In June, 1992 the Health and Social Service Minister adopted certain orientations regarding emergency prehospital services in Quebec. These orientations derive from the report "Each Minute Counts". In particular, the Minister recognized that a structured approach is necessary to ensure quality in providing emergency prehospital care.

This document contains the basic intervention protocols for first responders. Each protocol describes the actions to be taken for specific cases as well as the sequence in which these actions should be taken.

The clinical intervention protocols for first responders were written to ensure basic care is available as quickly as possible when lives are in immediate danger. Another objective of the protocols is to standardize emergency prehospital care distribution and coordination with ambulance technicians. The protocols are learning tools as well as tools for evaluating and improving quality of service.

This book is a revised and improved version of the initial protocols. The revisions were carried out after the Provincial table of medical coordinators of emergency prehospital services in Quebec completed the revision of the clinical intervention protocols for ambulance technicians.
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Our suggested procedure is simple. It consists of a basic protocol, the prehospital clinical approach protocol (1 REP/ACP) to which all the other protocols are related.

The goal of the prehospital clinical approach protocol (the basic protocol) is to give the first responders a standardized method to evaluate the victim. This method has nine steps. While applying these steps, and according to the nature of the problem, first responders can refer to a more specific protocol.

In all situations, first responders must first secure the area so that they themselves do not become victims. Once the scene is safe, the first responders can proceed with evaluating and stabilizing the victim while they wait for the ambulance technicians.

In all circumstances, even if the first responder has applied a specific protocol, he must always return to the prehospital clinical approach protocol to avoid forgetting a step that may be essential for the survival of the victim or for coordination with other emergency personnel.

More than one protocol may be applicable in certain situations. First responders must then establish priorities within these protocols and apply them when they are not contradictory.
**BASIC COMPONENTS**

Certain components of the protocols apply to all interventions. We have put these together and there are many components of the protocols in this section. Some apply to the entire intervention and some apply only to a specific point. Others are simply related to the first responder’s good judgement and attitude.

1. **NPO (Nil Per Os)**

No liquid or solid food should be ingested by the patient unless otherwise specified in a specific protocol.

2. **Completing the AS-805-RIP**

An AS-805-RIP form must be completed for any intervention during which the first responder has had contact with a patient as well as interventions during which the patient refuses treatment.

3. **Consent, competency and refusal**

Consent for treatment must be obtained for prehospital interventions. Some aspects must be clarified:

   a) A patient has the right to consent to all or part of the treatment that is offered.

   b) Consent may be given or withdrawn at any time.

   c) A person apparently suffering from a psychiatric problem is presumed to be competent and may therefore refuse treatment or ambulance transport to a treatment centre.

   d) Minors 13 years of age and under are not considered competent.

   e) Minors between the age of 14 to 17 may refuse or consent to treatment unless refusal compromises their health or survival.

   f) When a patient expresses the desire to refuse treatment, the first responder must:

      – Open the DSA to record the refusal

      – Try to obtain patient’s consent; if not possible, the first responder must:

         • Evaluate the patient’s competence (ability to come to a reasonable decision);
         • Be sure to evaluate the four spheres of orientation when performing the aptitude evaluation. Check how well the patient understands the current situation and the reason for his refusal;
         • To ensure that consent (or refusal) is an informed decision; try to tell the patient as clearly as possible, the consequences of refusing treatment according to the signs and symptoms etc.,
         • Try to state the information in a neutral, objective manner, without any undue pressure, to ensure that the consent (or refusal) is freely given;
         • If the refusal seems unreasonable, make another attempt to obtain consent.

   g) When the patient is competent and refuses treatment, the first responder must document the situation properly and wait for the arrival of the ambulance technicians. Refusal given to first responders is limited to refusal for treatment and does not apply to transportation.

   h) When the patient is not competent and refuses treatment the first responder must then properly document the situation and wait for the ambulance technicians. If the patient refuses to cooperate, the first responder must obtain consent for treatment from the person’s representative (proxy, guardian, curator, legal spouse, family member or other interested party).

   i) In emergency situations, **grave or immediate danger**, consent from the patient or his representative is not required. First responders must wait for the police to arrive before taking any action that is a problem because only those authorized by law can suspend a person’s rights and/or use “necessary and reasonable” force.
PREHOSPITAL CLINICAL APPROACH PROTOCOL
A PREHOSPITAL CLINICAL APPROACH PROTOCOL 1 REP/ACP

ASSESSMENT OF THE SCENE

POTENTIAL RISKS

YES

SECURE THE SCENE
CONTROL RISKS OR ENSURE THEY ARE CONTROLLED BY THE PROPER AUTHORITIES

NO

TRAUMA

YES

1 REP/ACP.TRAU PROTOCOL

NO

PRIMARY EVALUATION

PROBLEM REQUIRES IMMEDIATE INTERVENTION

YES

APPROPRIATE PROTOCOL

NO

VITAL SIGNS
CASE HISTORY
SIGNS AND SYMPTOMS

PROBLEM REQUIRES IMMEDIATE INTERVENTION

YES

APPROPRIATE PROTOCOL

NO

CONTINUOUS EVALUATION
(Primary evaluation and vital signs)

TRANSMIT PERTINENT INFORMATION TO AMBULANCE TECHNICIANS
Prehospital clinical approach protocol

1. Assess the scene.

2. Potential risks:
   - **Potential risk present**
     - Secure the scene, control risks or ensure they are controlled by the proper authorities.
   - **No potential risk**
     - Estimate the number of victims (mechanics of trauma, triage, etc.);
     - Secure working area;
     - Request additional resources if required;
     - Go to next step.

3. Trauma:
   - **Trauma present**
     - Refer to 1 REP/ACP.TRAU protocol.
   - **No trauma**
     - Go to next step.

4. Primary evaluation:
   - **L**: (Mental state) presence or absence of reaction;
   - **A**: (Airway) opening of airway - cervical protection if indicated;
   - **B**: (Breathing) respiration;
   - **C**: (Circulation) pulse;
   - **D**: (Disability) incapacity: level of consciousness “AVPU”;
   - **E**: (Exposure) uncover affected area only.

5. Problem during primary evaluation:
   - **Problem requires immediate intervention**
     - Begin appropriate protocol.
   - **Problem does not require immediate intervention**
     - Go to the next step.

6. Take vital signs and case history (signs and symptoms):
   - Take vital signs: pulse (frequency and location) and respiration;
   - Case history with O.P.Q.R.S.T. and S.A.M.P.L.E.
7. **Problem found when taking vital signs and case history:**

   **Problem requires immediate intervention**
   - Begin appropriate protocol.

   **Problem does not require immediate intervention**
   - Go to next step.

8. **Re-evaluate while waiting for ambulance technicians:**
   - Repeat the primary evaluation;
   - Take vital signs every five (5) minutes.

9. **Transmit pertinent information to ambulance technicians.**

**Remarks**

- The fact that the prehospital intervention report has not been completed must never delay transportation to the hospital.

- **Breathing**
  Breathing can be assessed in terms of respiratory frequency, but also according to other criteria, including:
  - The strength of the breathing (chest movement);
  - Absence or presence of audible respiratory sounds;
  - Level of consciousness A or V;
  - Capillary return (normally $<2$ seconds);
  - Absence/presence of cyanosis;
  - Chest rises during respiratory assistance.

- **Ventilation**
  When breathing is spontaneous, inadequate ventilation is evaluated according to the following criteria:
  - Level of consciousness V, P, or U;
  - Cyanosis;
  - Respiratory rate $<8$ / min.

- **Pulse**
  When taking pulse, note where pulse is taken and frequency.

- **Stabilization**
  Primary intervention at the scene and complete stabilization and case history while waiting for ambulance technicians.


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DISASTER SITUATIONS
INTERVENTION AT THE SCENE OF A DISASTER WITH MULTIPLE VICTIMS 1 REP/SIN.1

APPROACH OF THE SITE SAFELY:
- CHECK FOR THE PRESENCE OF RISKS
- ESTIMATE CLIMATE CONDITIONS
- ANALYSE THE TOPOGRAPHY OF THE SITE
- ESTIMATE THE NUMBER OF VICTIMS
- ADVISE THE AUTHORITIES

DANGEROUS MATERIALS PRESENT

YES

1 REP/IND.1 PROTOCOL
(Exposure to hazardous materials)

NO

RISKS PRESENT

YES

- ESTABLISH A SECURITY PERIMETER
  - ADVISE THE HEALTH COMMUNICATIONS CENTRE
  - ASK FOR NECESSARY PERSONNEL AND INFORMATION

BEGIN TRIAGE ACCORDING TO 1 REP/SIN.2
(START method)

NO

TRANSMIT PERTINENT INFORMATION TO AMBULANCE TECHNICIANS
Intervention at the scene of a disaster with multiple victims

1. Approach the site safely:
   - Check for the presence of risks;
   - Estimate climate conditions;
   - Analyze the topography of the site;
   - Estimate the number of victims;
   - Advise the authorities.

2. Dangerous materials:
   - Dangerous materials present
     - Follow 1 REP/IND.1 PROTOCOL (Exposure to hazardous materials).
   - No dangerous materials present
     - Go to next step.

3. Potential risks:
   - Potential risks present
     - Establish a security perimeter (no interventions within the security perimeter);
     - Advise the Health communications centre;
     - Ask for the necessary resources and information.
   - No potential risks present
     - Go to next step.

4. Begin triage according to START method (1 REP/SIN.2) while waiting for the first team of ambulance technicians.

5. Transmit pertinent information to the first team of ambulance technicians and be ready to assist them.
Disaster situations
Protocols for first responders

Triage: Start Method 1 REP/SIN.2

1. **Spontaneous Breathing**
   - **NO**
     - Open Airways
     - Does not breathe
     - Black
     - Red
   - **YES**
     - Breathe
     - Red
     - > 30 resp./minute
     - Red
     - < 30 resp./minute

2. **Circulation**
   - Absence of radial pulse or capillary return > 2/sec.
   - Compression if significant bleeding
   - Red
   - Radial pulse present or capillary return < 2/sec.

3. **Level of Consciousness**
   - Does not respond adequately to simple orders
   - Red
   - Responds adequately to simple orders
   - Yellow

Note:
Greens can be identified as follows: «Those who can walk, go to the area marked X». It is important to show them the way and assign a person in charge of the greens in the designated area.

Greens do not need to have a green tag.
Triage: START METHOD

1. Ask those persons who can walk to go to a designated area (identify a safe place for them to assemble):
   - Victims classified as “green”.

2. Check breathing:
   - **Absence of spontaneous breathing**
     - Open airways:
       - Spontaneous breathing: Victim tagged as “Red”;
       - Absence of spontaneous breathing: Victim tagged as “Black”.
   - **Spontaneous breathing**
     - Respiration 30 per minute and over: Victim tagged “Red”.
     - Respiration less than 30 per minute: Go to next step.

3. Check circulation:
   - **Radial pulse absent or capillary return more than 2 seconds**
     - Victim tagged as “Red”.
   - **Radial pulse present or capillary return less than 2 seconds**
     - Go to next step;
     - Control major bleeding.

4. Evaluate level of consciousness:
   - **Does not respond adequately to simple orders**
     - Victim tagged as “Red”.
   - **Responds adequately to simple orders**
     - Victim tagged as “Yellow”.

5. Transmit pertinent information to the first team of ambulance technicians and be ready to assist them.
EXPOSURE TO DANGEROUS SUBSTANCES,
GENERAL INTERVENTION 1 REP/IND.1

ASSESS THE SCENE

IDENTIFY THE POTENTIAL RISKS WHILE REMAINING AT A REASONABLE DISTANCE

IDENTIFY THE DANGEROUS SUBSTANCE

POTENTIAL RISKS PRESENT

YES - ESTABLISH A SECURITY PERIMETER
- NO INTERVENTIONS WITHIN THE SECURITY PERIMETER
- ADVISE THE HEALTH COMMUNICATION CENTRE
- ASK FOR ADDITIONAL RESOURCES IF REQUIRED

NO

COLLECT PERTINENT DATA

ALL OF THE FOLLOWING CONDITIONS ARE PRESENT:
- THE INTERVENTION CAN BE CARRIED OUT WITHOUT RISK
- THE VICTIMS HAVE BEEN DECONTAMINATED (if necessary)
- COMPETENT AUTHORITIES ARE AT THE SCENE
- AUTORISATION TO INTERVENE HAS BEEN OBTAINED

YES

REFER TO 1 REP/SIR.1 PROTOCOL

MULTIPLES VICTIMS

YES

NO

FOLLOW THE PREHOSPITAL CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Exposure to dangerous substances (General intervention)

When dangerous materials are involved, scene assessment is particularly important because of the safety risk to personnel. Therefore this step of the prehospital clinical approach protocol is particularly important. This approach is described below to ensure sure that the first responder does not take any risk that might adversely affect his health or safety.

The rescue and decontamination of victims exposed to dangerous materials must be carried out by competent authorities (fire department or specialized team). The first responder’s responsibility is to make sure that these steps are carried out before taking charge of the victim.

1. **Assess the scene.**

2. **Identify potential risks:**

   **Potential risks present**
   - Identify the potential risks while remaining at a reasonable distance from:
     - An industrial site (refer to competent persons);
     - A motor vehicle accident: respect a security perimeter;
     - Park the first responders’ vehicle at a reasonable distance;
     - Wear protective clothing if available.
   - Identify material involved using the *North American emergency measures guide*, tags, material safety data identification sheets;
   - If one or more potential risks are suspected:
     - Establish a security perimeter;
     - Do not carry out any interventions within the security perimeter;
     - Advise the Health communications centre;
     - Ask for additional resources if necessary.

   **No potential risks**
   - Go to next step.

3. **Collect pertinent information:**
   - Continue to assess the scene, identify competent authorities and refer to them: fire department, head of the industrial site or any other recognized authority.

