapid cooling may cause vomiting or shivering. Do not continue cooling if shivering starts
- Do not administer oral salt to the patient

Hyperkalemia



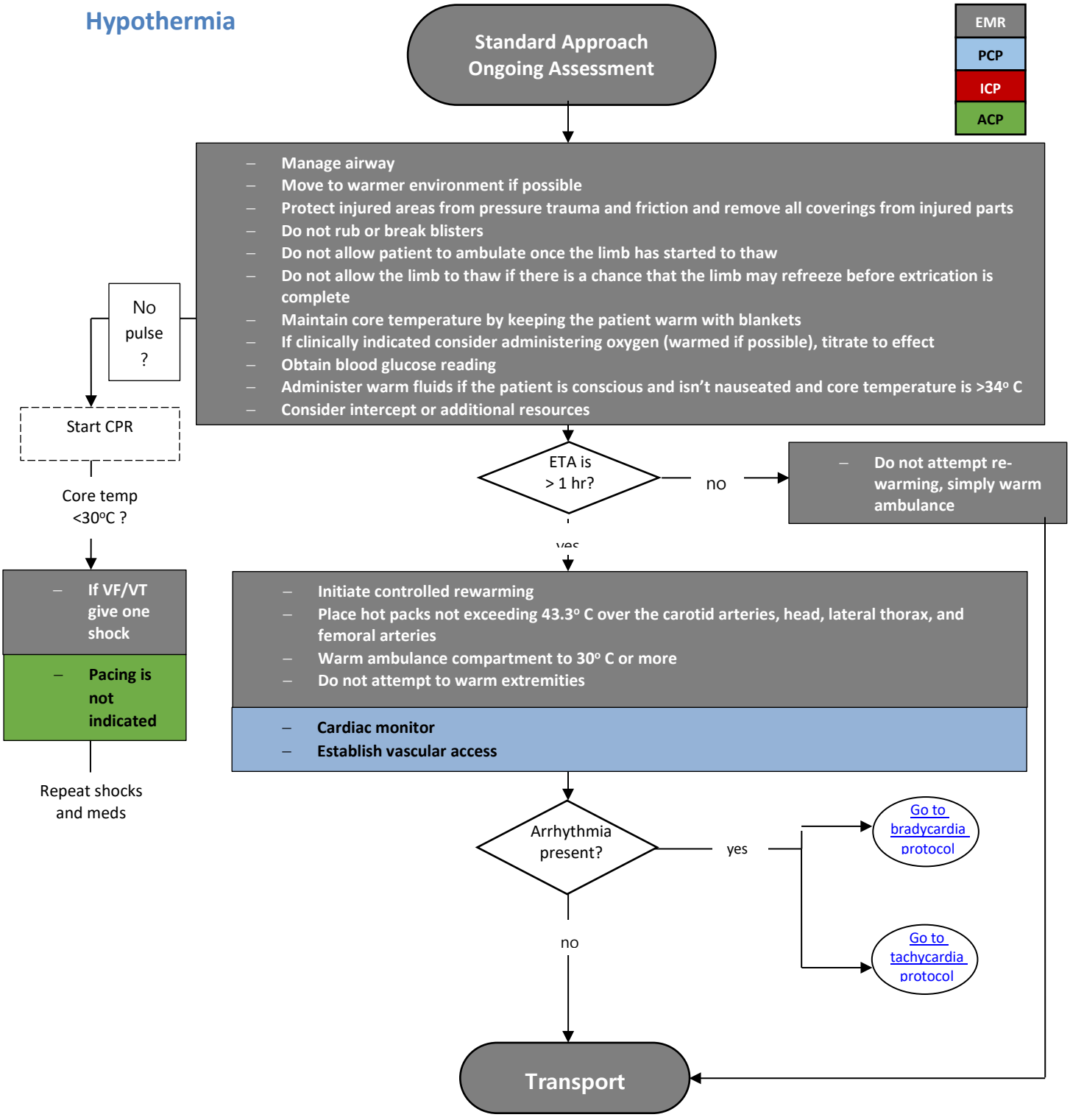
Hypoglycemic



Note:

- Under no circumstances administer insulin even if the patient requests it
- Diabetic patients may be unconscious for reasons other than hypoglycemia; thus, the care provider must be thorough in their history taking and assessment
- The model of blood glucose monitor used and the initial and ongoing training must be determined by the local health region in order to ensure consistency in testing and quality control

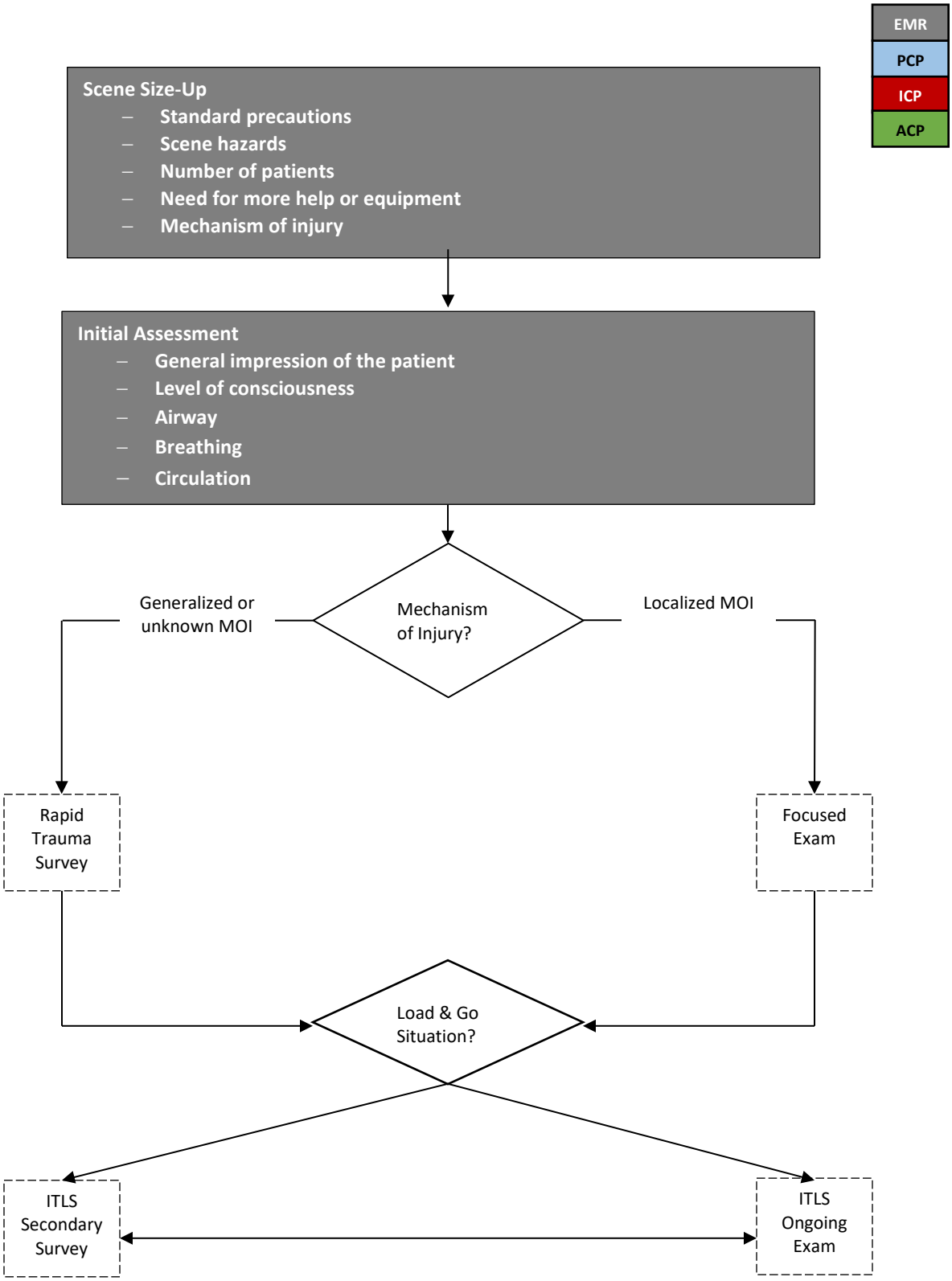
Hypothermia



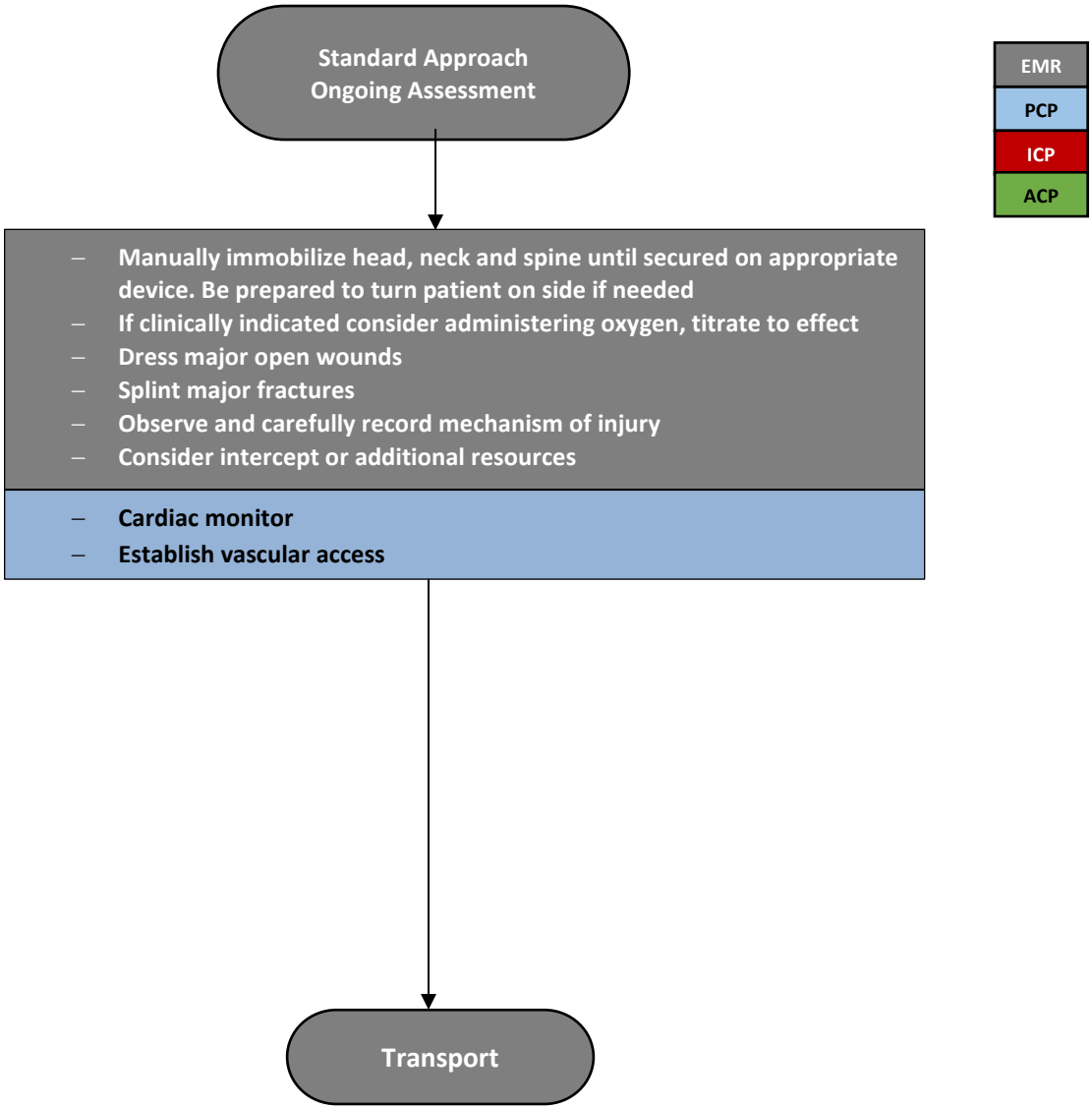
Note:

- When practical, all treatment of cold emergencies should be left until arrival at the health care facility
- Shivering occurs between 32° and 36.6° C, but not below and is a fair indicator of the severity of hypothermia
- If possible, core temp should be recorded using a low temperature rectal thermometer
- Absence of a palpable pulse is not a dependably accurate indication of functional cardiac activity
- Handle patients with care to avoid causing ventricular fibrillation of a cold but functioning heart

