Section B: Paediatrics

12.5 Pain management

It is imperative that effective pain management is standardised for all paediatric patients. Even minor painful events or procedures, such as needle pricks, can affect children's long-term emotional wellbeing. Timely administration of pain management techniques can affect the paediatric patient's entire medical experience and have a lasting effect on future medical experiences.

A child can experience a seemingly benign examination as distressing. The emotional context can influence the individual child's perception of the intensity of pain. Without appropriate pain management, posttraumatic stress symptoms can occur after procedures or stressful medical experiences, which can in turn lead to difficulty coping with future procedures. Studies have shown that early exposure to painful experiences and undertreated pain at crucial developmental periods can cause changes in the activity and structure of the CNS, and could cause long-term effects in a child's perception of pain at later stages of childhood.

12.6 Preparation

Research proves that children who are prepared for health care experiences in a manner that is developmentally appropriate, show more positive outcomes regarding their behaviour, recovery and ability to cope with stressful events. Preparation and medical play leads to less emotional distress, better overall coping, clearer understanding of medical interventions, and a more positive physical recovery.

By using developmentally appropriate communication as well as preparation for medical procedures, children gain knowledge and skills that reduce distress and anxiety and increase their coping skills. Uncertainty and lack of clear information causes anxiety and increased distress that heightens the child's perception of pain. By lowering their anxiety and promoting their adaptive coping skills, their perception of pain can be reduced.

The developmental level of functioning as well as the level of cognitive functioning will have an effect on the child's understanding of the medical procedure. It will thus influence the manner

and content of preparation. The goal is to enhance understanding and facilitate coping, thereby reducing distress. Distress is generated when there is a discrepancy between expectations of an event and the actual experience.

The goal, therefore, of psychological preparation is to increase children's sense of predictability of and control over potentially overwhelming experiences, allowing them to proceed in these situations with a sense of mastery and the lowest possible level of distress.

12.7 One Voice

One Voice is a method used during procedures to reduce a child's anxiety due to noise and overstimulation, and to increase coping for both the patient and the caregiver. When a child has multiple people giving directions or words of encouragement at the same time, the child may become more anxious or agitated. To help a child focus their attention and to facilitate better coping skills, the *One Voice* philosophy recommends that only one person communicates with the child during a procedure. That one person speaking can be a parent, child life specialist, doctor, nurse, technician, etc. The voice can be selected prior to the procedure and can change during the procedure as needed. Using the *One Voice* method during invasive procedures along with other interventions, such as alternative focus, can help manage a patient's fear, anxiety and pain, allowing the patient and family to have the best experience possible.

12.8 Language

During the administration of a medical procedure, it is helpful to use language that invites hope and courage and that assures the child of some release from suffering, fear and pain. Remind the child that the pain will come to an end. Avoid words that might conjure up fear, uncertainty or anxiety.

The appropriate time to inform the child of potential discomfort and to explain how it will be managed, is before the medical procedure. This is done by:

- providing clear and honest information about the procedure,
- providing explanations at a language level appropriate to the child's abilities,
- focusing on the positive and incorporating positive or neutral or 'every day' words into your language,
- using language that is more descriptive and concrete and that avoids the use of medical terms which can be confusing to children, and
- speaking the child's home language.

Table I: Language to avoid and language to use

Language to avoid	Language to use
We are going to make an incision.	We are going to make a small opening that we will close very carefully afterwards.
You will be okay, there is nothing to worry about.	What did you do at school today?
This won't hurt.	It might feel like a pinch.
You are acting like a baby.	Let's get your mind off it, tell me about that movie.
This won't take long.	The procedure will be shorter than (child's favourite television programme).
The medicine will burn.	Some children say they feel a warm feeling.
I am sorry.	You are being so brave.
Don't cry.	That was hard, I am proud of you.
It's over.	You did a great job doing the deep breathing and holding still (as we practised).
You will have to say goodbye to your parents.	That will be the time when you say: 'See you later'.
You will have a sore throat when you wake up.	Your throat may feel dry and scratchy when you wake up.

12.9 Positions of comfort

Positions of comfort is a support measure used to incorporate reassurance, comfort and control for patients during medical procedures. Children may feel a loss of control if they are put in a supine position during a procedure, which could result in fear. The child may associate this fear with invasion of privacy and body space and may not understand why a member of the medical team is inflicting pain on them. Comfort positions allow the caregiver to hold the child during a procedure, for example, in either a chest-to-chest or back-to-chest position.

Comfort positions can be used during a variety of procedures, including intramuscular injections (IMIs), IV placements, nasogastric tube placements, sutures or staples, and can be initiated as soon as a child has gained head and trunk control (3–5 months of age).