4. **Ensure the following four conditions are met before continuing with the next step:**
   - The intervention can be carried out without risk or the risks have been controlled;
   - The victims have been decontaminated by competent authorities if required;
   - Competent authorities are on scene;
   - Authorization to intervene has been obtained from competent authorities.
The response to one of the above conditions is negative
   - Refer to step 2 (Potential risks present).

All the above conditions must be met before going on to the next step.

5. Estimate the number of victims:
   Many victims
   - Refer to protocol 1 REP/SIN.1 (Intervention at the scene of a disaster with multiple victims).
   Not many victims
   - Go on to the next step.

6. Follow the prehospital clinical approach and transmit pertinent information to ambulance technicians.

Remarks

- Advise administrative personnel of all personnel and equipment exposed to dangerous materials so they can be decontaminated before returning to service.
- Report every case with as much information as possible in order to permit adequate medical follow-up.

The personal protection garment does not provide protection against dangerous materials. Remain vigilant and obey the orders of competent authorities.
EXPOSURE TO TOXIC SUBSTANCES 1 REP/IND.2

CLINICAL APPROACH PROTOCOL 1 REP/ACP

- ESTABLISH A SECURITY PERIMETER
- ADVISE THE HEALTH COMMUNICATIONS CENTRE
- REQUEST COMPETENT AUTHORITIES
- ASK FOR ADDITIONAL RESOURCES IF NECESSARY

POTENTIAL RISKS PRESENT

YES

ENSURE THAT THE VICTIM IS REMOVED FROM THE SOURCE OF CONTAMINATION

NO

AVOID ALL SKIN CONTACT WITH THE VICTIM. PERSONAL PROTECTION MEASURES.

IDENTIFY THE TYPE OF CONTAMINATION AND THE CAUSATIVE AGENT IF POSSIBLE

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ADEQUATE VENTILATION

ASSIST VENTILATION WITH OXYGEN (do not use pocket mask)

YES

PROTOCOL

AUTHORISED PERSONNEL PRESENT

BRING THE ANTIDOTE

NO

ANTIDOTE KNOWN AND AVAILABLE

ASSIST WITH ADMINISTERING ANTIDOTE

NO

PRESENCE OF BURNS

YES

1 REP/ENV.2 PROTOCOL

NO

FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO AMBULANCE TECHNICIANS
Exposure to toxic substances

1. Refer to the clinical approach protocol (1 REP/ACP).
2. Identify potential risks:
   - Identify potential risks while remaining at a reasonable distance from the industrial site: refer to competent authorities; comply with the security perimeter; park the first responders’ vehicle at a safe distance; wear personal protection garment if available;
   - Identify material involved using the North American emergency measures guide, tags, material safety data identification sheets.

Potential risks present
   - Establish a security perimeter;
   - Do not carry out any interventions within the security perimeter;
   - Advise the Health communications centre;
   - Ask for competent authorities;
   - Ask for additional resources if necessary.

No potential risks present
   - Go on to next step.
3. Ensure that the victim is removed from the source of contamination.
4. Use personal protection measures and avoid all skin contact with the victim.
5. Identify the type of contamination and the causative agent if possible.
6. Evaluate the ventilation:
   **Inadequate ventilation**
   - Assist ventilation mechanically and administer oxygen.
   (Do not use the pocket mask because of risk of contamination)

   **Adequate ventilation**
   - Administer oxygen with high concentration mask.
7. Check if an antidote is available:
   **Antidote known and available**
   - Authorized personnel present: assist with administering antidote;
   - No authorized personnel on scene: give the antidote to the ambulance technicians;
   - Go on to next step.
Antidote not known or unavailable
  – Go on to next step.

8. Check for presence of burns:

Burns present
  – Refer to 1 REP/ENV.2 (Burns).

No burns
  – Continue protocol.

9. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Required information

- Type of contaminant (material safety data identification sheet if available).
- Duration of exposure to the contaminant.
- Time elapsed since exposure.

Remarks

- In cases of intoxication by toxic substances, never ventilate the victim with the mouth-to-mouth or mask to mask techniques.
- Simple inhalation: it is possible that the victim does not require decontamination.

Basic decontamination principles

- Ensure the affected parts are exposed. Remove contaminated clothes and jewellery.
- If the substance is a powder, brush the substance off the victim.
- Rinse the affected parts using a large amount of water without contaminating healthy areas. (Watch out for products that react to water).
RESUSCITATION
GENERAL INTERVENTION 1 REP/REA.O

CLINICAL APPROACH PROTOCOL 1 REP/ACP

SIGNS OF EVIDENT DEATH

YES → 1 REP/MED-LEG.4 PROTOCOL (Evident death)

NO → UNABLE TO VENTILATE DUE TO RIGIDITY

YES → 1 REP/MED-LEG.2 PROTOCOL (Resuscitation impossible)

NO → START RESUSCITATION MEASURES AND APPLY APPROPRIATE REA PROTOCOL

CARDIOPULMONARY ARREST PERSISTS

YES → CONTINUE REA PROTOCOL

NO → ADEQUATE VENTILATION

YES → ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO → ASSIST VENTILATION WITH OXYGEN

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO AMBULANCE TECHNICIANS
General intervention – Cardiopulmonary arrest

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Activate the automated external defibrillator once you have visual contact with the patient.
3. If signs of evident death are present, refer to protocol 1 REP/MED-LEG.4 (Evident death).
4. Confirm cardiopulmonary arrest with ABC evaluation and simultaneously proceed to install defibrillation electrodes unless it is impossible to open the airway and ventilate because of rigor mortis; refer to 1 REP/MED-LEG.2 protocol (ACR with resuscitation impossible).
5. If there is a ‘Do not resuscitate’ order, refer to 1 REP/MED-LEG.3 protocol (Do not resuscitate order).
6. Begin resuscitation procedures and apply the appropriate resuscitation protocol:
   - Cardiopulmonary arrest Medical – Adult; (1 REP/REA.1)
   - Cardiopulmonary arrest Trauma – Adult; (1 REP/REA.3)
   - Cardiopulmonary arrest Medical – Paediatric; (1 REP/REA.5)
   - Cardiopulmonary arrest Trauma – Paediatric; (1 REP/REA.6)
7. As soon as you see the patient move, stop CPR and check for signs of circulation, including the pulse.
8. When the patient shows signs of circulation:
   **Adequate spontaneous ventilation**
   - Administer oxygen with high concentration mask at 10L/min or more;
   - If level of consciousness is V P or U, place the victim in the lateral safety position and administer high concentration oxygen at 10/L or more.
   **Inadequate spontaneous ventilation**
   - Assist ventilation and continue to administer high concentration oxygen at 10/L or more.
9. Continue to follow the clinical approach protocol and transmit pertinent information to ambulance technicians.

**Required information**

- Circumstances of incident.
- Time elapsed since arrest.
- With or without witness.
- Was CPR started before the arrival of first responders?
- Use of defibrillator (AED) before arrival of ambulance technicians.
- Number of shocks given.
Remarks

- Oropharyngeal airway and oxygen must be started as rapidly as possible.
- If the patient is resuscitated and goes into ACR again, start the ACR protocol from the beginning.
- When ambulance technicians arrive, continue the protocol as planned and follow the directions of the ambulance technicians.
- Spontaneous ventilation in a victim must be judged inadequate if the first responder observes one or both of the two following signs:
  - Poor coloration;
  - Respiratory frequency $< 8 / \text{minute}$.

Exclusion from defibrillation

- Child under one year of age.

ATTENTION:

When a child is unconscious with a pulse $< 60 / \text{minute}$ with signs of poor circulation (pallor, cyanosis), CPR must be started as per Quebec Heart And Stroke Foundation (QHSF) norms.
PROTOCOLE D'ARRÊT CARDIORESPIRATOIRE 1 RÉP/REA.0

APPLIQUER LES ÉLECTRODES DE DÉFIBRILLATION LE PLUS RAPIDEMENT POSSIBLE

DEMANDER UNE ANALYSE

CHOC CONSEILLÉ

- S'ASSURER QUE PERSONNE NE TOUCHE LA VICTIME
- ÉLOIGNER LES SOURCES DE DANGER
- DONNER LE CHOC

FAIRE 5 CYCLES DE RCR SANS DÉLAI

PRÉSENCE DE MOUVEMENTS

APPLIQUER LE PROTOCOLE 1 RÉP/REA.0
(Intervention global–Arrêt cardiorespiratoire)
Cardiopulmonary arrest medical adult

1. Refer to the General intervention - Cardiopulmonary arrest protocol (1 REP/REA.0).
2. Apply defibrillation electrodes as quickly as possible.
3. Request analysis (AED):
   - **Shock not recommended**
     - Restart CPR immediately (step 4).
   - **Shock recommended**
     - Be sure no one is touching the victim and remove any possible sources of danger (ex.: oxygen), charge and give shock;
     - Restart CPR immediately (step 4).
4. Complete 5 cycles of CPR as per QHSF norms.
5. Repeat steps 2, 3, and 4 until the victim show signs of movement or until ambulance technicians take charge.
   - **If there are signs of movement**
     - Continue the General intervention - Cardiopulmonary arrest protocol (1 REP/REA.0).
   - **If the ambulance technicians take charge**
     - Assist ambulance technicians and follow their directives.
   - **If there is no movement and the ambulance technicians are not ready to take charge**
     - Continue with 1 REP/REA.1 protocol.
CARDIOPULMONARY ARREST TRAUMA – ADULT 1 REP/REA.3

CARDIOPULMONARY ARREST PROTOCOL 1 REP/REA.0

APPLY APPROPRIATE SPINAL PRECAUTIONS

APPLY DEFIBRILLATION ELECTRODES AS RAPIDLY AS POSSIBLE

REQUEST ANALYSIS

SHOCK RECOMMENDED

APPLY 1 REP/REA.1 PROTOCOL

SHOCK NOT RECOMMENDED

CONTINUE RESUSCITATION AS PER QHSF NORMS

MOVEMENT PRESENT

YES

RETURN TO 1 REP/REA.0 PROTOCOL

NO
**Cardiopulmonary arrest trauma adult**

Criteria for inclusion:

All cases of cardiopulmonary arrest in a context of high velocity impact trauma or penetrating wound.

1. Refer to the General intervention - Cardiopulmonary arrest protocol (1 REP/REA.0).
2. Apply appropriate spinal precautions and proceed simultaneously to install defibrillation electrodes.
3. Request analysis:
   - **Shock not recommended**
     - Restart CPR immediately (step 4).
   - **Shock recommended**
     - Apply 1 REP/REA.1 protocol (Cardiopulmonary arrest Medical - Adult).
4. Start CPR as per QHSF norms without repeating analysis, until victim shows signs of movement or until ambulance technicians take charge:
   - **If movement is present**
     - Continue 1 REP/REA.0 protocol (General intervention - Cardiopulmonary arrest).
   - **If ambulance technicians take charge**
     - Assist ambulance technicians and follow their directives.
   - **If there is no movement and the ambulance technicians are not ready to take charge**
     - Continue the 1 REP/REA.3 protocol.
CARDIOPULMONARY ARREST MEDICAL - PAEDIATRIC 1 REP/REA.5

CARDIOPULMONARY ARREST PROTOCOL 1 REP/REA.0

- APPLY APPROPRIATE SPINAL PRECAUTIONS
- EVALUATE AGE

1 REP/REA.0 PROTOCOL (General Intervention)

1 - 12 YEARS

- APPLY ELECTRODES
- COMPLETE 5 CYCLES CPR AS PER QHSF NORMS

< 1 YEAR

- COMMENCE CPR AS PER QHSF NORMS
- PRESENCE OF MOVEMENT
  - NO
  - YES

- APPLY APPROPRIATE SPINAL PRECAUTIONS

NO EVALUATE AGE

YES
Cardiopulmonary arrest – Medical - Paediatric

1. Refer to the General intervention - Cardiopulmonary arrest protocol (1 REP/REA.0).

2. Evaluate the age of the patient:

   For infants under one year of age:
   - Do CPR as per QHSF norms.
   - Go to step 3.

   For children between the ages of 1 to 12:
   - Install the AED and apply the electrodes.
   - Complete 5 cycles of CPR as per QHSF norms unless arrest occurred in presence of first responders and was sudden and unexpected.
   - Immediately apply 1 REP/ REA protocol (Cardiopulmonary arrest Medical - Adult).

3. Continue resuscitation procedures until the victim shows signs of movement or until ambulance technicians take charge.

   Movement present
   - Continue 1 REP/REA.0 protocol (General intervention- Cardiopulmonary arrest).

   If ambulance technicians take charge
   - Assist ambulance technicians and follow their directives.

   If there is no movement and ambulance technicians are not ready to take charge
   - Continue 1 REP/REA.5 protocol.

Remarks

- Constant monitoring and reassessment of vital signs for children in cardiopulmonary arrest.
- When a child is in cardiopulmonary arrest, obstruction of the airways should always be suspected
- Apply paediatric electrodes/ charge reducer if available in the antero-lateral position. If not available apply adult electrodes in the antero-posterior position.

ATTENTION:

When a child is unconscious with a pulse < 60 / minute with signs of poor circulation (pallor, cyanosis), CPR must be started as per QHSF norms.
CARDIOPULMONARY ARREST TRAUMA - PAEDIATRIC – 1 REP/REA.6

CARDIOPULMONARY ARREST PROTOCOL 1 REP/REA.0

APPLY APPROPRIATE SPINAL PRECAUTIONS

EVALUATE AGE

< 1 YEAR

APPLY CPR AS PER QHSF NORMS

PRESENCE OF MOVEMENT

NO

1 REP/REA.0 PROTOCOL (General Intervention)

YES

BETWEEN 1 - 12 YEARS

APPLY ELECTRODES

DO 5 CYCLES CPR AS PER QHSF NORMS

1 REP/REA.3 PROTOCOL (Cardiopulmonary arrest – Trauma - Adult)
Cardiopulmonary arrest Trauma - Paediatric

Criteria for inclusion:
All cases of cardiopulmonary arrest with high velocity impact or penetrating wounds in children.