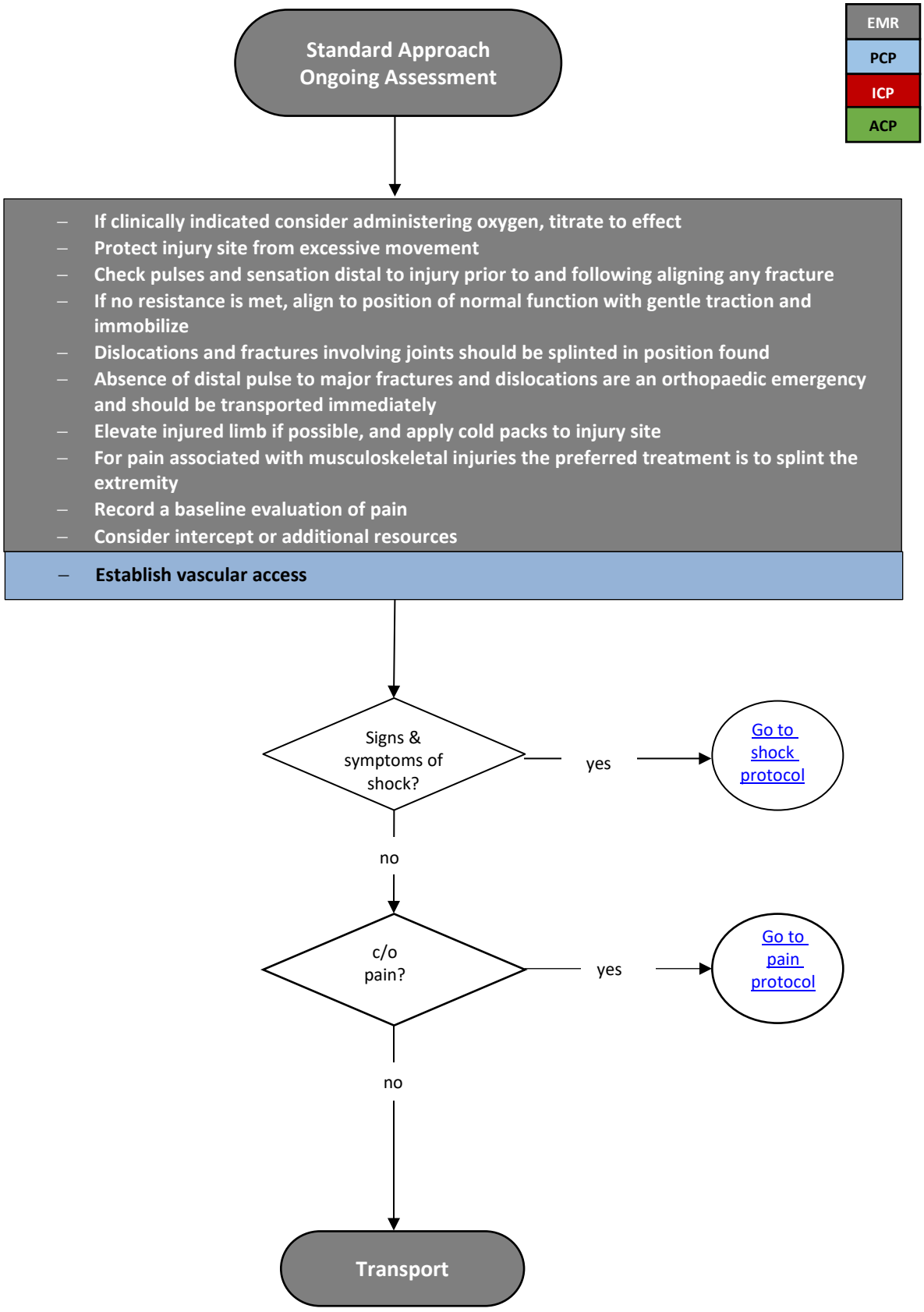
ITLS Patient Assessment



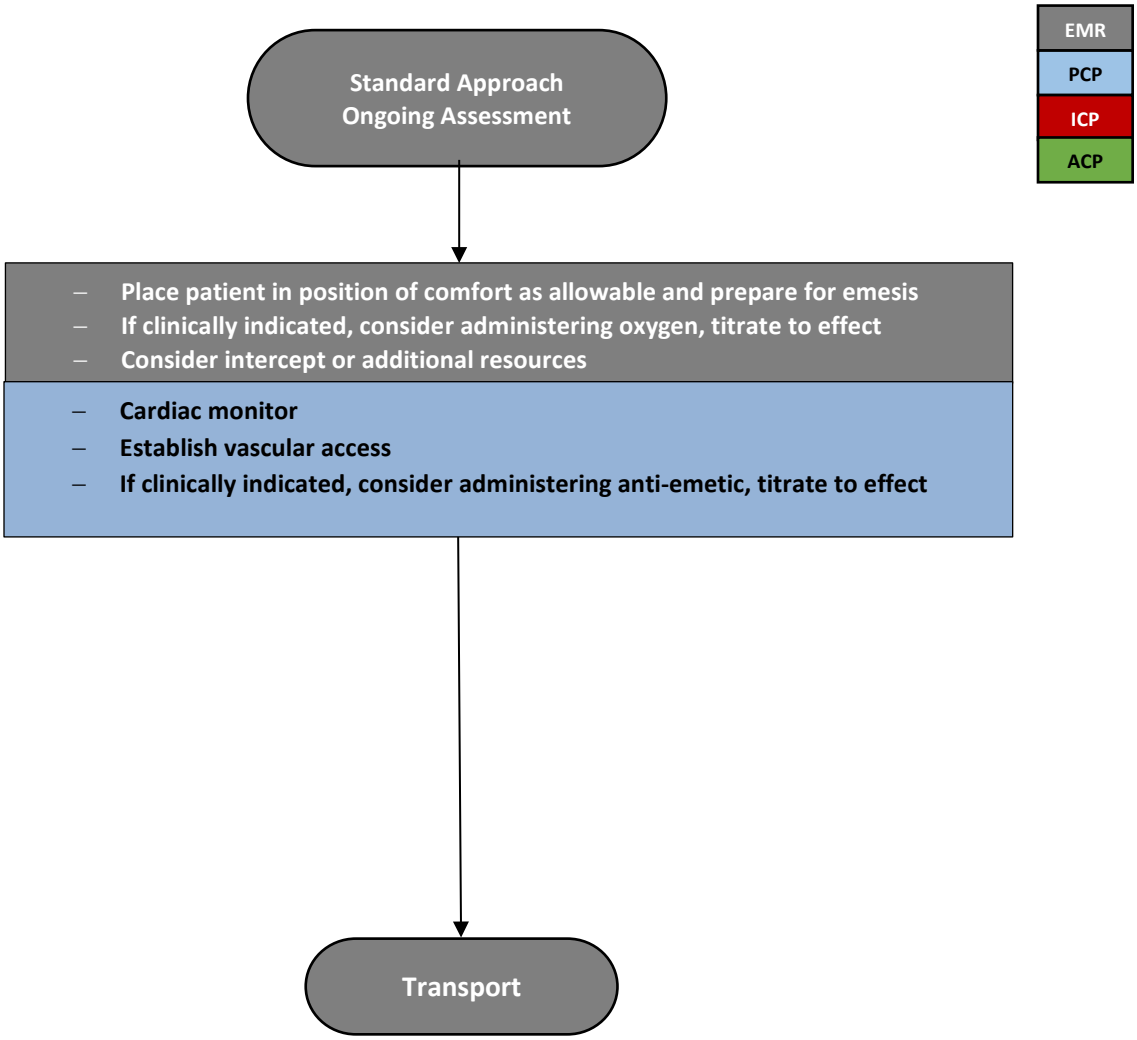
Multiple Trauma



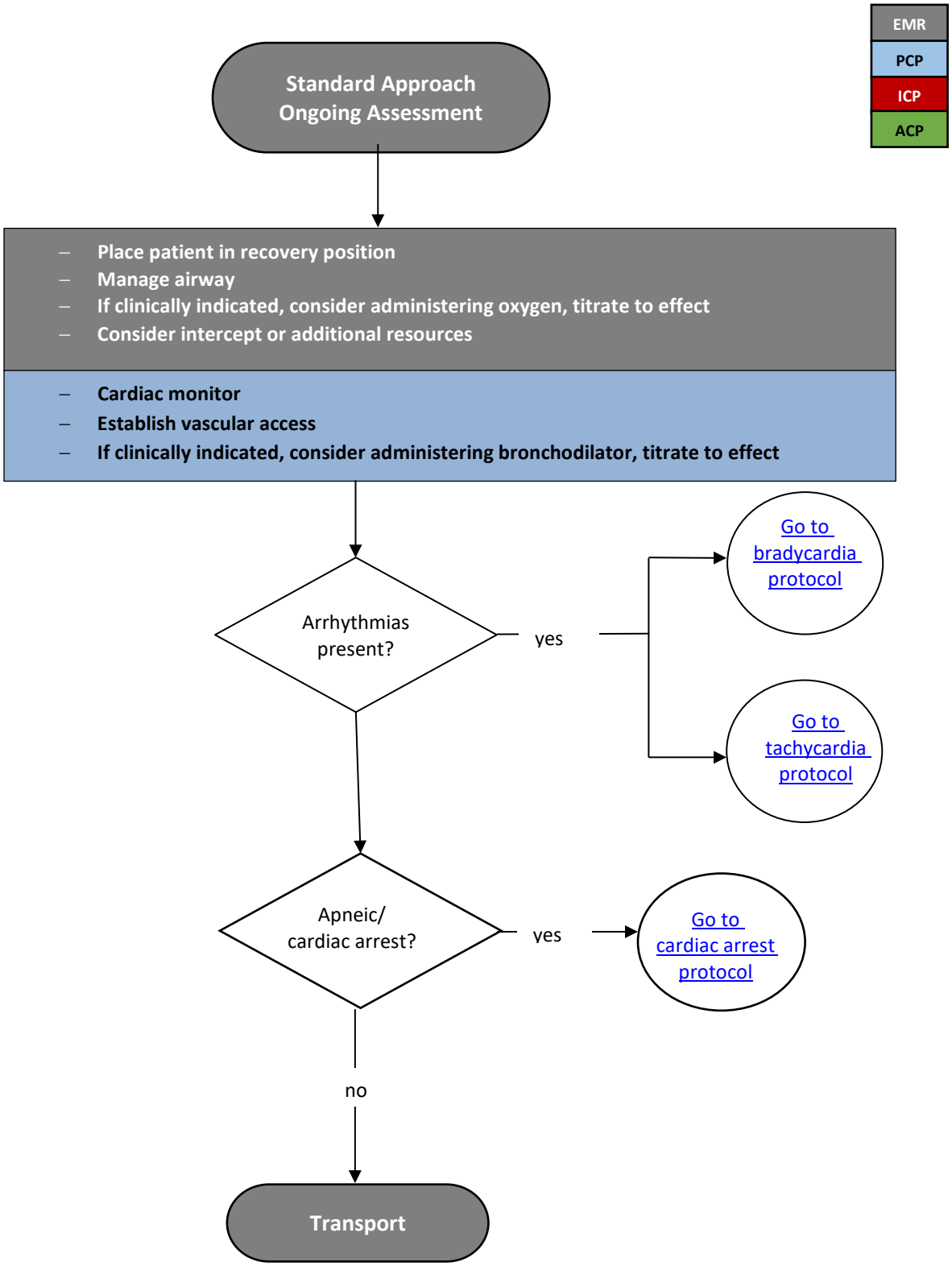
Musculoskeletal Trauma



Nausea / Vomiting



Near Drowning



Organophosphate / Carbamate Poisoning

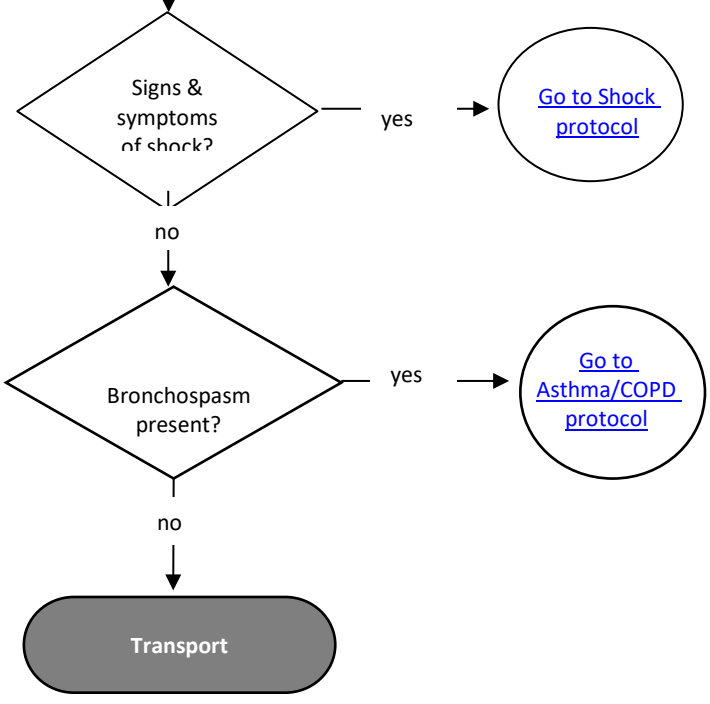
EMR
PCP
ICP
ACP

Standard Approach
Ongoing Assessment

- Due to dangers of skin absorption of organophosphates and carbamates, all responders must wear a mask, gloves and gown when treating patients with suspected organophosphate or carbamate poisoning.
- Decontaminate patient if possible by removal of clothing as carefully and discretely as possible prior to loading patient into ambulance
- Place all clothing in a double garbage bag then seal
- Remove as much of the chemical off the patient as possible by brushing off the skin or washing the skin with water if the patient's condition permits
- Manage airway
- If clinically indicated, consider administering oxygen, titrate to effect
- If contamination of eyes has occurred, irrigate eyes with normal saline for 20 minutes enroute, blinking often
- Consider intercept or additional resources

- **Cardiac monitor**
- **Establish vascular access**
- **If clinically indicated, consider administering bronchodilator, titrate to effect**

