

PAEDIATRICS ANAESTHESIA COURSE

FACILITATOR MANUAL



AAGBI
FOUNDATION

Association of Anaesthetists of Great Britain and Ireland



WFSA
WORLD FEDERATION OF SOCIETIES OF
ANAESTHESIOLOGISTS



SAFE PAEDIATRICS
Safer Anaesthesia From Education

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Preface

This is the facilitator manual of the SAFE (Safer Anaesthesia from Education) Paediatric Anaesthesia course. The course was developed by the International Relations Committee of the Association of Anaesthetists of Great Britain & Ireland (AAGBI), with support from the World Federation of Societies of Anaesthesiologists (WFSA) and Mercy Ships, and has been endorsed by the Society of Pediatric Anesthesia. Anaesthetists from the UK, Canada, USA and Uganda have written the course materials.

Providing anaesthesia and basic critical care for essential surgery in children requires a trained workforce. In many countries there are few specialist surgeons and anaesthetists, and paediatric surgery and anaesthesia are, of necessity, the work of the general surgeon and non-physician anaesthetist in the district hospital. Children present particular challenges to surgeons and anaesthetists and, not surprisingly in many settings, peri-operative morbidity and mortality is high compared to developed world standards.

The aim of the SAFE Paediatric Anaesthesia course is to provide refresher training for both physician and non-physician anaesthetists in the essentials of paediatric anaesthesia in resource-limited countries. It is not intended as a comprehensive training course in paediatric anaesthesia, but emphasises basic principles of safe care for children, in particular, assessment, vigilance and competence in essential skills.

Access to safe surgery is an important component of paediatric practice in low-income countries. More than 50% of the population is under 14 years of age, and it has been estimated that 85% of children will require some sort of surgery before their 15th birthday. Children require surgery for a range of congenital conditions including hernia repair or cleft lip and palate, acquired conditions of childhood such as appendicitis or intussusception, and for common emergencies such as inhaled foreign body, road traffic accidents or burns. Failure of access to safe and timely surgical intervention for simple surgical conditions can lead to a lifetime of disability, social exclusion or, for some, premature death.

Anaesthetists (whether physician or non-physician) play a key role in the management of children in hospital. They provide anaesthesia care and postoperative pain management for children undergoing surgery, also initial resuscitation and basic critical care for seriously ill children. Anaesthetists have a role in planning and managing resources for safe anaesthesia. Application of well-established principles, particularly with respect to peri-operative care and postoperative pain control, has the potential to relieve unnecessary suffering in millions of children every year.

The SAFE Paediatric Anaesthesia course is a three-day course addressing the special needs of children who require surgery, and the particular differences between paediatric and adult practice. It has been written by paediatric anaesthetists with relevant experience, and includes sessions on newborn and paediatric life support, pain management, fluid resuscitation, and paediatric trauma management, as well as the common elective and emergency conditions of childhood. There are five brief lectures, with the rest of the course run as modular breakout sessions. The participants are divided into four pre-allocated small groups (ideal is one facilitator to eight participants) and the groups rotate around four sessions for each course module. The course modules are listed on page 12.

The SAFE Paediatric Anaesthesia course is an 'off the shelf package' supported by a facilitator manual, teaching materials and standard operating procedures.

It is hoped that the course is clinically relevant and will improve the practice of anaesthesia for children to a safe standard. It is educationally sound, recognising the specific needs of the adult learner. In keeping with this, it will comprise a range of teaching modalities to include skill sessions, scenarios, demonstrations, discussions, workshops, DVDs, and interactive lectures.

The SAFE Paediatric Anaesthesia course is supported by a 'Training of the Trainers' course to achieve independence and sustainability for the programme. It also has a robust monitoring and evaluation system and rigorous quality assurance (more details available from the AAGBI). The AAGBI does not offer certification for completion of the course, but encourages local organisers to recognise participation of learners in the course.

This manual includes a set of detailed instructions on how to run the breakout sessions. Each session has guidance on the equipment required, how to teach the session and the learning objectives to be achieved.

The manual also contains teaching laminates required for the course, printouts of the lectures and slide presentations used in the breakout sessions, and a full equipment list for the course.

The course is didactic, but in some sections there is a choice of teaching methods, depending on the facilities available. Some sessions are flexible to suit the learning needs of the participants. The AAGBI would be pleased to provide direction and guidance for running the course, but ultimate responsibility for running the course should rest with the local Course Director, depending on the learning needs of the participants.

