Primary Evaluation and Immediate Measures of Acutely Ill Child

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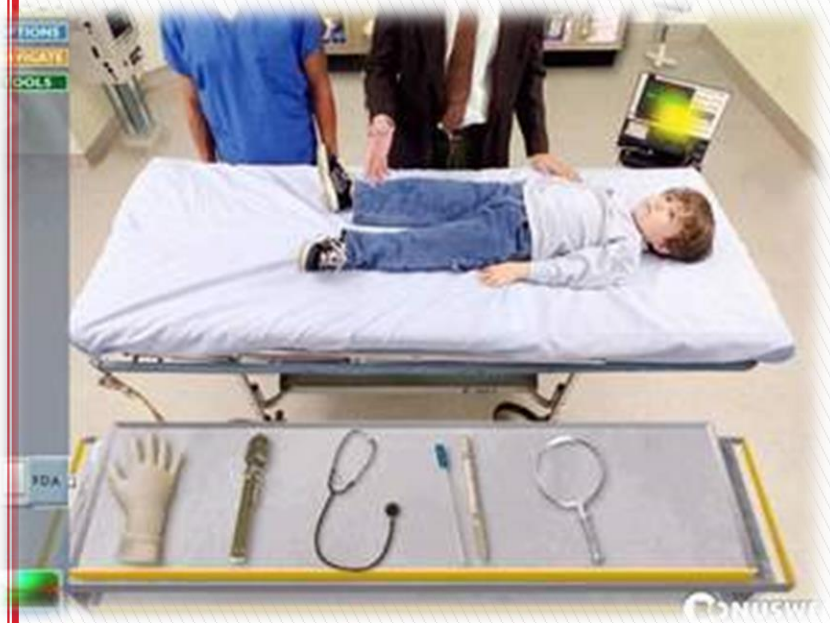
- How to do rapid and accurate evaluation of cases in ED to determine critically ill child ?
- Know the three components of the Pediatric Assessment Triangle.
- Have systematic approach to sick child in ED .

Remember that

- Children are not young adults
- Different age group
- Age specific norms
- Important differences between adult and kids



Why seriously unwell children are challenging?

- Often compensate very well initially
- Children physiology & anatomy are different to that of adults

What are these differences?

- **Physical :** Anatomical- size & shape

Airways , larynx, head, neck, tongue , vertebra

- **Physiological:** Respiratory, CVS

Lung , tidal volume ,R R , metabolic rate ,stroke volume , hypotension

- **Psychological**

Intellectual abilities & emotional

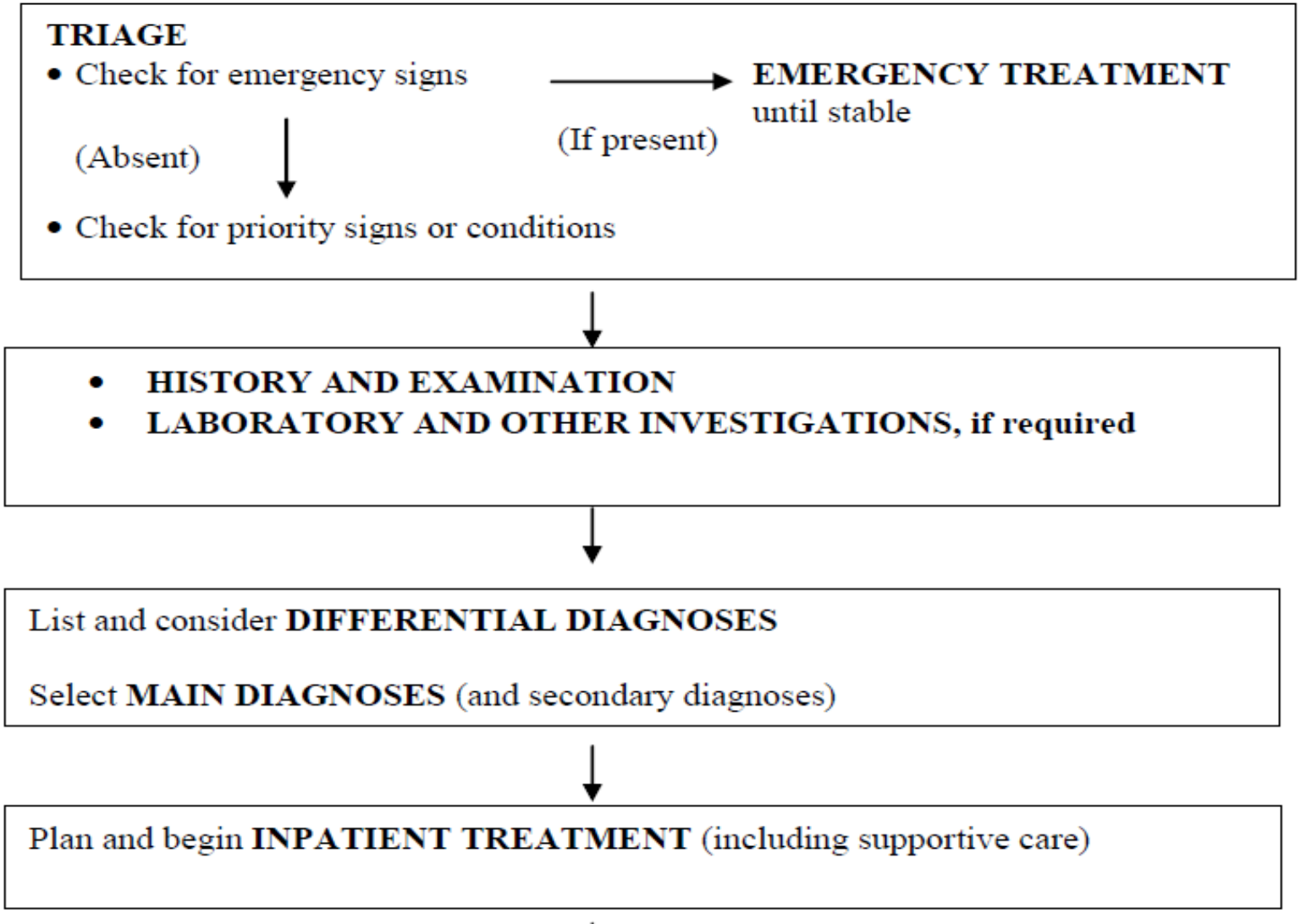
Triage and Emergency Assessment (WHO)

