



PHYSICAL ASSESSMENT IN THE FIELD

DND Primary Care Paramedicine

Module: 01

Section: 11a

- Introduction
- Scene assessment
- Primary assessment
- Medical versus trauma assessments
- Focused secondary assessment
- Ongoing care
- Handover of care

- Patient assessment
 - A problem-oriented evaluation establishing priorities of care
 - Based on existing and potential threats
- Rule in and out assessments
- If assessment does not reveal patient problems the consequences can be dire

- Primary assessment
- Focused history and secondary assessment
- Ongoing assessment
- Detailed secondary assessment

Patient Assessment

SCENE ASSESSMENT

- Body substance isolation
- Scene safety
- Location of all patients
- Mechanism of injury
- Nature of the illness

- Always stop to assess the scene before going in

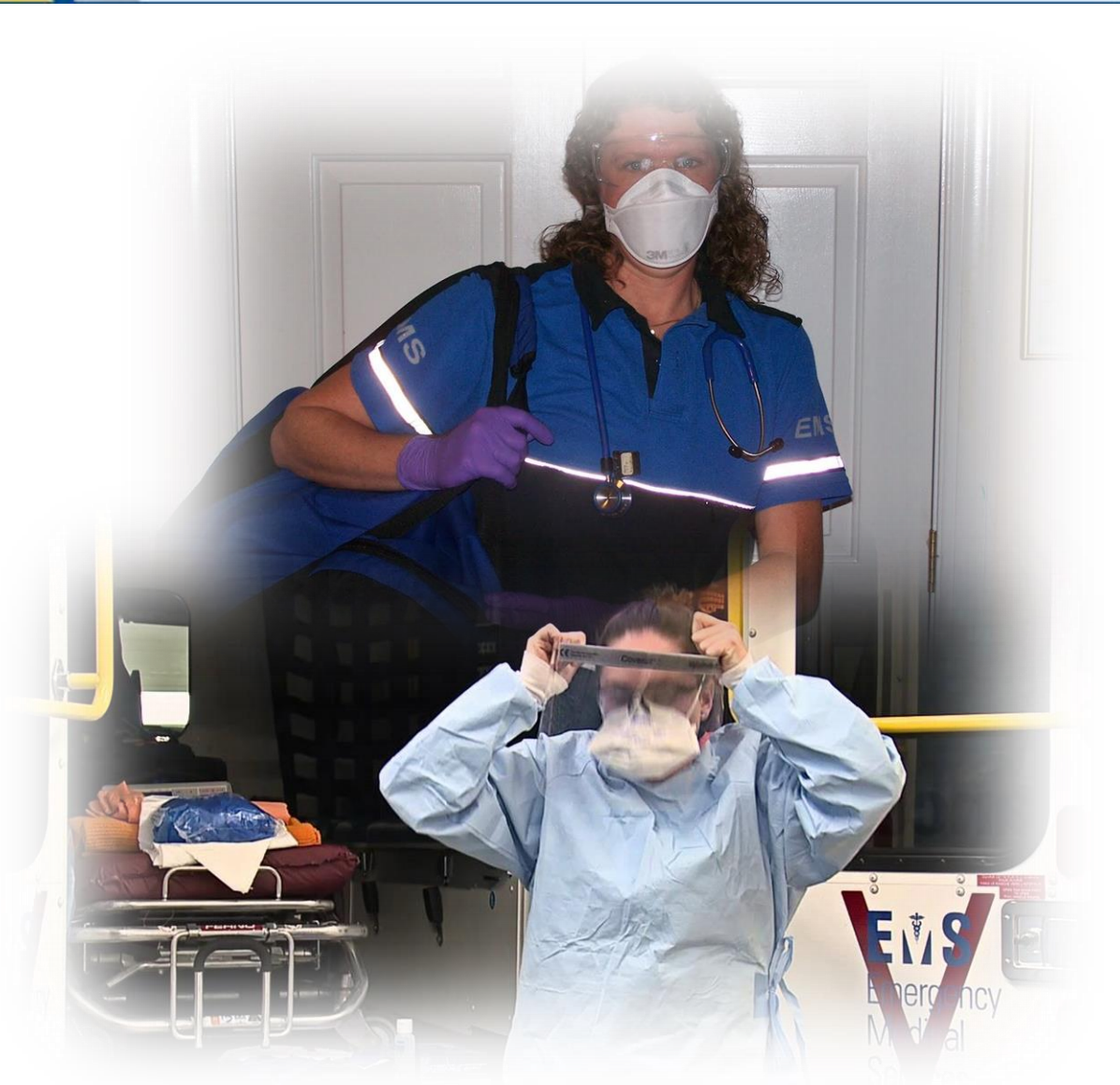


- The best defense against bloodborne, body fluid, and airborne agents is to take appropriate body substance isolation precautions.

- Always wear the appropriate personal protective equipment (PPE) to prevent exposure to contagious diseases



- Gloves
- Eyewear
- Vests
- Helmets
- Boots
- Isolation gown
- Ear plugs



- You
- Your crew
- Other responding personnel
- Patient
- Bystanders

- Look for potential hazards during scene size-up
- Correct any hazards if possible
- Other resources may be needed to make the scene safe:
 - Power company
 - Fire department
 - Police





- Never enter a specialized rescue situation without proper training and equipment

- Follow local protocols when you respond to a mass-casualty incident



- The physical forces applied to the body and how they react
 - Strength
 - Direction
 - Nature of forces

- Try to determine the mechanism of injury during scene assessment



- To determine the nature of illness:
 - Use bystanders, family members, or the patient.
 - Use the scene to give clues to the patient's condition.
 - Remember that the patient's illness may be very different from the chief complaint.



Patient Assessment

ASSESSMENT TECHNIQUES

- The foundation of the physical assessment is based upon:
 - Inspection
 - Palpation
 - Auscultation
 - Percussion









- Listen to each sound and evaluate its meaning.

Table 6-1 PERCUSSION SOUNDS

Sound	Description	Intensity	Pitch	Duration	Location
Tympany	Drum-like	Loud	High	Medium	Stomach
Hyperresonance	Booming	Loud	Low	Long	Hyperinflated lung
Resonance	Hollow	Loud	Low	Long	Normal lung
Dull	Thud	Medium	Medium	Medium	Solid organs—liver
Flat	Extremely dull	Soft	High	Short	Muscle, atelectasis

Patient Assessment

PRIMARY ASSESSMENT

- Form a general impression
- Stabilize cervical spine as needed
- Assess baseline level of response
- Assess airway
- Assess breathing
- Assess circulation
 - Rapid Body Survey
- Determine priority

- The general impression is the initial, intuitive evaluation of the patient to determine the general clinical status and priority for transport.