Michelle White, Isabeau Walker
December 2014

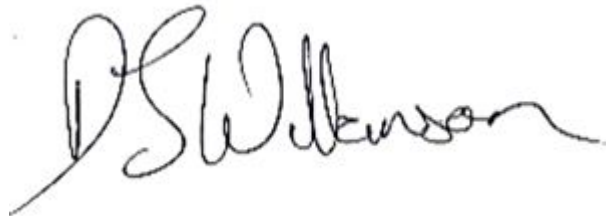
Foreword

Anaesthetists play an important role in the care of children in hospital. As part of the theatre team, anaesthetists are involved in providing anaesthesia, pain relief and resuscitation services for some of our most vulnerable patients.

The Association of Anaesthetists of Great Britain & Ireland and the World Federation of Societies of Anaesthesiologists are delighted to support the SAFE Paediatric Anaesthesia course to improve the care of children throughout the world.

A handwritten signature in black ink, appearing to be 'A Hartle', with a stylized, sweeping flourish extending to the right.

Andrew Hartle
President
Association of Anaesthetists of Great Britain & Ireland

A handwritten signature in black ink, appearing to be 'D Wilkinson', written in a cursive style.

David Wilkinson
President
World Federation of Societies of Anaesthesiologists

Acknowledgements

We are indebted to all the anaesthetists who have been involved in writing this course material, those who have trialled the materials in the field, and those who have fed back their comments and corrections. Without their efforts this course would not have been possible. In particular, we would like to acknowledge Peter Agaba, Nodreen Ayupo, Louise Bates, Benoit Beauve, Nick Boyd, Anthony Bradley, Erica Dibbs-Fuller, Faye Evans, Paul Firth, Cyril Goddia, Elizabeth Igaga, Beatrice Kabajumba, Dennis Kakaire, George Kataregga, Andrew Kintu, Joseph Kiwanuka, Maytinee Lilaonitkul, Felix Lubega, Bip Nandi, Mary Nabukenya, Juliet Nalwoga, Philo Nambooze, Elaine Ng, Rita Nkwine, Judith Nolan, Ezra Mugisha, Cornelius Sendagire, Ollie Ross, Philippa Seal, Joshua Sempira, Jonathan Smith, Steven Ttendo, Janat Tumukunde, Isabeau Walker, Michelle White and Kate Wilson.

The video library was created by the Shackleton Department of Anaesthesia and the Learning Support Department at University Hospital Southampton NHS Foundation Trust and was funded by the AAGBI, RCA and Caudwell Xtreme Everest. With grateful thanks to the patients and staff who kindly consented to filming at Southampton General Hospital UK or Tansen Mission Hospital, Nepal, and also to the Nick Simons Institute, Nepal. We are also grateful for contributions from Kester Brown and the Educational Resources Centre at the Royal Children's Hospital Melbourne and to Medical Aid Films for giving us permission to use their video on Newborn Resuscitation.

Disclaimer

We have tried hard to ensure that all of the information provided in this manual is both accurate and up to date. Suggested good medical care and drug dosages are applicable to most settings throughout the world. The availability of drugs and equipment differs, sometimes markedly, from country to country. It is therefore imperative that clinicians always double-check drug doses. The final decision regarding a particular clinical procedure or treatment plan lies with the patient's clinician. They must try to make optimal judgements based upon the clinical information, diagnostic and treatment options available.



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How to be a good instructor

Being a facilitator is about making sure that those you are teaching learn what is intended. If they do not learn, you have not done your job properly. Valuable time and money is spent on attending and delivering courses and it is our duty to ensure that the learners get the best they can out of it. Make a commitment to this. Prepare well. Strive constantly to improve your abilities as a facilitator.

For the participants of these courses, you are seen as a professional and clinical role model. Many participants will never have been to a 'hands on skills and drills' course such as this, and may be unfamiliar with this type of teaching.

Try to keep to time. Pay attention to how the learners rotate around the sessions and sit in other facilitators' sessions and lectures as much as possible. Make sure you leave time to set up your own breakout sessions.

Just as the learners, you too require support and this will come from more experienced course facilitators. A local Course Director should lead the course. Daily faculty meetings should be held to ensure the smooth running of the course and to offer you support.

Safety

You have a responsibility for the safety of the learners. Do not teach mouth-to-mouth techniques and be very careful with sharps. Ensure that the participants take the usual precautions when using sharps – this in itself is part of the learning exercise.