1. Refer to the General Intervention - Cardiopulmonary arrest Protocol (1 REP/REA.0).
2. Apply appropriate spinal precautions.
3. Evaluate the patient’s age:
   - Infants less than one year of age: Go to step 4.
   - Children over one year old:
     - Install AED and apply electrodes.
     - Do 5 cycles CPR as per QHSF norms.
     - Immediately apply 1 REP/REA.3 protocol (Cardiopulmonary arrest Trauma - Adult).
4. Start CPR as per QHSF norms until victim shows signs of movement or until ambulance technicians take charge.
   - If there is movement: Continue 1 REP/REA.0 protocol (General Intervention – cardiopulmonary arrest).
   - If the ambulance technicians take charge: Assist the ambulance technicians and follow their directives.
   - If there is no movement and the ambulance technicians are not ready to take charge: Continue 1 REP/REA.6 protocol.

Remarks
- Constant monitoring and reassessment of vital signs for children in cardiopulmonary arrest.
- When a child is in cardiopulmonary arrest, obstruction of the airways should always be suspected.
- Apply paediatric electrodes/ charge reducer if available in the antero-lateral position. If not available apply adult electrodes in the antero-posterior position.

ATTENTION:
When a child is unconscious with a pulse < 60 / minute with signs of poor circulation (pallor, cyanosis), CPR must be started as per QHSF norms.
ENVIRONMENTAL PROBLEMS
DIVING ACCIDENT 1 REP/ENV.1

CLINICAL APPROACH PROTOCOL 1 REP/ACP

IMMOBILIZE THE CERVICAL SPINE IF NECESSARY

REMOVE VICTIM FROM WATER OR HAVE HIM REMOVED BY COMPETENT PERSONNEL

REMOVE DIVING EQUIPMENT AND TURN VICTIM ONTO HIS BACK

REMOVE OR LOOSE TIGHT CLOTHING

ADEQUATE VENTILATION

YES

ASSIST VENTILATION WITH OXYGEN

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Diving accident

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Immobilize the cervical spine if necessary.
3. Remove victim from water or have him removed by competent personnel.
4. Remove scuba equipment and turn victim onto his back.
5. Remove or loosen tight clothing.
6. Evaluate ventilation:
   - **Inadequate ventilation**
     - Assist ventilation and administer high concentration oxygen.
   - **Adequate ventilation**
     - Administer oxygen with high concentration mask.
7. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

**Required information**

- Depth of dive.
- Duration of dive.
- Number of dives.
- Time elapsed since dive.
- Diving record book or computer record if available.
- Information on resurfacing.
- Gas mixture used.
- Air transport expected within 24-48 hours after the dive.

**Remark**

- Watch out for the possibility of trauma; apply appropriate trauma protocols as per the situation and condition of the victim.
**CLINICAL APPROACH PROTOCOL 1 REP/ACP**

**IDENTIFY TYPE OF BURN:**
Thermal, electric, chemical

**STOP PROCESS THAT IS CAUSING THE BURN**

**ADEQUATE VENTILATION**

**YES**

**ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK**

**NO**

**ASSIST VENTILATION WITH OXYGEN**

**EXPOSE THE AFFECTED AREA BY REMOVING CLOTHING OR JEWELLERY THAT HAVE NOT ADHERED**

**EVALUATE PERCENTAGE OF BURN AREA AS PER RULE OF « 9 »**

**LESS THAN 10 %**

**COVER WITH CLEAN COMPRESSES DAMPENED WITH A SALINE SOLUTION, TRANSPORT TO THE DESIGNATED HOSPITAL**

**OVER 10 %**

**COVER WITH CLEAN DRY COMPRESSES**

**COVER THE VICTIM**

**CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIAN**
Burns

Criteria for inclusion:
- Electrical burn(s).
- Chemical burn(s).
- Thermal burn(s).

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Identify type of burn (thermal, electric, chemical).
3. Stop the process that is causing the burns.
4. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Assist ventilation with high concentration mask.
5. Expose the affected area by removing clothing or jewellery that has not adhered.
6. Evaluate percentage of burn area as per rule of « 9 »:
   - **If the burn is less than 10% using the rule of « 9 »**
     - Cover burns with clean sterile dressings (compresses dampened with a saline solution can be applied). Watch out for chemical agents that react with water).
   - **If the burn is over 10% using the rule of « 9 »**
     - Cover with clean dry dressings.
7. Cover the victim:
   - Burn victims are more sensitive to hypothermia.
8. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
**Required information**

- Cause of burn.
- Possibility of associated trauma.
- Presence of smoke.
- Duration of exposure.

**Remarks**

- Assess the extent of the burns by using the rule of “9”.
- Burns covering large areas or burns to the face, hands, feet and genitals must be considered burns requiring specialized care.
- If there are burns to the face, you must always consider the possibility of burns to the respiratory system, even in the absence of any signs or symptoms.
- Signs of burns to the respiratory system include nasal or oropharyngeal burns, abnormal respiratory sounds, black coloration of the tongue or base of the nostrils and black nasal excretions. These are signs of eventual respiratory complications.
- Be careful of chemical agents that react to water.
- Never pierce blisters.

**Rule of « 9 »**

![Rule of « 9 »](image)

Source: J Moisan
HEAT STROKE 1 REP/ENV.3

CLINICAL APPROACH PROTOCOL 1 REP/ACP

EVACUATE TO A COOL PLACE

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

REMOVE VICTIM'S CLOTHES

SPONGE THE BODY WITH WATER OR A SALINE SOLUTION AND/OR APPLY COLD

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Heat stroke

Criteria for inclusion:
Victim exposed to a hot environment, with or without exercise, with change in state of consciousness, or confusion/ belligerence.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Evacuate the victim to a cool place.
3. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.
4. Remove victim’s clothing.
5. Cool the victim by sponging the whole body with water or with a saline solution and / or applying cold (if available) to the armpit or groove.
6. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
ELECTRIFICATION / ELECTROCUTION 1 REP/ENV.4

CLINICAL APPROACH PROTOCOL 1 REP/ACP

MULTIPLE VICTIMS

YES

REVERSE TRIAGE:
CARE FOR VICTIMS OF
CARDIOPULMONARY ARREST
BEFORE INTERVENING WITH
OTHER VICTIMS

NO

CARDIOPULMONARY
ARREST

YES

1 REP/REA.1 or 1 REP/REA.5
PROTOCOL
(Cardiopulmonary arrest)

NO

CERVICAL PROTECTION IF THERE ARE MUSCLE SPASMS OR
VICTIM WAS THROWN

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH
CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

PRESENCE OF BURNS

YES

1 REP/ENV.2 PROTOCOL
(Burns)

NO

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT
INFORMATION TO THE AMBULANCE TECHNICIANS
Electrification / Electrocution

The area surrounding an electrocuted victim is a risk for personnel. First responders must always assure their own safety before proceeding. The electrical current must be turned off by qualified personnel. First responders must stay far away from the source of electricity when caring for the victim.

Criteria for inclusion:
- Burns by electrical arcing.
- Any person injured by electrical discharge.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. In cases of cardiopulmonary arrest:
   - Refer to protocol 1 REP/REA.1 or 1 REP/REA.5 (Cardiopulmonary arrest).
   - If you are faced with multiples victims in the context of electrification, you must apply “Reverse triage”. Care for the victims of cardiopulmonary arrest before intervening with other victims.

3. Use cervical protection if there is a history of muscle spasms or victim was thrown.

4. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.

5. Check for the presence of burns:
   - **Burns present**
     - Refer to 1 REP/ENV.2 protocol (Burns).
   - **No burns**
     - Go to the next step.

6. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Electricity can cause serious internal burns without external signs, and can also cause cardiac arrhythmias or cardiopulmonary arrest. Observe these victims closely.
Required information

- Determine the circumstances of the electrocution, history of syncope, intensity and nature of the current (voltage, amperage).
- Watch for signs of trauma. Electrocution may cause violent muscular contractions and the victim may have been thrown.

Remark

- The severity of injuries depends on the duration of exposure and the energy level.
FROSTBITE 1 REP/ENV.5

CLINICAL APPROACH PROTOCOL 1 REP/ACP

HYPOTHERMIA

YES

PROTOCOL 1 REP/ENV.6
(Hypothermia)

NO

REMOVE WET CLOTHING

DO NOT RUB THE AFFECTED AREA
PROTECT THE AFFECTED AREA

PREVENT VICTIM FROM COOLING

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIAN
Frostbite

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Check for presence of hypothermia:

   - Hypothermia present
     - Refer to protocol 1 REP/ ENV. 6 (Hypothermia); after completion of the hypothermia protocol, return to the 1 REP/ENV.5.

   - No hypothermia
     - Go to next step.

3. Remove wet clothing.

4. Do not rub affected area. Try to protect the affected area.

5. Prevent victim from cooling.

6. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- Frostbite is, by definition, a lesion caused by cold. Frostbite is therefore generally confined to the area of the body that was exposed to a cold environment or a source of cold. You must differentiate frostbite from hypothermia, as frostbite may occur in the absence of hypothermia and affect only one part of the body.
HYPOTHERMIA 1 REP/ENV.6

CLINICAL APPROACH PROTOCOL 1 REP/ACP

CHECK RESPIRATORY RATE AND PULSE FOR 30 TO 45 SECONDS

PULSE PRESENT  YES  ADEQUATE VENTILATION  YES

1 REP/REA.1 or 1 REP/REA.5 (Cardiopulmonary arrest)

NO

ASSIST VENTILATION WITH OXYGEN

NO

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

HANDLE VICTIM GENTLY AND MOVE INTO A WARM ENVIRONMENT

REMOVE WET CLOTHING ONLY AND COVER WITH WARM BLANKETS

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Hypothermia

Criteria for inclusion:
This protocol is to be applied only when the victim is found in a cold environment and his body is cold.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP). In hypothermia cases the pulse and respiration rate must be taken for 30 to 45 sec. in order to ascertain that they are present. If you detect a pulse during this interval, cardiac massage should not be started. If you do not detect a pulse, begin 1 REP/REA.1 or 1 REP/REA.5 protocol. However, never exceed a maximum total of 3 shocks.

2. Evaluate ventilation:
   - Ventilation inadequate
     - Assist ventilation and administer high concentration oxygen.
   - Ventilation adequate
     - Administer oxygen with high concentration mask.

3. Handle victim gently (without jolting) and move into a warm environment.

4. Remove wet clothing only and cover the victim with warm blankets.

5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

In cases of hypothermia with victims in cardiopulmonary arrest you must begin resuscitation procedures even if the there has been a long delay since the incident occurred.
## Required information

- Consumption of alcohol or medication.
- Duration of exposure to cold.

## Remarks

- If frostbite is present, refer to 1 REP/ENV.5 Protocol.
- The victim must be transported with a minimum of jolting to avoid the risk of developing severe cardiac arrhythmia.
- Hypothermia is a special situation in prehospital care, and requires changes to the usual norms. All victims who have been exposed to a cold environment or who show signs of chilling must be considered to be suffering from hypothermia, especially if the victim is a young child or an older person. A change in the level of consciousness may be the only warning sign of hypothermia. Consider the risk of frostbite.
- In cases of hypothermia you cannot be certain of capillary return.
**DROWNING 1 REP/ENV.7**

**CLINICAL APPROACH PROTOCOL 1 REP/ACP**

- **PRESENCE OF TRAUMA**
  - **YES** → **SPINAL PROTECTION**
  - **NO**

- **REMOVE VICTIM FROM WATER OR HAVE HIM REMOVED BY COMPETENT AUTHORITIES**

- **ADEQUATE VENTILATION**
  - **YES** → **ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK**
  - **NO** → **ASSIST VENTILATION WITH OXYGEN**

- **PULSE PRESENT**
  - **YES**
  - **NO** → **1 REP/REA.1 or 1 REP/REA.5 PROTOCOL (Cardiopulmonary arrest)**

- **REMOVE WET CLOTHING AND COVER WITH WARM BLANKETS**

- **CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS**
Drowning

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Check for presence of trauma:
   - **Trauma present**
     - Use spinal protection.
   - **No trauma**
     - Go to next step.
3. Remove victim from water or have him removed by competent authorities.
4. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.
5. Take pulse:
   - **Pulse absent**
     - Apply 1 REP/REA.1 or 1 REP/REA.5 protocol (Cardiopulmonary arrest adult or paediatric).
   - **Pulse present**
     - Go to next step.
6. Remove wet clothing only and cover with warm blankets.
7. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

**Required information**

- Duration of submersion.
- Circumstances of incident.

