

# ABCDE approach



# Why the ABCDE approach?

- Approach every patient in a systematic way
- Recognize life-threatening conditions early
- DO most critical interventions first - fix problems before moving on
- The ABCDE approach is very quick in a stable patient

## Goals:

- Identify life-threatening conditions rapidly
- Ensure the airway stays open
- Ensure breathing and circulation are adequate to deliver oxygen to the body

# ABCDE: Initial Approach

- The most important step is to stay safe!

## Scene safety

- Fire
- Motor vehicle crash
- Building collapse
- Chemical spill
- Violence
- Infections disease
- Personal Protective equipment

## Gloves

- Gown
- Mask
- Goggles
- Hand washing

## Personal protective equipment



# ABCDE Approach: Elements



## Airway with cervical spine immobilization:

- Check for obstruction
- If trauma-immobilize cervical spine



## Breathing plus oxygen if needed:

- Ensure adequate movement of air into the lungs



## Circulation with bleeding control and IV fluids

- Determine if there is adequate perfusion
- Check for life-threatening bleeding

# ABCDE Approach: Elements



Disability: AVPU/GCS, pupils and glucose

- Assess and protect brain and spinal functions

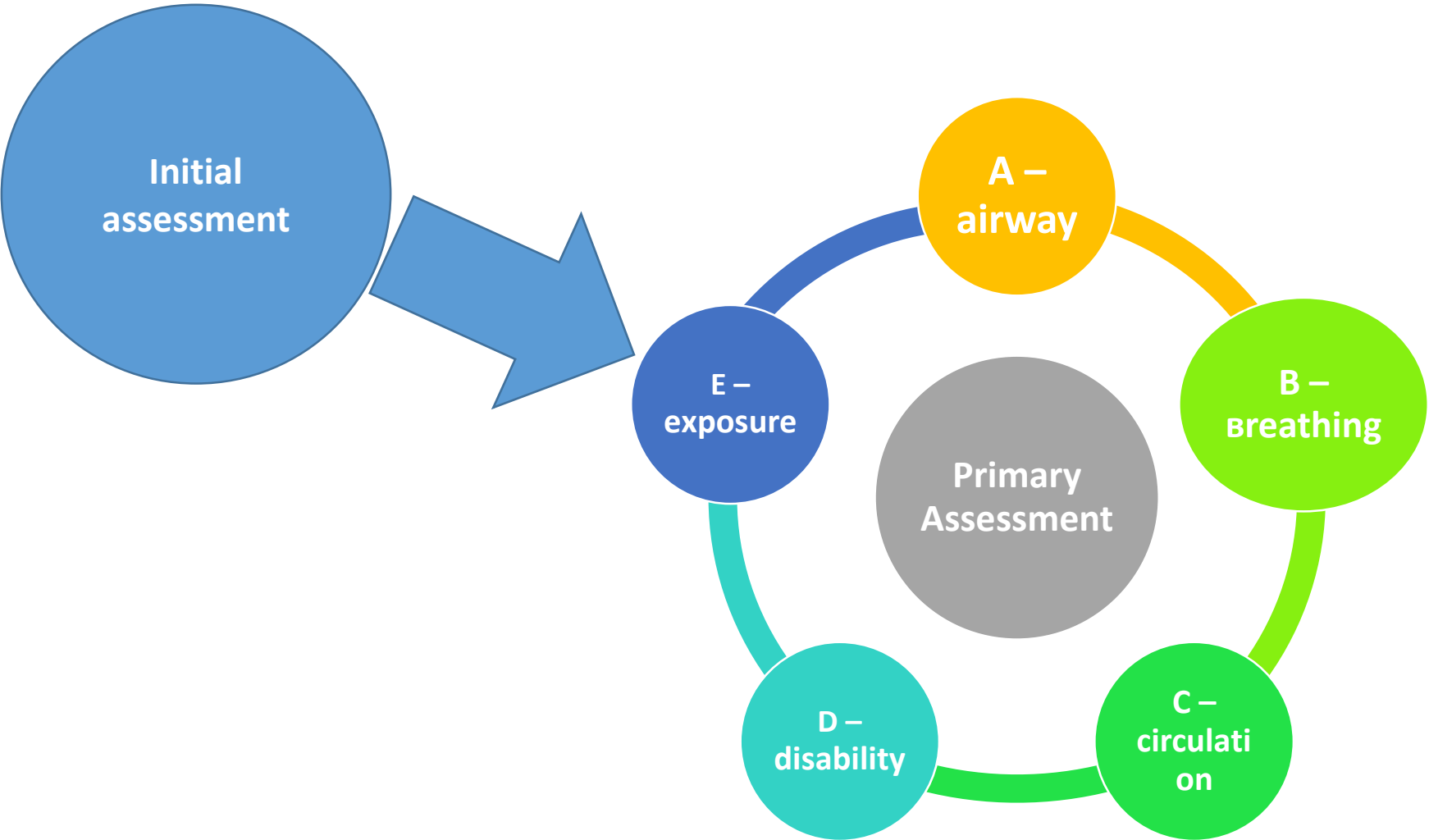


Exposure and keep warm

- Identify all injuries and environmental threats
- Avoid hypothermia

# NB!

- This stepwise approach is designed to ensure that life-threatening conditions are identified and treated early, in order of priority.
- A problem discovered (A-B-C-D-E) must be addressed immediately before moving on to the next step.



# Initial assessment - first impression

Rate in a few seconds (at the same time):

- Consciousness
- Breath
- Presence of cardiac activity (skin color)

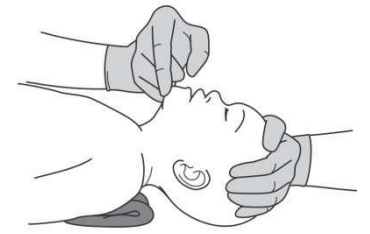
Actions (if necessary)