- Emergency signs

- Priority signs

- Non-urgent cases

Steps in the management of the sick young infants and children admitted to hospital:



How to triage?

Follow the ABCD steps

- Airway
- Breathing
- Circulation/Coma/Convulsion
- Dehydration

When ABCD has been completed the child should be assigned to one of:

- Emergency (E)
- Priority (P)
- Non-urgent and placed in the Queue (Q).

Emergency signs

- Not breathing at all or gasping
- Obstructed breathing
- Central cyanosis
- Severe respiratory distress
- Shock : Cold hands and
  Capillary refill>3seconds and
  Weak and fast pulse
- Coma
- Convulsions
- Diarrhea with severe dehydration
  Any two signs:
  Lethargy
  Sunken eyes
  Very slow skin pinch

Priority conditions

- Tiny baby
- Temperature
- Trauma or other urgent surgical condition
- Pallor (severe)
- Poisoning
- Pain (severe)
- Lethargic or irritable and restless
- Referral (urgent)
- Malnutrition
- Edema of both feet
- Burns

Assessment of air way and breathing

- Not breathing or gasping or
- Obstructed breathing or
- Central cyanosis or
- Severe respiratory distress
  - Unable to drink
  - Severe lower chest indrawing
  - Grunting
  - Head nodding
  - Apnoeic spells

ANY SIGN POSITIVE →

IF NOT BREATHING OR GASPING

- Manage airway
- Provide basic life support
- Make sure child is warm

IF FOREIGN BODY ASPIRATION

- Manage airway in choking child

IF NO FOREIGN BODY ASPIRATION

- Manage airway
- Give oxygen
- Make sure child is warm

Circulation

Cold hands with :

- Capillary refill longer than 3 seconds, and
- Weak and fast pulse

IF POSITIVE
Check for severe malnutrition

- If the child has any bleeding, apply pressure to stop the bleeding. Do not use a tourniquet
- Give oxygen
- Make sure child is warm
- Insert IV and begin giving fluids rapidly
  If not able to insert peripheral IV, insert an umbilical or intraosseous line

IF SEVERE MALNUTRITION
(Age ≥2 months)
If lethargic or unconscious

- Give IV glucose
- Insert IV line and give fluids)
  If not lethargic or unconscious
- Give glucose orally or by NG tube
- Proceed immediately to full assessment and treatment

