IN SUMMARY….

1. Initial patient assessment
2. Scene assessment
3. Primary assessment
4. Secondary assessment
5. Reassessment

Notes:

THANK YOU FOR YOUR PARTICIPATION!

Emergency Care Pre-Training Workbook

Delivering emergency care is similar to a mystery. You are the detective. The mystery is finding out what is wrong with your patient. You do this by gathering clues about your patient's compliant, analyzing the data, and being the Responder.

Overview:

1. Primary Patient Assessment
2. Secondary Patient Assessment
3. Reassessment

I) PATIENT ASSESSMENT

Patient assessment is the platform on which quality pre-hospital care is built. Assessing the patient well is the most important skill for delivering effective medical care.

Primary Components of Patient Assessment:

A) Information gathering: scene assessment and history taking - determine the nature of the patient's problems by asking questions, listening to and analyzing answers, observing the way the patient presents, and the setting in which he/she is found.

Why is information important?

I. Helps you make key patient care decisions
II. First question during primary assessment is always, "Does my patient have any life-threatening conditions?" ABCDEG
III. Some may need spinal immobilization and others may need a respiratory treatment - you need to assess

V) REASSESSMENT

You must continually evaluate and re-evaluate the patient's status and any treatments already administered. This is because changing trends in the patient's current condition may give clues about the effectiveness of your management/treatments.

This involves repeating the primary assessment (the ABC's), vital signs and breath sounds, and focused secondary assessment (physical examination):

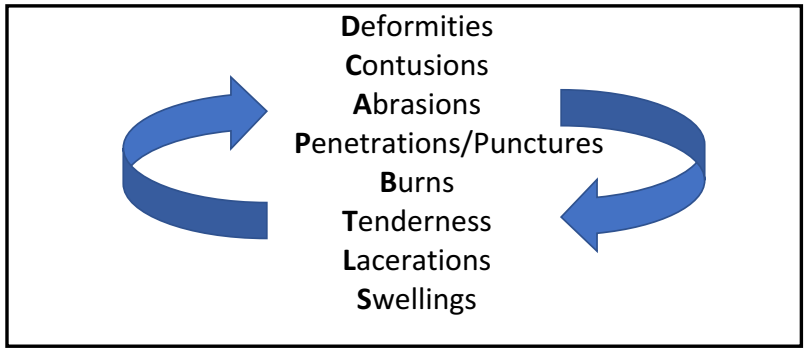
1. Review the patient's airway
2. Reassess breathing. Stay alert for signs that the patient is experiencing ventilator fatigue (signs include tiredness, nasal flaring, use of accessory breathing or abdominal muscles, etc)
3. Reassess patient's circulation
4. Make certain that all bleeding is controlled
5. Reassess the pulse
6. Compare the patient's LOC with your baselines assessment
7. Identify if any changes need to be made to the transport plan or who is the higher priority patient

3. Implement spinal immobilization procedures as per local guidelines

- most trauma calls involve patients with a single isolated injury
- the severity of trauma is often directly related to the severity of the mechanism of injury

iii) Thorough patient assessment

1. Begin by taking a full set of vital signs before conducting a full-body examination
2. Quickly but thoroughly palpate the head, neck, chest, abdomen, pelvis, posterior body, and extremities
   - should typically only take 60-90 seconds
   - evaluate each region using the "DCAP BTLS" neumonic



3. Look for signs of illness, rash, fever, unusual or excessive bruising, pulmonary peripheral oedema, and irregular pulse.

iv) Unstable condition

Unconscious, unresponsive medical patients should always be considered in unstable condition. Any unstable condition requires rapid transport to the district hospital and is considered high risk.

Where does information come from?

I. The primary source of information is usually the patient
II. Other sources include the patient's family, friends or eyewitnesses
III. Information from the scene itself
IV. Diagnostic tests - blood pressure, auscultation, etc.

B) Physical examination: a hands-on evaluation of the patient to further explore the presenting complaint(s) and to detect injuries or signs of illness.

C) Use the information and physical examination to identify problems, set priorities, develop a care plan, and execute the plan.

II) SCENE ASSESSMENT

The first step of the patient assessment is the scene assessment. You are of no value if you get injured and can't provide care.

The 3 S's of Scene Assessment:

Priority 1. Self: are you safe?
Priority 2. Scene: is the scene safe?
Priority 3. Survivors: are your patients safe?

Priority 1. Self: Are you safe?

a) Personal protective equipment
   -you should follow body substance isolation (BSI) protocols to prevent from injuring yourself (i.e. by contracting an infectious disease):

I. properly sized gloves should be worn when appropriate, if available
II. If blood or other fluids could potentially splash or spray, wear eye protection, if available
III. When inhaled particles are a risk factor, wear a properly sized and fitted mask, if available
IV. Always better to err on the side of caution - don't expose yourself to risk of harm!

Priority 2. Scene: Is the scene safe?

a) Ask yourself: "is it safe for me and my colleague to enter this scene and to approach the patient?"

