

Advanced Paediatric Life Support

Recognition of the
Seriously Ill Child

Recognition of the seriously ill child: Objectives

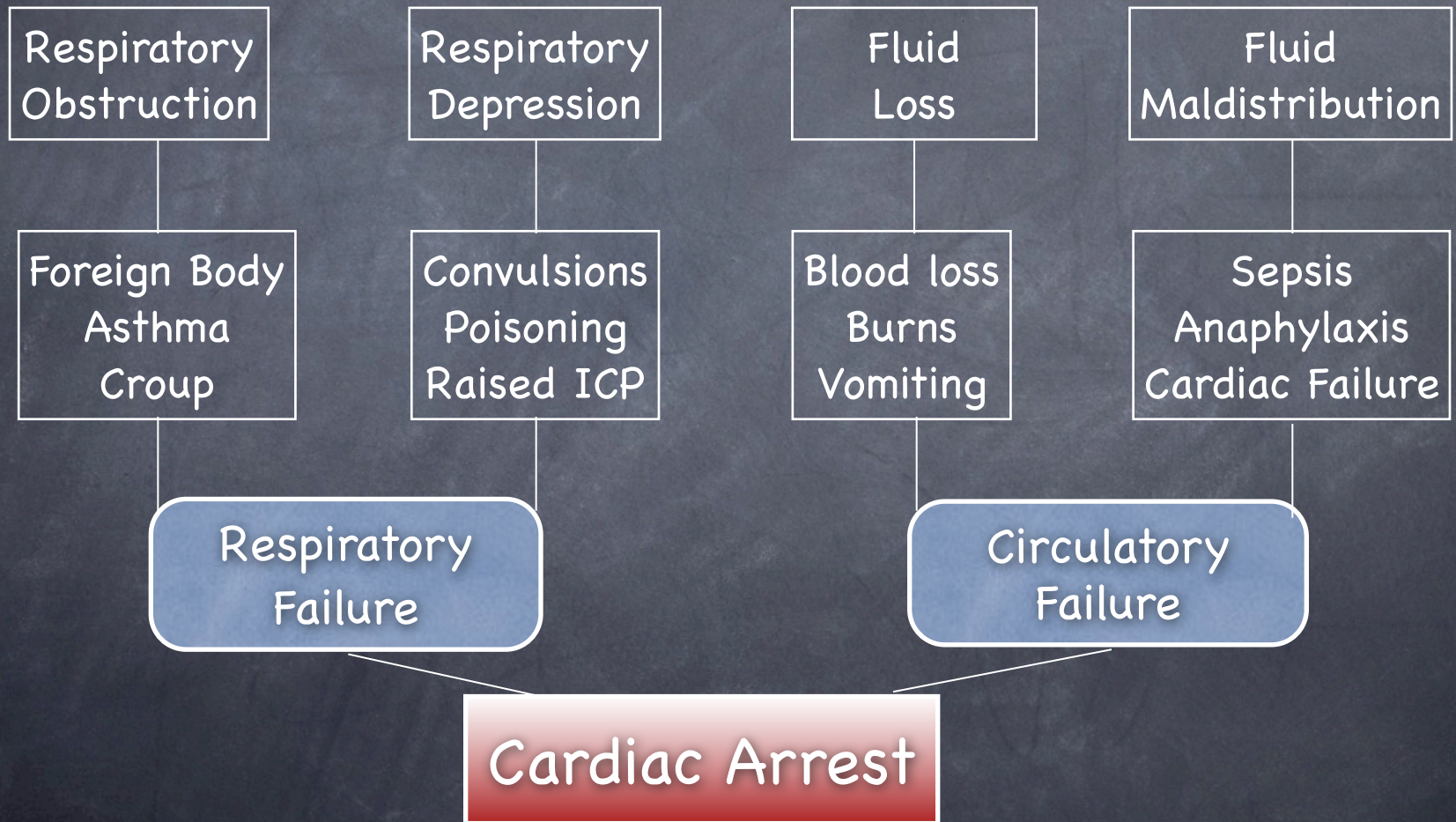
- To understand the structured approach to the recognition of the seriously ill child
- To learn a rapid clinical assessment sequence to identify serious illness in a child
- To introduce the equipment used for the resuscitation of a seriously ill child

Commonest causes of death in childhood (England and Wales) 2002

Cause	4 - 52 w	1 - 4 y	5 - 14 y
SIDS	164	0	0
Congenital abnormality	205	97	64
Infections	65	52	27
Trauma	53	90	197
Neoplasms	15	89	218

Cardiac arrest in children

Aetiologies



Systematic approach

A irway
B reathing
C irculation
D isability
E xposure

- Primary assessment
- Resuscitation
- Secondary assessment – identification of key features
- Emergency treatment
- Stabilisation, transfer to definitive care

Recognition of serious illness

- Potential respiratory failure
- Potential circulatory failure
- Potential central neurological failure

