6. Paediatric guidelines

Children are often subjected to a variety of painful diagnostic and therapeutic procedures. Immaturity and cognitive impairment may preclude competent expression of pain during such experiences. Therefore, the need for analgesia may not be sufficiently addressed.

Pain assessment and measurement are prerequisites to optimal pain management. Pain measurement tools are available for children of all ages and cognitive ability. Methods of pain assessment as well as treatment guidelines for the paediatric population are well established, but not widely used. The use of pain scores allows the practitioner to select appropriate analgesia for the severity of pain, which improves pain control. Reassessment and regular documentation after initiating management indicate efficacy in pain management. The correct tool is appropriate both developmentally for the child and to the clinical context, and can be used consistently.

Inadequate pain management has physiological, psychological, social and economic consequences, and is an ethical and legal dilemma. Neonates and infants are particularly vulnerable due to the neuroplasticity of their immature nervous systems, with emerging evidence of poorer neurodevelopmental outcomes as a result of repeated painful stimuli without adequate analgesia. There is a dearth of literature demonstrating moderate to severe pain in the paediatric inpatient population, regardless of a medical or surgical diagnosis, as a result of inappropriate and inadequate pain management.

6.1 Principles of pain management in children

- Anxiety, fear and pain in children are intricately linked.
- Intermittent intramuscular (IM) injections are distressing to children and are less effective in achieving pain control than IV infusions or intranasal (IN) administration. Therefore, IM injections are strongly discouraged.
- Avoid per request needed (PRN) dosing as far as possible. Where used, inform and empower the child/caregiver to request analgesia if the child is in pain.
- Always use pain scoring tools to assess pain and to direct appropriate pain management.

6.2 The neurobiology of pain

Even extremely premature neonates are able to process and experience pain. Repeated painful stimuli experienced in the neonatal period have been associated with adverse long-term consequences, including poor cognitive outcomes. Neonates and infants are particularly vulnerable because of the plasticity of their nervous systems. Inhibitory descending pathways only develop after the ascending nociceptive pathways, which possibly, in theory, results in increased susceptibility to painful stimuli.

6.2.1 Postoperative pain

The type and extent of surgery are the main predictors of the severity of postoperative pain. Aspects that should be considered are the degree of tissue damage, the presence of preoperative pain, and the likely duration of pain. This will guide the choice of regional anaesthesia technique and whether catheter techniques or additives should be used. Pain is typically moderate to severe for 48–72 hours after intermediate or major surgery. However, pain can persist for longer under certain conditions, such as ileus or significant nerve injury. Surgical pain usually includes neuropathic elements, which do not respond to simple or opioid analgesia. Also, other sources of pain should be considered (e.g. vascular cannulae, nasogastric tubes, urinary catheters and chest drains).

6.2.2 Procedural pain

The aim of procedural pain management is to minimise physical discomfort, pain, movement and psychological disturbance, without compromising patient safety. For a comprehensive guideline on paediatric procedural sedation and analgesia, please refer to the SASA *paediatric guidelines for the safe use of procedural sedation and analgesia for diagnostic and therapeutic procedures in children: 2021–2026*.

6.3 Pain assessment in children

Children are able to reliably articulate pain from approximately 5 years of age. However, at this age, localisation of pain is still poor, which explains the frequent reports of abdominal pain, despite the actual source. Localisation of pain becomes reliable only at approximately 7 years of age.

6.3.1 Pain history

Self-reporting is the gold standard of pain assessment and the child should be engaged at a developmentally appropriate level. Where the child is nonverbal, a collateral history from the caregiver is important. Make every effort to get information regarding the type, severity and localisation of pain, as well as any associated symptoms. Enquire about the impact of pain on daily activities, including sleep, school attendance and performance, as well as interaction with peers, play and participation in sport. Explore pain descriptors; allow the child to use their own words in their home language.

6.3.2 Pain behaviours

The expression of pain is influenced by the interplay between bio-psycho-social factors (see Figure 2). In children, previous experiences and fear are important drivers of pain behaviour.