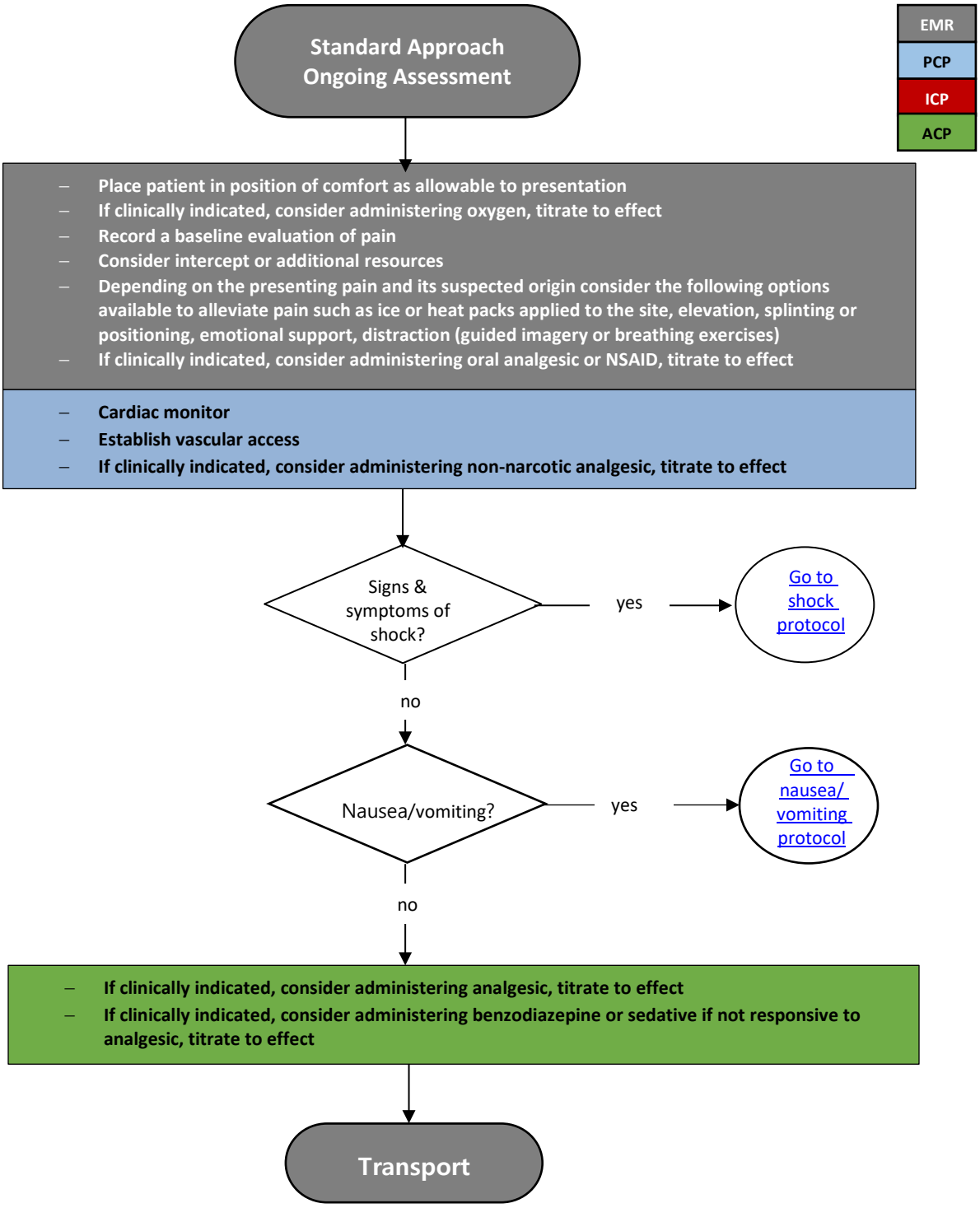
- **If clinically indicated, consider administering anticholinergic, titrate to effect**



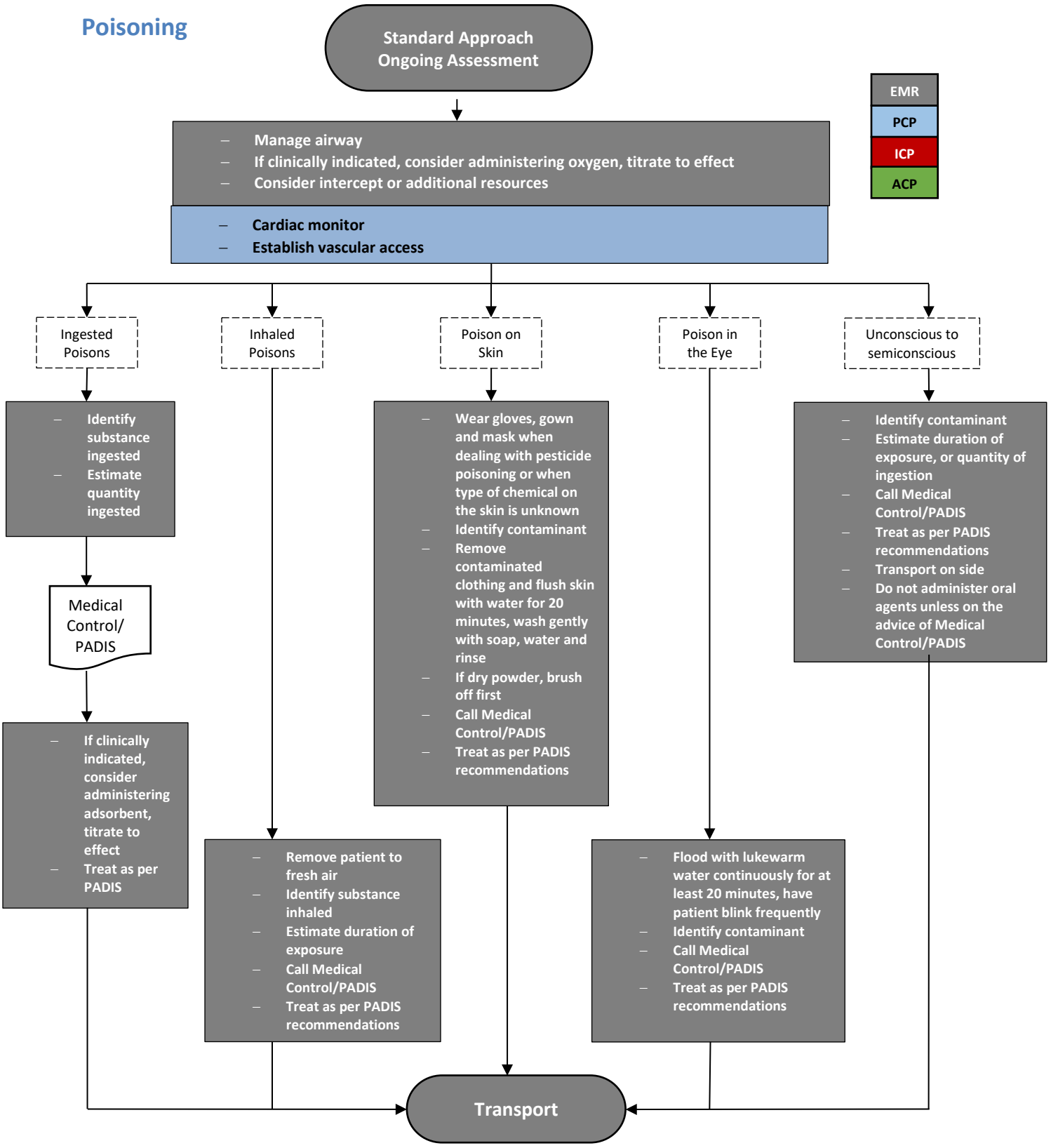
Note:

- Organophosphates and carbamates are used as insecticides and are the active ingredients in many compounds
- They affect the nervous system causing a constant set of nerve stimulation and are readily absorbed by the skin, GI tract and respiratory system
- Onset of symptoms may be a few minutes to several hours after exposure
- Death occurs due to respiratory failure
- Notify receiving health care facility as early as possible so that they can prepare for the arrival of the patient
- After transporting patient, cleanse the interior of the ambulance with soap and water followed by a clear water rinse

Pain Management



Poisoning



Note:

- When determining the need for adsorbent administration, online medical control, in this instance, refers to the receiving physician or Poison and Drug Information Service (PADIS)
- The contact number for PADIS is 1-866-454-1212

Pre-Eclampsia/Eclampsia

EMR
PCP
ICP
ACP

Standard Approach
Ongoing Assessment

- Manage airway
- If clinically indicated, consider administering oxygen, titrate to effect
- Obtain blood glucose reading
- If a BLS provider encounters a patient in status epilepticus, transport immediately
- Consider intercept or additional resources

- **Cardiac monitor**
- **Establish vascular access**

Is patient pre-eclamptic?

yes → If clinically indicated, consider administering Magnesium Sulfate, titrate to effect

no

Is patient seizing?

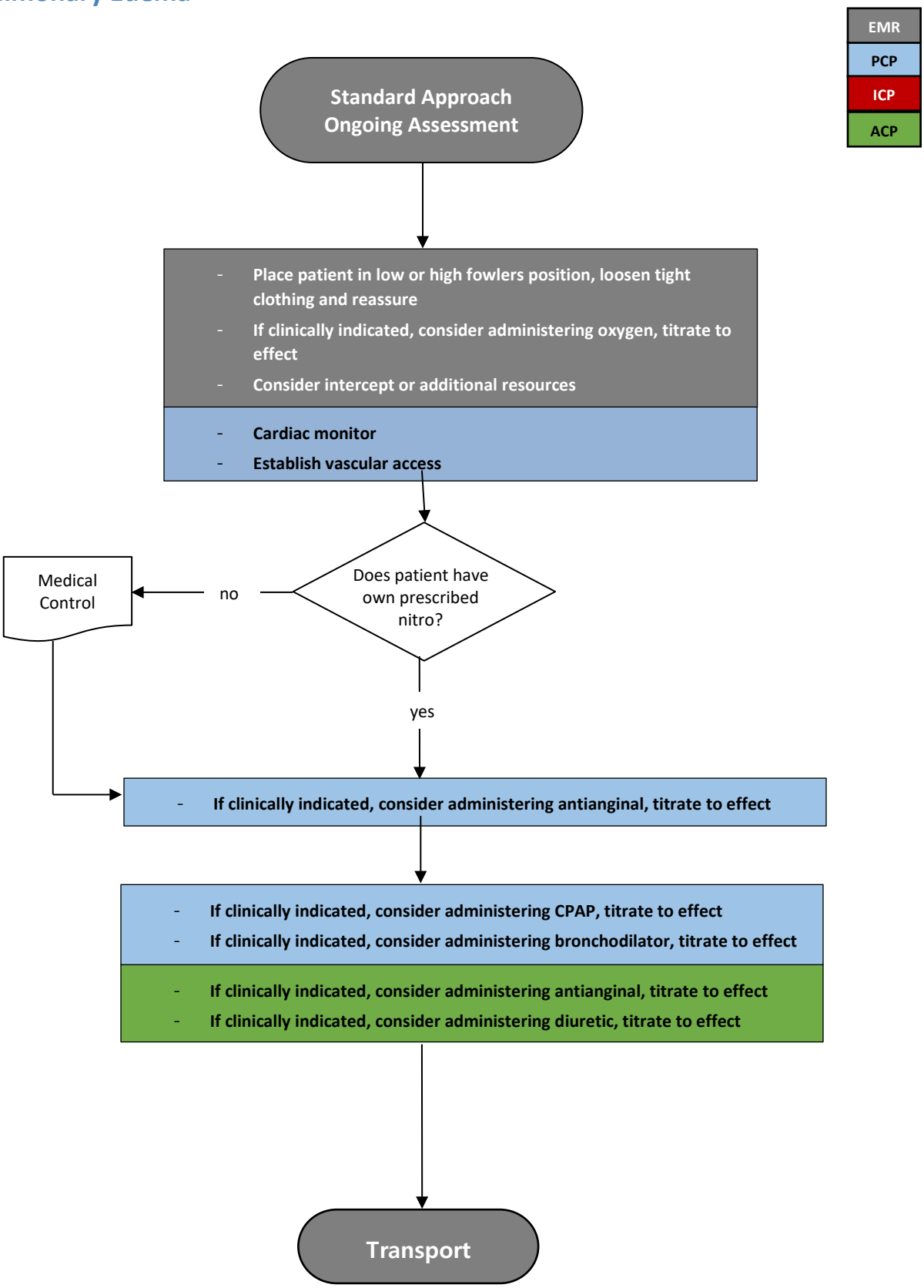
yes → If clinically indicated, consider administering Magnesium Sulfate, titrate to effect

no

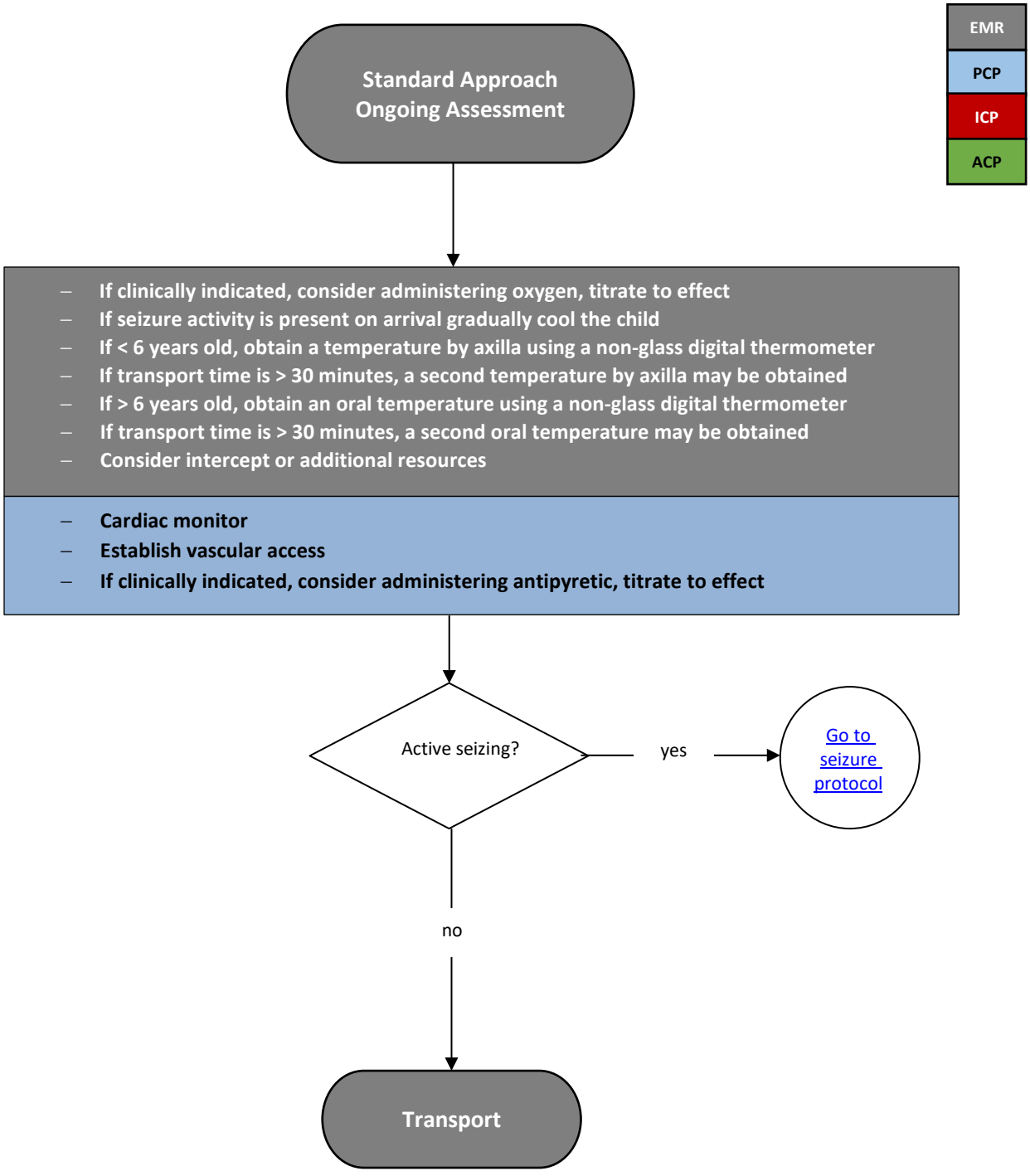
Transport

Moderate / Severe Signs and Symptoms of Pre-Eclampsia
- Blood pressure of 160/100 mmHg or higher
- Generalized edema
- Shortness of breath / pulmonary edema
- Severe headache
- Visual disturbances
- Confusion