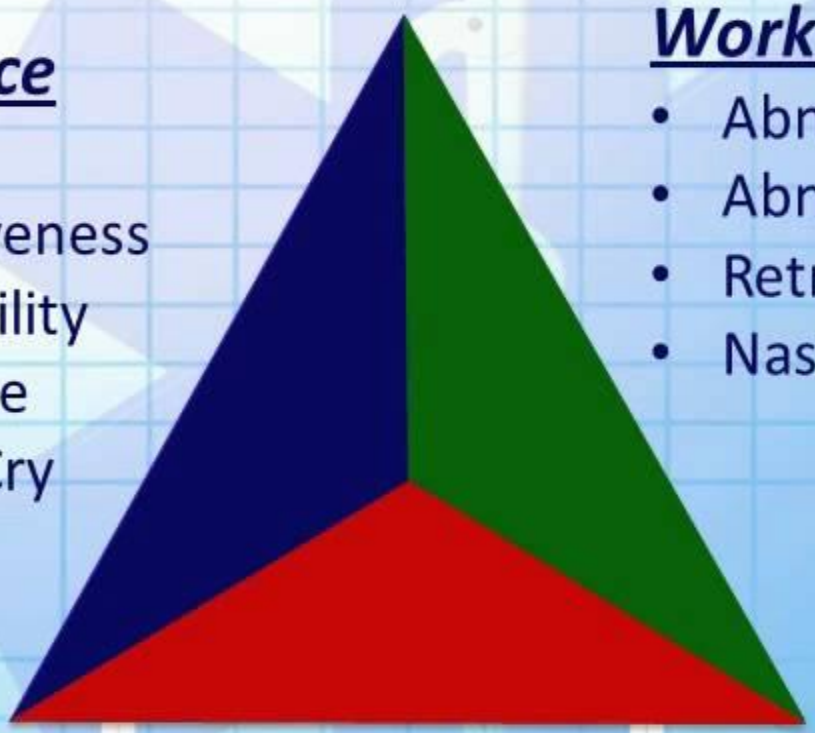
Initial assessment involves

- Paediatric Assessment Triangle (PAT)
  (appearance, interactivity, colour)
- Primary survey
  (ABCDEFG assessment)
- Secondary survey
  – vital signs
  – focused history
  – detailed physical examination
  – Ongoing assessment.