- Manual stabilization of the head may be required
- This decision is based on:
 - MOI/NOI
 - History of the event
 - General impression



The Canadian C-Spine Rule

Please check off all choices within applicable boxes:

1. Any One High-Risk Factor Which Mandates Immobilization?

No	Yes	
<input type="radio"/>	<input type="radio"/>	Age ≥ 65 years
		OR
<input type="radio"/>	<input type="radio"/>	Dangerous mechanism *
		OR
<input type="radio"/>	<input type="radio"/>	Numbness or tingling in extremities

No

Yes

2. Any One Low-Risk Factor Which Allows Safe Assessment of Range of Motion?

No	Yes	
<input type="radio"/>	<input type="radio"/>	Simple rearend MVC **
		OR
<input type="radio"/>	<input type="radio"/>	Ambulatory at any time at scene
		OR
<input type="radio"/>	<input type="radio"/>	No neck pain at scene when asked
		OR (answer "yes" if no pain)
<input type="radio"/>	<input type="radio"/>	No pain during midline c-spine palpation
		(answer "yes" if no pain)

No

C-Spine Immobilization

Unable

Yes

3. Patient Voluntarily Able to Actively Rotate Neck 45° Left and Right When Requested, Regardless of Pain?

No	Yes
<input type="radio"/>	<input type="radio"/>

Able

No C-Spine Immobilization ***

* Dangerous Mechanism

- fall from elevation ≥3feet/5 stairs
- axial load to head, e.g. diving
- MVC high speed (≥100km/hr), rollover, ejection
- motorized recreational vehicles e.g. ATV
- bicycle collision with object e.g. post, car

** Simple Rearend MVC Excludes:

- pushed into oncoming traffic
- hit by bus/large truck
- rollover
- hit by high speed vehicle (≥100 km/hr)



- Level of consciousness
- Signs of distress
- Apparent state of health
- Sexual development
- Unkempt
- Skin color and obvious lesions
- Posture, gait, and motor activity
- Dress, grooming, and personal hygiene
- Facial expression

- Reassess the patients
 - Level of consciousness (AVPU, GCS)
 - Level of alertness and orientation



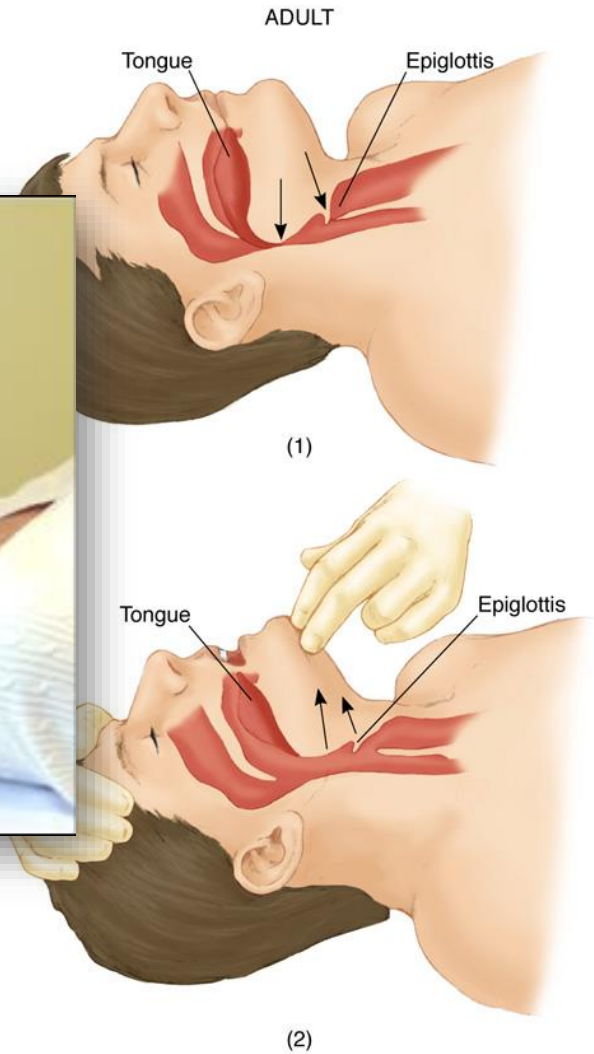
- Determine if the airway is patent or obstructed
- Assess patency by:
 - Determining if the patient can speak
 - Note signs of airway obstruction or respiratory insufficiency (stridor, wheezing, gurgling)
 - Inspecting the oral cavity for foreign objects
- Any condition that compromises the delivery of oxygen to body tissues is potentially life threatening and must be managed immediately

- If the airway is obstructed (not patent) then correction is required
- To attempt correction of the obstruction:
 - Airway positioning may be used
 - Head-tilt/chin lift
 - Jaw thrust
 - Suctioning may be required
 - Use of airway adjuncts

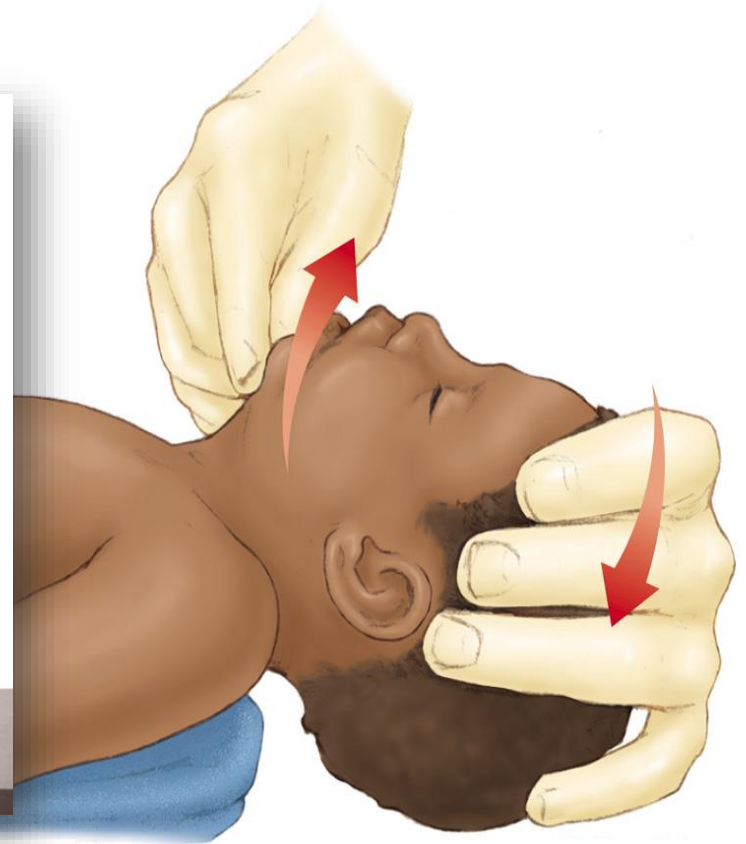
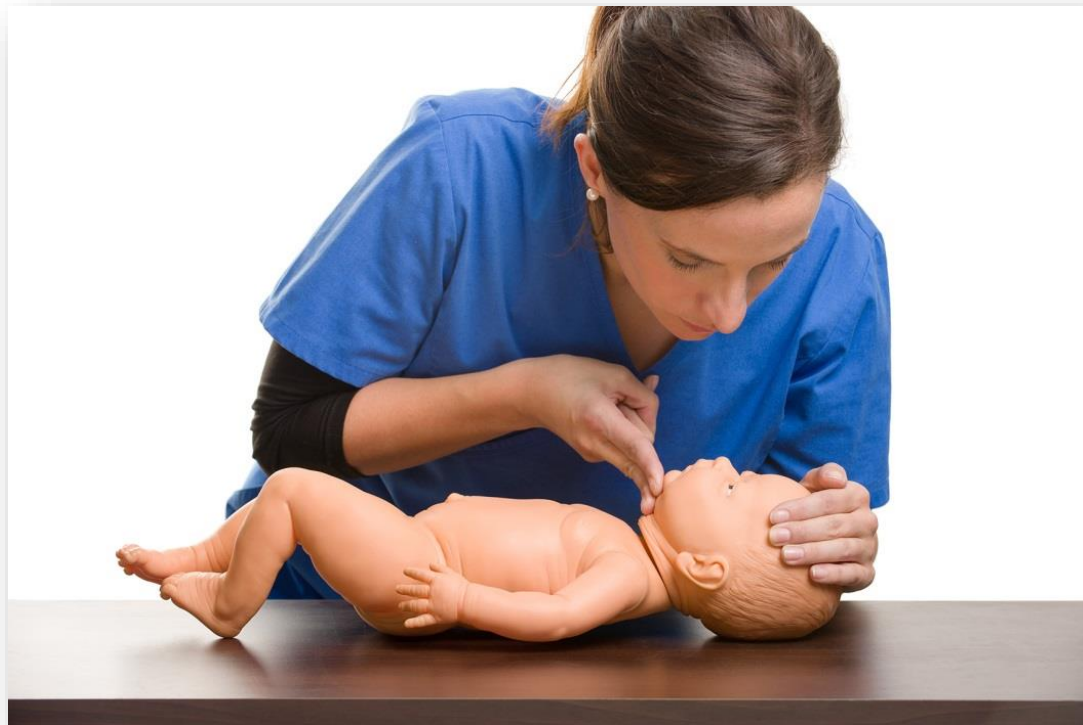
- Unconscious patient's tongue may fall and close the upper airway