Principles of adult learning

To be able to teach effectively you need to understand something of the principles of adult learning.

Adults are generally in a learning situation because they want to be. Children are in a learning situation because they have to be. This is a good start but it means that if adults do not want to be in the learning situation they will not engage.

- Adults must enjoy what they are doing: they will not enjoy threats, humiliation or fear.
- Adults must understand what they are doing.
- Adults must see a reason for what they are doing. Their reasons may be very varied.
- Learning must be interesting, relevant and applicable. Adult learners must be able to say they have achieved something.
- Adults must be able to see how what they learn can be applied.
- Adults learn in many different ways. Different methods of teaching must be used to suit all learning types. What is your own preferred method of learning?

Examples of different learning methods are illustrated in the table below:

Listening	Talking
Watching	Doing
Reading	Interacting

How to teach

Any teaching activity should have a defined beginning (sometimes known as a 'set'), middle and a defined end (sometimes known as 'closure').

The beginning is about emphasising the importance of the piece of teaching and stating which important points will be covered, explaining how this will be done and setting the mood. The end is about emphasising the main points that have been covered.

This model applies to all teaching methods such as lectures, scenarios, skills, workshops and demonstrations.

Giving a lecture

The SAFE Paediatric Anaesthesia course has a set of generic lectures. All lectures are part of the course 'package'. You do not have to write the lecture: it is already written, but you do have to practise it. A guide is that the practice time should be ten times the length of the lecture, so spend about two and a half hours practising a 15-minute lecture. You must be very familiar with the lecture and also very familiar with the subject, as you will be asked questions about things that may not have been covered in the lecture. Familiarise yourself with the subject by consulting the course textbook, as well as this facilitator manual.

Make sure your lecture is loaded on to the laptop and that it runs and projects. Shortly before you give your lecture, go through the slides on the screen to which they are projected to check that they look OK. Make sure that you know how to move slides forward (and back). Make sure that you know where your lecture is on the laptop and that you are able to get it up on the screen quickly in presentation form once you go up to lecture. If this worries you, ask another facilitator to do this. They will be more than happy to and it takes a worry away from you.

- Begin by greeting the audience and introducing yourself. Then start with the beginning (the 'set'). This is covered on a summary slide at the beginning of every lecture. If necessary, add to this the arrangements for questions such as 'I will take questions at the end'.
- Do not read from the slides. Know them well and say in a natural way what the message on the slides is. You can add in comments or examples if you have time, although this will mostly be covered in the breakout sessions to follow the lecture.
- Stand to the right of the screen and half way between the screen and the audience, making sure that you can reach the laptop to change the slides.
- Hold your head up and throw your voice, as if you are talking to somebody at the back of the room.
- Please note that, for many people attending these courses, English is not their first language. Speak clearly; avoid colloquial language, slang, jokes, and so on. Use simple English.
- You can put out questions to all participants or to individuals. Be careful not to 'humiliate' participants. Be aware many participants have many years of experience (although practice may be different from that to which you are used). When the answer comes, repeat it so that everyone in the audience hears the answer.
- When you take questions, make sure that the audience has heard the question and, if necessary, repeat it.
- If a question is not easily answered in the group, you can ask for the help of the facilitators or ask if anyone has any ideas or relevant experience. If the question develops into a discussion, keep the discussion brief by saying that there is time to elaborate in the breakout sessions and during break times.

Breakout sessions

The breakout sessions take the form of skills practice, scenarios, workshops, discussions, demonstrations and DVDs.

This guide contains detailed instructions on how to run the breakout sessions in which you are involved. The course director will allocate you your breakout sessions well ahead of the course and this will be on the facilitators' programme. You will usually work together with an experienced member of the faculty. This manual contains lists of equipment required for each session. Before the session begins, it is your responsibility to make sure that all the equipment is in the room and laid out where your breakout session will be held. Make sure you know where the equipment is kept – discuss this with the course director if necessary. It is also your responsibility to leave the room in a tidy and safe state at the end of the breakout session. Before you start, make sure that you have the right candidate group in the room (as indicated on the programme).

Towards the end of the breakout session you will be given a 10-minute and a 5-minute warning and then told when time is up.

The 5-minute warning is the prompt for you to start wrapping up the session and to ask the participants if they have any questions. This will give you time to complete the session by emphasising the main points in the summary box.

Once time is up, stop the session immediately and send the group on to their next session.