Pediatric Assessment Triangle

Appearance

- Tone
- Interactiveness
- Consolability
- Look/Gaze
- Speech/Cry

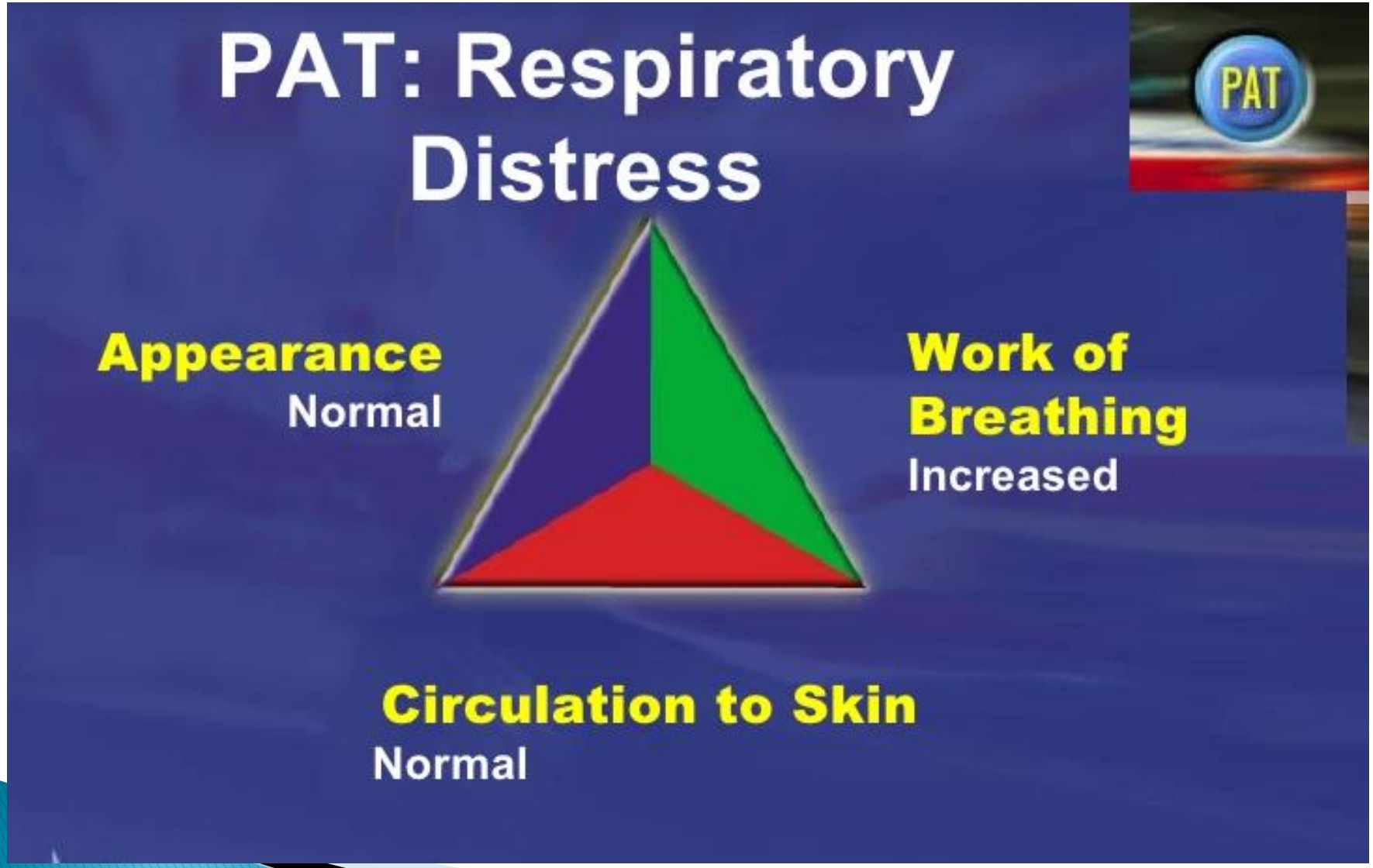


Work of Breathing

- Abnormal Breath Sounds
- Abnormal Positioning
- Retractions
- Nasal Flaring

Circulation to the Skin

- Pallor
- Mottling
- Cyanosis


PAT: Respiratory Distress
PAT
Appearance
Normal
Work of Breathing
Increased
Circulation to Skin
Normal