**Remarks**

- In cases of drowning with a victim in ACR, always begin CPR procedures. There is a possibility of survival even after a long submersion period.
- If hypothermia is present, refer to protocol 1 REP/ENV.6.
MEDICAL PROBLEMS
ALTERED MENTAL STATE 1 REP/MED.2

CLINICAL APPROACH PROTOCOL 1 REP/ACP

ENSURE THE AIRWAYS ARE OPEN

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

LEVEL OF CONSCIOUSNESS

A or V

YES

HISTORY OF DIABETES

YES

GIVE 100 cc OF SWEETENED JUICE OR GLUCOSE GEL IF VICTIM COOPERATES

NO

NO

LEVEL OF CONSCIOUSNESS

P or U

YES

IF NO EVIDENCE OF TRAUMA, PLACE VICTIM IN LATERAL SAFETY POSITION

NO

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
**Altered mental state**

Criteria for inclusion:
- Patient’s level of consciousness is V, P, or U.
- Confusion.
- Weakness.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Maintain the airways are open.
3. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.
4. Level of consciousness and history of diabetes:
   - **Level of consciousness “A or V” and history of diabetes**
     - Give 100 cc of sweetened juice or glucose gel if victim cooperates.
   - **Level of consciousness “P or U”, or no history of diabetes**
     - Place the victim in the lateral safety position (if no trauma).
     - Monitor closely.
5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

**Required information**
- Circumstances of incident.
- Medical history.

**Remarks**
- Watch for complications: cardiopulmonary arrest, vomiting and aspiration.
- Have suction device ready to use.
CONVULSIONS 1 REP/MED.7

**CLINICAL APPROACH PROTOCOL 1 REP/ACP**

- **PREGNANCY OVER 20 WEEKS**
  - YES ➔ **LEFT LATERAL DECUBITUS POSITION**
  - NO ➔ **CONVULSIONS IN PROGRESS**

- **CONVULSIONS IN PROGRESS**
  - YES ➔ **- PROTECT THE VICTIM**
    - ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK
    - WATCH OUT FOR COMPLICATIONS (Vomiting, secretions)
  - NO ➔ **WHEN CONVULSIONS STOP, REPEAT ABC**

- **WHEN CONVULSIONS STOP, REPEAT ABC**
  - **PULSE PRESENT**
    - YES ➔ **1 REP/REA.1 PROTOCOL**
      (Cardiopulmonary arrest)
    - NO ➔ **ADEQUATE VENTILATION**

- **ADEQUATE VENTILATION**
  - YES ➔ **ASSIST VENTILATION WITH OXYGEN**
  - NO ➔ **ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK**

- **CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS**
Convulsions

Criteria for inclusion:
Change in level of consciousness accompanied by spasmodic movements.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. If victim is more than 20 weeks pregnant, place her in left lateral decubitus position.
3. If convulsions are in progress:
   - Protect the victim to prevent injury;
   - Administer oxygen with high concentration mask;
   - Watch out for complications (vomiting, secretions).

   When convulsions stop
   - Repeat the ABC and go to the next step;
   - Administer oxygen with high concentration mask.

4. Check for a pulse:
   No pulse
   - Apply 1 REP/REA.1 protocol (Cardiopulmonary arrest Medical – Adult).
   Pulse present
   - Go to next step.

5. Evaluate ventilation:
   Ventilation inadequate
   - Assist ventilation and administer high concentration oxygen.
   Ventilation adequate
   - Administer oxygen with high concentration mask.

6. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
Required information

- Circumstances of the incident.

Remarks

- The convulsion may be the first manifestation of an ACR. If a convulsion occurs during an intervention, be absolutely sure there is a pulse. If there is no pulse, start 1 REP/REA.1 or 1 REP/REA.5 protocol immediately (Cardiopulmonary arrest – medical- adult or paediatric).
- Installing an oropharyngeal or nasopharyngeal airway must be done gently.
- When convulsions stop, continue with clinical approach protocol.
- Watch out for complications: vomiting, aspiration and ACR.
RESPIRATORY DIFFICULTY 1 REP/MED.8

CLINICAL APPROACH PROTOCOL 1 REP/ACP

- OBSTRUCTION OF AIRWAYS
  - YES → 1 REP/MED.13 PROTOCOL (Obstruction of the airways)
  - NO

- ALLERGIC REACTION
  - YES → 1 REP/MED.17 PROTOCOL (Allergic / anaphylactic reaction)
  - NO

- CHEST PAIN
  - YES → 1 REP/MED.10 PROTOCOL (Chest pain)
  - NO

- ADEQUATE VENTILATION
  - YES → ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK
  - NO → COMFORT POSITION

- ASSIST VENTILATION WITH OXYGEN

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Respiratory difficulty

Criteria for inclusion:

- Patient complains of difficulty breathing or difficulty is apparent
- Respiratory frequency less than 10 per minute or over 24 per minute
- Audible respiratory sounds.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Check for obstruction of the airways:

   **If airways are obstructed**
   - 1 REP/MED.13 Protocol (Obstruction of airways) must take priority.

   **No obstruction of airways**
   - Go to next step.

3. Check for allergic reaction:

   **Allergic reaction present**
   - 1 REP/MED.17 (Allergic reaction) must take priority.

   **No allergic reaction**
   - Go to next step.

4. Check for presence of chest pain:

   **Chest pain present**
   - REP/MED. 10 protocol (Chest pain) must take priority.

   **No chest pain**
   - Go to next step.

5. Evaluate ventilation:

   **Ventilation inadequate**
   - Assist ventilation and administer high concentration oxygen.

   **Ventilation adequate**
   - Administer oxygen with high concentration mask.
6. Place victim in comfort position.

7. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Always make certain that the airways are not obstructed.

Remark

- Watch out for complications: cardiopulmonary arrest, altered mental state, chest pain, vomiting and aspiration.
CHEST PAIN  1 REP/MED.10

CLINICAL APPROACH PROTOCOL 1 REP/ACP

MAKE SURE THE VICTIM STOPS ALL ACTIVITY

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

LEVEL OF CONSCIOUSNESS (A)

YES

RADIAL PULSE PRESENT

YES

- HALF-SITTING POSITION
- HELP THE VICTIM TAKE HIS NITROGLYCERIN
- IF CHEST PAIN STILL PRESENT, REPEAT NITROGLYCERIN AT 5 MINUTE INTERVALS (Maximum 3 doses)

NO

- COMFORT POSITION OR LATERAL SAFETY POSITION AS PER THE SITUATION
- APPLY APPROPRIATE PROTOCOL
- DO NOT ADMINISTER NITROGLYCERIN

NO

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Chest pain

Criteria for inclusion:
- Pain or malaise in the area between the umbilicus and jaw, including the back and arms.

1. Refer to theprehospital clinical approach protocol (1 REP/ACP).
2. Make sure the victim stops all activity.
3. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.
4. Level of consciousness (A) and radial pulse present:
   - **Victim conscious and alert with radial pulse present**
     - Place the victim in half-sitting position;
     - Help the victim take **his nitroglycerin** if the criteria for exclusion are absent;
     - Have victim repeat nitroglycerin at 5 minute intervals (maximum 3 doses) if chest pain still present and criteria for exclusion are absent.
   - **Level of consciousness V, P, or U or radial pulse absent**
     - Place victim in comfort position or lateral decubitus as per the situation;
     - Apply the appropriate protocol;
     - Do not administer nitroglycerin.
5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Criteria for exclusion

- Level of consciousness V, P, or U.
- No radial pulse.
- Patient has taken Sildenafil (Viagra) or Vardenafil (Levitra) within the last 24 hours or Tadalafil (Cialis) within the last 48 hours.
- Bradycardia < 50 or tachycardia > 150.
EPISTAXIS 1 REP/MED.11

CLINICAL APPROACH PROTOCOL 1 REP/ACP

IF ACTIVELY BLEEDING HAVE PATIENT BLOW HIS NOSE

PINCH THE NOSE WHERE THE NOSTRILS WIDEN AND COMPRESS THE UPPER LIP

ALTERED MENTAL STATE

YES → LATERAL DECUBITUS POSITION

NO → 1 REP/MED.2 PROTOCOL (Altered mental state)

COMFORT POSITION

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Epistaxis

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. If there is active bleeding have the patient blow his nose.
3. Pinch the nose where the nostrils widen and compress the space between the upper lip and the nose.
4. If the mental state is altered:
   - Lateral decubitus position;
   - Refer to 1 REP/MED.2 Protocol (Altered mental state).
5. Comfort position.
6. Continuous monitoring and re-evaluation of vital signs.
7. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Required information

- Medications that can affect coagulation.

Remark

- There may be more blood loss than can be estimated from the amount flowing from the nostrils.
INTOXICATION 1 REP/MED.12

CLINICAL APPROACH PROTOCOL 1 REP/ACP

AGGRESSIVE OR VIOLENT BEHAVIOUR

YES → ASK FOR POLICE ASSISTANCE AND WAIT FOR THEIR ARRIVAL

NO → ADEQUATE VENTILATION

YES → ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO → ASSIST VENTILATION WITH OXYGEN

HISTORY OF DIABETES

YES → LEVEL OF CONSCIOUSNESS: "A" BUT NOT ORIENTED OR "V"

NO → LEVEL OF CONSCIOUSNESS "P" or "U"

YES → 1 REP/MED.2 PROTOCOL (Altered mental state)

NO → GIVE 100 cc OF SWEETENED JUICE OR GLUCOSE GEL IF VICTIM COOPERATES

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Intoxication

Criteria for inclusion:
History of abuse of medications, alcohol or drugs.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Check for presence of violence or aggression:
   - **Presence of violence or aggression**:
     - Call police and wait for their arrival.
   - **No violence or aggression**:
     - Go to the next step.

3. Evaluate ventilation:
   - **Ventilation inadequate**:
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**:
     - Administer oxygen with high concentration mask.

4. Level of consciousness, orientation and history of diabetes:
   - **Level of consciousness “A (but not oriented) or V” AND history of diabetes**:
     - Give victim 100 cc of sweetened juice or glucose gel if victim cooperates;
     - Go to step 5.
   - **Level of consciousness “A” NO history of diabetes**:
     - Go to step 5.
   - **Level of consciousness “V, P or U”**:
     - Apply 1 REP/MED.2 protocol (Altered mental state).

5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
Required information

- Give all medications, containers of medicine or products to the ambulance technicians.
- Obtain a history from witnesses.

Remark

- Watch out for complications: cardiopulmonary arrest, vomiting, aspiration and convulsions.
OBSTRUCTION OF THE AIRWAYS
(≥ 8 years or ≥ 25 Kg) 1 REP/MED.13

CLINICAL APPROACH PROTOCOL 1 REP/ACP

PROCEDURE TO CLEAR AIRWAY AS PER QHSF NORMS

OBSTRUCTION PERSISTS

NO

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

PULSE PRESENT

YES

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS

NO

1 REP/REA.1 PROTOCOL
(Cardio-pulmonary arrest medical - adult)
Obstruction of the airways by a foreign object (victim 8 years or older or 25 Kg or over)

Criteria for inclusion:
Probable obstruction of the airways be a foreign object.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Proceed to clear the airway as per the Quebec Heart and Stroke Foundation norms (QHSF).
   a) If obstruction persists:
      - Repeat step 2;
      - Obstruction is cleared: go to next step.
   b) Spontaneous breathing:
      Ventilation inadequate
      - Assist ventilation and administer high concentration oxygen.
      Ventilation adequate
      - Administer oxygen with high concentration mask.
   c) Pulse:
      No pulse
      - Begin CPR as per QHSF norms and 1 REP/REA.1 protocol (Cardiopulmonary arrest – medical – adult).
      Pulse present
      - Go to next step.
3. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- For the steps to take in each of the above situations, refer to the Quebec Heart and Stroke Foundation’s CPR norms.
- Watch out for complications: cardiopulmonary arrest, complete obstruction, vomiting and aspiration.
ALLERGIC ANAPHYLACTIC REACTION 1 REP/MED.17

CLINICAL APPROACH PROTOCOL 1 REP/ACP

ANAPHYLACTIC REACTION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

YES

ADEQUATE VENTILATION

NO

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

IF ALLERGY IS CAUSED BY A STING:
- APPLY ICE TO SITE
- APPLY VENOUS TOURNIQUET PROXIMAL TO SITE OF STING
- APPLY COLD IF AVAILABLE

RE-EVALUATE AT REGULAR INTERVALS:
REPEAT ADRENALIN AT 15 MINUTE INTERVALS IF SIGNS OR ANAPHYLACTIC REACTION ARE STILL PRESENT

PULSE PRESENT

YES

1 REP/REA.1 PROTOCOL

NO

ASSIST VENTILATION WITH OXYGEN

ADMINISTER AN ADULT DOSE OF ADRENALIN

IF THE ALLERGY IS CAUSED BY A STING:
- APPLY ICE TO SITE OF STING
- APPLY VENOUS TOURNIQUET PROXIMAL TO SITE OF STING
- APPLY COLD IF AVAILABLE

1 REP/REA.1 PROTOCOL

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT THE PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Allergic anaphylactic reaction

Criteria for inclusion:

Confirmed or suspected recent history of exposure to allergen.
Absence of foreign object obstructing the airway.
Weight of victim: 25 Kg or over.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Evaluate the severity of the allergic reaction:
   - Anaphylactic reaction: Allergic reaction with signs of deficient respiration or circulation:
     - Signs of deficient respiration such as:
       - Noisy dyspnea;
       - Dyspnea with intercostal retraction;
       - Dyspnea with cyanosis;
       - Dyspnea with altered mental state “V, P or U”.

     AND/OR

     - Signs of deficient circulation such as:
       - Tachypnea;
       - Pale cold and clammy skin;
       - Tachycardia;
       - Arterial hypotension;
       - Altered mental state (late appearing sign).

     AND/OR

     Oedema of the tongue observed by the first responder.

   - Non-anaphylactic allergic reaction: allergic reaction without respiratory or circulation problems.
3. If there is an anaphylactic reaction:
   a) Start the AED (see remarks).
   b) Evaluate ventilation:
      Ventilation inadequate
      - Assist ventilation and administer high concentration oxygen;
      - If there is complete obstruction of the airway, attempt one cycle to clear airway;
      - If patient is in cardiopulmonary arrest, apply 1 REP/REA.1 protocol (Cardiopulmonary arrest medical – adult).
      Ventilation adequate
      - Administer oxygen with high concentration mask.
   c) Administer adrenalin:
      - Administer one adult dose of adrenalin (0.3 mg) using an auto-syringe into the deltoid (shoulder) or the thigh.
   d) Re-evaluate at regular intervals:
      - Repeat dose of adrenalin using an auto-syringe at 15 minute intervals if the victim’s condition worsens, doesn’t improve or if signs of severe allergic reaction are still present.

