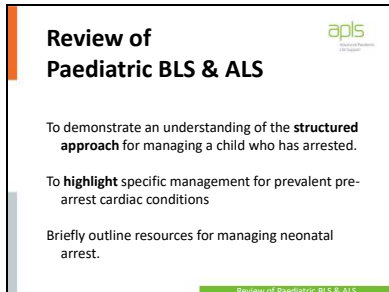


Slide 1



Please review 7 ED Part 4 Life support section

Slide 2



Notes for Faculty

Interactive session is also to:
Facilitate development of small groups to enhance their learning.

Environment (this has happened in **Welcome & Aims**):

Move into coloured groups & be joined by 1-2 instructors - ideally instructors who will be on their first skill station – introduce each other.

4 tables with 8 chairs (huddle -don't need to be seated as if having dinner). If no tables create 4 groups of chairs & use A3 clip board.

Candidates nominate a scribe and a spokesperson

ACTIVITY PACKS x 4 - one per group of six candidates
Write down three reasons to have a structured approach to a serious ill child.

1 minute for activity – 3 minutes for shared answers

Multiple answers (incl. Human Factors issues - Chapter 3 in 6e)

Slide 3



so you don't miss anything
method to calm oneself down in panic position
prioritise assessment and treatment in a logical order
learn an automated response.
Minimise fixation
Shared situational awareness
Communication

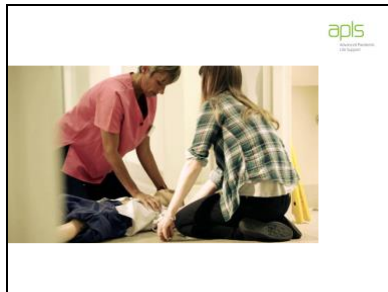
•SEGUE to algorithm activity – **click to show aeroplane** - repetition assists in established automated responses

Slide 4



- Human factors - **Chapter 2**

Slide 5



Pack of laminated sections of BLS and ALS algorithms

5 mins to order cards into BLS and ALS algorithm sequences & keep displayed on table

Start whole group review of questions with activity:

Tap/clap at CPR rate of 100-120 beats/min - give group min 20 secs – watch, some in group will adapt to others or some stay confident. Encourage whole group to listen to each other & yet know their own beat.

* can use REALITi on CPR rhythm or SR to give audible rate – (set up in advance to ensure volume on iPad is on maximum)

Ask why is CPR rate is at 100-120 beats/min?

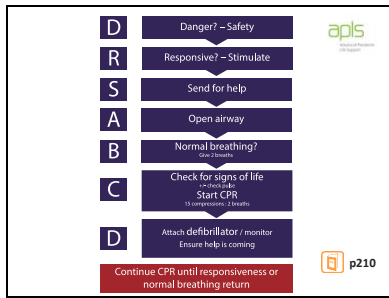
- They will know the answer, however knowing doesn't mean doing.....

clinicians (in simulation) haven't shown to be great at keeping rate or sustaining depth –

Studies show that we need repeated practice and feedback on performance – (what they are going to get on the face to face course)

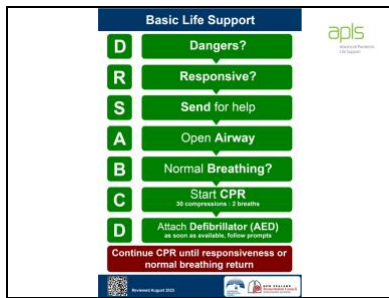
As main evidence for resuscitation is primarily related to effective CPR – need to change manpower to prevent exhaustion & maintain rate and depth

Slide 6



Check with cards on the table

Slide 7



Points of difference

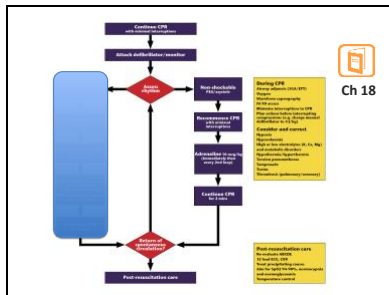
APLS sequence is for trained paediatric healthcare providers

Normal breathing? – Include 2 rescue breaths (children have hypoxic arrests)

Signs of life?