PAT: Respiratory Failure

Appearance
Abnormal

Work of Breathing
Increased or decreased

Circulation to Skin
Normal or abnormal

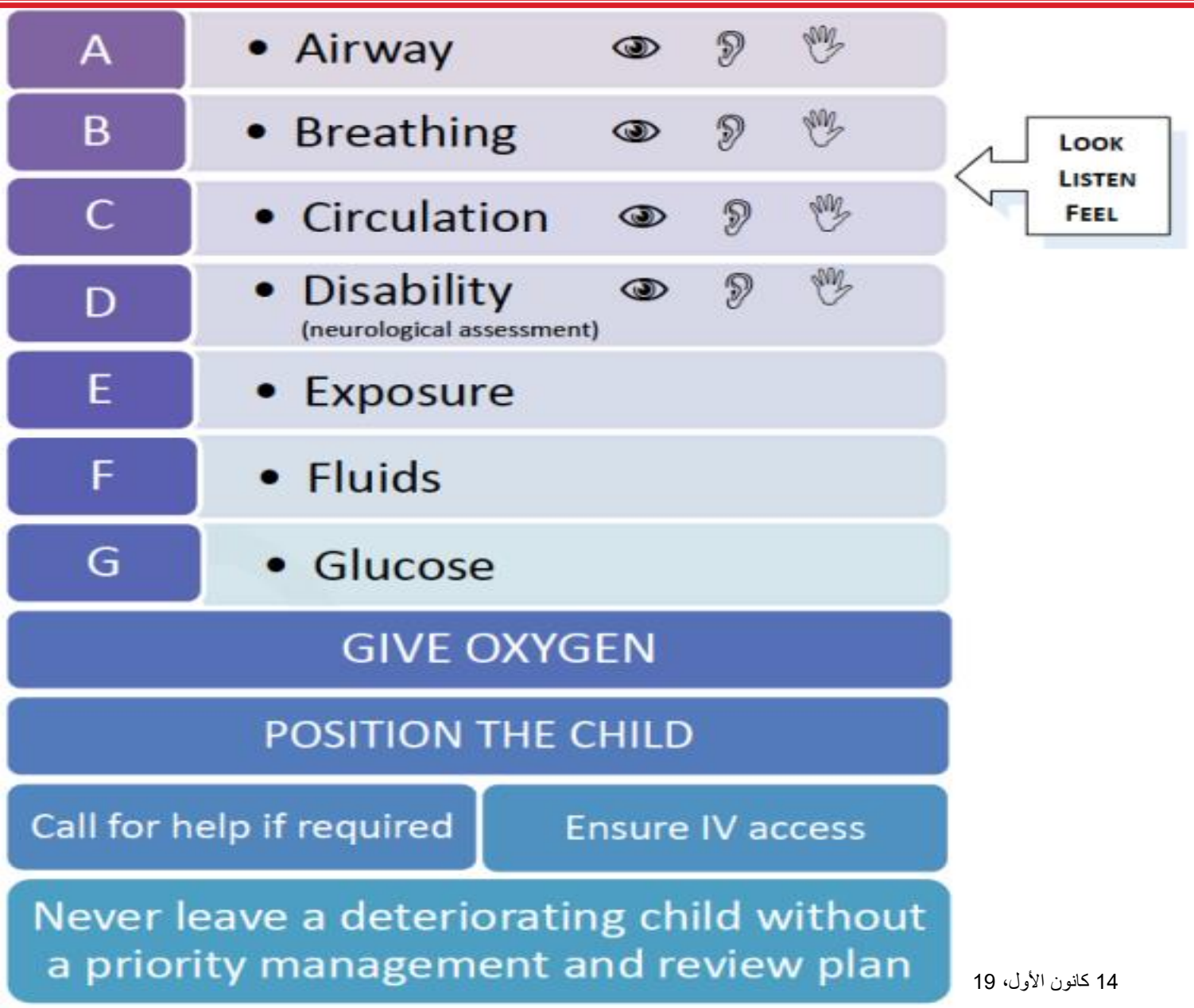
PAT: Shock

Appearance
Abnormal

Work of Breathing
Normal

Circulation to Skin
Abnormal

Primary survey: The structured approach

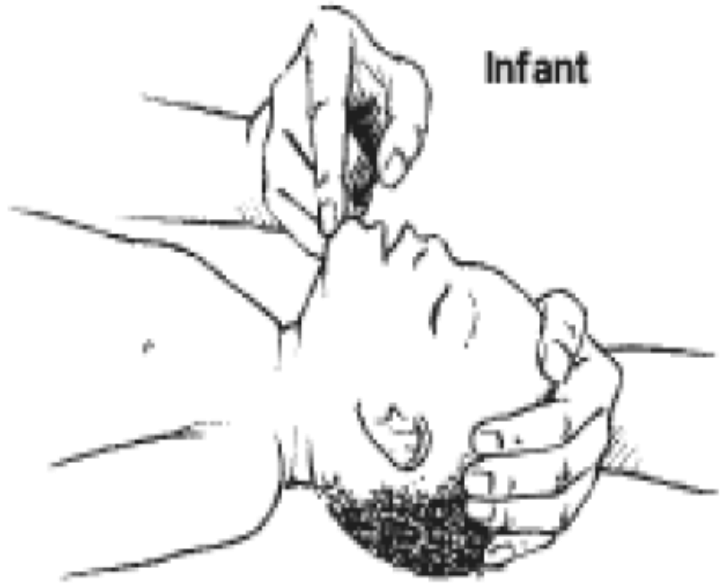


Primary survey: Principals

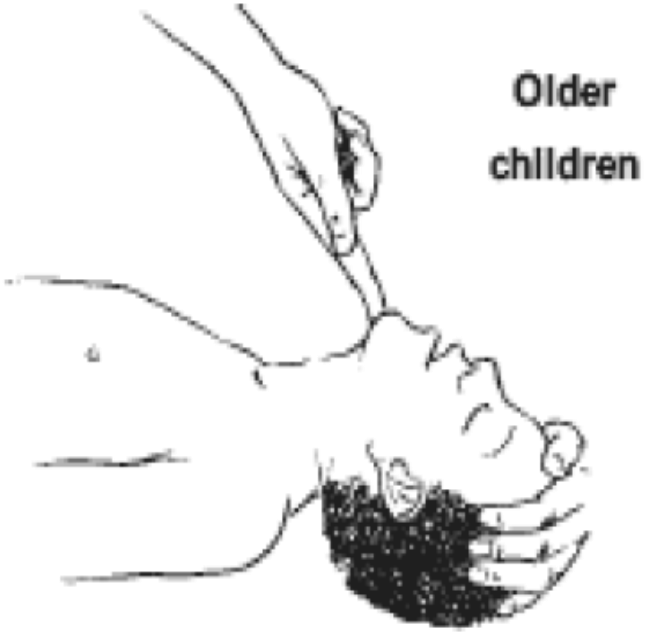
- **Treat problems as they are found**
- **Reassessment**
  - **After each treatment**
  - **With any deterioration**

Primary Survey: Airway

- What do you do if the airway is compromised or obstructed?
  - Suction
  - Head position
  - Adjunct airways