4. If the reaction is a non-anaphylactic allergic reaction:
   a) Administer high concentration oxygen.
   b) To limit the allergic reaction, if the allergen appears to be a sting (insect) or any other type of injection through the skin:
      - Apply ice locally;
      - Apply venous tourniquet proximal to site of sting;
      - If the stinger is easy to see, extract without pinching it.

5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- The venous tourniquet should not be too tight so that it does not obstruct arterial circulation. Be sure there is a pulse distal from the tourniquet.
- AED: if the defibrillation electrodes are not applied to the victim, some types of AED require you to install a “vocal resistance” to allow voice registration and subsequent transmission by modem.
OBSTETRICAL PROBLEMS
EMERGENCY DELIVERY 1 REP/OBS.1

CLINICAL APPROACH PROTOCOL 1 REP/ACP

DELIVERY IMMINENT:
- UNCONTROLLABLE URGE TO PUSH
- HEAD VISIBLE AT VULVA
- PERINEUM SWOLLEN

YES

PREPARE TO DELIVERY

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

TRANSMIT PERTINENT INFORMATION TO AMBULANCE TECHNICIANS

- PLACE THE MOTHER ON HER BACK
- PREPARE THE KIT
- WASH YOUR HANDS IF POSSIBLE
- WEAR STERILE GLOVES

- REASSURE THE MOTHER CONTINUOUSLY AND HELP HER PUSH
- RAISE HER HEAD WITH A PILLOW
- DO NOT ALLOW HER TO SIT OR GO TO THE TOILET
- DO NOT STOP BABY’S HEAD FROM EMERGING
- DO NOT INSERT FINGERS INTO VAGINA

SUPPORT THE BABY’S HEAD WHEN IT EMERGES, SUCTION OUT THE MOUTH AND NOTE WITH A BULB SYRINGE

UMBILICAL CORD AROUND NECK

YES

ASK THE MOTHER NOT TO PUSH

CORD IS TIGHTLY WRAPPED

NO

PLACE TWO CLIPS ON THE CORD AND CUT BETWEEN THE CLIPS

TRY TO UNWRAP THE UMBILICAL CORD AND PASS IT OVER THE BABY’S HEAD

- SLOWLY FREE THE ANTERIOR SHOULDER AND THEN THE POSTERIOR
- CONTROL THE BABY’S BODY AS IT COMES OUT BY HOLDING THE HEAD WITH ONE HAND AND SLIDING THE OTHER HAND ONTO THE BACK TO CATCH THE FEET
- DO NOT PULL ON THE BABY

BE CAREFUL, THE BABY WILL BE VERY SLIPPERY

1 REP/OBS.2 PROTOCOL (Pregnant woman in labor)
Protocols for first responders

Obstetrical problems

1. **BABY CRIES AND BREATHES**
   - SUCTION OUT THE MOUTH AND NOSE WITH A BULB SYRINGE AND WIPE THE FACE AND THE BODY


3. **BABY CRIES AND BREATHES**
   - **YES**
     - **CYANOSIS**
       - **NO**
         - SUCTION AGAIN
       - **YES**
         - TACTILE STIMULATION 5-10 SEC.
     - **BABY BREATHES**
       - **YES**
         - WRAP THE BABY WARMLY AND GIVE HIM TO THE MOTHER
       - **NO**
         - ASSIST VENTILATION WITH OXYGEN

4. **TAKE BABY’S PULSE**
   - < 60/min
     - CPR
   - 60-100/min
     - VENTILATE FOR 30 SECONDS WITH OXYGEN
   - > 100/min
     - CHECK THE CONDITION OF THE BABY REGULARLY

5. **CHECK THE CONDTION OF MOTHER AND BABY REGULARLY. CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS**

6. **VAGINAL HAEMORRHAGE**
   - **YES**
     - UTERINE MASSAGE
   - **NO**
     - CONTINUE TO ASSIST VENTILATION UNTIL PULSE IS > 100 AND THERE IS SPONTANEOUS BREATHING

7. **TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS**
Emergency delivery

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Check if delivery is imminent (uncontrollable need to push, head is visible at the vulva, or perineum is swollen):
   - Uncontrollable urge to push, head visible or perineum swollen
     - Prepare for delivery.
   - No uncontrollable urge to push, head not visible, perineum not swollen
     - Apply 1 REP/OBS.2 protocol (Pregnant woman in labour).

3. Administer high concentration oxygen to mother.

4. Transmit pertinent information to ambulance technicians.

5. Place the mother on her back, prepare the kit, wash your hands if possible, wear sterile gloves. If the situation permits, try to ensure some sterile conditions during the delivery to prevent post-partum infection.

6. Reassure the mother continuously and help her push. Raise her head with a pillow, but do not allow her to sit or go to the toilet. Do not stop baby’s head from emerging. Do not insert fingers into vagina.

7. Support the baby’s head when it emerges, suction out the mouth and nose with a bulb syringe.

8. Check to see if the cord is wrapped around the baby’s neck:
   - Cord is wrapped around the baby’s neck
     - Ask the mother not to push;
     - Try to loosen the cord by passing it over the baby’s head;
     - If the cord is too tight, place two clips on the cord and cut between the clips.
   - No cord around baby’s neck
     - Go to step # 9.

9. Slowly free the anterior shoulder and then the posterior shoulder. Control the baby’s body as it comes out by holding the head with one hand and sliding the other hand onto the baby’s back to catch the feet. Do not pull on the baby. (BE CAREFUL: the baby will be very slippery).

10. When the baby emerges, suction the mouth and nose with a suction bulb and wipe the face and body.

11. Hold the baby between the mother’s legs, place a clip 15 cm from the umbilicus and a second about 5 centimetres further away (towards the mother). Cut the cord between the two clips.
12. Evaluate baby’s breathing and cries:

**Baby does not breathe or cry**
- Suction mouth and nose again with bulb syringe;
- Tactile stimulation for 5 to 10 seconds;
- Recheck breathing:
  - If baby does not breathe, assist ventilation and go to information in box;
  - If the baby breathes but does not cry, go to information in box.

**Baby breathes and cries**
- Go to step # 13.

---

**EVALUATE PULSE:**

**Pulse over 100/min.**
- Go to step # 13.

**Pulse less than 60/min.**
- Begin CPR as per QHSF norm;
- Transmit pertinent information to ambulance technicians.

**Pulse between 60/min. and 100/min.**
- Assist ventilation for 30 seconds and administer oxygen;
- Re-evaluate pulse.

**Pulse 60/minute and +**
- Continue to assist ventilation to obtain pulse over 100/min. and spontaneous respiration;
- Check pulse and respiration regularly;
- Transmit pertinent information to ambulance technicians.

Check pulse and breathing regularly and go to step # 13 when pulse and respiration are adequate.
Transmit pertinent information to ambulance technicians.
13. Evaluate cyanosis:
   - Baby shows signs of cyanosis
     - Go to box on previous page.
   - Baby has no signs of cyanosis
     - Go to step #14.

14. Dry and wrap the baby warmly and give him to the mother:
   - Monitor the condition of mother and baby regularly.

15. Take the mother’s vital signs.

16. Administer oxygen with high concentration mask to baby.

17. Transmit pertinent information to ambulance technicians.

18. Monitor the delivery of the placenta without pulling on the cord, place the placenta in a bag and give it to the ambulance technicians so they can bring it to the hospital.

19. Check for vaginal haemorrhage:
   - Vaginal haemorrhage present
     - Uterine massage.
   - No vaginal haemorrhage
     - Go to next step.

20. Check the condition of mother and baby regularly. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
PREGNANT WOMAN IN LABOUR 1 REP/OBS.2

CLINICAL APPROACH PROTOCOL 1 REP/ACP

ACTIVE LABOUR

YES

MEMBRANES RUPTURED

YES

NO

APPROPRIATE PROTOCOL

NO

LOOK AT THE PERINEUM

YES

PROLAPSED CORD

NO

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

1 REP/OBS.4 PROTOCOL (Prolapsed cord)

IMMINENT DELIVERY

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

LEFT LATERAL DECUBITUS POSITION

1 REP/OBS.1 PROTOCOL (Emergency delivery)

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK
Pregnant woman in labour

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Check to see if labour is active (regular contractions):
   - Labour not active (contractions are not regular)
     - Refer to the appropriate protocol.
   - Active labour (regular contractions)
     - Go to next step.

3. Check to see if the membranes have ruptured (ask the patient if she felt a gush of warm water):
   - Membranes have ruptured
     - Look at the perineum;
     - If the cord has prolapsed, refer to 1 REP/OBS.4 protocol (Prolapsed cord) and also call for medical support if available;
     - If the cord is not prolapsed, go to step #4.
   - Membranes not ruptured
     - Go to next step.

4. Check to see if delivery is imminent (if there is an uncontrollable urge to push, if the head is visible at the vulva or the perineum is bulging):
   - Signs of imminent delivery present
     - Administer oxygen with high concentration mask;
     - Refer to 1 REP/OBS.1 protocol (Emergency delivery).
   - No signs of imminent delivery
     - Place the mother in left lateral decubitus position.

5. Administer oxygen with high concentration mask.

6. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
PROLAPSED CORD 1 REP/OBS.4

CLINICAL APPROACH PROTOCOL 1 REP/ACP

CORD VISIBLE AT OPENING OF VAGINA

WEAR STERILE GLOVES TO CHECK IF THERE IS A PULSE IN THE CORD

NO

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

ASK THE MOTHER NOT TO PUSH

PLACE THE MOTHER ON HER KNEES WITH HER BUTTOCKS ELEVATED AND HEAD LOW

IMMINENT DELIVERY

NO

YES

1 REP/OBS.1 PROTOCOL (Emergency delivery)

DELIVERY IS INEVITABLE

YES

NO

IF A PART OF THE CORD IS OUTSIDE OF THE VAGINA: COVER WITH DAMP GAUZE AND DO NOT ATTEMPT TO PUSH IT BACK INTO THE VAGINA

TAKE CORD PULSE EVERY 5 MINUTES AND IF IT DISAPPEARS, RECORD THE TIME

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS


**Prolapsed cord**

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Proceed with a visual examination of the opening of the vagina (the umbilical cord may be visible or not):
   - **Umbilical cord visible at opening of the vagina**
     - Wear sterile glove to check if there is a pulse in the cord;
     - Go to step # 3.
   - **Cord not visible at opening of the vagina**
     - Continue to apply the protocol.

3. Check to see if delivery is imminent (if there is an uncontrollable urge to push, if the head is visible at the vulva or the perineum is bulging):
   - **Signs of imminent delivery present**
     - Help with delivery and refer to 1 REP/OBS.1 protocol (Emergency delivery).
   - **No signs of imminent delivery**
     - Go to step # 4.

4. Administer oxygen with high concentration mask.

5. Ask the mother not to push.

6. Place the mother on her knees with her buttocks elevated and head low.

7. Check if the delivery has become imminent:
   - **Signs of imminent delivery present**
     - Help with delivery and refer to 1 REP/OBS.1 protocol (Emergency delivery).
   - **No signs of imminent delivery**
     - Go to step # 8.

8. Check to see if a part of the cord is outside the vagina:
   - Cover the cord with dampened sterile gauze (NaCl 0.9%) and minimize handling of the cord. Do not try to push the cord back into the vagina.

9. Take cord pulse every 5 minutes and if it disappears, record the time.

10. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
PAEDIATRIC PROBLEMS
General information

The protocols for paediatric problems refer to all morphologically non-adult persons under 8 years of age and 25 Kg or less, except if otherwise specified in a particular protocol.

In paediatrics, ventilation can be evaluated in terms of respiratory frequency, but also on the basis of other criteria such as:

- Respiratory volume (chest movement).
- Level of consciousness “A or V”.
- Capillary filling time (normal is <2 seconds).
- Presence or absence of cyanosis.
- Chest rises during respiratory assistance.

Evaluation of ventilation in paediatrics is very important. Children are much more susceptible to hypoxia. Signs such as: fatigue, pallor, up and down movements of the head at each respiration, retraction of the chest muscles, and flaring of the nostrils must be taken into consideration.

Also, bradycardia is a sign of severe hypoxia in children.

Paediatric ventilation should be done with a “Seal-easy” type mask.
CLINICAL APPROACH PROTOCOL 1 REP/ACP

KEEP AIRWAYS OPEN

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

LEVEL OF CONSCIOUSNESS “V”

YES

GIVE THE VICTIM 100 cc OF SWEETENED JUICE OR GLUCOSE GEL IF VICTIM COOPERATES

NO

HISTORY OF DIABETES

YES

NO

IF NO SIGNS OF TRAUMA, PLACE IN LEFT LATERAL DECUBITUS POSITION IF TOLERATED

CONTINUOUSLY RE-EVALUATE THE CONDITION OF THE VICTIM

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
## Altered mental state

### Criteria for inclusion:

Patient’s level of consciousness is “V, P, or U”.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Keep the airways open. Children are more susceptible to hypoxia and it is essential to keep the airways open.
3. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.
4. **Level of consciousness and history of diabetes:**
   - **Level of consciousness “V” AND history of diabetes**
     - Give 100 cc of sweetened juice or glucose gel if victim cooperates.
   - **Level of consciousness “V”, NO history of diabetes OR “P” or “U”**
     - Go to next step.
5. If there is no evidence of trauma, place the victim in the left lateral decubitus position if tolerated.
6. Continuously re-evaluate the condition of the victim.
7. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

### Required information

- Circumstances of incident.
- Medical history.