- Start CPR

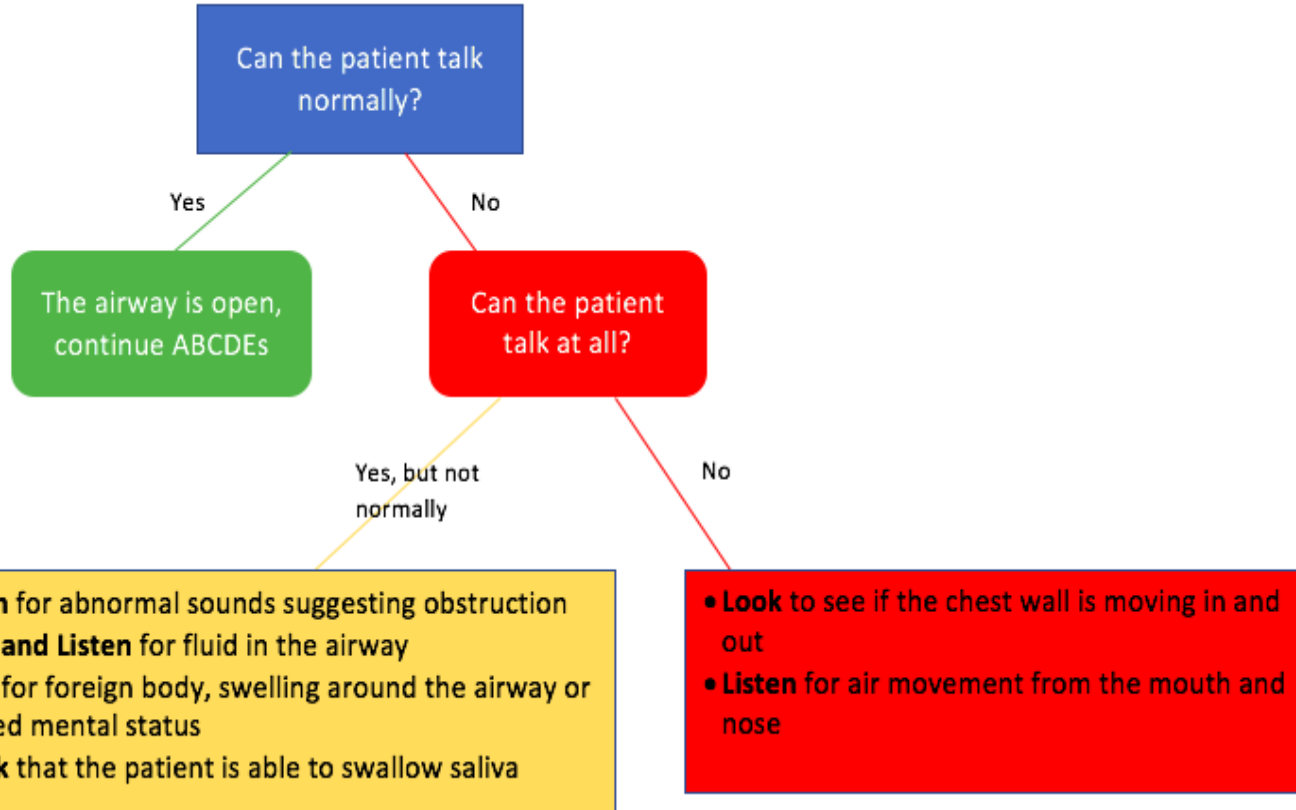




# Airway Assessment



Neutral position in infants



- If the patient is unconscious and not breathing normally:
- If no concern for trauma: open airway using HEADTILT/CHIN-LIFT manoeuvre
- If trauma suspected: maintain c-spine immobilization and use JAW-THRUST manoeuvre
- Consider placing an AIRWAY DEVICE to keep the airway open
- Oropharyngeal airway
- Nasopharyngeal airway



# Airway Management: Choking

## If foreign body is suspected:

- Visible foreign body: carefully REMOVE IT
- If the patient is able to cough or make noise, keep the patient calm
- ENCOURAGE to cough
- If the patient is choking (unable to cough/make sounds) use age-appropriate CHEST THRUSTS/ABDOMINAL THRUSTS/ BACK BLOWS
- If the patient becomes unconscious while choking: follow CPR PROTOCOLS





# Airway Management:

## If secretions are present:

- SUCTION airway or wipe clean
- Consider RECOVERY POSITION if the rest of the ABCDE is normal and no trauma
- If the patient has swelling, hives, or stridor, consider a severe allergic reaction (anaphylaxis)
- Give intramuscular ADRENALINE
- Allow patient to stay in position of comfort
- Prepare for HANDOVER/TRANSFER to a center capable of advanced airway management





# Breathing: Assessment

## Look for signs of respiratory distress:

- • Nasal flaring
- Head bobbing
- Grunting
- Chest indrawing or retractions
- Cyanosis, a blue/gray discoloration around lips, mouth or fingertips is a danger sign!
- Look at the lower ribs
- Listen for abnormal breath sounds
- Check SpO<sub>2</sub>

**REMEMBER** with severe wheezes there may be no audible breath sounds because of severe airway narrowing

## Actions (if necessary)

- If unconscious with abnormal breathing, perform BAG-VALVE-MASK-VENTILATION with OXYGEN and follow CPR PROTOCOLS
- If not breathing adequately (too slow or too shallow) begin BAG-VALVE-MASK-VENTILATION with OXYGEN