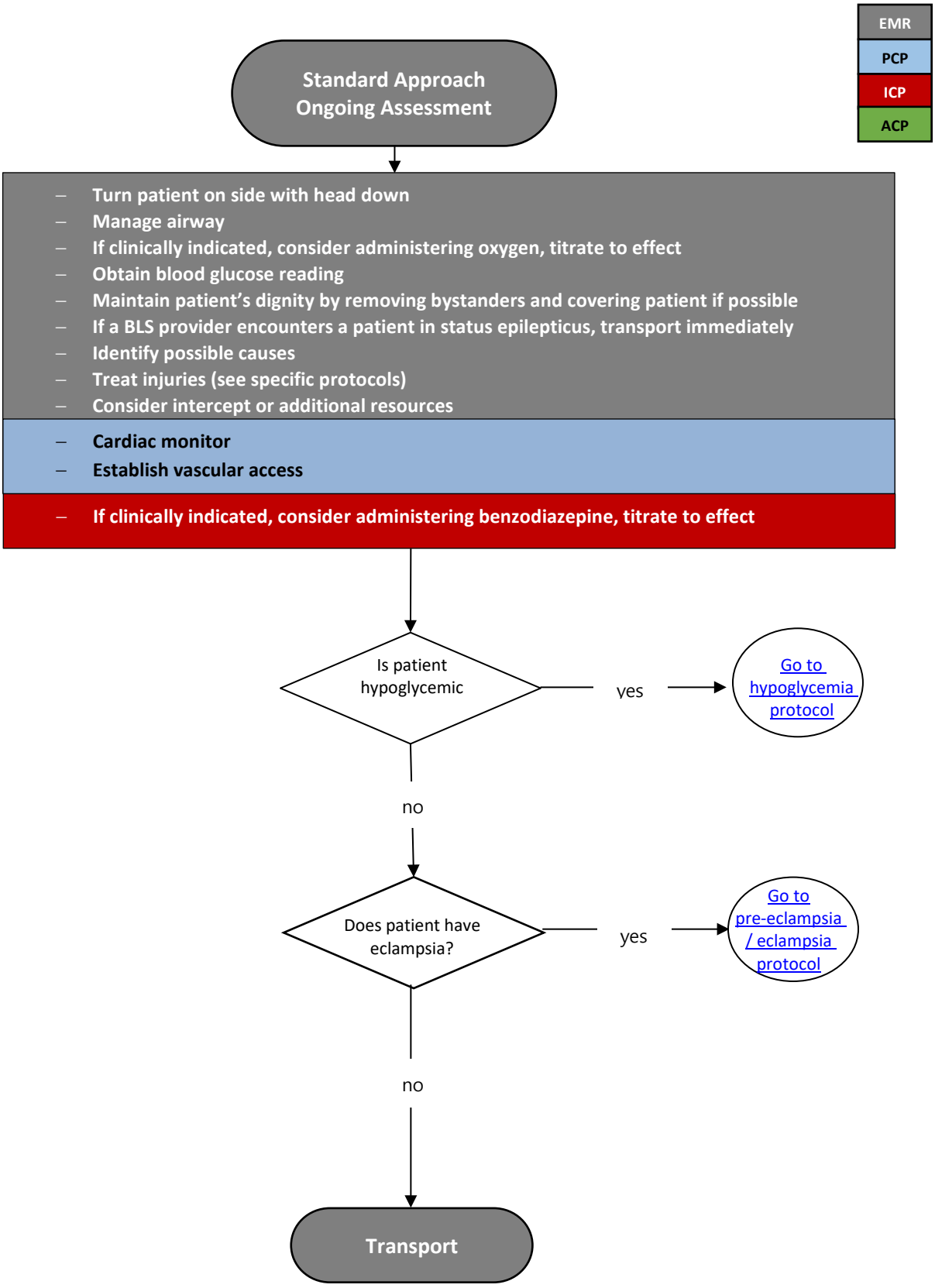
Pulmonary Edema



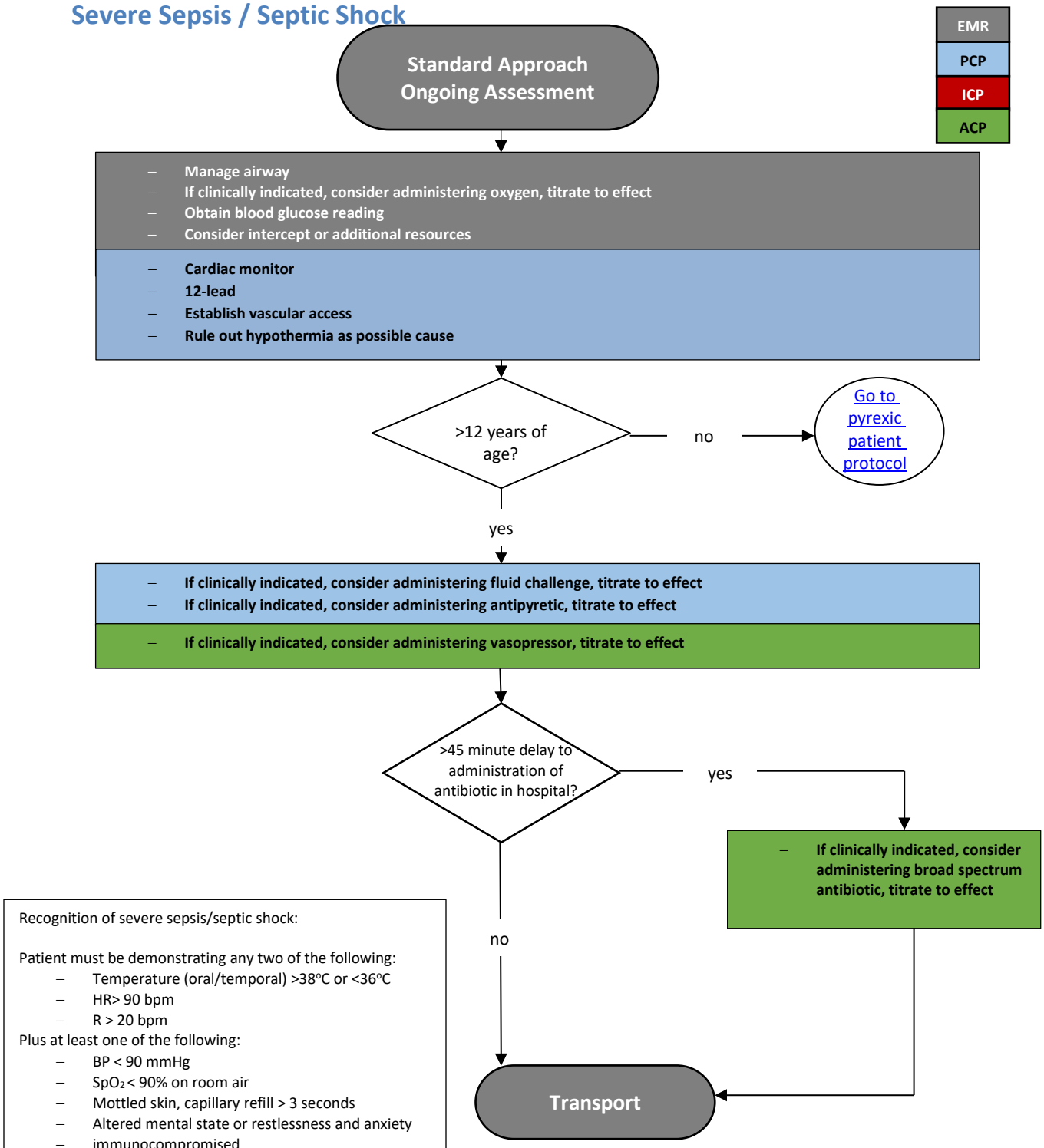
Pyrexic Patient



Seizure


EMR
PCP
ICP
ACP
Standard Approach
Ongoing Assessment
– Turn patient on side with head down
– Manage airway
– If clinically indicated, consider administering oxygen, titrate to effect
– Obtain blood glucose reading
– Maintain patient's dignity by removing bystanders and covering patient if possible
– If a BLS provider encounters a patient in status epilepticus, transport immediately
– Identify possible causes
– Treat injuries (see specific protocols)
– Consider intercept or additional resources
– Cardiac monitor
– Establish vascular access
– If clinically indicated, consider administering benzodiazepine, titrate to effect
Is patient hypoglycemic
yes
Go to hypoglycemia protocol
no
Does patient have eclampsia?
yes
Go to pre-eclampsia / eclampsia protocol
no
Transport

Severe Sepsis / Septic Shock



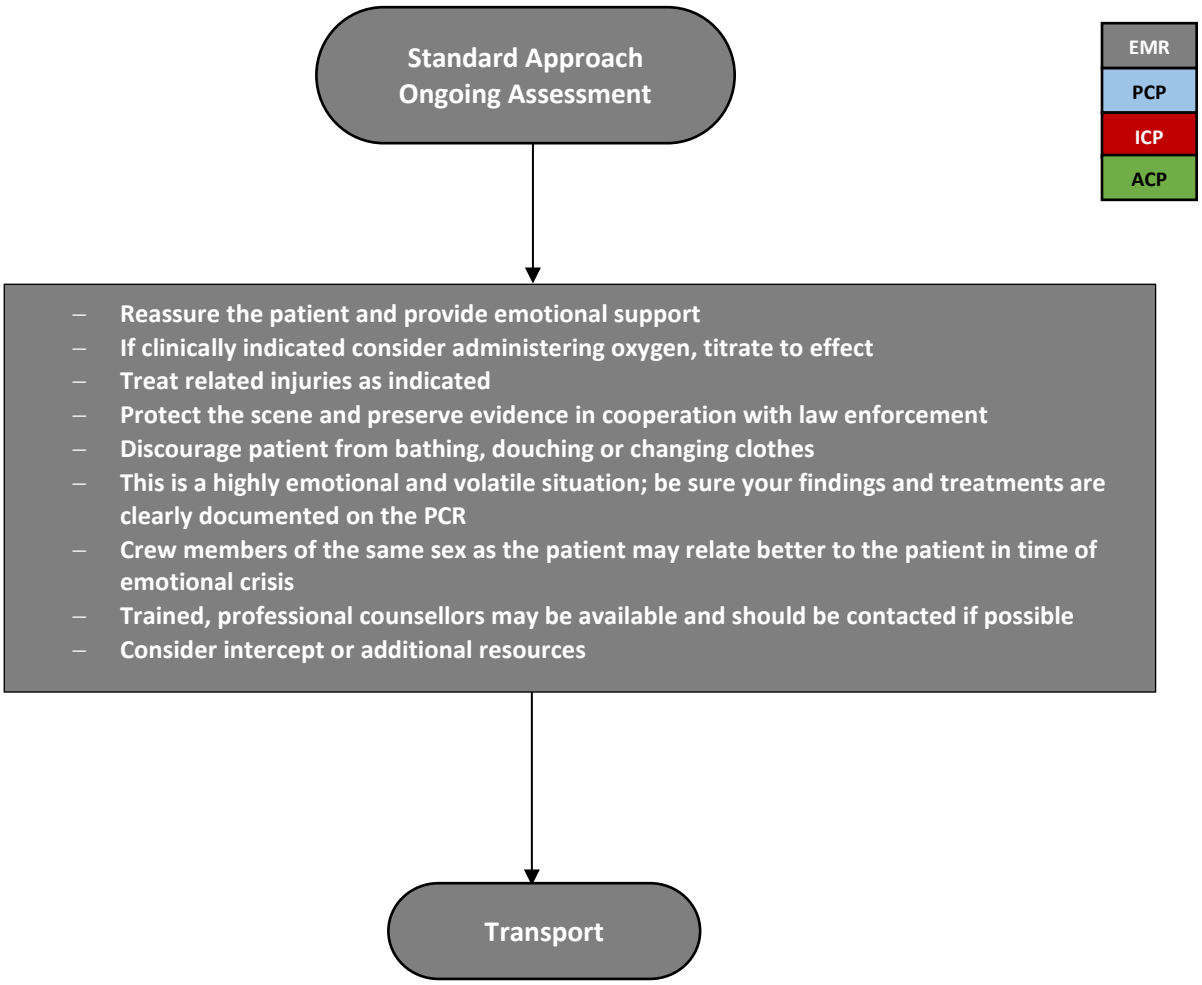
Recognition of severe sepsis/septic shock:

Patient must be demonstrating any two of the following:
- Temperature (oral/temporal) >38°C or <36°C
- HR> 90 bpm
- R > 20 bpm