### Remarks

- When patient is a child, do not proceed with hyperextension of neck to open the airways. Hyperextension of the neck can obstruct the airways.
- Watch out for complications: cardiopulmonary arrest, vomiting and aspiration.
- Ensure that the suction device is ready for use.
CLINICAL APPROACH PROTOCOL 1 REP/ACP

CONVULSIONS IN PROGRESS

YES

PROTECT THE VICTIM TO PREVENT INJURIES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

WHEN CONVULSIONS STOP, REPEAT ABC

NO

YES

PULSE PRESENT

1 REP/PED.1 PROTOCOL (Cardiopulmonary arrest)

NO

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

ALTED MENTAL STATE (V, P or U)

YES

1 REP/PED.1 PROTOCOL (Altered mental state)

NO

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Convulsions

Criteria for inclusion:
Loss of consciousness accompanied by local or general spasmodic movements.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Check if convulsions are in progress:
   - **Convulsions present**
     - Protect the victim to prevent injury;
     - Administer oxygen with high concentration mask;
     - When convulsions stop, repeat ABC.
   - **No convulsions**
     - Go to next step.

3. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.

4. Evaluate level of consciousness:
   - **Altered mental state, level of consciousness “V, P, or U”**
     - Apply 1 REP/PED.1 protocol (Altered mental state).
   - **Mental state not altered, level of consciousness “A”**
     - Go to next step.

5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- Hyperextension of the neck can obstruct the airways.
- In a child < 5 years old, convulsions may be caused by high fever. Cover the child as little as possible.
- The installation of an oral or nasopharyngeal airway should be done with care.
- When the convulsions have stopped, return to the prehospital clinical approach protocol (1 REP/ACP).
RESPIRATORY DIFFICULTY 1 REP/PED.3

CLINICAL APPROACH PROTOCOL 1 REP/ACP

- OBSTRUCTION OF AIRWAYS
  - YES ➔ 1 REP/PED.4 PROTOCOL
    (Obstruction of airway by a foreign object)
  - NO ➔ MINIMIZE PHYSICAL CONTACT TO AVOID AGITATING CHILD

- ALLERGIC REACTION
  - YES ➔ 1 REP/PED.5 PROTOCOL
    (Allergic/Anaphylactic reaction)
  - NO ➔ ADEQUATE VENTILATION

- ADEQUATE VENTILATION
  - YES ➔ ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK
  - NO ➔ MINIMIZE PHYSICAL CONTACT TO AVOID AGITATING CHILD

ASSIST VENTILATION WITH OXYGEN

DO NOT GIVE ANYTHING BY MOUTH

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Respiratory difficulty

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. If the airway is obstructed, refer to 1 REP/PED.4 protocol (Obstruction of airway by a foreign object).
3. If there is an allergic reaction, refer to 1 REP/PED.5 protocol (Allergic/anaphylactic reaction).
4. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask. Place the mask in a way that does not frighten the child.
5. Minimize physical contact to avoid agitating child.
6. Let the child assume a comfortable position.
7. Do not give anything by mouth.
8. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- Altered mental state, fatigue, pallor, moving the head up and down with each breath, retraction of the chest muscles, flaring of nostrils, are signs that the condition of the child is deteriorating.
- Bradycardia can be a sign of severe hypoxia in children.
OBSTRUCTION OF AIRWAYS BY FOREIGN OBJECT (0-7 YEARS OR < 25 KG) 1 REP/PED.4

CLINICAL APPROACH PROTOCOL 1 REP/ACP

APPLY PROCEDURES TO CLEAR THE AIRWAY (As per QHSF norms)

OBSTRUCTION PERSISTS

YES

NO

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

PULSE PRESENT

YES

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS

NO

1 REP/REA.5 PROTOCOL (Cardiopulmonary arrest)
Obstruction of airways by foreign object (0-7 years or < 25 kg)

Criteria for inclusion:
Probable obstruction of airway by a foreign object.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Apply procedures to clear the airway as per QHSF norms.
   a) Obstruction persists:
      – Do step #2 again;
      – When obstruction has been removed, go to next step.
   b) Spontaneous respiration:
      Ventilation inadequate
      – Assist ventilation and administer high concentration oxygen.
      Adequate ventilation
      – Administer oxygen with high concentration mask.
   c) Pulse:
      No pulse
      – Begin Cardiopulmonary resuscitation as per QHSF norms and 1 REP/REA.5 protocol (Cardiopulmonary arrest – medical-paediatric).
      Pulse present
      – Go to next step.

3. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- Refer to QHSF norms for CPR for the steps to follow for each situation described above.
- Watch out for complications: cardiopulmonary arrest, respiratory arrest, complete obstruction, vomiting and aspiration.
ALLERGIC/ANAPHYLACTIC REACTION 1 REP/PED.5

**CLINICAL APPROACH PROTOCOL 1 REP/ACP**

- **ANAPHYLACTIC REACTION YES**
  - ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

- **NO**
  - ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

- **ADEQUATE VENTILATION YES**
  - ASSIST VENTILATION WITH OXYGEN

- **NO**
  - ADMINISTER ADRENALIN:
    - WEIGHT < 25 Kg: PAEDIATRIC DOSE
    - WEIGHT > 25 Kg: ADULT DOSE

- **IF THERE IS COMPLETE OBSTRUCTION: ATTEMPT ONE CYCLE TO CLEAR AIRWAY**

- **PULSE PRESENT YES**
  - 1 REP/REA.5 PROTOCOL (Cardiopulmonary arrest – medical-paediatric)

- **NO**
  - RE-EVALUATE AT REGULAR INTERVALS: REPEAT ADRENALIN AT 15 MINUTE INTERVALS IF CRITERIA FOR INCLUSION ARE STILL PRESENT

**IF THE ALLERGY IS CAUSED BY A STING:**
- APPLY ICE TO SITE
- APPLY VENOUS Tourniquet proximal to site of sting
- APPLY COLD IF AVAILABLE

**CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS**
Allergic/anaphylactic reaction

Criteria for inclusion:
- Confirmed or suspected recent history of exposure to allergen.
- Absence of foreign object obstructing the airway.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Evaluate the severity of the allergic reaction:
   - **Anaphylactic reaction**: Allergic reaction with signs of deficient respiration or circulation.

   Signs of **deficient respiration** such as:
   - Noisy dyspnea;
   - Dyspnea with intercostal retraction;
   - Dyspnea with cyanosis;
   - Dyspnea with altered mental state “V, P or U”.

   AND/OR

   Signs of **deficient circulation** such as:
   - Tachypnea;
   - Pale cold and clammy skin;
   - Tachycardia;
   - Arterial hypotension;
   - Altered mental state (late appearing sign).

   AND/OR

   Oedema of the tongue observed by the first responder.

   - **Non-anaphylactic allergic reaction**: allergic reaction without respiratory or circulation problems.
3. If there is an anaphylactic reaction:
   a) Start the AED (see remarks).
   b) Evaluate ventilation:
      Ventilation inadequate
      - Assist ventilation and administer high concentration oxygen;
      - If there is complete obstruction of the airway, attempt one cycle to clear airway;
      - If patient is in cardiopulmonary arrest, apply 1 REP/REA.5 protocol (cardiopulmonary arrest).
      Ventilation adequate
      - Administer oxygen with high concentration mask.
   c) Administer adrenalin:
      - Administer one dose of adrenalin using an auto-syringe into the deltoid (shoulder) or the thigh.

   Choose the right dose according to the victim’s weight:
   - If weight is 25 Kg or more: adult auto-syringe (0.3 mg).
   - If weight is less than 25 Kg: paediatric auto-syringe (0.15 mg).
   d) To limit the allergic reaction, if the allergen appears to be a sting (insect) or any other type of injection through the skin:
      - Apply ice locally;
      - Apply venous tourniquet proximal to site of sting;
      - If the stinger is easy to see, extract it without pinching.
   e) Re-evaluate at regular intervals:
      - Repeat dose of adrenalin using an auto-syringe at 15 minute intervals if the victim’s condition worsens, does not improve or if signs of severe allergic reaction are still present;

4. If the reaction is a non-anaphylactic allergic reaction:
   a) Administer high concentration oxygen;
   b) To limit the allergic reaction, if the allergen appears to be a sting (insect) or any other type of injection through the skin:
      - Apply ice locally;
      - Apply venous tourniquet proximal to site of sting or injection;
      - If the stinger is easy to see, extract it without pinching.

5. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- In order to prevent obstruction of arterial circulation, the venous tourniquet should not be too tight. Be sure there is still a pulse distal from the tourniquet.
- AED: some types of AED require you to install a “vocal resistance” to allow voice registration and transmission without having to connect the defibrillation electrodes to the patient.
MEDICAL - LEGAL PROBLEMS
Abused child

Criteria for inclusion according to the Youth Protection Act:

- Physical abuse.
- Sexual abuse.
- Poor physical treatment.
- Absence of appropriate care.
- Inappropriate living conditions.
- Serious behavioural problems.
- Abandonment.
- Isolation, emotional rejection.
- Life-style of parents or person in charge risks creating a physical or moral danger to the child.
- Abuse of the child’s vulnerability.
- Runaway.
- Continuous or frequent school absenteeism.

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. Refer to the appropriate protocol according to the signs and symptoms present.

3. If there is evidence or misgivings regarding mistreatment, you must advise Youth Protection (DPJ) following the intervention and follow their instructions. First responders have an obligation to report any case of evident or suspected abuse, even if many people are involved in the case (example: doctor, nurses, ambulance technicians etc.).

4. You must give all possible information to the ambulance technicians (circumstances, behaviour of parents, baby sitter or guardian, condition of the home, etc.).

Telephone number of DPJ (Youth Protection in your region):

Required information

- Circumstances.
- Behaviour of parents.
- Condition of the home
Cardiopulmonary arrest- resuscitation impracticable

(Death, suspicious or not, that occurred many hours earlier)

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Start the AED as soon as you arrive at the scene.
3. Because the priority is to access the patient, the police must allow access to the first responders and ambulance technicians. If they refuse, the ambulance technicians must explain the importance of this priority and leave the scene if access is still refused.
4. Confirm cardiopulmonary arrest:
   - If the following are present:
     - A + B = impossible to open the jaws and ventilate due to rigor mortis
     - C = no pulse
   - Be sure to make voice recording and document the situation appropriately. Do not perform resuscitation manoeuvres.
5. If it is possible to carry out the ABC, refer to 1 REP/REA.0 (Cardiopulmonary arrest-general intervention).
6. Transmit pertinent information to ambulance technicians and wait for their arrival.
7. All situations of this nature must be submitted to the regional medical director for follow-up of the file.

Remarks

- AED: some types of AED require you to install a “vocal resistance” to allow voice registration and transmission without having to connect the defibrillation electrodes to the patient.
- Be careful not to handle or move any objects during an intervention at the scene of a crime or a suspicious scene.
- Do not use the victim’s telephone.
- Ask for police intervention if police are not already present at the scene.
- Observe and itemize the scene.
- Protect the scene, prevent curious onlookers from approaching.
- Avoid searching the scene to find information about the victim (identification, medications, etc.).
- Avoid speaking with reporters and revealing the identity of the victim.
Directives for non-initiation of resuscitation manoeuvres

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Start the AED as soon as you arrive at the scene.
3. Dictate a concise verbal report of the situation onto the monitor’s audio tape.
4. Ask for the ‘Do not resuscitate’ order. Verify that the document was signed by the user or his legal representative.
5. If there is no written ‘Do not resuscitate’ order:
   - A verbal ‘Do not resuscitate’ order must be respected in the same way as a written order. The verbal order may be issued in the following order, by a guardian, a curator, a person with a mandate, a legal spouse, a member of the family, or any person with a significant relationship with the user.
   - In these cases, write the name of the person who gave the ‘Do not resuscitate’ order clearly on the RIP and/or register the name verbally on the tape. Also note the relationship the person has with the user. A refusal of care sheet must also be completed.
   - If there is disagreement among family members regarding the verbal ‘Do not resuscitate’ order, proceed with the 1 REP/REA.0 protocol (cardiopulmonary arrest-general intervention).
   - If there is a written ‘Do not resuscitate’ order and friends and/or family insist that manoeuvres be commenced, start the 1 REP/REA.0 protocol (cardiopulmonary arrest-general intervention). Situations of this nature must be submitted to the medical coordinator for follow-up of the file.
6. Always ensure the file is well-documented.
7. Confirm with the Health communications centre to notify the ambulance technicians.

Criteria for exclusion

- Suicide.
- Homicide.
Evident death

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).

2. In the presence of the criteria of evident death, do not perform resuscitation manoeuvres. If none of the criteria are present, and resuscitation is practicable, refer to 1 REP/REA.0 (Cardiopulmonary arrest – general intervention). The criteria for evident death are as follows:
   - Bones;
   - Decapitation;
   - Completely severed body;
   - Total compression of the skull;
   - Emptied skull;
   - Advanced putrefaction;
   - Adipocerous;
   - Mummification;
   - Calcination.

3. If prehospital services are called to a scene where a person presents one of the characteristics in item 2, the condition of the victim is evaluated and resuscitation manoeuvres are not performed. Be sure to make a voice recording and document the situation appropriately.

4. Transmit pertinent information to the ambulance technicians and wait for their arrival.

5. Any problematic situation must be submitted to the regional medical director for follow-up of the file.
Doctor / midwife present at the scene

1. Refer to the prehospital clinical approach protocol (1 REP/ACP).
2. Take charge of the user according to the usual protocols. Advise the doctor / midwife that the first responders are acting according to protocols that have been approved by a regional medical director.
3. If the doctor/ midwife wishes to take charge of the patient, record his name and his Quebec license number in the file.
4. Offer assistance to the person intervening at the scene and wait for the ambulance technicians.
5. Any problematic situation must be submitted to the regional medical director for follow-up of the file.