- If oxygen is not immediately available, do not delay ventilation
- Plan for immediate TRANSFER for airway management
- If breathing fast or hypoxia, give 100% OXYGEN 6-8 L/min
- If wheezing, give SALBUTAMOL
- If concern for anaphylaxis, give intramuscular ADRENALINE
- If concern for tension pneumothorax, perform NEEDLE DECOMPRESSION, give OXYGEN, give IV FLUIDS
- Plan for immediate transfer for chest tube
- If concern for pleural effusion, haemothorax, give OXYGEN
- Plan for immediate transfer for chest tube
- If cause unknown, consider trauma



# Circulation: Assessment

## Look, listen and feel for signs of poor perfusion:

- Cool, moist extremities
- Delayed capillary refill
- Diaphoresis
- Low blood pressure
- Tachypnoea
- Tachycardia
- Absent pulses

## Look for internal and external signs of bleeding

- Chest
- Abdomen
- From stomach or intestines
- Pelvic fracture
- Femur Fracture
- From wounds
- Check for pericardial tamponade
- Hypotension
- Distended neck veins
- Muffled heart sounds
- Check blood pressure



# Circulation: Assessment

## Check:

- HR
- central and peripheral pulse
- capillary filling
- The color and temperature of the skin
- BP

## Actions (if necessary)

- Horizontal position (with raised legs)
- MASK-VENTILATION of 100% oxygen through a mask
- Provide venous access
- Bolus introduction NS or ringer solution -20 ml/kg
- Warm/cover or uncover the child
- If concern for anaphylaxis:
  - expire trigger
  - give intramuscular adrenaline
  - H1 blocker and corticosteroids according to indications



# Disability: Assessment and Management

- Assess level of consciousness: AVPU or GCS
- Check blood glucose level
- Check pupils (size, reactivity to light and if equal)
- Check movement and sensation in all four limbs
- Look for abnormal repetitive movements or shaking
- Seizures/convulsions