- Use all your senses to take in information rapidly from a wide range of sources

b) Crash and rescue scenes:

Crash and rescue situations could impose an element of risk, including multiple risks, unstable vehicles, moving traffic, jagged metal and broken glass, fire or explosion hazards, fallen power lines, hazardous materials.

c) Toxic substances:

Be aware if toxic substances are present to potentially harm you. If so, it's essential to have proper body and respiratory protection. Sources of toxic substances could be from field chemicals for farming, or smoke from a fire.

d) Unstable scene:

Unstable scenes include dangerous situations where violence may occur. If you are in a dangerous environment, do not go in without the police/fire fighters going in first and securing the scene.

iV) Current Health Status - involves identifying numerous factors in the patient's life:

- dietary habits (healthy diet, dietary restrictions, etc.)
- current medications
- allergies
- exercise
- alcohol or tobacco use
- recreational drug use
- sleep patterns and disorders
- immunisations

B. Unresponsive Medical Patients

- a more challenging situation, since the patient can't answer your questions - use family, friends or eyewitnesses to collect the information described above in history taking
- you must conduct a more thorough head-to-toe physical examination plus use normal diagnostic tools to acquire the information needed to care for your patient.

Physical Examination

The examination in the secondary assessment is a more focused assessment region-by-region.

i) If no trauma, position the patient to ensure the airway is open and maintained.
- Do so after completing the primary assessment and ruling out possibility of trauma
- Position the patient in recovery position -> this facilitates the drainage of vomit, blood or other fluids from patient (we will learn the recovery position during training sessions)

ii) if trauma affected your patient:
1. Position the patient in neutral alignment
2. Place a properly sized and fitted rigid cervical collar

ii) History of the Present Illness/Complaint: use "**SAMPLE**"

Signs and Symptoms of presenting complaint
Allergies
Medications
Past relevant medical history
Last oral intake (of food and drink)
Events that led to the current injury or illness

If the patient has pain, the alphabet "..**OPQRST**.." helps you remember how to describe it:

Onset of pain - when did it start?
Provocation or alleviation - what triggers the pain or makes it go away?
Quality - what is the character of the pain? dull, throbbing, sharp, piercing, etc.
Region and Radiation - where do you feel the pain?
Severity - how severe is the pain out of 10, where 10 is the most painful?
Timeframe - how has the pain changed since its onset?

Look for an NHIS card or medical information tag (wallet card, bracelet, etc.)

iii) Past Medical History

- Past medical conditions are frequently linked to the patient's current problem
- Components include: general state of health, childhood and adult diseases, previous operations and hospitalizations, psychiatric or mental health illness, and traumatic injuries.
- Learn how any previous medical problems were solved
- An acute presentation of a new problem or condition is best considered serious until proven otherwise.

Unstable scenes include crime scenes, fire scenes, or behavioral emergencies. Behavioral emergencies refer to individuals made more irrational and dangerous by alcohol or recreational drug abuse. Call the police for help in these circumstances.

<u>Priority 3. Survivors: is your patient or bystanders safe?</u>

This may involve establishing a perimeter around an emergency scene or recognizing there is an environmental issue such as heat or cold exposure that is hurting the patient.

Information Gathered from the Scene:

Analysis of the scene helps you to gather information important about the patient condition. Questions important to ask yourself are:

i) Is this a medical emergency of trauma?
- a medical emergency is a damaging situation originating within the body
- a trauma is an external force applied to the body causing damage
- some illnesses/injuries are both
- the mechanism of injury is the way in which a traumatic injury occurred

ii) medical calls
- if you were called to request for help, quickly determine why your help was requested, as well as the nature of the illness (the general type of illness a patient is experiencing)

iii) additional resources
- in some scenarios, you may require additional resources, such as if there are multiple patients or the patient is obese
- if you have multiple patients, you must triage all patients. Triage is the process of determining which patient is the most critically ill and should be prioritized

III) THE PRIMARY ASSESSMENT

- The most time intensive aspect of the assessment process
- Focus on the identification and management of life-threatening conditions
- You will form a general impression of your patient based almost solely on the initial presentation and presenting complaint

i) Observations during the primary assessment
- Without even trying or being conscious of doing so, we make dozens of observations during the first few seconds of an encounter
- In assessing a patient, you must be more conscious, objective, and systematic about your observations

II) Quick analysis of nature of illness and severity - ask yourself:
1. Is my patient sick? yes or no. If yes, how sick is he/she?
2. If a trauma: is my patient injured? If yes, how badly injured is he/she?
3. What is the age and gender of my patient?

How do you quantify how sick or badly injured your patient is?
- rate the event's severity
- get a general impression of the patient condition based on their answering of your questions

The "C-ABCDE" Approach
Catastrophic Hemorrhage
Airways
Breathing
Circulation
Disability
Expose/Environment

TRANSPORT

The final stage of the primary assessment is to determine whether a patient requires priority transport.

Who is a priority patient requiring immediate transport to the nearest district hospital?
- Will benefit from limited time at the scene and rapid transport
- Internal bleeding from trauma in need of surgery

How to determine a priority patient?
- Poor general impression
- Unresponsive patients
- Responsive but does not or cannot follow commands (not alert)
- Difficulty breathing
- Hypoperfusion or shock
- Complicated childbirth
- Chest pain with a systolic blood pressure less than 90 mm Hg
- Uncontrolled bleeding
- Severe pain anywhere
- Multiple injuries

IV) SECONDARY SURVEY

The secondary survey is a detailed history and a more focused head-to-toe examination. This will often generate the pre-hospital diagnosis for your patient. Your approach varies depending on whether the patient is responsive versus non-responsive.