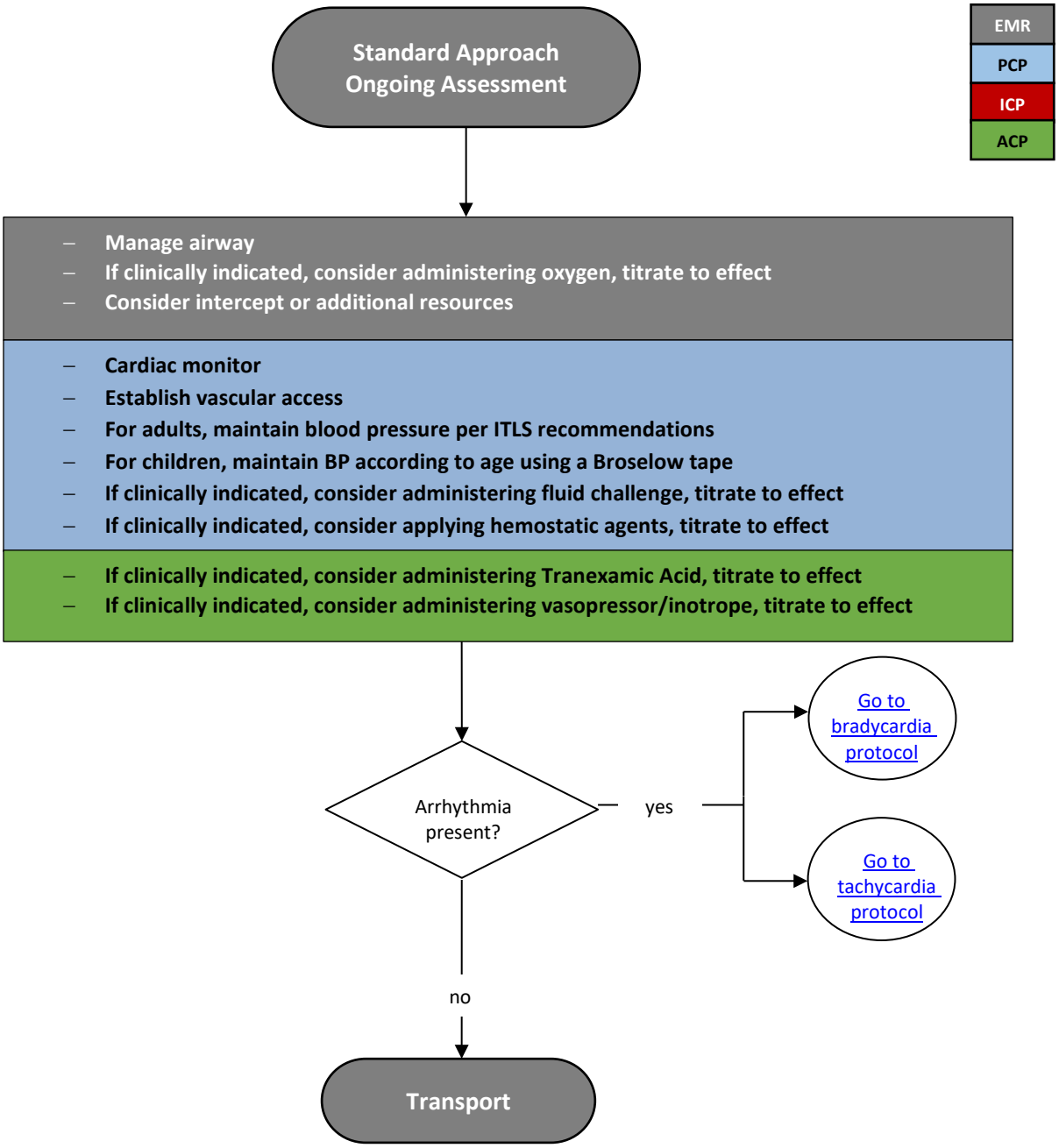
Plus at least one of the following:
- BP < 90 mmHg
- SpO_2 < 90% on room air
- Mottled skin, capillary refill > 3 seconds
- Altered mental state or restlessness and anxiety
- immunocompromised

Note:
- Services utilizing this protocol should work with medical advisors to determine which broad-spectrum antibiotic and which vasopressor to use as well as accepted dosing in accordance with evidence-based medicine and evidence-based practice
- This protocol is intended for severe sepsis or septic shock patients; there is strong evidence that suggests unless there is significant delay, antibiotic administration and vasopressors should be initiated in a health care facility

Sexual Assault



Shock



Note:
Shock is indicated by the presence of restless and anxiety progressing to lethargy; cool, clammy pale skin; nausea; cyanosis; rapid shallow respirations progressing to slow and laboured; thready pulse; decreased level of consciousness; and decreased blood pressure

Spinal Management

Note:
*mechanism for spinal injury (examples only use clinical judgment):
- Axial loading injury
- MVC high speed, rollover, or ejection
- Motorcycle, ATV, bicycle accident
- Blunt trauma

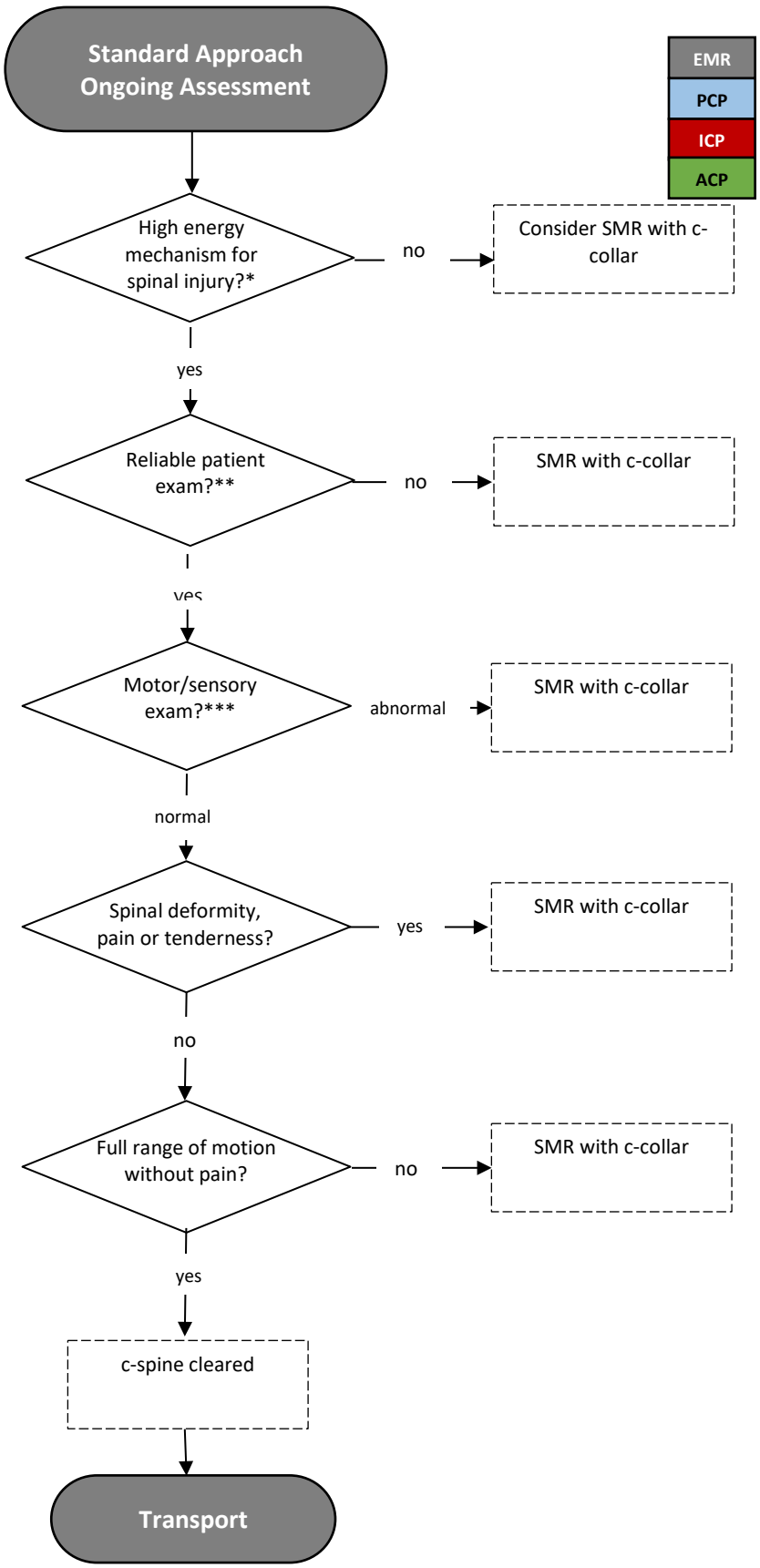
**unreliable patient exam (examples only use clinical judgment):
- Acute stress reaction
- GCS of <15
- Intoxication from drugs or alcohol
- Communication problems
- Distracting injuries

***Neurological deficit including weakness and/or numbness below the level of injury, and/or incontinence.

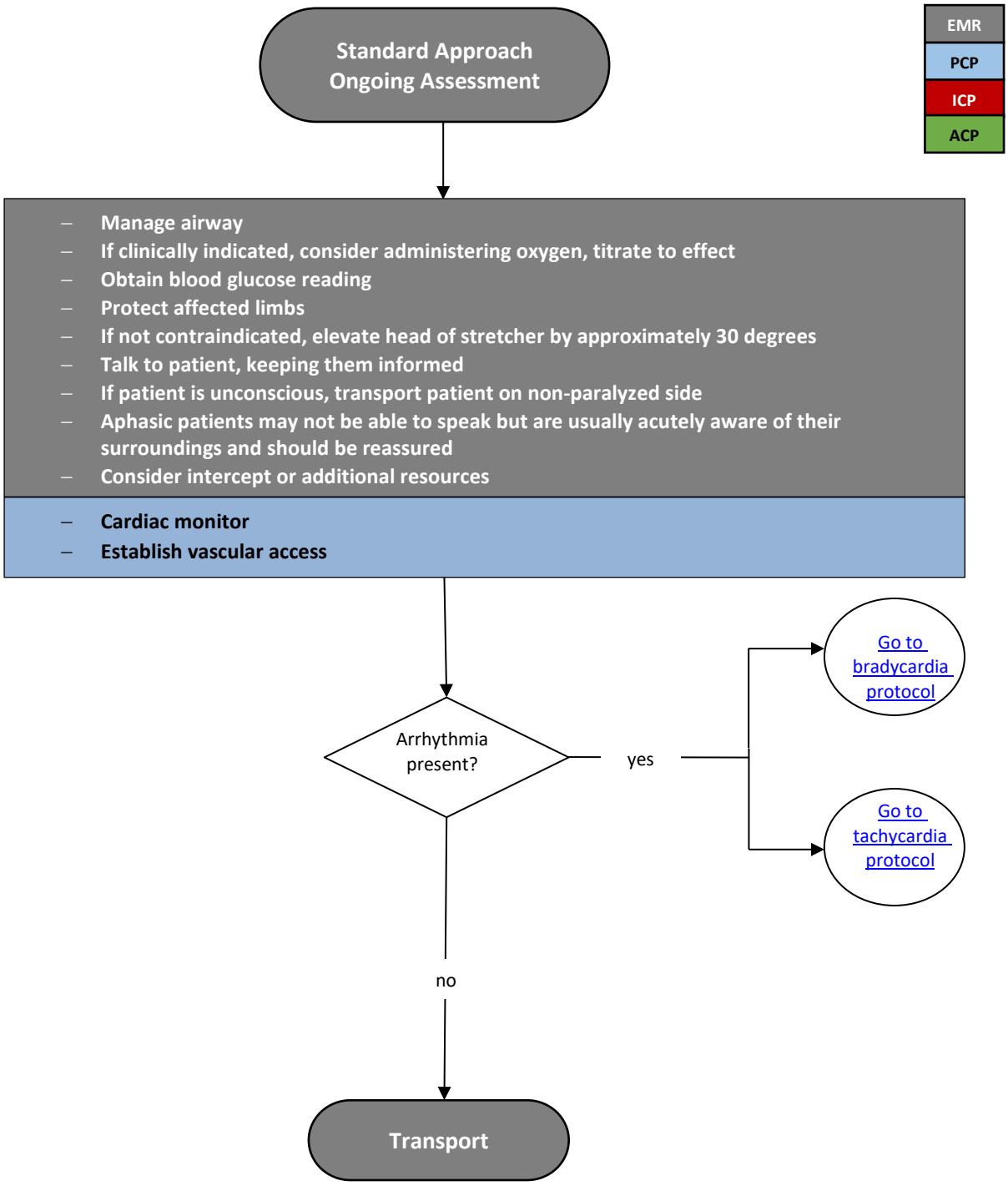
Spinal Motion Restriction (SMR) can be maintained by application of a rigid cervical collar and securing the patient firmly to the EMS stretcher. A long backboard, scoop or other extrication device may be used to extricate the patient from their initial position to the stretcher. Patients should be removed from the device as soon as practical.

Patients should only be transported on such a device if it is impossible to remove them due to manpower or patient condition considerations.