Teaching a scenario with role-play

A scenario with role-play is a method of teaching that aims to be as near to real life as possible. The participants are asked to volunteer to act as the anaesthetist/parent/patient or surgeon and to act out the scenario using the props supplied. You must brief the volunteers as to how you want them to appear and behave. The facilitator reads out the clinical scenario in the breakout document to the participant group and asks the volunteer to repeat the scenario back and then show what they would do. The breakout document advises how to progress through the scenario. Close the session by emphasising the main points in the summary box.

Teaching a skill

A good method for teaching a skill is to use the 'four part' process. This involves:

1. Demonstrating the skill.
2. Demonstrating and describing the skill.
3. Demonstrating the skill and asking one of the participants to describe it.
4. Getting each learner to demonstrate the skill and describe what he or she is doing.

Make the 'set' by introducing yourself and then say how the session will be run. It is best if the first three steps are done with the learner group watching, before moving on to the learner demonstrations. If you have several full sets of equipment at the session, more than one learner can carry out the 'doing and describing' step at the same time. Consider arranging the learners in pairs to demonstrate and describe the skill if there is sufficient equipment. At the end of the session, ask if there are any questions and then make the 'closure' by emphasising the main points. If there is insufficient time or there are individuals who have not had sufficient time, you can suggest that learners come back to the session at the break times.

Teaching a workshop

As with any teaching session, make the 'set' by introducing yourself and say how the session will run. There are instructions in the breakout session on how to run the specific workshop. Ask if there are any questions and make the closure by emphasising the main points in the summary box.

Leading a discussion

There are two sorts of discussion: open and closed. An open discussion is where comments are made from individual to individual without going through the discussion leader. A closed discussion is one where the leader is at the centre of the discussion and comments are all passed through the leader. A closed discussion allows the leader to control the direction and content of the discussion. It is recommended for more junior (or new) learners.

Mentoring

The mentoring system is an extremely valuable part of the learner's experience of the course. It helps them to learn and achieve on the course and makes them feel comfortable and valued. There is mentoring time specifically planned during the course and you are asked to meet with your mentees and ask how they are getting on. It is useful to check whether there are any problems and whether they need any more help or support of any sort. It is also very useful to receive feedback on the course from the mentees. You can feed back your mentees' views at a faculty meeting or, if you think that the matters they raise are of a more confidential nature, you can discuss these with the course director.

Feedback

Although this course is not a pass/fail course, feedback can be useful. It must be given sensitively. A useful method is to ask the participant how they think that they performed, encouraging them to highlight the positives and then consider points for improvement. If the facilitator chooses not to ask the participant but just give feedback directly, he or she should also give positive points first and then points for improvement.

SAFE Paediatric Timeline and Module Contents

Each module: 4 topics (25 minutes each). Each lecture: 15 – 20 minutes

Module	Breakout session topics			
	A	B	C	D
DAY 1	LECTURE: Introduction to the SAFE Paediatric Course			
	LECTURE: Overview: The child is not a small adult			
1. Basic Principles 1	Pre-operative assessment	Basic calculations and normal ranges	Pre-operative fasting	Maintenance fluids
2. Basic Principles 2	The paediatric airway – basic principles	The paediatric airway – advanced	Anaesthetic plan: induction and maintenance	Extubation
3. Basic Principles 3	Pain assessment and management in children		Regional blocks	Handover and recovery
DAY 2	LECTURE: Safety in paediatric anaesthesia			
4. Special conditions (Part 1)	ENT surgery	Cleft lip and palate surgery	Eye surgery	Inhaled foreign body
5. Special conditions (Part 2)	Sickle cell disease	Airway emergencies	Seizures	Congenital cardiac disease
	LECTURE: Recognition and assessment of the sick child			
6. Resuscitation	Resuscitation		Intraosseous access	Recognition of the sick child
7. The sick laparotomy	Sick laparotomy: typhoid perforation	Sick laparotomy: induction of anaesthesia	Sick laparotomy: intra-operative care	Sick laparotomy: postoperative care
DAY 3	LECTURE: Trauma in children + demonstration scenario			
8. Trauma	Trauma assessment	Assessment of blood loss	Head injury in children	Transport
9. Burns	Burns assessment	Burns size estimation and fluid resuscitation	Dressing changes/sedation	Difficult airway
	LECTURE: Neonates			
10. Newborns	Newborn resuscitation		Imperforate anus	Pyloric stenosis