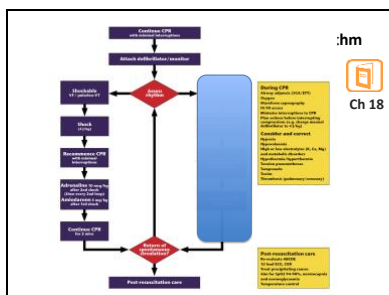
Start CPR 15:2 vs 30:2

Slide 8



Check with cards on the table

Slide 9



This is the part of the ALS algorithm for VF/VT

5 mins of small group activity

Questions to be answered in their groups – worksheet with questions provided

-How long is a cycle?

-What do you do during the 2 minute cycle?

When is adrenaline given? VT/VF vs asystole?

Which of the Hs and Ts are of particular importance in asystole?

hypoxia

hypovolaemia

anything else suggested by history of child's illness/injury

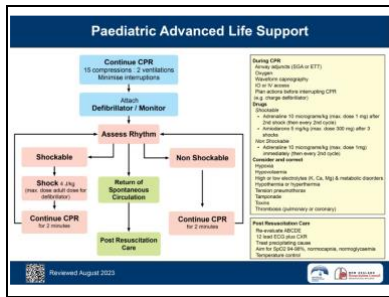
illness/injury

Which of the Hs and Ts are of particular importance in PEA?

- hypovolaemia
- hypocalcaemia
- tension pneumothorax
- cardiac tamponade
- hypothermia
- pulmonary embolus

How is ROSC assessed? – why feel for a pulse?
Where do you feel for a pulse?

Slide 10



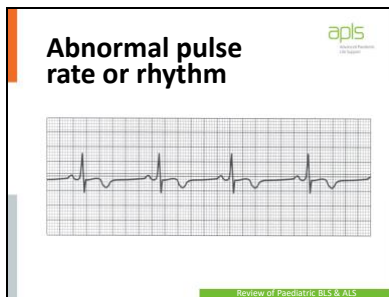
Points of difference

Defibrillator charging prior to asystole

Segue – ideally we prevent an arrest from happening

-Lets look at some rhythms that commonly happen in critically ill and injured children

Slide 11



Activity in groups - image & question on sheet of paper

List treatment options for these common causes of bradycardia

Cause of Bradycardia – **Treatment options**

pre-terminal in respiratory / circulatory failure - **oxygen, ventilate, fluids**

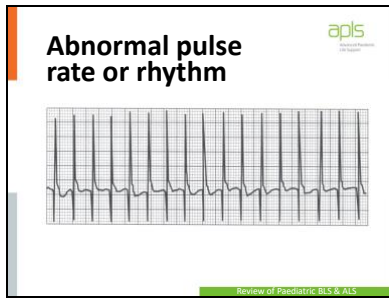
vagal stimulation - **oxygen, ensure adequate ventilation, atropine**

raised intra-cranial pressure - **intubate and ventilate, mannitol,**

poisons, eg digoxin, beta-blockers - **Adrenaline, specific antidotes, consider pacing**

complete heart block - **adrenaline (if symptomatic), external pacemaker**

Slide 12



Activity – on sheet, with image and space for 5 answers

Supraventricular tachycardia (SVT) is the most common non-arrest arrhythmia during childhood and is the most common arrhythmia that produces cardiovascular instability during infancy. SVT in infants generally produces a heart rate > 220 bpm, and often as high 300 bpm.

Name 5 clinical features that assist you differentiate between SVT and Sinus tachycardia?

- 1) **Rate:** Sinus tachycardia usually <200 per minute in infants and children
- 2) **P-waves :** may be difficult to identify in both sinus tachycardia and SVT once the ventricular rate >200 beats per minute.
If P-waves are identifiable, they are usually upright in leads I and AVF in sinus tachycardia while they are negative in leads II, III and AVF in SVT.
- 3) **ST beat to beat variability & responsive to stimulation** vs. SVT with no no beat-to-beat variability
- 4) **Termination** of SVT is abrupt vs sinus tachycardia slows in response to treatment.
- 5) **History:** consistent with shock (eg, gastroenteritis or septicaemia) is usually present with sinus tachycardia.