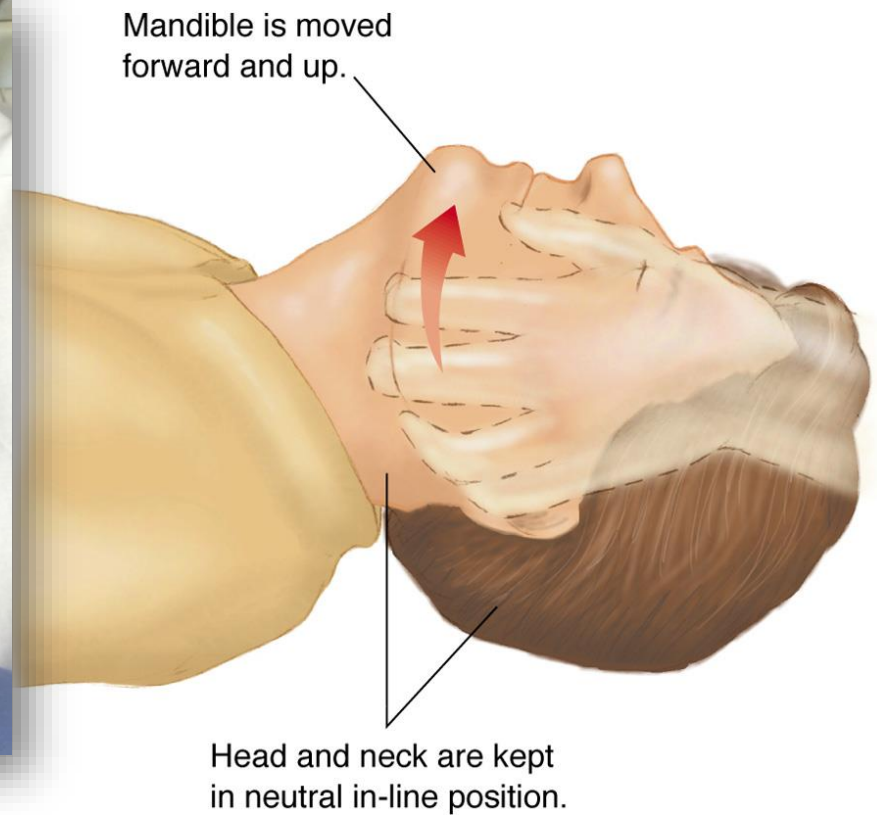
The head-tilt/chin lift



The head-tilt/chin lift maneuver in an infant

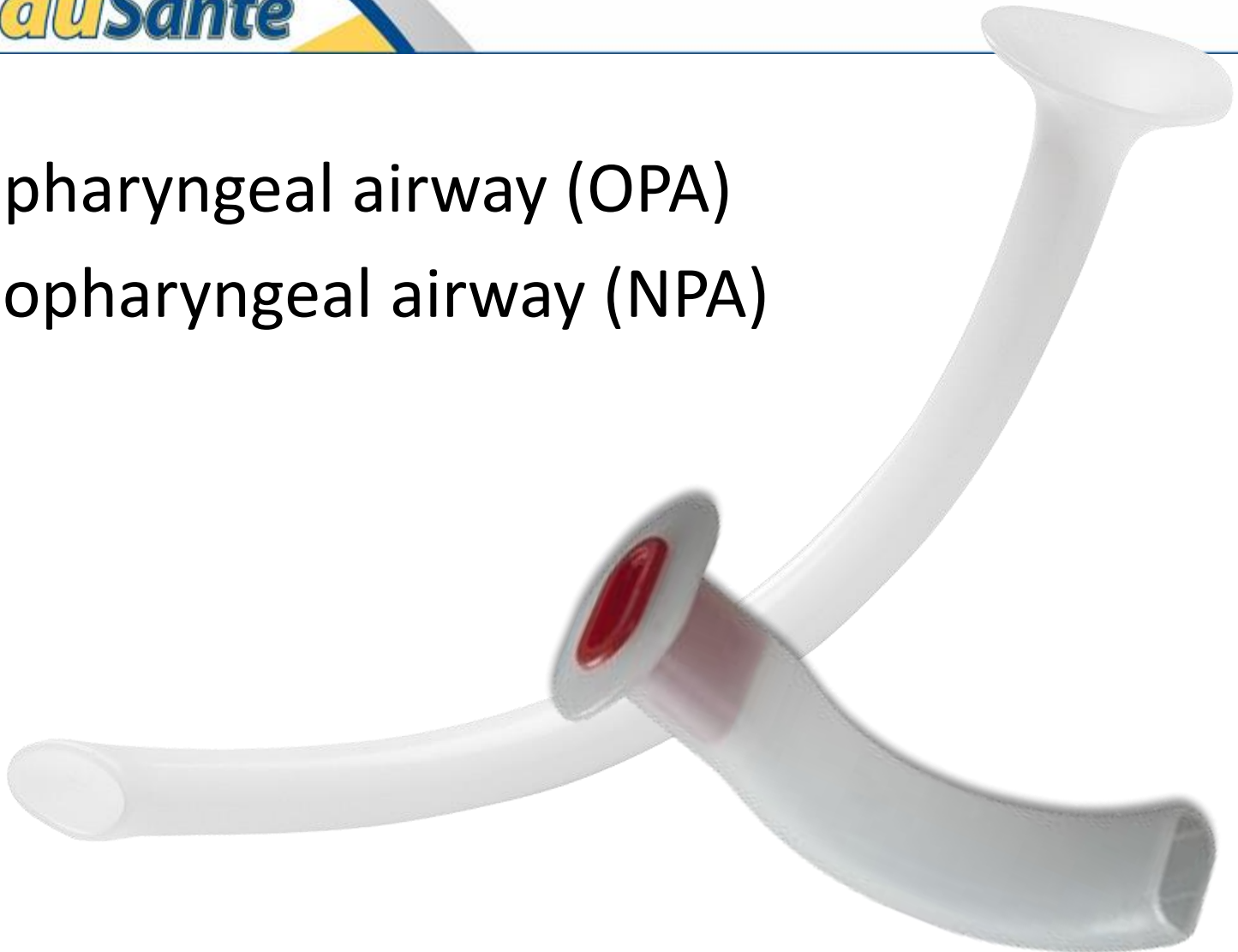


- Use the jaw thrust to open airway if you suspect a cervical spine injury

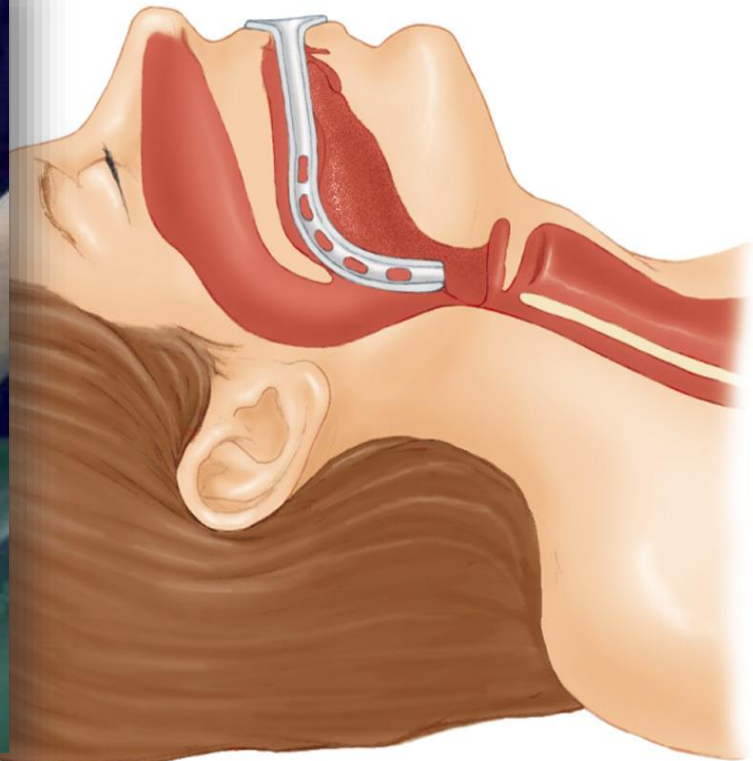




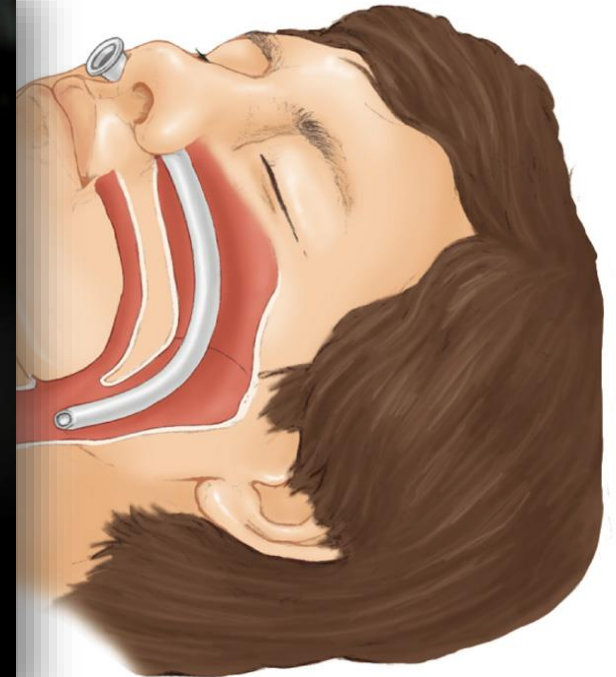
- Oropharyngeal airway (OPA)
- Nasopharyngeal airway (NPA)



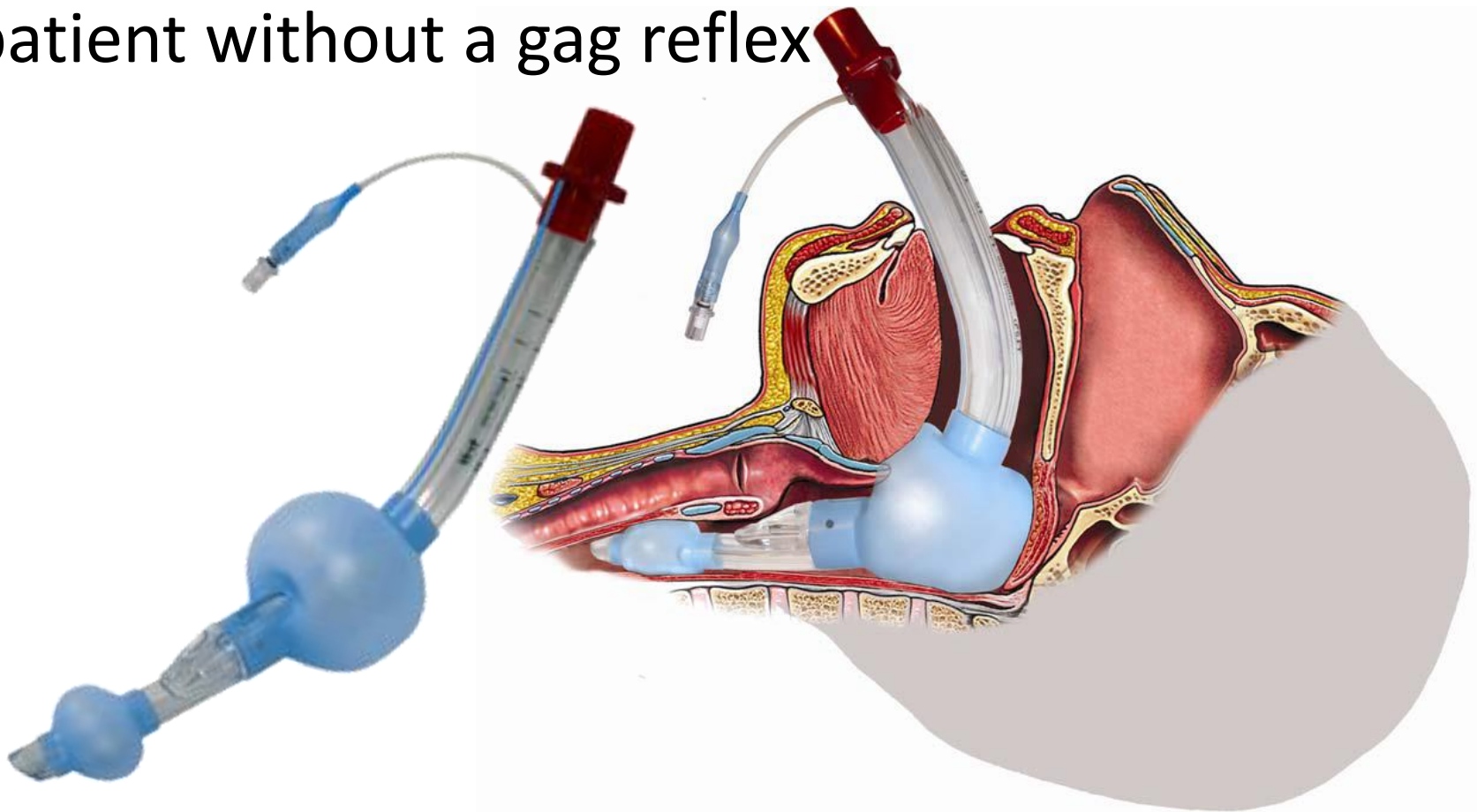
- Oropharyngeal airway for unconscious patient without a gag reflex



- Nasopharyngeal airway



- King LTS-D could be used for the unconscious patient without a gag reflex



- Once the airway patency has been confirmed or corrected evaluation of the effectiveness of air movement needs to be assessed
 - Are they breathing?
 - If so, is it too fast or slow?
 - Is there appropriate chest rise with ventilation?
 - Are there signs of respiratory insufficiency?