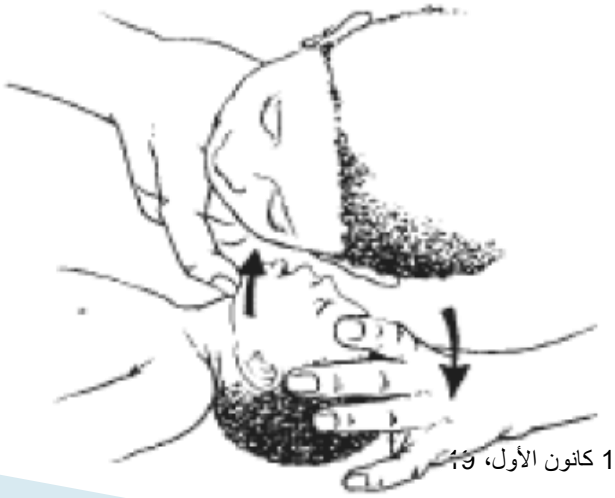


Neutral position to open the airway in an infant

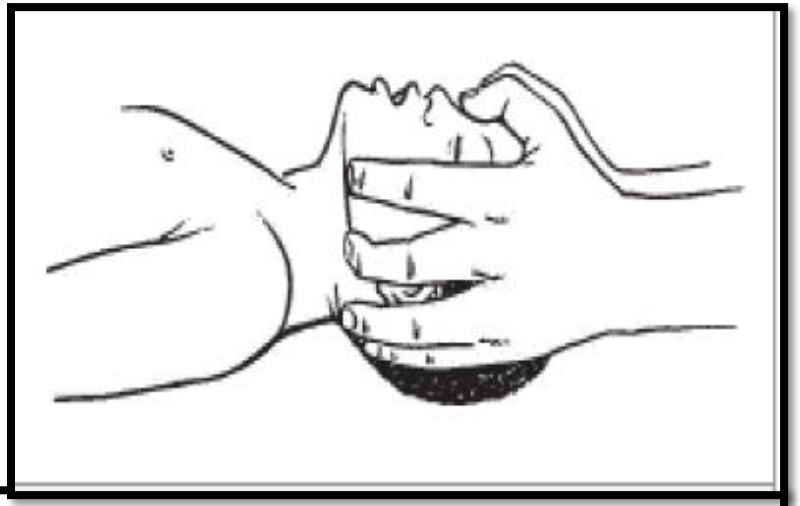


Sniffing position to open the airway in an older child

Look listen & feel for breathing



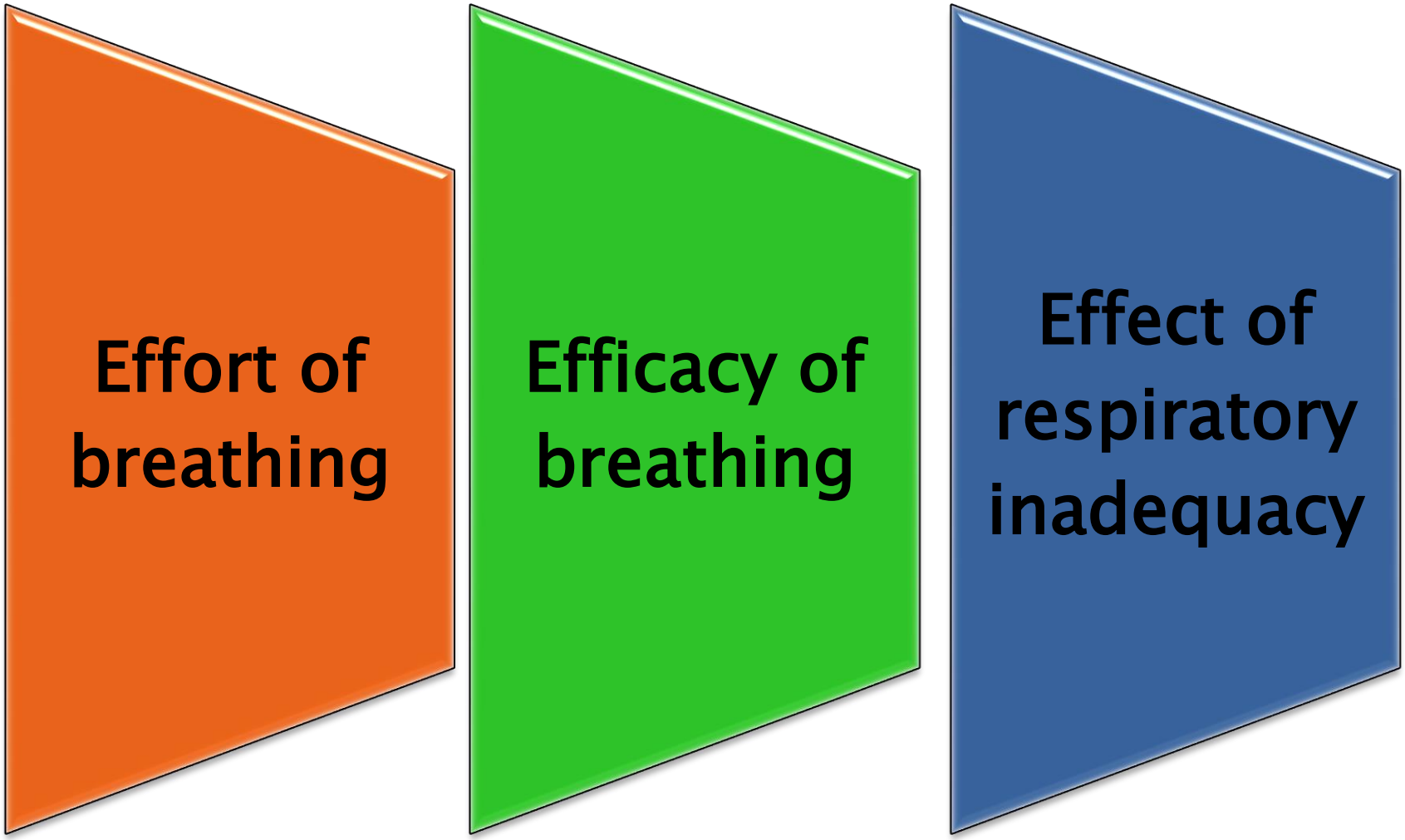
Jaw thrust



