

HELP

Pediatric Pain Management Handout

Pediatric Pain Assessment

INFANT PAIN SCALE

Facial Expression

0-relaxed	restful face, neutral expression
1-grimace	tight facial muscles, furrowed brown
<u>Cry</u>	
0-no cry	quiet, not crying
1-whimper	mild moaning, intermittent
2-vigorous	loud scream, continuous (Note-silent cry may be scored if the baby is intubated)

Breathing patterns

0-relaxed	Usual patter for this baby
1-change in breathing	in drawing, irregular, faster than usual, gagging, breath holding.

Arms

0-relaxed/restrained	no muscular rigidity
1-flexed/Extended	tense, straight arms, rigid and/or rapid extension/flexion

Legs

0-relaxed/restrained	no muscular rigidity, occasional random leg movement
1-flexed/extended	tense, straight legs, rigid and/or rapid extension/flexion

State of arousal

0-sleeping/awake	quiet, peaceful, sleeping or alert and settled.
1-fussy	Alert, restless and thrashing

OBJECTIVE PAIN SCALE - OPERATIONAL DEFINITIONS (1-4yrs)

BLOOD PRESSURE (Systolic)

- 0 - \leq 10% preop
- 1 - 10 - 20% preop
- 2 - $>$ 20% preop

CRYING

- 0 - Not crying
 - 1 - Crying but responds to TLC
 - 2 - Crying does not respond to TLC
- Awake and not crying or asleep
Crying is controlled by being touched, reassured or held by nurse/parent.
Crying uncontrollably. Measures to comfort child are unsuccessful.

MOVEMENT

- 0 - None
 - 1 - Restless harm.
 - 2 - Thrashing
- Asleep or if patient is awake, lying or playing quietly.
Child unable to sit or lie still. Frequent position changes. No threat of self
Child kicking and/or squirming. Potential for self harm. Has to be protected or restrained for safety.

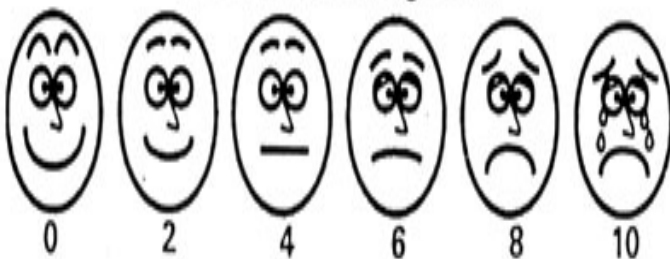
AGITATION

- 0 - Asleep or calm
 - 1 - Mild
 - 2 - Hysterical not
- Asleep or awake and calm
Tense, voice quivering. Responds rationally to questions and/or responds to attempts to console.
Does not appear rational, eyes wide. May be clinging to nurse/parent. Does not respond to attempts to console.

VERBAL EVALUATION OR BODY LANGUAGE

- 0 - Asleep or states no pain
 - 1 - Mild pain or cannot localize (Pre-verbal child - extremities flexed)
 - 2 - Moderate pain location and can localize (Preverbal child -
- Preverbal child - no special posture.
Complains of general feeling of discomfort states pain but unable to describe location of pain or is mild in nature.
Legs drawn up. Arms may be folded across body.
Complains of pain that is bothersome and is able to point to or describe of pain.
Holding, guarding, or touching location of pain. Infants with legs drawn up; fists

Faces Pain Rating Scale



Explain to the child/adult that each face is for a person who feels happy because he has no pain (hurt) or sad because he has some or a lot of pain.

Face 0 is very happy because he doesn't hurt at all;

Face 2 hurts just a little bit;

Face 4 hurts a little more;

Face 6 hurts even more;

Face 8 hurts a whole lot;

Face 10 hurts as much as you can imagine, although you don't have to be crying to feel this bad.

Ask the child/adult to choose the face that best describes how he is feeling. Recommended for persons age 3 or older.

Pain scales for infants, young children and preschool children. Each of these scales is a separate item so you can copy and paste them in a larger size for bedside use.

Treating Postoperative Pain

Remember – titrate all drugs to effect – if the child is still awake and crying give more opioids!

Epidural or Regional Nerve Block

Epidural **opioid dosing:** Morphine – 3-10ug/kg/hr, Fentanyl 1-2 ug/kg/hr, hydromorphone 2-5 ug/kg/hr

Epidural or continuous regional block **local anesthetic dosing**

Maximum dose for children

< 6 mo old Bupivacaine 0.3mg/kg/hr, lidocaine 1mg/kg/hr

> 6 mo old Bupivacaine .4-.6 mg/kg/hr, lidocaine 1.5mg/kg/hr

Ropivacaine use same max dose as for bupivacaine

Continuous IV narcotic infusion

Drug	Loading Dose	Continuous Infusion
Morphine	0.05 mg/kg	0.01-0.04 mg/kg/hr
Fentanyl	1 ug/kg	0.2-1ug/kg/hr
Hydromorphone	10ug/kg	0.5-2ug/kg/hr

Bolus to achieve analgesia and start infusion at lower rate. If inadequate analgesia, rebolus with ½ first dose and increase rate by 25%.

Mix 1mg/kg morphine in 100ml bag of NS and run at 1-4 ml/hr.

PCA – children 6 or older must be able to understand the concept, may not be suitable if language is a problem. Same lockout times as adults 6-10 min

Drug	PCA Dose	Basal Rate
Morphine	10-30 ug/kg	5-30 ug/kg/hr
Fentanyl	0.25-1ug/kg	0.25-1ug/kg/hr
Hydromorphone	2-6 ug/kg	1-3 ug/kg/hr

Loading dose same as for continuous infusion

Basal rate **may** improve sleep

Intermittent opioid dosing – less optimal pain control than those mentioned above

Morphine: starting dose 0.05-0.1 mg/kg IV, repeat dosing every 5-10 minutes until effective analgesia established. Use this as basis for IV q2-4° dosing schedule.

Fentanyl: starting dose 0.5-1 mcg/kg IV, repeat dosing every 5-10 minutes until effective analgesia established. Use this as basis for IV q1-2° dosing schedule.

Adjuvant Medications – improve pain control and decrease opioid use

Acetaminophen – does have opioid sparing effects. Oral load 30mg/kg PO then 10mg/kg PO Q4hrs. Rectal load 40mg/kg PR then 20mg/kg PR Q4hrs. Max dose 90-110 mg/kg/day.

Ketorolac 0.5mg/kg Q 6hrs IV

Tramadol – weak mu agonist 1-2 mg/kg PO Q 6hrs Max dose 400mg Q day

T3 – acetaminophen with codeine. Codeine dosing 0.5-1.0mg/kg/dose PO q 4-6hrs (dose limited by maximum daily dose of acetaminophen). Remember 25% of patients can't convert codeine to its active formulation. Codeine will not be effective in these patients.

Oxycodone – 0.05-0.15mg/kg/dose PO Q 4-6hrs (daily dose limited by maximum dose of acetaminophen if in a combined form)

Reversal Agents

Naloxone – **TITRATE TO EFFECT!** – use small doses give every 1-2 min until respiratory rate is adequate. Dose 0.25-1ug/kg IV

Flumazenil 5-10 ug/kg IV titrate to effect