- Altered mental status
- Shortness of breath
- Retractions
- Asymmetric chest wall movement
- Word dyspnea
- Positioning
- Head bobbing
- Accessory muscle use (AMU)
- Cyanosis or discolouration
- Audible sounds
- Abnormal rate or pattern
- Nasal flaring
- Pursed lip breathing
- Orthopnea

- The circulation assessment consists of evaluating the pulse and skin and controlling hemorrhage.
- Evaluate:
 - Rate (tachycardic or bradycardic)
 - Force (strong, bounding, weak)
 - Compare carotid and radial

- The radial pulse is the preferred location of pulse assessment in the conscious patient



- The carotid pulse is assessed in the unconscious patient





- To assess an infant's circulation, palpate the brachial pulse



Control Major Bleeding



- The skin can be assessed by identifying:
 - Temperature to the touch
 - Color
 - Moisture
 - Turgor



Capillary Refill Time

- Capillary refill time refers to the amount of time it takes blood to return to the site
- Pressing down on the area causes the blood to be pushed out of the capillaries producing a blanched area
- Releasing the pressure allows the blood to return
- A return time of 2 seconds or less is considered within normal limits



- Elevate your patient's feet if you suspect circulatory compromise



- Also referred to as the “quick bleed check”
- Traditionally done for a trauma patient
- A quick hands on assessment of the patient from head to toe looking for:
 - Major external bleeding
 - Signs of internal bleeding
 - Fractures



- Once the initial assessment is completed, determine the patient's priority
 - Urgent/emergent
 - Non urgent

- Poor general impression
- Unresponsive
- Responsive but cannot follow commands
- Difficulty breathing
- Hypoperfusion
- complicated childbirth
- Chest pain and BP below 100 systolic
- Uncontrolled bleeding
- Severe pain
- Multiple injuries

- Expedite transport for high priority patient and continue assessment/care enroute



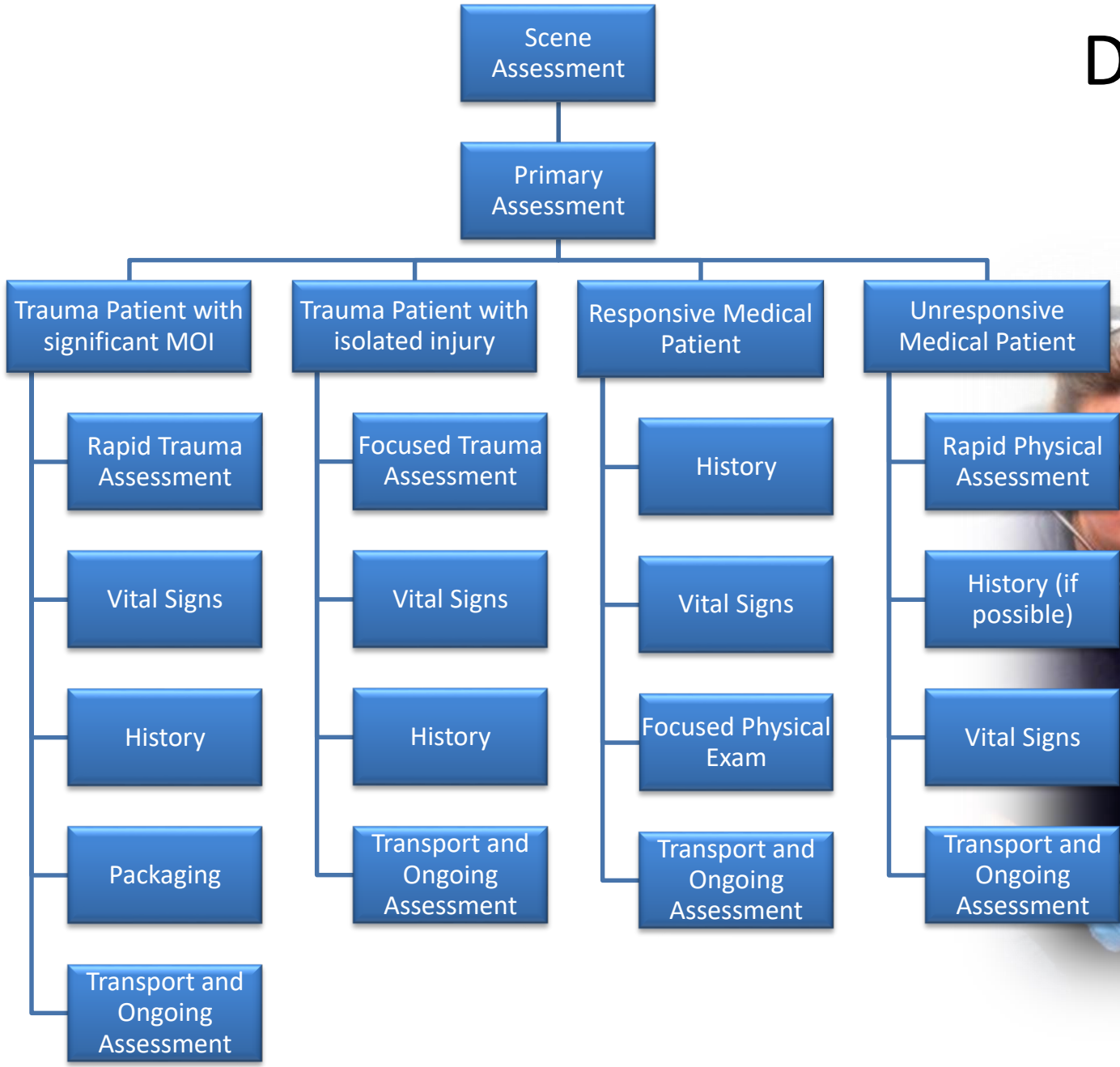
Patient Assessment

MEDICAL VERSUS TRAUMA ASSESSMENTS

- Primary assessment
- Focused history and secondary assessment
- Ongoing assessment
- Detailed secondary assessment

- Trauma patient with significant mechanism of injury.
- Trauma patient with isolated injury.
- Responsive medical patient.
- Unresponsive medical patient.

Decision Tree



Significant Injury (Major Trauma)

TRAUMA PATIENT

- Focused History and Secondary Assessment for Major trauma Patients
 - Primary assessment
 - Rapid trauma assessment
 - Packaging
 - Rapid transport and ongoing assessment

- Sustained significant mechanism of injury.
- Exhibits altered mental status from the incident.