'Now we will review the treatment for SVT'

Candidate packs have this algorithm with sections blanked out for them to complete

Number of joules to administer shock

L) Side - Yellow box Consider _____

R) Side – blue box consider options _____
_____ OR _____

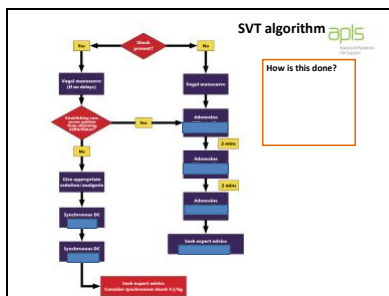
Confirm answers

Joules per shock when synchronous DC

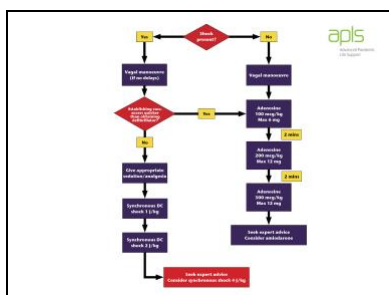
L) Side - Yellow box Consider **Amiodarone**

R) Side – blue box consider options **Synchronous DC shock ,Amiodarone** OR Other **Antiarrhythmics**

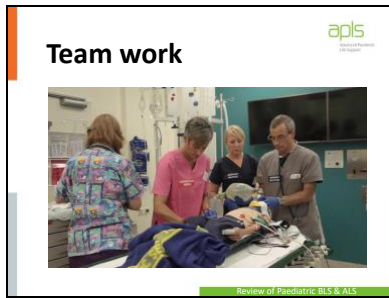
Slide 13



Slide 14

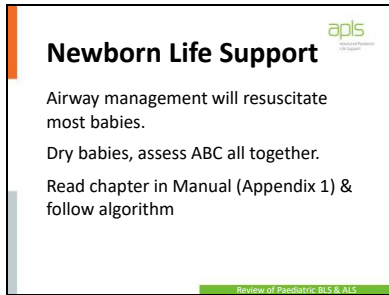


Slide 15



- Work in team (chapter 3)
- During scenarios later today
- **Team leader** takes responsibility for primary actions and decisions
- know who you need, what you want your team to do and be accountable for their actions

Slide 16

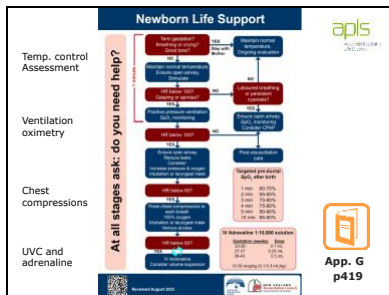


Important to spend a few minutes on neonatal resuscitation as many APLS providers are exposed to an occasional need to resuscitate babies especially in regional areas.

Points to emphasise.

- Very good chapter in manual.
- If there is a regular need to resuscitate babies then a neonatal resuscitation course should be attended.
- Nearly all babies can be resuscitated with good airway management and bag and mask ventilation. This is taught in airway skills session. Intubation is rarely needed.
- If available in hospital learn to use T-piece (neopuff) device. Provides CPAP as well as positive pressure.
- Point out the algorithm which should be on all resuscitation trolleys and also on APLS app.

Slide 17



The principles of management are on this slide &

Slide
18

Newborn Life Support

Learn to use a t-piece if available

Attend neonatal resuscitation course

Review of Paediatric BLS & ALS

If candidates work in a context where neonatal resuscitation is expected, APLS recommends that they should complete a specific neonatal resuscitation course.

T piece circuits are not included in the Airway management Skill Station. If their institution uses T piece resuscitation circuits, it is very important that they familiarise themselves with their use.

Slide
19

Review of Paediatric BLS & ALS

Slide
20

Review of Paediatric BLS & ALS

Managing a child who has arrested requires

a structured approach to effectively apply knowledge, skills and work as a team

Review of Paediatric BLS & ALS

At the end of this session – candidates will go to either airway management or BLS/ALS/AED skill stations.

The review of knowledge from this session will be further consolidated in skill stations and cardiac scenarios.