The goals for comfort positions include promoting a sense of control for the child, allowing the caregiver to participate in a positive way, providing comfort through close contact with the caregiver, limiting the number of people needed to complete a procedure, and successfully immobilising an extremity for a procedure. The intention with positions of comfort is for the parent to soothe and comfort the child, **not** to restrain the child.

12.10 Coping strategies

Coping strategies are defined as specific cognitive or behavioural actions taken to manage tension-generating events. The following sections contain descriptions of various coping strategies.

12.10.1 Deep breathing

Facilitate deep breathing by breathing in through the nose and out through the mouth, blowing bubbles, blowing away the 'bad' feeling or pain, smelling the imaginary flowers and blowing the imaginary bubbles, or blow out all the birthday candles.

12.10.2 Alternate focus

The gate control theory serves as a conceptual framework for the use of alternate focus to aid children in coping with pain. This theory proposes that pain impulses are moderated by a gating mechanism that opens to allow nerve impulses to reach the brain or closes to decrease impulse transmission. Anxiety, anticipation and distress may open the gate and thus increase the perception of pain. *Cognitive activities* such as alternate focus, relaxation and imagery tend to close the gate and prevent sensory transmission of pain.

By actively distracting the child's attention and focusing it on a cognitive task or playful activity, the child's perception of pain can be reduced. The rationale is that distraction and alternate focus interrupt the processing of the sensory and emotional impulses in the brain. Examples of alternate focus include reading a book or pop-up books, playing 'I spy' or 'Where's Wally?', playing electronic games, watching videos, playing with puppets, playing with sensory toys such as light spinners, glitter wands, Geoflux and oil drippers.

12.10.3 Visualisation or imagination

Help the child to visit a favourite place in their imagination. Encourage the child to experience detailed pleasing sensory experiences associated with their favourite place. For example, feel the sand between your toes, smell the fresh air, feel the cool breeze against your face, and feel the warm sunshine on your skin.

12.10.4 Visual schedules

Take photographs of the various stages of the procedure, laminate them and put them on a communication board. As the procedure progresses, allow the child to remove the pictures of the stages that have been completed. This will provide the child with a sense of control and predictability during the administration of the procedure.

12.10.5 Relaxation therapies

Help the child to tense various muscle groups for seven seconds and then relax the muscles. Aid the child to concentrate on the sensation of relaxation (e.g. pretend that you feel warm sunshine on your face, then your shoulders and torso, feel how your body relaxes in the sunlight).

12.10.6 Rehearsal

Role play the procedure. The child acts out the procedure using/implementing coping techniques. Show the child a video recording of other children undergoing the procedure and coping well.

12.10.7 Coping strategies according to age

Infants

Distraction or alternate focus – use a rhythmic voice, gentle massage, soft soothing music, breathe slowly and rhythmically while holding the infant, skin-to-skin contact, or breastfeeding during the administration of the procedure.

Toddlers and preschool children

Distraction or alternate focus, imagination flights, deep breathing, blowing bubbles, rehearsal of the procedure beforehand, or visual schedules of the steps of the procedure.

School-age children

Distraction or alternate focus, progressive relaxation, guided imagery, deep breathing and blowing bubbles, rehearsal of the procedure beforehand, or visual schedules of the sequential steps of the procedure.

Adolescents

Adolescents might be afraid of losing control and looking like a baby. They are often hesitant to express feelings of pain. They should **not** be shamed or ridiculed. This age group might need more rehearsal and practice time than other age groups.

Distraction, progressive relaxation, guided imagery, deep breathing and blowing bubbles, rehearsal of the procedure beforehand, or visual schedules of the sequential steps of the procedure.

Table II: Non-pharmacological pain management strategies for children

Contextual measures	Physical measures	Cognitive measures	Emotional support	Environment
• Cluster procedures to avoid overhandling • Reduce noise level • Dim lights	• Breastfeeding • Non-nutritive sucking (dummy) • Facilitated tucking/ swaddling • Kangaroo care, parental cuddles • Massage • Sucrose syrup • Immobilise/ splint fractures • Dress burns/ bleeding wounds	• Explain procedures • Reassurance • Pain and neuroscience education • Mindfulness • Yoga • Distraction • Imagery • Favourite toy • Music therapy • Music stimulation	• Presence of parent/caregiver • Structured parental involvement • Caregivers voice • Voice: calm, soothing tone • Active reassurance • Positive affirmations • Praise • Rewards system	• Clean and neat, child-friendly environment • Monitors fully functional and alarms appropriately set

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