Remark

- Only doctors with a license to practice medicine in Quebec can sign a death certificate in Quebec.
TRAUMA PROBLEMS
Information about trauma problems

Introduction

All trauma protocols must always take into account the following principles:

- Ensure the safety of the site and the safety of the personnel.
- Research and document the kinetics of trauma with the help of the witnesses and other personnel (police, firemen etc.).
- Do not give anything by mouth.
TRAUMA PREHOSPITAL CLINICAL APPROACH PROTOCOL 1 REP/ACP.TRAU.

EVALUATE THE SITUATION

- POTENTIAL RISKS
  - YES: CONTROL RISKS OR HAVE THEM CONTROLLED BY PROPER AUTHORITIES
  - NO: PRIMARY EVALUATION

PRIMARY EVALUATION

- PROBLEM FOUND IN PRIMARY EVALUATION THAT REQUIRES IMMEDIATE ACTION
  - YES: INTERVENTION POSSIBLE AT THE SCENE
    - NO: MOVE THE VICTIM TO A PLACE WHERE INTERVENTION IS POSSIBLE (Rapid evacuation)
      - APPROPRIATE PROTOCOL
  - NO: VITAL SIGNS AND SECONDARY EVALUATION

VITAL SIGNS AND SECONDARY EVALUATION

APPROPRIATE PROTOCOL

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
**Trauma prehospital clinical approach protocol**

As soon as a victim shows altered vital functions (primary evaluation or vital signs), proceed immediately with the appropriate intervention.

1. **Scene assessment:**
   - Secure the scene (potential risks);
   - Assess the number of patients (mechanics of the incident, triage, etc.);
   - Secure working areas;
   - Request the necessary additional resources.

2. **Primary evaluation:**
   - **L:** (Mental status) presence or absence of reaction -cervical protection;
   - **A:** (Airway) opening of airway;
   - **B:** (Breathing) respiration;
   - **C:** (Circulation) pulse;
   - **D:** (Disability) incapacity: level of consciousness "AVPU";
   - **E:** (Expose) uncover affected area only.

3. **If a problem is found during the primary evaluation: verify if it is possible to intervene without moving the victim:**

   **Problem requires immediate action**
   - If it is possible to intervene at the scene, apply the appropriate protocol(s);
   - If it is not possible to intervene at the scene, move the victim (principle of rapid evacuation) to a place where intervention is possible.

4. **Take the vital signs and proceed with secondary examination.**

5. **Problem requires immediate intervention: apply appropriate protocol.**

6. **Transmit pertinent information to ambulance technicians.**

**Remark**

- The secondary evaluation is only carried out in cases of trauma. It consists of a rapid evaluation from head to toe in order to detect evident deformations or lesions. The evaluation should take a **maximum time of one minute**. In the case of an isolated trauma, only the affected part is examined.
ADULT TRAUMA 1 REP/TRAU.1

CLINICAL APPROACH PROTOCOL - TRAUMA 1 REP/ACP.TRAU

ENSURE CERVICAL PROTECTION

ADEQUATE VENTILATION

NO

ASSIST VENTILATION WITH OXYGEN

NO CAROTID PULSE

NO

NO PENETRATING CHEST WOUND

NO

MAJOR EXTERNAL HAEMORRHAGING

NO

EVISCERATION

NO

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

APPLY A THREE-WAY DRESSING

1 REP/REA.3 PROTOCOL (Cardiopulmonary arrest – traumatic origin)

CONTROL HAEMORRHAGING

APPLY WET DRESSINGS

IMMOBILIZE SPINAL COLUMN 1 REP/TECH.3

VICTIM MORE THAT 20 WEEKS PREGNANT: TURN THE BOARD OR THE IMMOBILIZATION MATTRESS SLIGHTLY ONTO THE LEFT SIDE

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Adult trauma (including chest and abdominal trauma)

1. Refer to the prehospital clinical approach in trauma cases (1 REP/ACP.TRAU).

2. Ensure cervical protection.

3. ABCD anomaly that cannot be resolved at the scene or environmental problem:
   - Move the victim while immobilizing the cervical spine manually.

4. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Ventilation adequate**
     - Administer oxygen with high concentration mask.

5. Check for presence of penetrating chest wound:
   - **Penetrating chest wound present**
     - Apply a 3-way dressing.
   - **No penetrating chest wound**
     - Go to next step.

6. Take the carotid pulse:
   - **Carotid pulse present**
     - Go to next step.
   - **No carotid pulse**
     - Apply 1 REP/REA.3 protocol.

7. Check for major external haemorrhaging:
   - **Major external haemorrhaging present**
     - Control major external haemorrhaging.
   - **No major external haemorrhaging**
     - Go to next step.
8. Check for presence of evisceration:
   - **Evisceration present**
     - Apply wet dressings.
   - **No evisceration**
     - Go to next step.

9. Immobilize the spinal column as per technique (1 REP/TECH.3).

10. If the victim is more than 20 weeks pregnant: turn the board (or the immobilization mattress) slightly to the left side.

11. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.
ISOLATED TRAUMA OF EXTREMITIES 1 REP/TRAU.3

CLINICAL APPROACH PROTOCOL – TRAUMA 1 REP/ACP.TRAU.

- PRESENCE OF HAEMORRHAGE
  - YES → 1 REP/TECH.2 PROTOCOL (Control of haemorrhage)
  - NO → REMOVE JEWELLERY OR CLOTHING FROM THE INJURED LIMB IF IT CAN BE EASILY REMOVED

- OPENED WOUND
  - YES → COVER WITH DRY STERILE DRESSINGS AS PER 1 REP/TECH.2 (Control of haemorrhage)
  - NO → CHECK THE NEUROVASCULAR FUNCTION DISTAL TO THE INJURY

- IMMOBILIZE IN POSITION FOUND, INCLUDING JOINTS PROXIMAL AND DISTAL TO THE INJURY

- CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Isolated trauma at extremities

1. Refer to the prehospital clinical approach in trauma cases (1 REP/ACP.TRAU).

2. Check for the presence of haemorrhage:
   
   **Haemorrhage present**
   
   - Control haemorrhage as per technique (1 REP/TECH.2);
   
   - Go to next step.

   **No haemorrhage**
   
   - Go to next step.

3. Remove jewellery or clothing from the injured limb if it can be easily removed.

4. Cover open wounds with sterile dressings as per the technique (1 REP/TECH.2).

5. Check the neurovascular function distal to the injury before and after immobilizing.

6. Immobilize in position found:
   
   - Including joints proximal and distal to the injury.

7. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

Remarks

- Neurovascular evaluation: motor and sensory function, distal pulse, colour, capillary return, temperature.

- Resuscitation priorities always take precedence over specific treatment in the case of a victim with multiple trauma; refer to the appropriate protocol.
EYE TRAUMA AND BURN 1 REP/TRAU.4

CLINICAL APPROACH PROTOCOL – TRAUMA 1 REP/ACP.TRAU.

BURN

IRRIGATE IMMEDIATELY WITH WATER OR NaCl 0.9 %

COMFORT THE VICTIM

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS

ISOLATED TRAUMA

PROTECT THE AFFECTED EYE WITH A SHELL OR CUP

SEMI-SEATED POSITION

COVER OTHER EYE WITH A BANDAGE
Eye trauma and burn

1. Refer to the prehospital clinical approach in trauma cases (1 REP/ACP.TRAU):
   - Cervical protection if required.

2. Check for the presence of burns:
   - **Burn present**
     - Irrigate immediately with water or NaCl 0.9%;
     - Comfort the victim;
     - Continue to irrigate.

3. Check for the presence of trauma:
   - **Trauma present**
     - Protect the affected eye with a shell or cup;
     - Place the victim in a semi-seated position;
     - Cover the other eye with a bandage.

4. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

**Never remove a foreign body that has penetrated the eye.**

Remark

- Resuscitation priorities always take precedence over specific treatment in the case of a victim with multiple trauma; refer to the appropriate protocol.
PAEDIATRIC TRAUMA 1 REP/TRAU.5

CLINICAL APPROACH PROTOCOL – TRAUMA 1 REP/ACP.TRAU

CERVICAL PROTECTION

ADEQUATE VENTILATION

YES

ADMINISTER OXYGEN WITH HIGH CONCENTRATION MASK

NO

ASSIST VENTILATION WITH OXYGEN

PENETRATING CHEST WOUND

YES

APPLY THREE-WAY DRESSING

NO

NO CAROTID PULSE (Brachial pulse if < 1 an)

YES

1 REP/REA.6 PROTOCOL (Cardiopulmonary arrest – paediatric - trauma)

NO

MAJOR EXTERNAL HAEMORRHAGING

YES

CONTROL MAJOR EXTERNAL HAEMORRHAGING

NO

Evisceration

YES

APPLY WET DRESSINGS

NO

PREVENT HEAT LOSS

IMMOBILIZE THE CERVICAL SPINE 1 REP/TECH.6

CONTINUE TO FOLLOW THE CLINICAL APPROACH PROTOCOL AND TRANSMIT PERTINENT INFORMATION TO THE AMBULANCE TECHNICIANS
Peadiatric trauma

1. Refer to the prehospital clinical approach in trauma cases (1 REP/ACP.TRAU).

2. Ensure cervical protection.

3. ABCD anomaly that cannot be resolved at the scene or environmental problem:
   - Move the victim while manually immobilizing the cervical spine.

4. Evaluate ventilation:
   - **Ventilation inadequate**
     - Assist ventilation and administer high concentration oxygen.
   - **Adequate spontaneous ventilation**
     - Administer oxygen with high concentration mask.

5. Check for presence of penetrating chest wound:
   - **Penetrating chest wound present**
     - Apply a 3-way dressing.
   - **No penetrating chest wound**
     - Go to next step.

6. Take the carotid or brachial pulse:
   - **Carotid or brachial pulse present**
     - Go to next step.
   - **No carotid or brachial pulse**
     - Apply 1 REP/REA.6 protocol. (Cardiopulmonary arrest- Paediatric- Trauma).

7. Check for major external haemorrhaging:
   - **Major external haemorrhaging present**
     - Control major external haemorrhaging.
   - **No major external haemorrhaging**
     - Go to next step.
8. Check for presence of evisceration:
   - **Evisceration present**
     - Apply wet dressings.
   - **No evisceration**
     - Go to next step.

9. Prevent heat loss (cover the victim).

10. Immobilize the spinal column as per technique (1 REP/TECH.6).

11. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

**Remark**

- When a child is less than one year old, take the brachial pulse instead of the carotid pulse.
TECHNIQUES
**Removal of protective helmet**

1. FR 1 places himself parallel to the victim, holds the head and opens the visor.

2. FR 2 places himself at the victim’s head and takes charge of immobilizing the head manually.

3. If the victim is not already lying on his back, the first responders place the victim in the dorsal decubitus position, preferably directly onto the immobilization equipment while limiting head movements.

4. FR 1 detaches or cuts the helmet strap.

5. FR 1 keeps the head in a neutral position:
   - One hand is placed on the base of occiput;
   - One hand is placed on the lower maxillary.

6. Remove the motorcycle helmet according to a) or b):
   a) **If the helmet is full face with rigid chin guard**
      Spread the sides of the helmet slightly apart and:
      - Tilt helmet gently backward;
      - Then tilt the helmet gently forward as you remove it;
      - Make sure you do not move the head as you carry out this procedure.
   b) **If the helmet does not have a rigid chin guard**
      - As you spread sides of the helmet slightly apart, remove helmet slowly making sure you do not move the head.

7. FR 2 places his hands on each side of the head and keeps the head in position without covering the ears.

8. FR 1 determines the rigid cervical collar size required.

9. FR 1 applies the rigid cervical collar.

10. Complete immobilization of the victim if required using technique 1 REP/TECH.3.

11. Give the helmet to the ambulance technicians.

12. Continue to follow the clinical approach protocol and transmit pertinent information to the ambulance technicians.

**Remark**

- If the victim is wearing shoulder protectors, be sure to keep the spinal column in a neutral position.
Haemorrhage control

1. Locate the haemorrhage.

2. Note the nature of the haemorrhage and the presence of a foreign object if visible.
   a) If a foreign object is present:
      - Do not remove the object;
      - Immobilize the object;
      - Exert pressure around object.
   If there is no foreign object:
      - Exert direct pressure on the wound.
   b) If the haemorrhage is located on a limb:
      - Elevate the limb;
      - Check the distal pulse and capillary return;
      - Apply sterile gauze compresses;
      - Apply a pressure dressing;
      - Re-check the distal pulse and the capillary return.
   c) If the haemorrhage is located on the head, neck or trunk:
      - Apply sterile gauze compresses;
      - Apply a pressure dressing.
   d) Uncontrolled haemorrhage:
      - Add another pressure dressing on top of the previous dressing (reinforce the dressing);
      - Apply pressure on the proximal artery if the haemorrhage persists.

3. Have the victim lie down.
Spinal cord immobilization (adults)

1. **Victim in standing position:**
   - Ask the victim not to move;
   - Immobilize the head manually;
   - Measure and apply rigid cervical collar;
   - Place the board upright against the victim’s back;
   - Hold the head and slowly bring victim down with his back on the board;
   - Transfer the victim onto an immobilization mattress and complete the immobilization as per 1 REP/TECH. 8 protocol.

2. **Victim lying on the ground:**
   - Ask the victim not to move;
   - Immobilize the head manually;
   - Measure and apply rigid cervical collar;
   - Keep the head aligned with the trunk and turn the victim towards you, turning the entire body as a unit (log roll);
   - Place the immobilization mattress alongside and parallel to the victim;
   - Transfer the victim onto the immobilization mattress and complete the immobilization as per 1 REP/TECH. 8 protocol.

