

## **Anaesthesia in Paediatrics: Take good care of the children**

Laboratory research over the past 2 decades has raised concerns about the effects of anaesthesia and surgery in the developing brain. There is a controversy if this neuromorbidity may result from the potentially toxic effects of anaesthetic drugs on the central nervous system or may arise from an inappropriate conduct of anaesthesia and from surgery.

A recent large scale European human observational study (the APRICOT study) demonstrated that the incidence of severe critical events associated with anaesthesia in children is higher than previously believed with startling differences among the European countries (20 to 30 times variation). Obviously many factors are important here, but there was statistical evidence that experienced paediatric anaesthesiologists and teams with a higher volume of paediatric patients had significantly fewer severe critical events. Further, the results suggest that children less than 3 years of age should be managed by more experienced teams with specific paediatric training and support.

The Safetots initiative was established to emphasize the role of the conduct of anaesthesia to prevent harm in the perioperative period and to promote safe and high quality clinical care. This initiative a priori considers that the quality of anaesthesia management and other well-known known risk factors of perioperative care have a far more important impact on outcomes following anaesthesia and surgery.

The Safetots initiative acknowledges a number of issues that are important:

1. Smaller, younger and sicker children may have more problems with anaesthesia because there is a smaller safety margin around normal and changes from normal can happen much more quickly. This is especially so in emergency or urgent cases.
2. Children who have complex surgery or longer procedures may also be more at risk of problems.
3. The rights of the child according to the UN, i.e. the rights of a child to the enjoyment of the highest attainable standard of health care the 5 Ws (who, what, where, when and how).
4. The importance of maintaining physiological homeostasis for the safe conduct of anaesthesia in children.
5. The importance of both continuous individual and institutional quality improvement to improve paediatric anaesthesia.
6. Everybody involved in paediatric anaesthesia needs a lot of training and experience to care for children to keep them safe during and after anaesthesia and surgery.



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