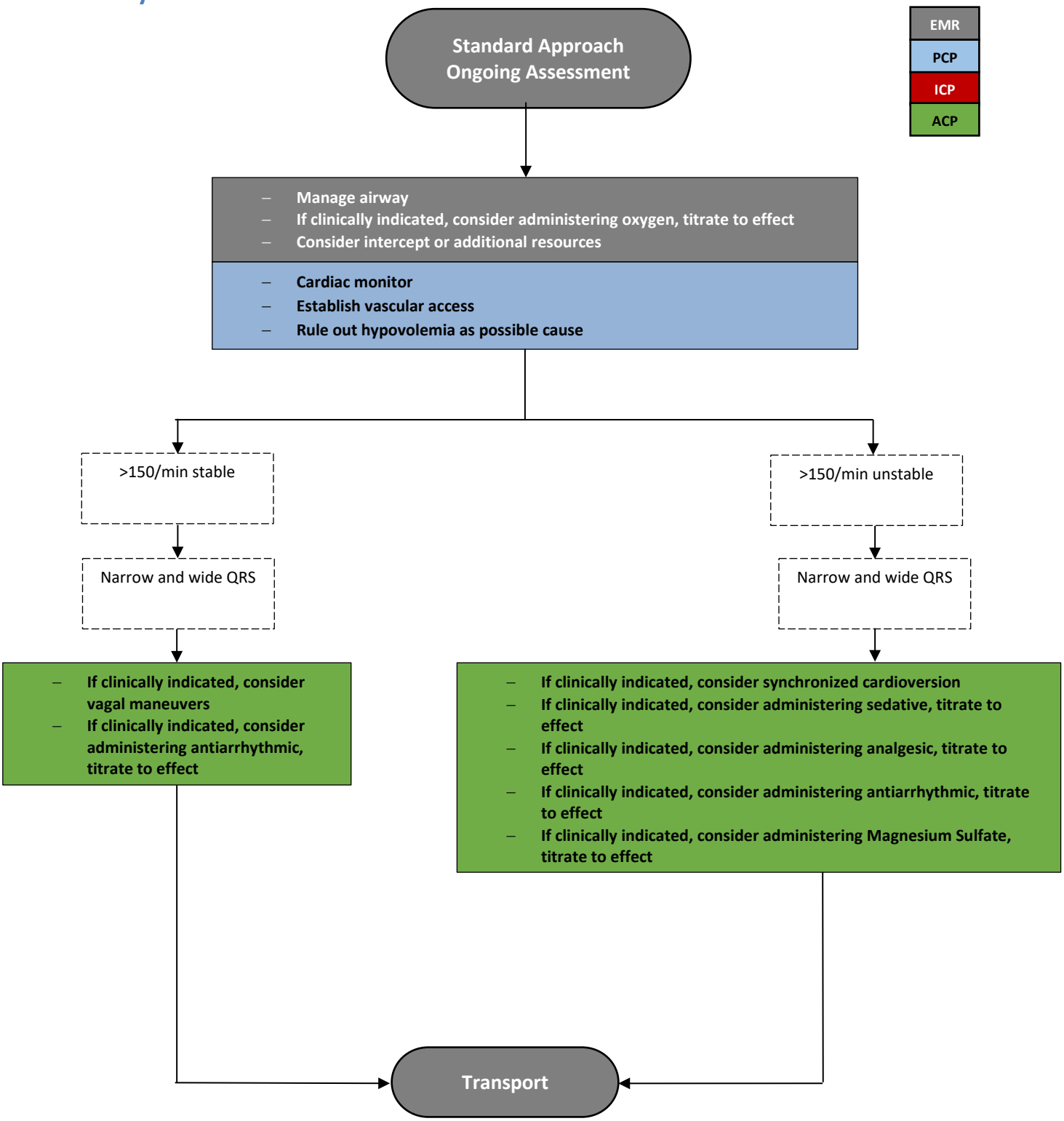
Spinal Motion Restriction (SMR) among at-risk patients is paramount. These include application of a rigid cervical collar, adequate security to stretcher and minimize movement/transfers, in order to maintain in-line stability.



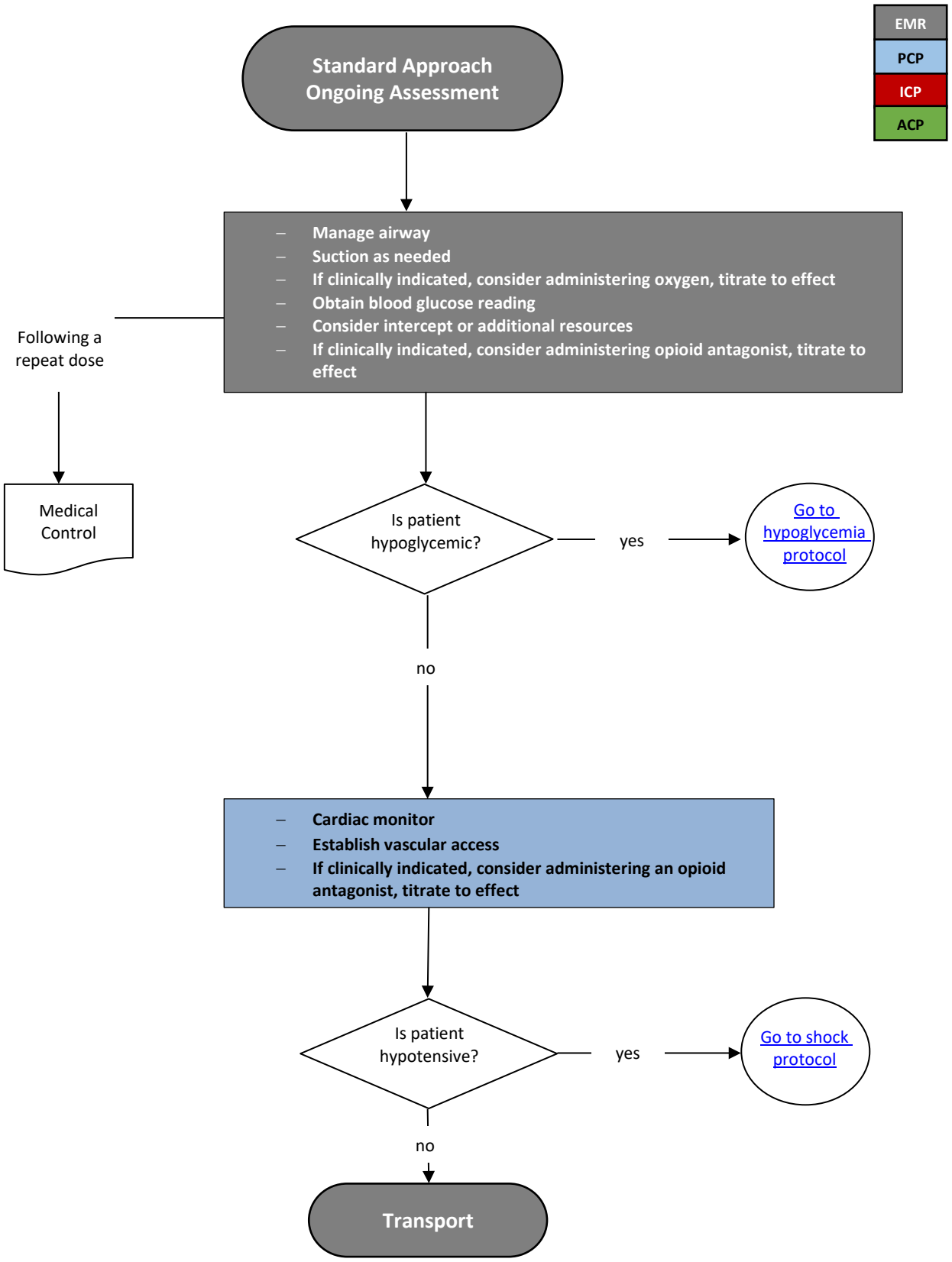
Stroke


EMR
PCP
ICP
ACP
Standard Approach
Ongoing Assessment
– Manage airway
– If clinically indicated, consider administering oxygen, titrate to effect
– Obtain blood glucose reading
– Protect affected limbs
– If not contraindicated, elevate head of stretcher by approximately 30 degrees
– Talk to patient, keeping them informed
– If patient is unconscious, transport patient on non-paralyzed side
– Aphasic patients may not be able to speak but are usually acutely aware of their surroundings and should be reassured
– Consider intercept or additional resources
– Cardiac monitor
– Establish vascular access
Arrhythmia present?
yes
Go to bradycardia protocol
Go to tachycardia protocol
no
Transport

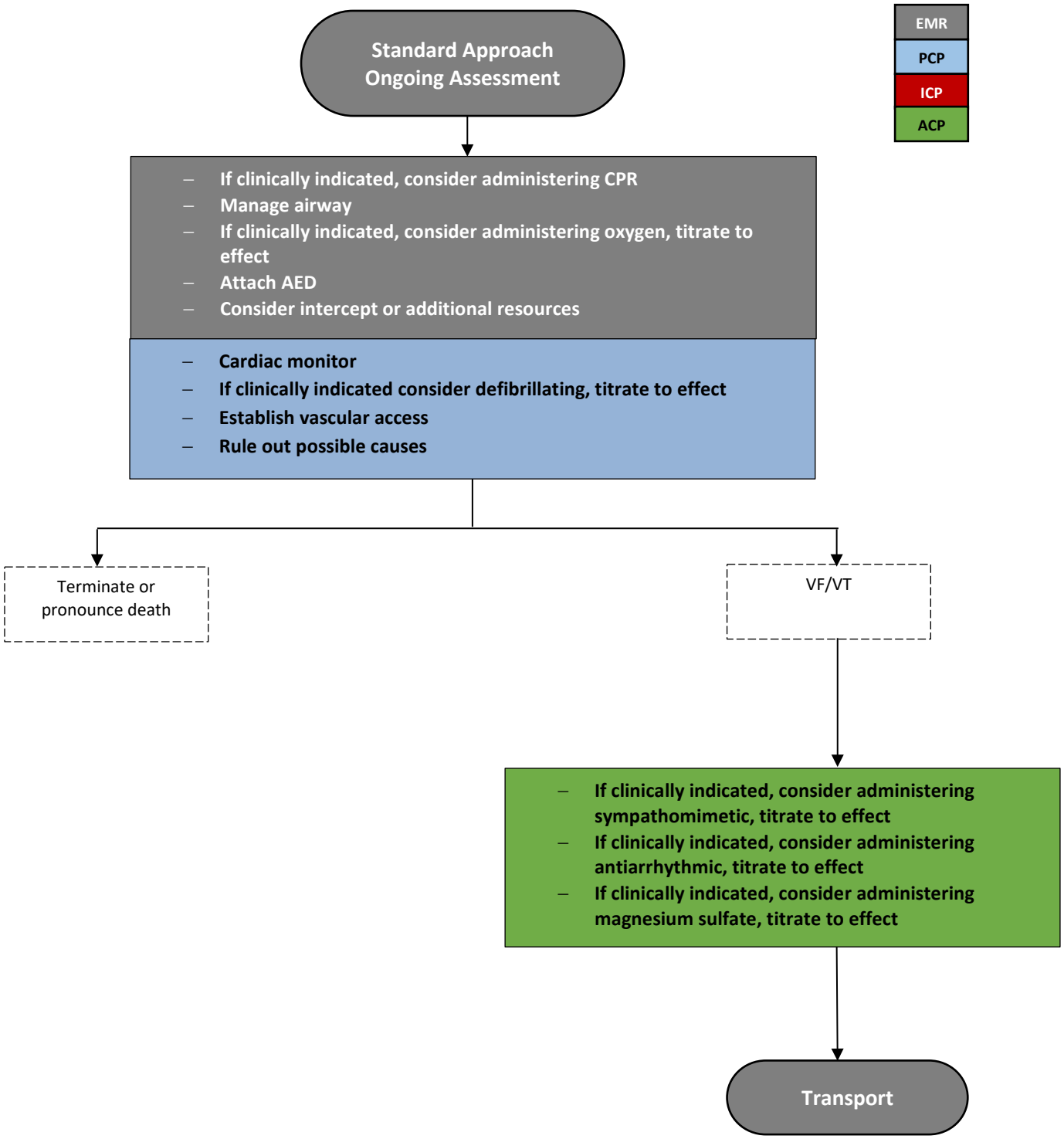
Tachycardia



Unconscious Unknown Etiology



Ventricular Fibrillation / Pulseless Ventricular Tachycardia



Version Controls

Version History

When changes are made to this manual, the name of the protocol that has been changed will be listed under the protocol column. The corresponding section that the protocol is listed under will also be noted in the section column. The release date is the date in which the protocol is authorized to be implemented.

The release version column will indicate which version of the manual is most current. While in development, minor version changes of this document will be indicated by 0.1, 0.2 etc. Upon being released for the first time, it will be assigned a major version illustrated by
1.0. During review, any minor revisions to the original document will be designated by 1.1, a second revision would be designated 1.2 etc. When new protocols are introduced, it is considered a major change and the document would then be given a version 2.0 designation. Each time the document is reviewed, and changes are approved, the system will continue in numerical order.

The type of changes to the version is indicated in the Type of Change column. Types of changes may include a new protocol, and addition to an existing protocol, an alteration to an existing protocol, the removal of part of an existing protocol, or the removal of an entire protocol. A description of the change will be noted in the Change Description section and the rationale for the change will be noted in the Rationale section.

The version history will summarize key changes that have been made. Members are expected to assume responsibility for reading the actual protocols and ensuring they understand them.

Protocol	Section	Release Date	Release Version	Type of Change	Change Description	Rationale
Airway Management (Medicated Facilitated Intubation)	Procedure	March 2020	6.1	Revision	Removed requirement for medical control.	Was missed in earlier version.
Pandemic Protocol	Policy	March 2020	6.1	Revision / Addition	Updated the language. Naso/oro-pharyngeal swabbing added for PCP and higher.	To update policy and to allow for paramedics to complete swab testing during pandemic.
Blood and Blood Products Monitoring	Procedures	March 2020	6.1	Revision	Was removed from drug monographs and added to the manual. Time frame changed from 24 hours to 30 minutes.	Was incorrectly placed in Drug Monographs. Timeframe needed to be updated.
Refusal of Care	Policy	March 2020	6.1	Revision	Removed the sections relating to restraints.	A new policy regarding restraints was developed,
Introduction	Introduction	March 2020	6.1	Revision	Updated Introduction removing reference to EMT and PCP 2001.	As of June 30, 2019, these licence levels were eliminated.
Shock	Patient Care Plans	March 2020	6.1	Addition	Vaspressor/inotrope added to shock.	Any type of shock can be treated with vasopressors/inotropes by the ACP. Not limited to only cardiogenic shock.
Acute Coronary Syndromes	Patient Care Plans	March 2020	6.1	Revision	Removed reference to contact medical control.	No longer mandatory for ACPs to contact medical control.
References	References	May 2019	6.0	Removal	References removed from manual.	References were for drug monographs which were removed from this manual.
Drug Monographs	Drug Monographs	May 2019	6.0	Removal	Drug monographs were removed from the manual.	This is a reference document which did not belong in the protocol manual. It will be posted to website as a separate document for reference.
Interfacility Transfer of Patients with Medical Devices in Place	Procedure	May 2019	6.0	Addition	PCP, ICP, and ACP may transport patients with naso/orogastric tubes with suction.	Wall mounted suction has the ability to be adjusted to specific settings and due to the length of many transfers and the need for paramedics to often remain with the patients for longer periods of time in facilities there was a need to include suctioning in these patients.