## Actions (if necessary)

- If altered mental status, no trauma, ABCDEs otherwise normal:
- place in RECOVERY POSITION
- If altered mental status, low glucose (<3.5mmol/L) or if unable to check glucose:
- Give GLUCOSE
- If actively seizing
- Give BENZODIAZEPINE
- If pregnant and seizing
- Give MAGNESIUM SULPHATE



Recovery position





# Exposure: Assessment and Management

Examine the entire body for hidden injuries, rashes, bites or other lesions:

- Rashes, such as hives, can indicate an allergic reaction
- Other rashes can indicate infection
- Check body temperature

## Actions (if necessary)

- If snake bite is suspected
- IMMOBILIZE the extremity
- Take a picture of the snake (if possible) to send to referral hospital
- General exposure considerations
- REMOVE constricting clothing and jewelry
- COVER the patient to prevent hypothermia
- Acutely ill patients may be unable to regulate body temperature
- PREVENT hypothermia
- Remove wet clothing and dry patient thoroughly
- Respect the patient's modesty
- If cause unknown, remember trauma
- LOG ROLL for suspected spinal cord injury



# Airway Obstruction: Severe Allergic Reaction

## Signs and Symptoms Management

- Mouth, lip and tongue swelling
- Difficulty breathing
- Stridor and/or wheezing
- Rash or hives
- Tachycardia and hypotension
- Abnormal sounds from airway
- Stridor, snoring, gurgling
- Poor chest rise

## MONITOR for airway obstruction

- Give ADRENALINE for airway obstruction, severe wheezing or shock
- Can wear off in minutes, need additional doses
- Start IV/ give IV FLUIDS
- REPOSITION AIRWAY as needed
- Sit patient upright (no trauma)
- Give OXYGEN
- If severe or not improving, plan for HANDOVER/TRANSFER



# Breathing Conditions: Asthma/ COPD

## Signs and Symptoms Management

- Wheezing
- Cough
- Accessory muscle use
- May have history of asthma/COPD, allergies or smoking
- Give SALBUTAMOL as soon as possible
- Give OXYGEN if indicated



# Circulation Conditions: Shock

## Signs and Symptoms Management

- Rapid heart rate (tachycardia)
  - Rapid breathing (tachypnoea)
  - Pale and cool skin
  - Capillary refill >3 seconds
  - Sweating (diaphoresis)
  - May have:
  - Dizziness
  - Confusion
  - Altered mental status
  - Hypotension
- LAY FLAT if tolerated
  - Give OXYGEN
  - STOP and CONTROL any bleeding
  - Give IV FLUIDS
  - If sign of infection give ANTIBIOTICS
  - Plan for HANDOVER/TRANSFER

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# Disability Conditions: Hypoglycaemia

## Signs and Symptoms Management

- Sweating (diaphoresis)
- Altered mental status
- Seizures/convulsions
- Blood glucose  $<3.5\text{mmol/L}$
- History of diabetes, malaria or severe infection
- Responds quickly to glucose
- Give GLUCOSE immediately
- If they can speak/swallow, give oral GLUCOSE
- If they cannot speak or is unconscious, give IV GLUCOSE
- If unavailable give buccal (inside of cheek)



# Disability Conditions: Seizure/ Convulsions

## Signs and Symptoms Management

- Active seizure
- Repetitive movements
- Fixed gaze to one side or alternating rhythmically
- Not responsive
- Recent seizure
- Bitten tongue
- Urinated on self
- Known history of seizures
- Confusion gradually returning over minutes or hours
- If cause unknown, consider trauma

## Management

- Prevent hypoxia and injury
- Protect from falls/dangerous objects
- Do not stick anything in their mouth
- SUCTION as needed
- Give OXYGEN
- Check glucose
- Give GLUCOSE if needed
- Give a BENZODIAZEPINE
- Monitor breathing
- Place in RECOVERY POSITION (if no trauma)
- Give MAGNESIUM SULPHATE if pregnant or recently pregnant

# Reassess ABCDEs Frequently!

- The ABCDE approach is designed to quickly identify reversible lifethreatening conditions
- Vital signs should be checked at the end of the ABCDE approach
- Once you find an ABCDE problem and manage it, you have to GO BACK and repeat the ABCDE again to identify any new problems that have developed and make sure that the management you gave worked
- Ideally, the ABCDE approach should be repeated every 15 minutes or with any change in condition

# Sources

- [https://www.who.int/emergencycare/publications/BEC ABCDE Approach 2018a.pdf](https://www.who.int/emergencycare/publications/BEC_ABCDE_Approach_2018a.pdf)