- Ejection from vehicle
- Death in same passenger compartment
- Fall from higher than 6 m
- Rollover of vehicle
- High-speed motor vehicle collision
- Vehicle-passenger collision
- Motorcycle crash
- Penetration of the head, chest, or abdomen

- Fall from higher than 3 m
- Bicycle collision
- Medium-speed vehicle collision with resulting severe vehicle deformity

- Evaluate the trauma scene to determine the mechanism of injury



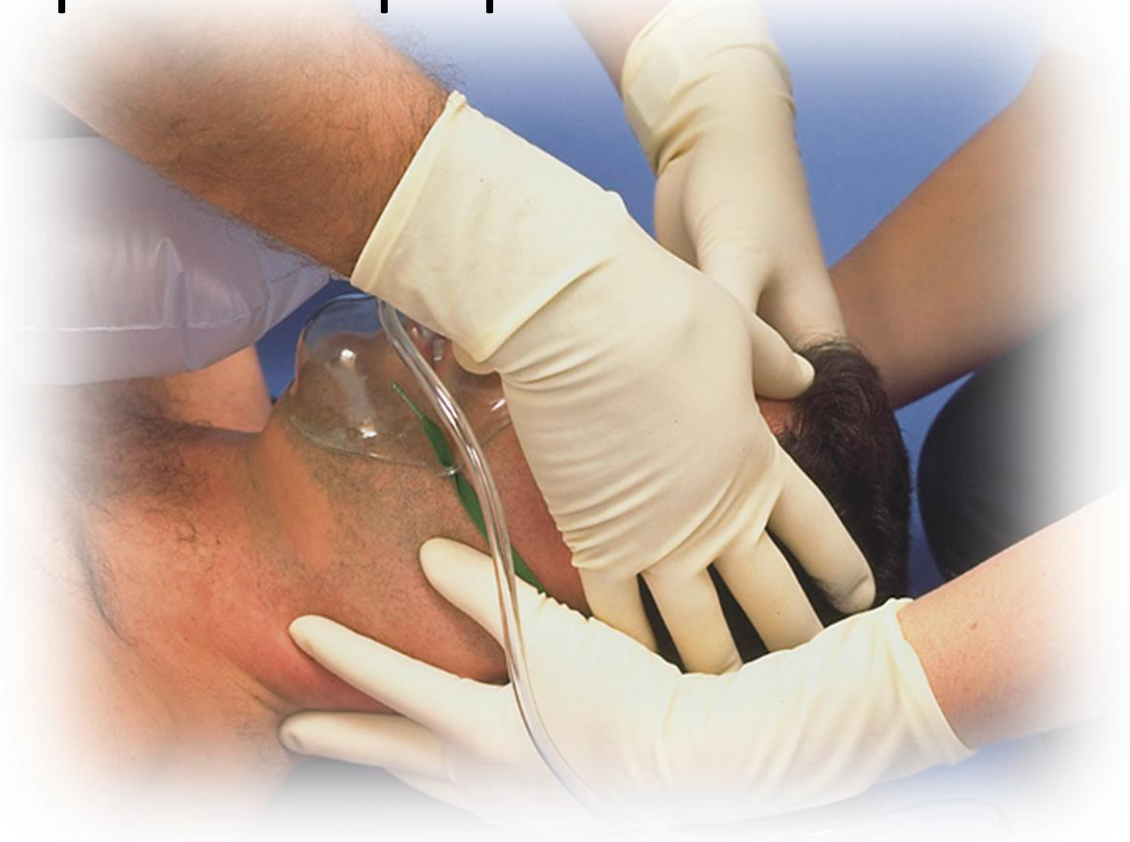
- Not a detailed physical exam
- Fast, systematic assessment for other life-threatening injuries

- **Deformity**
- **Contusion**
- **Abrasion**
- **Penetration**
- **Burns**
- **Tenderness**
- **Lacerations**
- **Swelling**

Rapid Trauma Assessment

HEAD AND NECK

- The first step in the rapid trauma assessment is to inspect and palpate the head



- Periodically examine your gloves for blood



- Inspect and palpate the anterior neck (tracheal deviation, JVD)



- Inspect and palpate the posterior neck



Rapid Trauma Assessment

CHEST

- Inspect and palpate the clavicles



- Stabilize the flail chest



- Seal any sucking chest wound with tape on three sides



Rapid Trauma Assessment

ABDOMEN

- Inspect and palpate the abdomen by quadrants
- Note any areas of bruising or guarding