Version History	Version Control	Sept. 2018	5.0	Alteration	Order switched so most recent changes are first.	For ease of reviewing changes to the manual.
Patient Care Plans	All	Sept. 2018	5.0	Alteration	Links embedded into patient care plans.	To easily move to another care plan where directed.
External Bleeding	Patient Care Plan	Sept. 2018	5.0	Addition	Hemostatic agents added.	Was missed in previous version.
Shock	Patient Care Plan	Sept. 2018	5.0	Addition	Tranexamic Acid added for ACP.	TXA is now approved for administration by ACPs.
Conflict with On-Line Medical Control	Policy	Sept. 2018	5.0	Addition	PCP added to point #2.	Was missed in previous versions.
Medication Administration (oral)	Procedure	Sept. 2018	5.0	Addition	EMR added under Registration Levels Authorized.	Was missed in previous versions.
Acetaminophen	Drug Monograph	Sept. 2018	5.0	Addition	EMR added under Authorized Administration Routes.	Was missed in previous versions.
Physician/Medical Consultation	Policy	Sept. 2018	5.0	New	New policy	New policy created to encourage consultation with medical providers during patient care.
Medication Administration in Rare, Life Threatening Conditions	Policy	Sept. 2018	5.0	New	New policy	Created to give paramedics options when dealing with rare, life threatening medical conditions where the patient has their own medication.
Penthrox (methyoxyflurane)	Drug monograph	Sept. 2018	5.0	New	New drug added.	New monograph created for the addition of a new medication for the management of pain available for Paramedics.
Interfacility Transfer of Patients Receiving Medications	Procedure	Sept. 2018	5.0	Addition	Tranexamic Acid was added to the list of medications that can be monitored.	TXA is now a medication that can be monitored by PCPs and higher.
Agitated Patients	Patient Care Plan	Sept. 2018	5.0	Alteration	Titled changed from Psychiatric Emergencies to Agitated Patients. Removed note requiring medical advisor review after each use of the protocol.	Agitated Patients better reflects the range of patients that may require care under this protocol.
Hyperkalemia	Patient Care Plan	Sept. 2018	5.0	New	New protocol.	To allow ACPs to treat severe hyperkalemic patients.
Patient Care Plans	Patient Care Plans	Sept. 2018	5.0	Alteration	Medical control requirement for ACPs was removed from all patient care plans.	Medical control was removed from specific patient care plans and the Physician/Medical Consultation policy was created to support and encourage consultation.

Shock	Patient Care Plan	March 2018	4.2	Addition	Hemostatic agents added.	To make clear that these agents are permitted to be used by PCPs and higher.
Interfacility Transfer of Patients Receiving Medications	Procedure	Oct. 2017	4.0	Addition	N-Acetylcystiene added for PCP and higher. Fibrinolytics added (PCP and ICP stroke only) ACP all situations.	New medications for monitoring.
Abdominal Pain (Non-traumatic)	Patient Care Plan	Oct. 2017	4.0	Alteration	Removal of medical control prior to narcotics administration for ACP. Removal of diagnosis criteria.	The requirement for contacting medical control in this situation did not align with other narcotic administrations.
Seizure	Patient Care Plan	Oct. 2017	4.0	Alteration	Removed eclampsia treatment.	New patient care plan created for both pre-eclampsia and eclampsia.
Pre- Eclampsia/ Eclampsia	Patient Care Plan	Oct. 2017	4.0	Addition	New protocol created.	New care plan created to better describe treatments for these conditions.
Drug Administration (Subcutaneous)	Drug Monographs	Oct. 2017	4.0	Alteration	Changed the needle angle to 45°.	Incorrect angle of 90° was documented.

Drug Monographs	Drug Monographs	Oct. 2017	4.0	Alteration	Specific routes of administration were removed from the ACP level.	Multiple routes of medication administration exist for each medication. Services can permit alternate routes of administration as long as consultation occurs with the medical advisor. Training may be required prior to a service altering their current practices for routes of administration.
Amputation Trauma	Patient Care Plan	Feb. 2017	3.1	Alteration	Changed statement to “container filled with water and ice."	To clarify wording in the protocol.
Procedures and Patient Care Plans	All	Feb. 2017	4.2	Alteration	Changes to the colours of the different paramedic’s levels.	To better differentiate between provider levels.
Asystole / PEA	Patient Care Plan	Feb. 2017	3.1	Alteration	Removed pacing from treatment plan.	To reflect current recommendations from Canadian Heart & Stoke Foundation.
Acute Coronary Syndromes	Patient Care Plan	Feb. 2017	3.1	Alteration	Name changed from Chest Pain, includes the addition of vasopressors/inotropes for cardiogenic shock.	To better reflect current terminology and to make the protocol more encompassing. The addition of vasopressors/inotropes to cardiogenic shock aligns with current ACLS recommendations.
Nausea / Vomiting	Patient Care Plan	Feb. 2017	3.1	Addition	Anti-emetics added to the PCP level.	PCPs are now approved to administer anti-emetics.
Unconscious / Unknown Etiology	Patient Care Plan	Feb. 2017	3.1	Addition	Added opioid-antagonist to the EMR level.	EMRs can now administer naloxone for narcotic overdose.
Ventricular Fibrillation/ Pulseless Ventricular Tachycardia	Patient Care Plan	Feb. 2017	3.1	Alteration	Removed the non-shockable rhythm box.	To follow a similar format used throughout the manual.
Dimenhydrinate	Drug Monographs	Feb. 2017	3.1	Addition	PCPs added to the list of who may administer.	PCPs are now approved to administer anti-emetics.
Naloxone	Drug Monographs	Feb. 2017	3.1	Addition	EMRs added to the list of who may administer.	EMRs are now approved to administer naloxone.
Drug Administration	Procedure	Feb. 2017	3.1	Addition	Naloxone added to Special Notes point number 1.	To align with the change to the scope of practice for EMRs who can now administer naloxone.
Drug Administration	Procedure	Feb. 2017	3.1	Addition	Anti-emetics added to Special Notes point number 1.	To align with the change to the scope of practice for PCPs who can now administer anti-emetics.
Vascular Access (Peripheral Intravenous)	Procedure	Feb. 2017	3.1	Alteration	Under Special Notes number 3, wording change to crystalloids.	To clarify the wording. Previous wording was very prescriptive as to allow only for normal saline administration.

Interfacility Transfer of Patients Receiving Medications	Procedure	Feb. 2017	3.1	Alteration	Changed wording of last sentence of the purpose section of the procedure to "Any medication a paramedic can administer via IV can be monitored…" Also, cleaned up the Approved Medication section to eliminate some repetition.	To better describe what medications can be monitored by the different levels during an interfacility transfer. The Approved Medication list was revised to eliminate some of the repetition of medications through each level.
Vascular Access (Central Venous Lines)	Procedure	Oct. 2016	3.0	Alteration	Port-a-caths are accessible by ACP's.	Was incorrectly omitted in previous revision.
Interfacility Transfer of Patients with Medical Devices in Place	Procedure	Oct. 2016	3.0	Alteration	PEG tubes were added to the list of approved medical devices that a PCP, ICP, and ACP may monitor during an interfacility transfer.	Was incorrectly omitted in previous revision.
Pulmonary Edema	Patient Care Plan	Oct. 2016	3.0	Alteration	Changed: Furosemide now requires medical control to administer by the ACP.	Reflects the evidence suggesting Furosemide does not have the benefit previously thought. Furosemide is not removed from the scope of the ACP however.
Airway Management (BVM, Esophageal Tracheal Combitube, Endotracheal Intubation, King LT, Laryngeal Mask Airway)	Procedure	Oct. 2016	3.0	Addition	PEEP Valves were added to the scope of PCP, ICP and ACP.	Implementation will begin October 1, 2016. Training must be in accordance to the core training requirements posted on the College website.
Asthma/COPD	Patient Care Plan	Oct. 2016	3.0	Alteration	Added the administration of sympathomimetic to PCP.	PPC reviewed and determine this was intended to be within the PCP scope of practice.
Manual Defibrillation	Procedure	Oct. 2016	3.0	Addition	Manual defibrillation was added to the PCP scope.	Reflects the evidence highlighting the need for rapid defibrillation in cases of ventricular fibrillation and pulseless ventricular tachycardia.
Magnesium Sulfate	Drug Monograph	Oct. 2016	3.0	Addition	Magnesium sulfate was added to the scope of ACP for Torsades de pointes, eclampsia, and asthma.	Reflects evidence that indicates magnesium is effective in the treatment of these conditions.
General	General	Oct. 2016	3.0	Alteration	Changed the name Provincial Emergency Services Practice Committee to Paramedic Practice	To reflect name change of the committee.

Poisoning & Cyclic Antidepressant Overdose	Patient Care Plan	Oct. 2016	3.0	Alteration	Added Poison and Drug Information Services number to both protocols. Administration of adsorbent requires OLMC.	To clarify wording in both protocols.
Acetaminophen (Tylenol)	Drug Monograph	Sept. 2014	2.0	Alteration	Corrected dosing label had adult listed twice instead of pediatric.	Pediatric dosing was incorrectly labeled as adult.
Burn Trauma	Patient Care Plan	Sept. 2014	2.0	Alteration	Corrected issue with arrows that were missing in the algorithm.	Previous version had arrows that were missing in the algorithm.
Clinical Trials	Policy	Sept. 2014	2.0	New	Policy includes an overview of the process to be followed if wishing to participate in a clinical trial. The policy also includes reasons in which a clinician or group may wish to participate in a clinical trial, the role of PPC and what it must consider when making its decision, and the information that must be included in the submission.	Policy was added to offer guidance to clinicians or groups wishing to participate in clinical trials.
Spinal Clearance	Patient Care Plan	Sept. 2014	2.0	Removed	Removed spinal clearance patient care plan and replaced with spinal management patient care plan.	Replaced with new spinal management patient care plan.
Head/Neck and Spinal Trauma	Patient Care Plan	Sept. 2014	2.0	Alteration	Changed: From “If clinically indicated, consider spinal immobilization” To “if clinically indicated, consider spinal motion restriction”. From “in these situations, you may need to immobilize the patient using the K.E.D. and placing in a semi-sitting position on the stretcher” To “in these situations, you may need to place the patient in a semi-sitting position on the stretcher while applying spinal motion restriction”. From “motor and sensory assessment should be performed before and after immobilization”. To “motor and sensory assessment should be performed before and after spinal motion restriction”.	To be consistent with new spinal management protocol.

Spinal Management	Patient Care Plan	Sept. 2014	2.0	New	Changed: "Mechanism for spinal injury?" to "high energy mechanism for spinal injury?" Removed age criteria. Spinal immobilization box changed to say "SMR with c-collar". "Spinal pain or tenderness?" to "spinal deformity, pain or tenderness?" Explanation of distracting injury was removed. Minor rewording in the notes box. Removed text box that was between c-spine cleared and transport. Added the following to the notes box: "Spinal Motion Restriction (SMR) can be maintained by application of a rigid cervical collar and securing the patient firmly to the EMS stretcher. A long backboard, scoop, or other extrication device may be used to extricate the patient from their initial position to the stretcher. Patients should be removed from the device as soon as practical." "Patients should only be transported on such a device if it is impossible to remove them due to manpower or patient condition considerations." "Spinal Motion Restriction (SMR) among at-risk patients is paramount. These include application of a rigid cervical collar, adequate security to stretcher and minimize movement/transfers, in order to maintain in-line stabilization."	Based on new, proven research paramedics in Saskatchewan are changing how they use long spine boards to immobilize trauma patients with suspected neck and spinal injuries. In-line stabilization of the neck and spine can be equally as effective using alternative methods without the need to use a spine board. Limiting the amount of time a patient is placed on spine boards reduces risks such as respiratory compromise, discomfort, aspiration, and delays in transport associated with placing a patient on a spine board for prolonged periods of time. Some circumstances may still dictate the need to use spine boards and therefore there use may be appropriate depending on available resources and training level of the responders. Implementation will begin September 1, 2014 and training must be completed prior to February 28, 2015. Training must be in accordance to the core training requirements posted on the College website. Further information on the spinal management protocol including a video and a Q&A section can also be found on the College website.

Interfacility Transfer of Patients Receiving Medication	Procedure	Sept. 2014	2.0	Addition	Oxytocin was added to the list of approved medication infusions that a PCP, ICP, and ACP may monitor during an interfacility transfer.	Was incorrectly omitted in previous revision.
Use of Emergency Lights and Siren	Policy	Sept. 2014	2.0	Removed	Removed policy entirely.	Portions of the policy contravened The Traffic Safety Act. Policy is operational issue and does not relate to scope of practice. EMSWG was advised of the proposed changes and encouraged to develop regional policy in accordance with The Traffic Safety Act.
Fentanyl	Drug Monograph	Mar. 2014	1.4	Alteration	Changed: Epidural: IM, IV-50 mg/mL to Epidural: IM, IV-50 ug/mL in the supplied section.	Typo. Should have been ug not mg.
Ketamine	Drug Monograph	Mar. 2014	1.4	Alteration	Changed: Adult Dose: from 2-4 mg/kg, titrate dose to desired effect to 1.0 mg/kg SIVP with half doses repeated as need. Pediatric Dose: from 0.5 mg/kg, titrate to desired effect to 1.5-2 mg/kg SIVP. Repeated incremental doses of 0.5-1 mg/kg may be administered to prolong sedation.	Previous dosing was thought to be too high for adults and too low for pediatrics. Dose now reflects more current guidelines.
Asthma/COPD	Patient Care Plan	Feb. 2014	1.4	Alteration	Changed "if clinically indicated, consider administering sympathomimetic, titrate to effect "from blue to red (ICP/ACP) level and removed from PCP.	PEPSC needs to review to determine if this was intended to be within the PCP scope of practice.
Psychiatric Emergencies	Patient Care Plan	Feb. 2014	1.4	Alteration	"if clinically indicated, consider administering sedative, titrate to effect" changed from a blue shade to red	Was incorrectly colour coded as blue instead of red.
EPINEPHrine	Drug Monograph	Feb. 2014	1.4	Alteration	Added "nebulized" as an authorized administration route for PCP, ICP and ACP	Better depicts that these levels are authorized to treat croup with nebulized EPINEPHrine.
General	Drug Monograph	Feb. 2014	1.4	Alteration	Re-aligned drug monograph tables	Changed the alignment of the route and doses in the drug monographs to avoid confusion over which levels are authorized to administer a particular medication.