Neck trauma suspected (possible cervical spine injury)

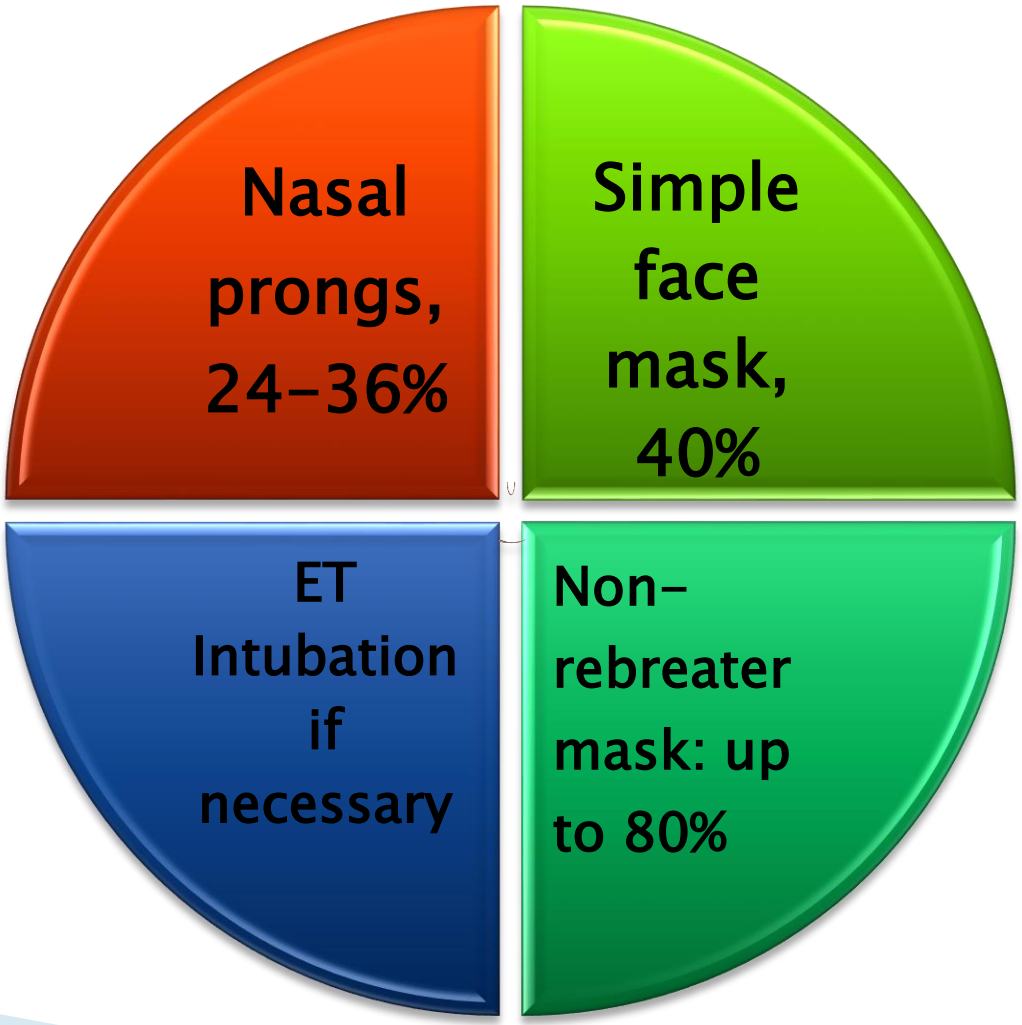
- Stabilize the neck,
- Inspect mouth and remove foreign body, if present
- Clear secretions from throat
- Check the airway by looking for chest movements, listening for breath sounds, and feeling for breath