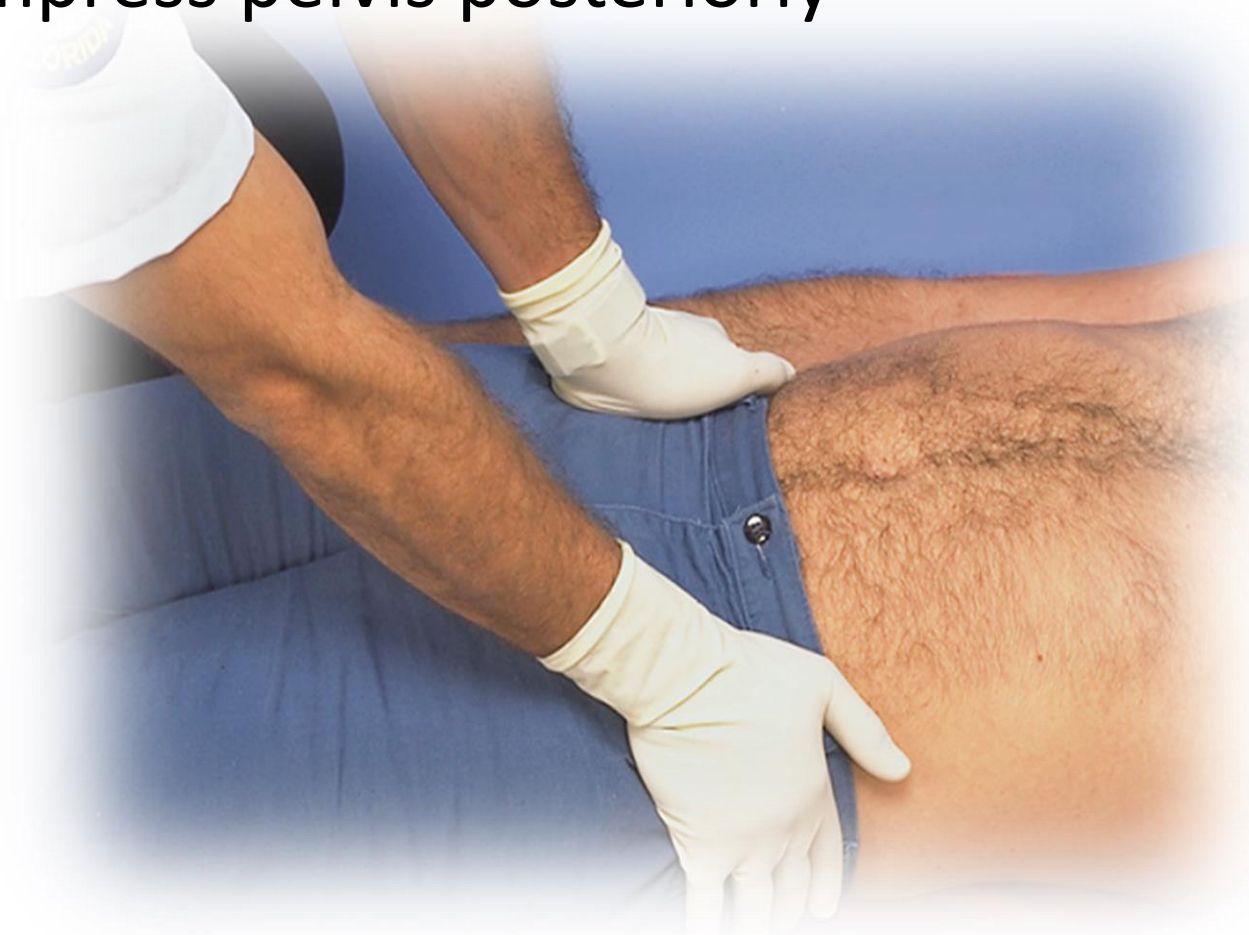
Rapid Trauma Assessment

PELVIS AND EXTREMITIES

- Assess the integrity by gently pressing medially on the pelvic ring



- Compress pelvis posteriorly



- Inspect and palpate the legs



- Palpate the dorsalis pedis pulse to evaluate distal circulation in the leg



- Assess distal sensation and motor function



- Inspect and palpate the arms
- Repeat radial pulse assessment
- Assess distal sensation and motor function



- Medic alert tags can give important information about the patient



- Inspect and palpate the posterior body



- Obtain vital signs
 - Pulse rate, rhythm and quality
 - Respiration rate, rhythm and quality
 - Blood pressure
 - Skin condition
 - Pain
- Useful Diagnostics
 - Pulse oximetry

SAMPLE	OPQRST-ASPN
<p>Signs and Symptoms</p> <p>Allergies</p> <p>Medications</p> <p>Past medical history</p> <p>Last oral intake</p> <p>Events preceding the incident</p>	<p>Onset</p> <p>Provokes or Palliates</p> <p>Quality</p> <p>Region, Radiation, Referral</p> <p>Severity</p> <p>Treatment</p> <p>Associated Symptoms</p> <p>Pertinent Negatives</p>

Isolated Injury (Minor Trauma)

TRAUMA PATIENT

- No significant mechanism of injury
- Shows no signs of systemic involvement
- Does not require an extensive history
- Does not require a comprehensive physical exam

Responsive

MEDICAL PATIENT

- The history takes precedence over the physical exam.
- The physical exam is aimed at identifying medical complications rather than signs of injury.

- Begin treatment while you assess your responsive medical patient



- Chief complaint
- History of the present illness
- Past history
- Current health status

- HEENT
 - Lip and oral mucosa color
 - Sputum and color
 - Swelling, hives, redness
 - Symmetry
- Neck
 - Accessory muscle use and retractions
 - Carotid arteries
 - JVD
 - Trachea position

- Chest
 - Respiratory rate and pattern
 - Symmetry of chest wall
 - Scars
 - Lung sounds
 - Percussion
- Cardiovascular
 - Signs of arterial insufficiency
 - Peripheral pulses
 - Heart sounds

- Extremities
 - Pulses, sensation, movement
 - Edema/pitting edema
- Abdomen
 - Abdominal muscle use
 - Distension
 - Edema
 - Pulsation of descending aorta
 - No palpation required, a good history will reveal all the information you need

- Check for peripheral edema



- Pulse
- Respiration
- Blood pressure
- Pain
- Temperature
- Pupils
- Orthostatic vitals (if possibly hypovolemic)

- Pulse oximetry
- Cardiac monitoring
- Blood glucose determination

Unresponsive

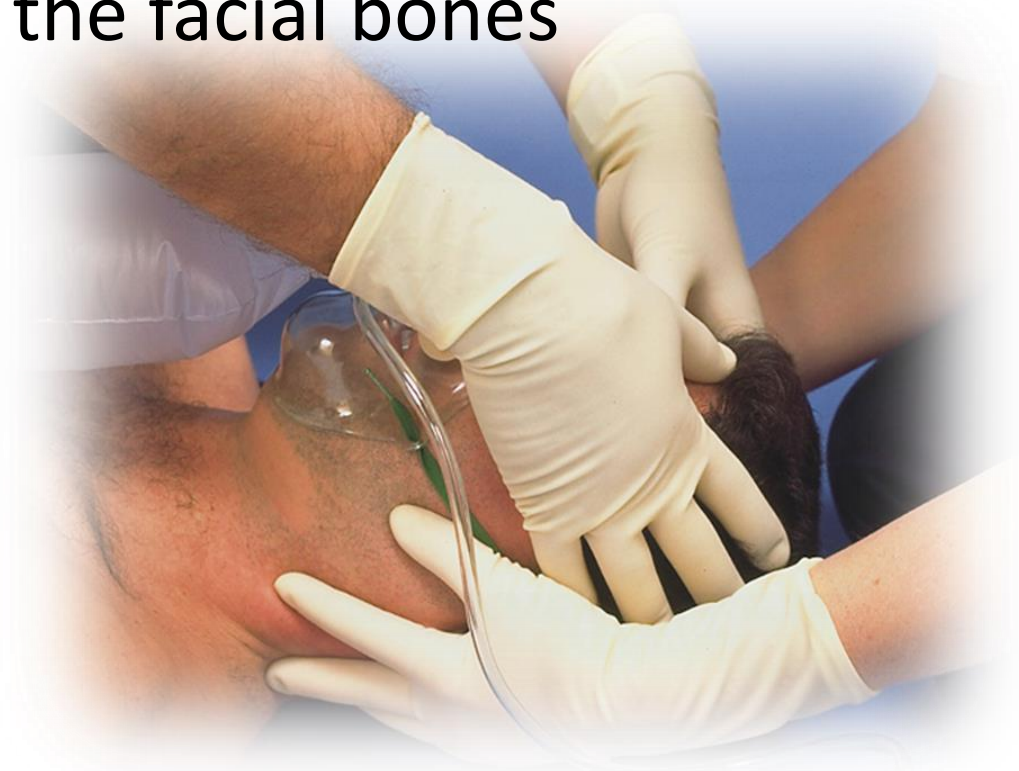
MEDICAL PATIENT

- Assessing the unresponsive patient
 - Initial assessment
 - Rapid medical assessment
 - Brief history

Detailed Secondary Assessment

HEAD AND NECK

- Inspect and palpate the cranium from front to back
- Inspect and palpate the facial bones



- Inspect around the eye sockets for raccoon eyes (periorbital ecchymosis)



- Check the pupils for reaction to light



- Check for extraocular movement



- Inspect the ear canal for drainage



- Inspect the mastoid process for Battle's sign (retroarticular ecchymosis)



- Examine the nasal mucosa for drainage



- Examine the oral mucosa for pallor



- Inspect and palpate the trachea for midline position



Detailed Secondary Assessment

TORSO

- Palpate the ribcage



- Auscultate the lungs for air movement



- Inspect and palpate the abdomen by quadrants



- Evaluate the pelvis



- Inspect and palpate the legs



- Palpate the dorsalis pedis pulse to evaluate distal circulation in the leg
- Assess for edema and/or signs of circulatory issues



- Assess distal sensation and motor function



- Inspect and palpate the arms
- Repeat radial pulse assessment
- Assess distal sensation and motor function