Interfacility Transfers of Patients with Medical Devices in Place	Procedures	Feb. 2014	1.4	Addition	Added "The EMR, PCP, ICP and ACP may attend the following devices: Nasogastric Tubes (Gravity Drainage only) and Monitor Urinary Catheter." Also changed Foley to urinary.	NG tubes and urinary catheters were only depicted in the scope of practice chart in the previous manual, which is no longer in the new manual. Foley is a brand name.
Burn Trauma	Patient Care Plan	Feb. 2014	1.4	Alteration	Repaired arrows on algorithm.	Arrows were not lining up properly.
Diazepam	Drug Monograph	Feb. 2014	1.4	Alteration	Corrected ICP and ACP colours, and removed PCP as being authorized.	Colours were incorrect, and PCP is not authorized to monitor Diazepam infusions.
Protocol Deviation	Policy	Feb. 2014	1.4	Addition	Added the Protocol Deviation policy.	Was incorrectly omitted in previous revision.
Drug Administration (Intravenous)	Procedure	Feb. 2014	1.4	Addition	Added: If a member is authorized to administer a particular medication intravenously, they are also authorized to monitor the medication as an infusion.	Added clarity to an existing practice.
Load and Go	Policy	Feb. 2014	1.4	Alteration	Changed "except for paramedics" to "except for ACP"	Clarify it is ACP that the exception applies to.
Cardiac Monitoring	Procedure	Feb. 2014	1.4	Alteration	Removed 4. Changed EKG to ECG.	Typo To be consistent
Deep Tracheal Suctioning	Procedure	Feb. 2014	1.4	Alteration	Changed: SPO2 to SpO2	Correction
Acetaminophen (Tylenol)	Drug Monograph	Feb. 2014	1.4	Alteration	Changed pediatric max dose in from 65mg/24hrs to 75mg/kg/24hrs.	Typo
Atropine Sulphate	Drug Monograph	Feb. 2014	1.4	Removed	Removed: Cardiac arrest-asystole, slow PEA from indications	Atropine is no longer indicated in cardiac arrest for asystole and PEA.
Amiodarone Hydrochloride	Drug Monograph	Feb. 2014	1.4	Addition	Added: During Cardiac Arrest - First dose 300 mg; 2nd dose 150 mg.	2010 ACLS Guidelines
General	General	Feb. 2014	1.4	Alteration	Corrected numerous spelling and grammatical errors throughout the entire manual.	Too numerous to list all. All were minor and did not change the context of the document.
Pulmonary Edema	Patient Care Plan	Feb. 2014	1.4	Alteration	Changed: "if clinically indicated, consider administering antianginal, titrate to effect;" and "if clinically indicated, consider administer bronchodilator, titrate to effect." from red to blue.	Reflects that PCP is authorized to treat pulmonary edema patients the same as ICP.

Nitrous Oxide	Drug Monograph	Feb. 2014	1.4	Removed	Removed: "in patients requiring extrication" from the indications.	Not consistent with current best practice.
Vancomycin	Drug Monograph	Jan. 2014	1.4	Removed	From authorized routes: PENDING IMPLEMENTATION OF STEMI PROTOCOL.	This was incorrectly added in the previous version.
Peer Reviewers	Introduction	Jan. 2014	1.4	Addition	Added Paul Hill as a peer reviewer.	This was incorrectly omitted in the previous version.
Acetaminophen (Tylenol)	Drug Monograph	Jan. 2013	1.4	Alteration	Pediatric Dose changed from: Dose: Dose: 10-15 mg/kg q 4-6 hours, not to exceed 65 mg/24hrs to Dose: 10-15 mg/kg q 4-6 hours, not to exceed 75 mg/kg/24hrs	Pediatric Drug dose had a typo.
Fentanyl	Drug Monograph	Jan. 2013	1.4	Removed	Under Special Notes: 1. Currently, Saskatchewan Protocol only allows administration of fentanyl for the treatment of pain by expanded scope ACP.	This was an error. All ACPs are authorized to administer.
Potassium Chloride	Drug Monograph	Jan. 2013	1.4	Alteration	Changed from Potassium Chloride (HCL) to Potassium Chloride (KCl).	Was a typo in previous in revision
Airway Management (King LT)	Procedures	Jan. 2013	1.4	Addition	Under special notes added: Please refer to the manufacturer recommendations for inserting the proper size of the device.	Was incorrectly omitted in previous revision.
Spinal Management	Patient Care Plan	TBD				Implementation Delayed
STEMI	Patient Care Plan	TBD				Implementation Delayed
Tachycardia	Patient Care Plan	Dec. 2013	1.1	Addition	Added: If clinically indicated, consider administering analgesic, titrate to effect.	Was inadvertently omitted from the SCV column during initial revision.
Childbirth Hypothermia Organophosphate Severe Sepsis/Septic Shock	Patient Care Plan	Dec. 2013	1.1	Alteration	Removed red navigation buttons at bottom of the page.	Buttons were hiding white boxes at the bottom of the page. When viewing the document in Adobe Reader, the buttons were redundant.
Version History	Version Controls	Dec. 2013	1.1	Alteration	Removed brown navigation buttons on the side of the page.	Buttons were not aligned with document when page was landscape. When viewing the document in Adobe Reader, the buttons were redundant.

Vancomycin	Drug Monograph	Dec. 2013	1.1	Addition	Added IM as an administration route.	Was omitted during initial revision.
Nitrous Oxide	Drug Monograph	Dec. 2013	1.1	Addition	Added Pain to the list of relevant protocols.	Was omitted during initial revision.
Dextrose	Drug Monograph	Dec. 2013	1.1	Addition	Added "head injury" as a precaution.	Was omitted during initial revision.
Antimicrobials	Drug Monograph	Dec. 2013	1.1	Alteration	Reworded to reflect that bolus IV antimicrobial therapy may be permitted in the pre-hospital setting when treating severe sepsis/septic shock.	To align with the Severe Sepsis/Septic Shock protocol.
Diazepam	Drug Monograph	Dec. 2013	1.1	Alteration	Removed glycoprotein information from special notes.	Was incorrectly added.
dimenhyDRINATE	Drug Monograph	Dec. 2013	1.1	Addition	Added ICP to authorized administration routes. Added PO and IM as routes	Was omitted during initial revision.
Furosemide	Drug Monograph	Dec. 2013	1.1	Alteration	Corrected SIVP dose from 4mg/min to 40mg/min.	Dose was incorrect.
Midazolam	Drug Monograph	Dec. 2013	1.1	Alteration Addition	Removed Lorazepam information that was in special notes. Added IM as a route.	Was incorrectly added in prevision revision. Was incorrectly omitted in previous revision.
Morphine	Drug Monograph	Dec. 2013	1.1	Alteration Addition	Changed drug class to narcotic analgesic. Also dose was changed to say persisting after nitroglycerin from unresponsive to nitroglycerin. Added IM as an authorized administration route.	Classification was incorrect in previous revision and wording was poor. Was missed in the previous revision.
General	General	Dec. 2013	1.1	Alteration	Changed the term ER to ED.	ER is an outdated term.
Use of Red Lights and Siren	Policies	Dec. 2013	1.1	Alteration	Changed title from Use of Red Lights and Siren to Use of Emergency Lights and Siren.	Emergency lights on an ambulance are not just red.
Arterial Line Monitoring	Procedure	Dec. 2013	1.1	Addition	Added never turn off alarms to the special notes section.	Was incorrectly omitted in previous revision.
Cardiac Monitoring (Continuous Monitoring)	Procedure	Dec. 2013	1.1	Alteration	Changed from 3-lead monitoring to continuous monitoring.	Many monitors are now 4-lead instead of 3-lead so continuous monitoring is a better term.
Chest Tube Monitoring	Procedure	Dec. 2013	1.1	Alteration	Changed if suction is indirect gentle bubbling will be noted to if suction is direct gentle bubbling will be noted.	Was a typo in previous in revision
CPAP	Procedure	Dec. 2013	1.1	Removed	Reference to Boussignac was removed.	Boussignac is device specific Procedure should be generic.

General	General	Dec. 2013	1.1	Alteration	Look-alike drug names have been changed to tall man letters.	Tall Man Letters is a safety practice to help draw attention to the dissimilarities in drug names that look-alike.
General	General	Dec. 2013	1.1	Alteration	Changed the colour-coding of the ICP level.	To address issues people were having with only using shades of blue to differentiate between license levels.
General	General	Dec. 2013	1.2	Alteration	Corrected hyperlink and bookmark issue.	Hyperlinks in the table of contents and bookmarks were not going to the proper location.
Disclaimer	Introduction	Dec. 2013	1.3	Alteration	On p. 8, hyperlink to this manual was changed from: http://www.health.gov.sk.ca/ems-protocol to http://www.collegeofparamedics.sk.ca/resources/protocolmanual.php	Manual is now hosted on the SCoP website and hyperlink was changed to reflect this.
Naloxone (Narcan)	Drug Monograph	Dec. 2013	1.3	Alteration	Added IV as an authorized administration route for Primary Care Paramedics and Intermediate Care Paramedics.	Was incorrectly omitted in previous revision.
Spinal Management	Patient Care Plan	TBD				Implementation Delayed
STEMI	Patient Care Plan	TBD				Implementation Delayed
End Tidal CO2 Monitoring	Procedure	Nov. 2013	1.0	Addition	Added PCP and ICP to the Registration Levels Authorized	To approve PCP and ICP levels to perform End Tidal CO2 Monitoring
Pain Management	Patient Care Plan	Nov. 2013	1.0	Addition	1. If clinically indicated, consider administering a benzodiazepine or sedative if not responsive to analgesic, titrate to effect. (ACP's only, medical control required). 2. OLMC is no longer required for ACPs to administer analgesics for pain management. 3. If clinically indicated, consider administering oral analgesic or NSAID, titrate to effect. (All levels). 4. If clinically indicated, consider administering non-narcotic analgesic, titrate to effect. (PCP	New Protocol introduced for pain management
EPINEPHRrine	Drug Monograph	Nov. 2013	1.0	Addition	Special Notes: 1. Epinephrine should be administered IM in the anterolateral thigh for patients	IM administration of EPINEPHrine is recommended for the treatment of anaphylaxis.

					experiencing anaphylaxis	
PCP Scope of Practice Changes		Nov. 2013	1.0	Alteration	PCPs who have successfully completed the core training requirements for the 2011 NOCP PCP upgrade and licensed as a PCP NOCP 2011 are now authorized to: Perform the following skills: - obtain 12-lead ECG; - insert supraglottic airways; - conduct peripheral intravenous cannulation; and - follow safe processes for medication administration including buccal, intranasal; intravenous, and nebulized. Administer the following classifications of medication: - non-narcotic analgesics; - adrenergic agonists; - bronchodilators; - antianginals; - platelet inhibitors; - anti-hypoglycemics; and - Opioid antagonist.	To allow PCPs to perform at their full scope of practice based on the 2011 NOCP standards.
Unconscious Unknown Etiology	Patient Care Plan	Nov. 2013	1.0	Addition	If clinically indicated, consider administering opioid antagonist, titrate to effect	ICPs now authorized to administer to align with scope changes for PCPs.
Naloxone (Narcan)	Drug Monograph	Nov. 2013	1.0	Addition	Intermediate Care Paramedic - IM/IN/	ICPs now authorized to administer to align with scope changes for PCPs.
Vascular Access (Intraosseous)	Procedure	Nov. 2013	1.0	Addition	Pain management If the procedure is performed on a conscious or semi-conscious patient, immediately following placement of the IO needle, administer 0.5 mg/kg 2% lidocaine (not to exceed 50 mg) slowly (over 30-45 seconds) through the IO site. Wait approximately 30–60 seconds before “power” flushing with normal saline. In the event a patient regains	Authorized for ACP only for pain management during insertion of EZ-IO on conscious patients.

					consciousness and complains of severe pain secondary to the IO insertion, temporarily stop infusing the fluids and administer lidocaine as in 5.1 above. Wait approximately 30–60 seconds before continuing fluid administration. If fluids do not flow freely, flush IO site with an additional 10 mL normal saline.	
Lidocaine	Drug Monograph	Nov. 2013	1.0	Addition	Indications: EZ-IO pain management for conscious awake patients. EZ-IO Pain Management Dose: 0.5 mg/kg 2% lidocaine, preservative free, slowly over 30- 45 seconds through IO site. Do not exceed 50 mg.	Authorized for ACP only for pain management during insertion of EZ-IO on conscious patients.
Interfacility Transfer of Patients Receiving Medication	Procedure	Nov. 2013	1.0	Addition	Total Parenteral Nutrition (TPN)	PCPs, ICPs, and ACPs authorized to monitor TPN.
Severe Sepsis / Septic Shock	Patient Care Plan	Nov. 2013	1.0	Alteration	Added > 45-minute delay to administration of antibiotic in hospital.	To clearly define what is meant by delay when considering administration of antibiotic and vasopressor for patient experiencing severe sepsis or septic shock.

Authorization Sign-off

Prepared by: **(Project Manager)**	**Jennifer Williams**	**Date:**	**March 2020**
Recommended by:	1. Paramedic Practice Committee	Date:	March 20, 2020
Approved by:	1. College of Physicians and Surgeon of Saskatchewan	Date:	March 20, 2020
Stakeholders notified:	1. Members 2. EMS Working Group 3. PSCS 4. SAFC 5. STARS 6. SAA 7. Health Authorities 8. Sask Polytechnic	Date:	March 23, 2020 March 23, 2020 March 23, 2020 March 23, 2020 March 23, 2020 March 23, 2020 March 23, 2020 March 23, 2020
Published on:	1. www.collegeofparamedics.sk.ca 2. Pulse	Date:	March 23, 2020 Spring 2020