B. Breathing assessment



Breathing

Oxygen the simplest antidote for hypoxia



Primary Survey: Circulation

- **Heart rate, Up , down or variable.**
- **Pulse volume weak, strong or bounding.**
- **Capillary refill time**
- **Blood pressure: correct cuff size**
- **Urine Output**

Blood pressure

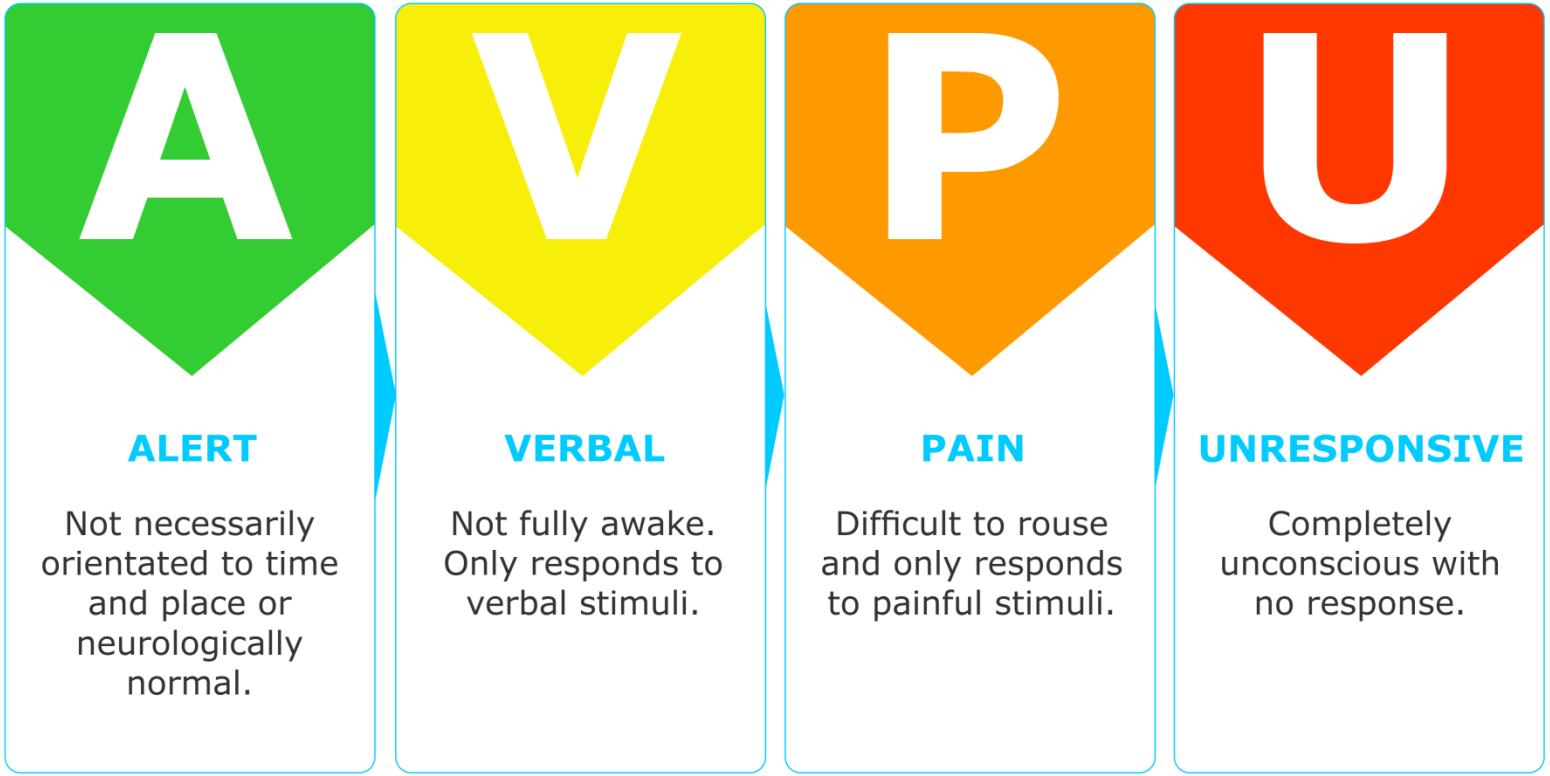
- Minimal systolic BP = 70 + [2 x age in years].
- Normal systolic BP = 85 + [2 x age in years].

Resuscitation: Circulation

- Fluid
- Inotropes
- Equipment: IV Cannula or IO needle

Primary survey: Disability

AVPU= GCS 8



Secondary Assessment

- - SAMPLE
- - S : Signs and symptoms
- - A : Allergies
- - M : medication
- - P : past medical history
- - L : last meal
- - E : events leading to presentation

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Thanks for your attention