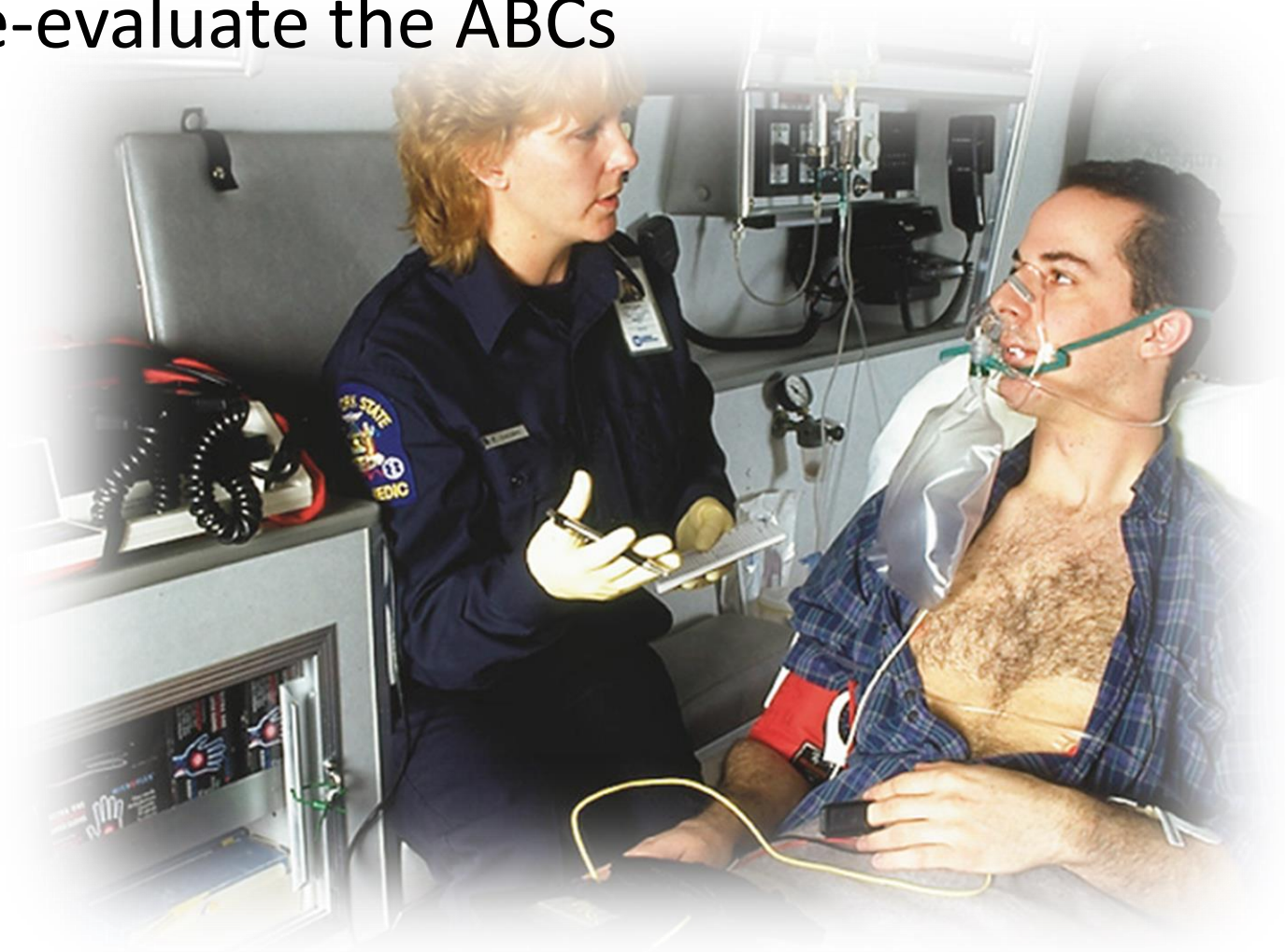
Patient Assessment

ONGOING ASSESSMENT

- Detects trends
- Determines changes
- Assesses intervention's effects

- Mental status
- Airway patency
- Breathing rate and quality
- Pulse rate and quality
- Skin condition
- Transport priorities
- Vital signs
- Focused assessment
- Effects of interventions
- Management plans

- Re-evaluate the ABCs



- Repeat vital signs



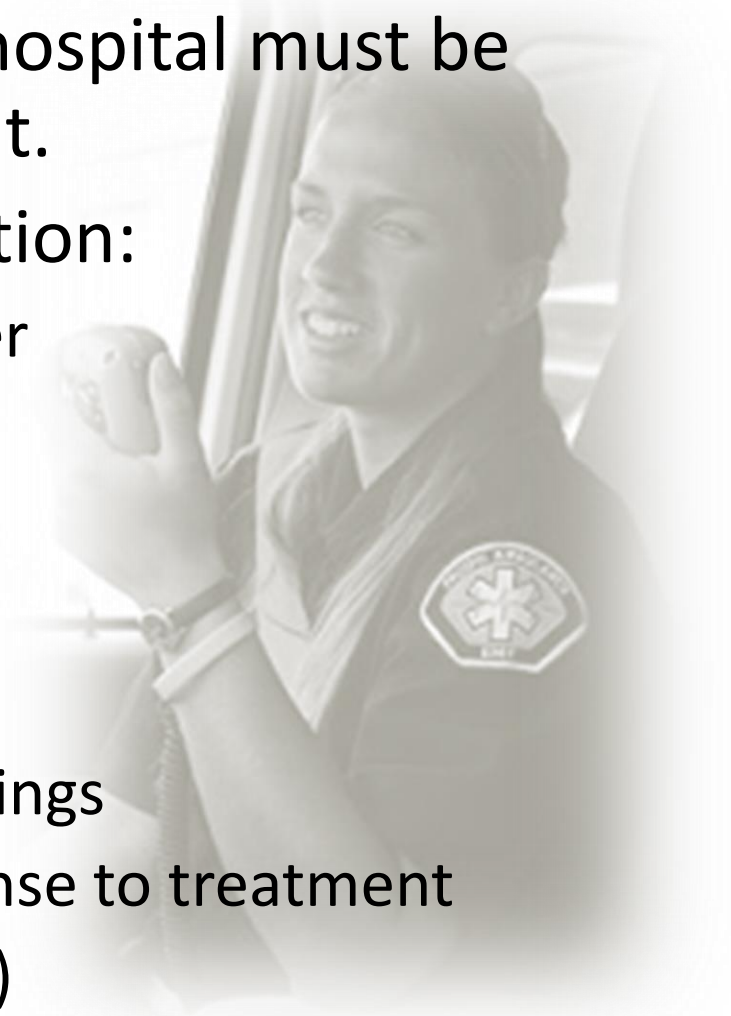
- Repeat focused assessment if time allows



- Evaluate your interventions' effectiveness



- Your report to the receiving hospital must be clear, concise and to the point.
- Include all pertinent information:
 - Unit Identification and provider
 - Pertinent MOI
 - Patient's age and gender
 - Chief complaint
 - LOC/GCS
 - Pertinent assessment and findings
 - Treatment initiated and response to treatment
 - Estimated Time of Arrival (ETA)



- Hand over of care of your patient requires a verbal report.
 - Provide the pt's age, gender and name
 - Provide MOI
 - Provide all pertinent assessment, interventions, treatments and response to treatments
 - Provide a complete list of the pt's medical history, medications and allergies
 - Provide a copy of your chart, including EKGs

- Scene assessment
- Primary assessment
- Medical versus trauma assessments
- Focused secondary assessment
- Ongoing care
- Handover of care