Potential respiratory failure

Effort of Breathing

Effectiveness
of Breathing

Effects of Respiratory
Inadequacy

Effort of breathing

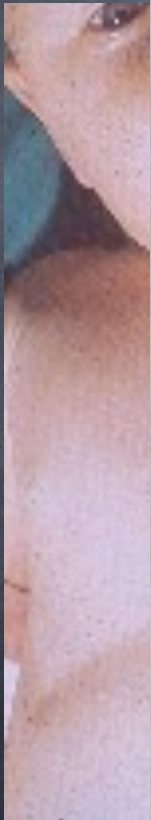
Subcostal recession



mild



severe



mild

SEVERE

Subcostal recession



Subcostal recession



Effort of breathing

- Respiratory rate
- Accessory muscle use
- Alar nasae flare
- Child's position

Effort of breathing

Associated sounds

- Inspiratory stridor
 - upper airway pathology
- Expiratory wheeze
 - lower airways pathology
- Grunting
 - airspace pathology (1° or 2°)

Exceptions to effort of breathing

Increased effort

ABSENT in:

1. exhaustion
2. central respiratory depression
3. neuromuscular disease



Exceptions to effort of

Inc

AB

1.

2.

3.



disease

Potential respiratory failure

Effort of Breathing

Efficacy of Breathing

Effects of Respiratory
Inadequacy

Efficacy of breathing

- Chest expansion
- Air entry
- Pulse oximetry



Efficacy of breathing

A SILENT CHEST IS

A PRE-TERMINAL SIGN



Potential respiratory failure

Effort of Breathing

Efficacy of Breathing

Effects of Respiratory
Inadequacy

Effects of respiratory inadequacy

- Heart rate
- Skin colour
- Mental status

Effects of respiratory inadequacy



CYANOSIS IS
A PRE-TERMINAL SIGN

OXYGEN SATURATION
OF

<85% IN AIR

IS A PRE-TERMINAL
SIGN

Potential respiratory failure Resuscitation equipment



Potential circulatory failure
Early recognition of shock

Cardiovascular Signs

Effects of Circulatory
Inadequacy

Cardiovascular signs

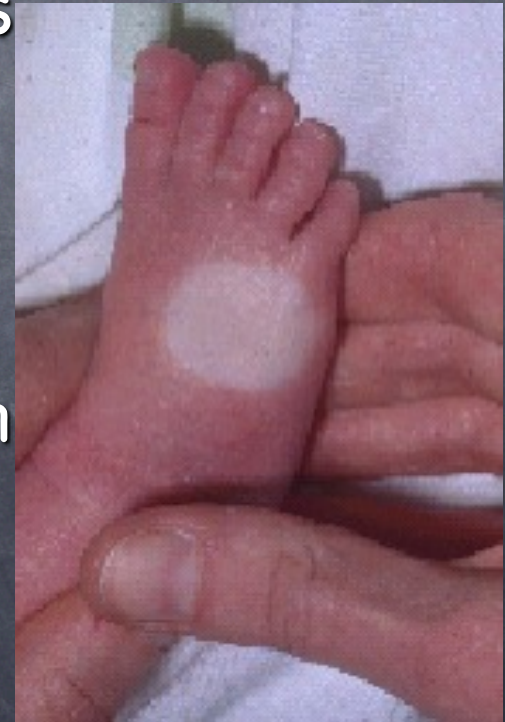
- Heart rate
- Pulse volume
- Capillary refill time
- Blood pressure

Cardiovascular

Capillary refi



- press for 5s
- release
- colour should return <2s in well-perfused, warm child





warm child

Cardiovascular signs

Capillary refill



A delay of $>2s$
with other
signs of shock
and in a warm
child suggests
poor
peripheral
perfusion



Cardiovascular signs

HYPOTENSION IS
A PRE-TERMINAL SIGN

Potential circulatory failure
Early recognition of shock

Cardiovascular Signs

Effects of Circulatory
Inadequacy

Effects of circulatory inadequacy

- Respiratory rate
- Skin temperature/colour
- Mental status

Distinguishing cardiac problems

- Cyanosis despite O_2
- Marked tachycardia
- Raised jugular venous pressure
- Gallop rhythm / murmur
- Enlarged liver
- Absent femoral pulses

Potential circulatory failure

Resuscitation equipment



Potential circulatory failure



Case Report: 2 months old

Cough and wheeze for 1 week

Sign	Observation
Skin colour	Pale
Respiratory rate	20bpm (recession ++)
Heart rate	200bpm
Capillary refill time	Normal
Mental status	Unresponsive

Case Report: 2 months old

Poor feeding and vomiting for 1 day

Sign	Observation
Skin colour	Pale
Respiratory rate	70 bpm (no recession)
Heart rate	220 bpm
Capillary refill time	Poor
Mental status	Unresponsive

Potential central neurological failure

Conscious level

Posture

Pupillary signs

Potential central neurological failure: Conscious level

Alert

Responds to **V**oice

Responds only to **P**ain

Unresponsive to all stimuli

Potential central neurological failure

Conscious level

Posture

assess with
painful stimulus

Pupillary signs

Potential central neurological failure: postures



decorticate



decerebrate

Potential central neurological failure

Conscious level

Posture

Pupillary signs

Advanced Paediatric Life Support



Recognition of the
Seriously Ill Child

Summary

Rapid assessment

- **Airway and Breathing**

- Effort
- Efficacy
- Effects

- **Circulation**

- Heart rate
- Capillary refill time
- Blood pressure
- Skin temperature

- **Disability**

- Conscious level
- Posture
- Pupils