3. **Victim in another position:**
   - Ask the victim not to move;
   - Immobilize the head manually;
   - Position the immobilization mattress (previously prepared) appropriately as per 1 REP/TECH. 8 protocol;
   - Install the victim in a dorsal decubitus position while attempting to realign the axis of the head;
   - Measure and apply a rigid cervical collar;
   - Complete the immobilization on the immobilization mattress as per 1 REP/TECH. 8 protocol.

If there is pain or resistance to immobilizing the head, immobilize victim in position found.
Remarks

- If, exceptionally, a victim must be immobilized on a back board, proceed as follows:
  - If the board has straps, immobilize, the chest, the pelvis the head and the feet in that order;
  - Immobilize the trunk with two crossed straps;
  - Immobilize the hips with one strap, placed horizontally;
  - Immobilize the head with a blanket or other appropriate equipment;
  - Immobilize the feet with one strap in a figure “8”;
  - Keep the hands joined together using a triangular bandage, if necessary;
  - If a fracture of the lower limbs is suspected, you must first immobilize the injured leg or legs before attaching them to the board. The immobilization is then completed by attaching the lower limbs, using straps placed perpendicularly to the axis of the limbs. The figure 8 technique must not be used in these cases. Do not place the straps directly on the site of the fracture.
Immobilization of the extremities

1. Treat all cases of trauma to the extremities as possible fractures.
2. Minimize movement of the affected limb(s).
3. Check distal neurovascular function.
4. Maintain the limb in position found by holding the parts distal and proximal to the fracture.
5. Use a splint that supports the limb and holds it in a satisfactory position.
6. Pad the inner part of the splint.
7. Immobilize the distal and proximal joints.
8. Keep the limb immobilized with triangular bandages or by using a part of the body
Immobilization of a baby

1. Immobilization in a baby car seat:
   - Keep the head in a neutral position;
   - Use pads to fill empty spaces;
   - Attach the trunk;
   - Attach the head around the forehead.

2. If the baby seat is damaged, it is an indication of a high velocity impact. The baby should be immobilized on immobilization equipment.

3. Transferring a baby onto immobilization equipment:
   - Use pads to fill empty spaces that could destabilize the immobilization and the neutral position of the spine;
   - Remove or cut the straps attaching the baby seat to the vehicle seat and remove the baby from the vehicle in his car seat;
   - First responder # 1 (FR1) holds the head using his forearms and the shoulders with his hands;
   - First responder # 2 (FR2) holds the trunk with both hands;
   - In synchronization, the two first responders transfer the baby onto the immobilization equipment;
   - Pads must be placed underneath the trunk (from the shoulders to the pelvis) to prevent cervical flexion;
   - Rolled pads may be placed on both sides of the trunk to prevent lateral movement.

Remarks

- Avoid interfering with respiration when installing the chest straps.
- This immobilization technique can be used in all types of trauma, whether or not an automobile is involved.
**Immobilization of a child**

1. **Child lying on the ground: (approach the child calmly)**
   - Ask the child not to move;
   - Keep the head in a neutral position;
   - Measure and apply a rigid cervical collar (3 years and older);
   - Keep the head well-aligned with the trunk and turn the victim toward you turning the entire body as a unit;
   - Place the immobilization equipment parallel to the victim;
   - Pads can be used on the immobilization equipment to fill empty spaces that could destabilize the immobilization and the neutral position of the spine;
   - FR 1 holds the head;
   - FR 2 holds the trunk with both hands;
   - In synchronization, the two first responders transfer the child onto the immobilization equipment;
   - Pads must be placed underneath the trunk (from the shoulders to the pelvis) to prevent cervical flexion;
   - Rolled pads may be placed on both sides of the trunk to prevent lateral movement.

2. **Child found in another position:**
   - Ask the child not to move;
   - Keep the head in a neutral position;
   - Place the immobilization equipment parallel to the victim;
   - Place the child in a dorsal decubitus position using pads as described above, while attempting to realign the axis of the head;
   - Measure and apply a rigid cervical collar (3 years and older);
   - Continue immobilization technique as described in 1.

3. **Child standing (to apply this technique, the child must be old enough to cooperate):**
   - Ask the child not to move;
   - Keep the head in a neutral position;
   - Measure and apply a rigid cervical collar (3 years and older);
   - Place the backboard upright against the child’s back (add pads as needed);
   - Hold the head and slowly lower the child to the ground with his back against the board;
   - Continue immobilization technique as described in 1.

**Remarks**

- The use of pads helps hold the head and neck in a neutral position. Anterior flexion of the head can cause breathing problems.
- If available, a paediatric backboard can replace the long padded backboard.
- If there is pain or resistance to immobilizing the head, immobilize in position found.
Installation of the K.E.D.

1. Keep the head in a neutral position:
   - Measure the rigid cervical collar;
   - Apply the rigid cervical collar.

2. Keeping the head immobilized (move as a unit):
   - Slide the K.E.D. behind victim's back;
   - Align the K.E.D with the spine.

3. Place the lower straps (leg straps) down on each side of the victim. Do not buckle immediately.

4. Bring the chest flaps towards the front and buckle the centre and the bottom straps only.

5. Bring the top part of the chest flaps up under the victim’s armpits, (using the lifting handles).

6. Tighten the two straps which were previously buckled.

7. Pass the lower straps under the legs of the victim from the outside to the inside and buckle each one into the female part of the buckle on the same side.

8. If necessary, fill the space between the head and the K.E.D. with soft material (from supplies or improvised).

9. Attach the head straps by bringing the head flaps towards each side of the head:
   - 1 forehead strap;
   - 1 chin strap.

10. Adjust all the straps from bottom to top. Adjust and buckle the last chest strap by asking the victim to take a deep breath.

11. Make sure that all straps are properly adjusted.

REMOVAL FROM VEHICLE:

12. Place a backboard so that you can slide the lower end under the victim’s pelvis. The other end must be held by a third person.

13. Place the victim facing away from the exit (the head must exit first).
14. Lay the victim down onto the backboard. In this manoeuvre, the victim’s head must be held manually. Both first responders must synchronize their actions.

15. Slide the victim onto the board while maintaining the alignment of the spinal column, then place the board on the immobilization mattress that has already been prepared on the ground near the vehicle.

16. Immobilize the victim on the immobilization mattress as per technique 1 REP/TECH.8.

Remark

- If exceptionally, an immobilization mattress is not available, the victim can be immobilized on the board.
Installation of the immobilization mattress in trauma cases

1. Preparing the mattress:
   - Remove the mattress from its protective bag and unfold;
   - Spread the mattress out and distribute the beads evenly;
   - Put a sheet on the mattress;
   - Unless you are placing the victim onto the mattress using a backboard, fold the side of the mattress adjacent to the victim underneath itself;
   - Attach the pump to the mattress making sure the valve is open;
   - Half-fill the mattress (pump 2 or 3 times) and close the valve.

2. Victim standing:
   - The immobilization mattress must not be used to perform a “rapid takedown”;
   - Use the backboard as per 1 REP/TECH.3 part 1 to lower the victim rapidly and then immobilize the victim on the immobilization mattress.

3. Victim lying on the ground:
   - Prepare the mattress as explained above. However, the sheet (or flannel blanket) must be half pulled toward the side where the victim is lying;
   - After applying an appropriate size cervical collar on the victim as per point 2 of technique 1 REP/TECH.3, log roll the victim onto his side (use the assistance of a third person if possible);
   - Pull the mattress as close and parallel to the victim as possible;
   - Log roll the victim back onto the mattress;
   - FR 2 manually holds the head and FR 1 spreads out the sheet;
   - FR 1 (and the 3rd person if available) go to the other side of the victim so they can move the victim by pulling on the sheet;
   - Reposition the victim onto the centre of the mattress by pulling on the sheet without using zigzag movements and in synchronization with the other first responder;
   - Complete the immobilization as per point 6 of this technique.

4. Victim on a backboard:
   - Place the mattress alongside and parallel to the victim immobilized on the board;
   - Move the victim along with the board onto the immobilization mattress;
   - Unbuckle the straps that immobilize the victim on the board. During this procedure, FR 2 holds the head in position manually;
   - FR 1 kneels beside the victim and holds the other side of the board near the victim’s shoulders and hips;
   - With FR 2 keeping the head aligned with the spinal column, FR 1 turns the board and victim towards himself. Both first responders must work in perfect synchronization;
   - FR 1 places his arm (the one that is closer to the victim’s head) so that his forearm supports the victim’s spine. He uses his other arm to let the board down and push it off the immobilization mattress;
   - Log roll the victim onto his back onto the immobilization mattress;
   - Position the victim properly on the immobilization mattress;
   - Complete the immobilization as per point 6 of this technique.
5. Victim with K.E.D.:
- Transfer the victim with the K.E.D. and board onto the immobilization mattress as described in the previous point;
- FR 2 holds the head in position manually as FR 1 unbuckles the K.E.D. straps;
- FR 1 takes over from FR 2 and holds the victim’s head;
- Remove the K.E.D.’s chin strap, then remove the forehead strap;
- A third person assumes a position parallel to the victim and slides his hands under the victim’s shoulder blades;
- N.B. If there are only 2 persons available, FR 1 immobilizes the victim’s head with his hands and uses his forearms to immobilize the victim’s shoulders. However, this technique is more difficult than the 3-person technique;
- FR 2 takes the K.E.D. and pulls it in line with the spine without using any zigzag movements;
- FR 2 then removes K.E.D. while FR 1 holds the victim’s head and the third person holds the trunk;
- Complete the immobilization of the victim as per point 6 of this technique.

6. Immobilization using the immobilization mattress:
- After placing the victim properly in the centre of the immobilization mattress, open the valve to let in enough air to soften it;
- Roll up a second sheet or flannel blanket and place between the victim’s legs;
- Attach the immobilization mattress straps starting with the upper chest strap and ending with the victim’s feet;
- FR 1 takes over holding the victim’s head manually;
- FR 2 shapes the immobilization mattress around the victim’s head and folds the edges of the mattress outward (respect the victim’s field of vision);
- Empty the air with the pump, the shape of the beads should be visible on the surface of the mattress and/or the surface should be completely rigid;
- Close the valve well and remove the pump;
- Immobilize the head with an adhesive band, starting with the forehead and ending with the chin;
- Readjust the straps (be careful that you do not compress the chest, as this may interfere with respiration);
- If required, two people can transport the victim using the side handles (never use the ends of the mattress to transport the victim).

**Indication**

- All trauma victims over 7 years old.

**Contraindication**

- Paediatric victims 7 years old or less.

**Remarks**

- Never use the ends of the mattress to transport the victim.
- If the situation requires moving the victim by the extremities, the mattress must be attached to a back board which is then moved by the ends.
Oxygen

1. Exclude a history of obstruction of the airways.

2. Open the valve on the bottle of oxygen and adjust the flow to 10L/min or more.

3. Inflate the high concentration mask.

4. Place the high concentration mask on the victim’s face.

5. Adjust the flow so that the reservoir is always 2/3 inflated.

6. Install the oxygen bottle securely and ensure the tubing is not bent or blocked.
Transport of an amputated limb

Criteria for inclusion:

Any amputated limb or part of a limb.

1. Retrieve the amputated part.
2. Cover the amputated part with sterile compresses dampened with NaCl 0.9%.
3. Place in an hermetically sealed plastic bag.
4. Place the bag in container filled with water and ice.
5. When the ambulance technicians arrive, give them the amputated limb, specifying the contents and the time elapsed since the amputation occurred.
6. If amputation is partial, the amputated part must be immobilized in a normal position. Apply a damp dressing and place an ice bag on the sterile bandage.

Remarks

- Time is crucial. It is essential to act quickly and effectively.
- A tooth should be transported in the patient’s mouth (if his level of consciousness is “A” on the AVPU” scale) or in warm milk.
- In cases of amputated limbs, in addition to controlling haemorrhage of the stump, you must use a dressing dampened with a saline solution and cover with a waterproof bag.
OTHER
Protocol for transferring responsibility

Intervention by First Responders using defibrillators (AED)

1. The CPR protocol for cardiopulmonary arrest 1 REP/REA.0 with use of the defibrillator is started by the first responders until the ambulance technicians arrive.

2. When the ambulance technicians arrive, the first responders continue their resuscitation procedures as specified in the protocol. The first responders brief the ambulance technicians on the status of the situation.

3. While A.T. #1 prepares the combitube, A.T. # 2 completes the ABC.

4. When A.T. # 2 is ready to intubate, the first responders must do another analysis in the presence of the ambulance technicians:
   
   a) If the first responders are performing CPR
   
   - They complete the two minutes of CPR and carry out the next analysis;
   
   - The ambulance technicians take responsibility for the victim after this analysis;
   
   - The first responders stay ready to assist the ambulance technicians in performing resuscitation and evacuation manoeuvres if asked.

   b) If the first responders have started an analysis
   
   - With the ambulance technicians present, the first responders finish the analysis/shock cycle;
   
   - The ambulance technicians take responsibility for the victim after this cycle;
   
   - The first responders stay ready to assist the ambulance technicians in performing resuscitation and evacuation manoeuvres if asked.

Remark

- FR 1 must advise A.T. #1 of the number of analyses completed and the number of shocks given.
Protocols for first responders

A
ACR: cardiopulmonary arrest
AED: automated external defibrillator
Arrhythmia: perturbation of the heart rhythm
A.T. # 1: attendant
A.T. # 2: driver

B
Bradycardia: slowing of the heart rate

C
Cyanosis: blue skin colour

D
Dorsal decubitus: lying in the supine position
Dyspnoea: respiratory difficulty

F
FR 1: first responder in charge of the victim
FR 2: first responder assisting FR 1

H
Hypotension: low blood pressure
Hypoxia: reduced oxygen available to the cells

O
Oedema: swelling

P
Protective measures: general protective measures

S
SPU: prehospital emergency services

T
Tachycardia: increased heart rate
Tachypnea: rapid breathing