History Taking

A. Responsive Medical Patients

i) Presenting complaint

- what is the pain, discomfort or body dysfunction that prompts the call for help?
- may be vague

- Most reliable and consistent method of assessing mental status and neurological function
- Assigns a point value (score) for eye opening, verbal response, and motor response
- Takes slightly longer to perform than the AVPU, but provides much greater insight

Table 6-3 Inspection of the Skin

Skin Colour	Possible Cause
Red	Fever Hypertension Allergic reactions Carbon monoxide poisoning
White (pallor)	Excessive blood loss Fright
Blue (cyanosis)	Hypoxaemia
Mottled	End-stage shock

Table 6-4 Palpation of the Skin

Skin Condition	Possible Cause
Hot, dry	Excessive body heat (heatstroke)
Hot, wet	Reaction to increased internal or external temperature
Cool, dry	Exposure to cold
Cool, wet	Shock

EXPOSE/ENVIRONMENT

Expose your patient (i.e. remove appropriate areas of clothing) to examine skin colour, temperature, and moisture. Considering the environment when making analyses.

- Collectively provides insight into the patient's overall perfusion
- Use the back of your hand to assess the warmth and moisture of the patient's skin
- The colour of the skin can reflect the status of the circulation immediately underlying the skin (i.e. bruising)
- Normal skin is moderately warm and dry

Why do you have to expose the patient in order to appropriately examine them?

- Visually inspect each area being examined
- You cannot assess what you cannot see
- Proper exposure to each are being examined is essential

Once the scene assessment completed, check for and manage any life-threatening hemorrhage, and then proceed with the normal ABCDE approach to emergency care management.

CATASTROPHIC HEMORRHAGE

- is there severe bleeding out?
- if yes, this must be controlled and focused on before anything else!

AIRWAY

- assess the patient's airway status
    1. Is the airway open and patent? (patent means air can get into the airway)
    2. Is it likely to remain so? (determined by the level of consciousness)

- Sonorous sounds means the tongue is partially obstructing the airway -> reposition head to fix (head tilt, chin lift)
- Gurgling or bubbling sounds require suction
- In responsive patients of any age, talking or crying will give clues about the adequacy of the airway
- For all unconscious patients, establish responsiveness and look, listen, and feel for breathing

Obstruction: procedures to clear obstruction will be taught during training sessions
- suctioning
- mechanical means to keep the airway open - oropharyngeal or nasopharyngeal airway
- invasive procedures - laryngeal mask airway, endotracheal intubation

BREATHING

You want to determine if:

A) Is the patient breathing?

B) If yes, is the breathing adequate?

Observe the patient's breathing rate, effort of breathing, breath sounds, skin colour, and level of consciousness or mental status.

To assess the breathing status: "Listen, Look, Feel"

1. Listen for breath sounds
2. Look for rising chest rise and fall movements
3. Feel for air movement by placing your cheek or the palm of your hand near the patient's mouth

Minute volume = the amount of air actually moved into and out of the lungs each minute

CIRCULATION

Pulse:

a. Rapid check of the patient's cardiovascular status

b. Provides information about the rate, strength, and regularity of heartbeat

c. In adults and children, best palpated over the radial artery and carotid artery using the tips of your index and middle fingers

d. In infants, palpate the pulse over the brachial artery

e. Measure the pulse rate by counting the number of beats during 15 seconds and the multiply by 4

f. Note the force of the pulse

g. Note the rhythm of the pulse

h. Report your findings

DISABILITY

Determine the level of disability in your patient.

1. Patient's level of consciousness (LOC)

- One of the prime indicators of how sick the patient really is
- Changes in LOC may provide first clue to an alteration in patient's condition
- Establish a baseline as soon as you encounter the patient using the AVPU process

2. "AVPU" process

Alert and orientated -> to person, place, day, event
Responsive to **V**erbal stimuli
Responsive to **P**ain
Unresponsive

- Whether the patient can recall his or her name and the day tests long-term memory.
- Whether the patient knows where he or she is and what happened tests short-term memory.
- If patient isn't alert, then they are clinically classified as unconscious

3. **Glasgow Coma Scale (GCS)** - you will learn this at the training sessions

Table 6-2 Glasgow Coma Scale

Eye Opening		Best Verbal Response		Best Motor Response	
Spontaneous	4	Oriented and converses	5	Obeys commands	6
To voice	3	Confused conversation	4	Localises pain	5
To pain	2	Speaking but nonsensical	3	Withdraws to pain	4
No response	1	Moans or makes unintelligible sounds	2	Decorticate flexion	3
		No response	1	Decerebrate extension	2
				No response	1

Scores:
14-15: Mild dysfunction
9-13: Moderate dysfunction
3-8: Severe dysfunction (The lowest possible score is 3.)