# Topic Overview: Structured Approach to the Sick Child

## Module P4

Date of last update: April 10th 2013

### Topic overview (Handout)

#### Introduction

A proportion of infants and children who present to the Emergency Department (ED) will have acute conditions which seriously compromise their condition and will need timely intervention to prevent deterioration and life-threatening complications.

The simultaneous assessment and management of these children requires a coordinated, team-based approach. Using a structured clinical approach will enhance the quality of care provided by the team by ensuring care is timely, appropriate and free of preventable errors.

Management will be most effectively provided if the child and his or her carers are calm and cooperative, so it is essential to involve them. Staff should interact with the child in a positive and calm manner. Limit restraint of the child during the examination and procedures, rather enlist the support of carers and staff, applying strategies of cuddling, feeding, play and distraction. Involve the carers in decisions and keep them informed and involved where possible. It is essential to listen to the concerns of the carers and address the issues which they raise.

#### The Structured Approach

The structured approach is the recommended approach to assessing and managing the critically ill child. This approach co-ordinates the whole team towards the same goals, while also providing a common format for mini summaries and recaps to ensure all systems are assessed and managed. The table below explains this approach.

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| | | |
|---|---|---|
| **A** | **Airway** | **Management** |
| | Assess for actual or potential obstruction.<br>Look, listen and feel.<br>Alertness & activity - movement, posture engagement, drowsiness, weak cry, 'glassy' eyes, not fixing & following.<br>Arousal – difficult to wake, floppy & weak, agitated, irritable, non-resistive to stimulation | Open and clear the airway.<br>Use basic and advanced airway manoeuvres as required. |
| **B** | **Breathing** | **Management** |
| | Respiratory rate – increased or decrease.<br>Adequacy<br>Effort – WOB, posture, stridor, grunt, head bob<br>Efficacy – expansion, air entry, sounds, $O_2$ saturations<br>Effect – mental status, skin colour, HR, muscle tone | Deliver Oxygen,<br>Options include:<br>Humidified Nasal prongs<br>High flow nasal prongs<br>Hudson mask<br>Non-re-breather<br>BVM<br>NIV<br>ETT |
| **C** | **Circulation – effort, efficacy, effect** | **Management** |
| | Pulses – volume & rate – increased or decreased<br>Blood pressure – hypotension a late sign<br>Colour/skin temp – pale, grey, mottled<br>Capillary refill: central vs peripheral<br>Hydration – fluids in/fluids out in past 24hrs<br>Mentation | Normal saline fluid boluses (10-20ml/kg)<br>Treatment of the underlying cause. |

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| D | Disability | Management |
|---|---|---|
| | AVPU – alert, responds to voice, responds to pain, unresponsive<br>Posture – decorticate or decerebrate<br>Pupils<br>Pain<br>DEFG – Don't ever forget the glucose | Protect airway<br>Administer analgesia for pain relief.<br>2-5mls/kg of 10% dextrose for hypoglycaemia |

Seek and treat life threats as you find them in order, then move onto definitive management of the specific problems and considering the underlying cause.

The AMPLE history provides a pneumonic for a focused history to be taken at the bedside during the primary phase.

- Allergies
- Medications and Immunisations
- Past Medical History
- Last ate or drank
- Events that led to this presentation to hospital

The main goal of emergency treatment is to stabilise the situation so that the child does not deteriorate any further and remove immediate life threats. The child's condition may change rapidly. Always review the response to any therapy or intervention by re-assessing. The ABCDEFG should be used as a checklist for assessment and management before moving onto the secondary phase of emergency department care.

**Secondary Care - is a focused assessment, specific treatment and supportive care.**

### Focussed assessment

Definitive diagnosis requires a thorough history, examination and relevant investigations. The secondary assessment should be systematic and comprehensive. In the paediatric population this should include a full medical history, developmental and social history. If the diagnosis remains unclear checklists and memory aids may be beneficial. Reassessment of the child's vital signs should be regular and abnormalities on the SAGO chart should trigger a clinical review. A complete head to toe examination of the child with systems review are part of the secondary assessment process.

### Specific treatments

These will be determined by the underlying illness. They should be initiated early and may require some time to accomplish. They may require the involvement of specialist teams external to your unit who will need to integrate with your existing team.

### Supportive Care

Adjunct therapies may be required including analgesia and fluids. Attention should be paid to maintaining normothermia with antipyretics or by appropriate warming measures. Pre-existing conditions, such as asthma, congenital cardiac abnormalities and epilepsy, require specific therapy.

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**Team Work & Crisis Resource Management:**

Emergency staff will mostly manage critically ill children as a team. Teamwork requires some key components for effective teamwork to occur.

A leadership role needs to be established – a leader should be credible, experienced calm & approachable.

The whole team needs to employ effective communication strategies including, using names & eye contact when talking to people, clarifying requests & reporting back to team leader when tasks are completed.

Team Leaders need to ensure they are using the resources wisely & not overloading one person with too many tasks or tasks beyond their comfort zone.

Having a Plan A & Plan B & ensuring all the team are aware of the plan is imperative.

Everyone has a responsibility as well as the team leader to maintain situational awareness by listening & watching, providing mini summaries to recap & asking for input.

**Summary**

The structured approach will provide the team with a common ground with which to manage the critically ill infant or child. Remember the following:

A,B,C,D – primary & secondary assessment

Treat life treats as you find them in order of ABC

Employ key components of crisis resource management for effective team work during emergencies.

## References and Further Reading

The Practical Approach, Advanced Paediatric Life Support, 2011, Fifth Edition

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