

Management of Acute Pain in Pediatrics

Definitions:

Acute Pain – pain less than 3-6 months in duration for patients ranging in age from 0-18 years

Chronic Pain – pain greater than 3-6 months in duration for patients ranging in age from 0-18 years

Management of Acute Pain in the Outpatient Setting

Age appropriate pain assessment tools and techniques should be used to assess pain in children and adolescents (See Attachment A). All efforts should be undertaken to reduce or eliminate anticipated acute pain for medical procedures and treatment situations whenever possible. This may include such treatments as topical local anesthetics/EMLA cream or pre-procedure medication such as acetaminophen for immunizations, phlebotomy, other invasive procedures or penile block for circumcision. Other pain treatments include those non-opioid pharmacologic agents used for adult acute pain management in proper dosages based on age and weight. Examples include the use of acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs) such as Ibuprofen. The approach to pain management in pediatrics should include non-pharmacologic interventions such as sensory, behavioral and cognitive interventions. See Table 1 below for examples:

Table 1				
NEONATE/INFANT	TODDLER	PRESCHOOL	SCHOOL AGE	ADOLESCENT
SENSORY	SENSORY	SENSORY/ BEHAVIORAL	SENSORY/ BEHAVIORAL COGNITIVE	SENSORY/ BEHAVIORAL COGNITIVE
Positioning Swaddling Rocking/cuddling Dim lighting Sucking Sucrose water on pacifier Touch	Positioning Play therapy Hugging/Holding Touch/Massage Security object (toy, blanket) Pacifier Imagery	Positioning Play therapy Hugging/Holding Touch/Massage Distraction device (toys, music, videos, games, books) Heat/cold application Imagery	Positioning Play therapy Hugging/Holding Touch/Massage Distraction device (toys, music, videos, games, books) Heat/cold application Imagery Humor Exercise	Positioning Distraction device (music, videos) Heat/cold application Imagery Humor Breathing techniques Relaxation techniques

NOTE: If Opioid medications are deemed appropriate, only short-acting opioids should be prescribed in the lowest effective dose, ideally for no longer than 3 days, and should include family members and caretakers within the interprofessional team to tailor interventions to the individual child and determine goals of treatment.

Management of Acute Pain in the Inpatient Setting

Appropriate pain management in the hospital requires accurate pain assessment using age-appropriate pain assessment tools and techniques along with anticipation of acute pain as a result of medical procedures, diseases, or treatments. Examples include post-surgical care, sickle cell crisis, and traumatic injuries. Such tools include the Neonatal Pain rating scale called CRIES (Crying, Requires O₂ for SaO₂>95%, Increased vital signs, Expression, Sleepless) or the FLACC (Face, Legs, Activity, Cry, Consolability) Behavioral Pain Assessment Tool for toddlers and pre-school age children. Self-reporting is a reliable indicator of pain and severity for older children using such instruments as the Visual Analogue Scale (VAS) or the Wong-Baker faces pain rating scale. Parents and caregivers are important as well in providing information regarding their child’s condition and as observers of their child’s pain. They are important members of their child’s care team and as such should be intimately involved in developing a treatment plan. Failure to adequately manage acute pain can result in the child developing fear, anxiety, and chronic pain and other conditions due to their experiences in childhood.

Ideally, pain management should include multiple modalities, be managed by an interprofessional healthcare team including caregivers, and be tailored to the individual child. Non-pharmacologic approaches such as the sensory, behavioral and cognitive interventions utilized in the ambulatory setting can be effective in the hospital setting and are recommended as part of the treatment plan when possible. Some hospitals employ child life specialists to facilitate these approaches. For mild to moderate pain, a trial of non-opioid pharmacologic medications is recommended unless there are contraindications for their use. These provide more effective pain control when provided on a scheduled basis. If pain control is inadequate or with severe pain in such situations as postoperative pain, sickle cell crisis, or pain due to cancer, opioids should be considered as a means to provide compassionate and competent management of their pain. Opioids should be given by the most effective means to accomplish effective pain control which could include oral, intramuscular, intravenous bolus or patient/healthcare provider-controlled analgesic methods. As in the management of adult pain, adjuvant medications can be beneficial dependent upon the type of pain.

Generally, the World Health Organization (WHO) recommends a two-step approach to pain management in children. See Tables 2 and 3 below:

Table 2		
WHO STEP and PAIN GRADE	ONE: MILD PAIN	TWO: MODERATE to SEVERE PAIN
PAIN MANAGEMENT REGIMEN RECOMMENDATION	Acetaminophen +/- NSAID +/- Adjuvant Therapy	Opioid +/- Non-Opioid Medication +/- Adjuvant Therapy

Table 3**Recommendation: Maximize Non-Pharmacologic and Non-Opioid Pharmacologic Adjuvant Therapies**

<u>Neuropathic Pain Treatment Options</u>	<u>Musculoskeletal Pain Treatment Options</u>	<u>Inflammatory Pain Treatment Options</u>	<u>Multiple Etiologies Treatment Options</u>
<ul style="list-style-type: none"> -Anticonvulsant meds -Antidepressants -Low dose Ketamine (refractory pain) -Topical medications -Sensory, Behavioral, Cognitive Interventions -Acupuncture -Massage 	<ul style="list-style-type: none"> -Acetaminophen/NSAIDS -Topical medications -Regional Blocks - Sensory, Behavioral, Cognitive Interventions -Acupuncture -Physical therapy -Occupational therapy -Regional Blocks 	<ul style="list-style-type: none"> -Acetaminophen -NSAIDS -Corticosteroids - Sensory, Behavioral, Cognitive Interventions -Acupuncture -Massage 	<ul style="list-style-type: none"> -Medication choice based on co-morbidities - Sensory, Behavioral, Cognitive Interventions -Acupuncture -Massage -Regional blocks

In general, physical and emotional functional improvement are better outcome measurements for effective pain control than pain intensity. Improved sleep and socialization are also critical components to functional improvement. Ongoing evaluation of the infant or child receiving analgesia is important for monitoring effectiveness, the need for additional therapies, and de-escalation of therapy as the acute pain resolves.