Lions and Tigers and Bears – Oh My! Assessing and Managing Pain in Children

Beth Vogel MN MPH PNP CHPPN
ORION Pediatric End of Life Training and Consultation

ProCare 20/20 Conference
Focused on Hospice Care
August 16, 2018
I have no conflicts of interest to disclose.
Find A Mentor...

BE a Mentor

With gratitude and in memory

Paul M. Fernhoff MD
Lions and Tigers and Bears – Oh My!
Assessing and Managing Pain in Children
Objectives

1. Identify barriers to effective pain management in children.

2. Describe age-appropriate tools used to assess pain in infants, children and adolescents.

3. Describe basic management strategies used in assessment and management of children with life limiting illnesses, including non-pharmacologic and pharmacologic approaches.

1. Describe emotional pain and its relationship to physical pain; describe strategies for assessment and intervention of emotional pain.
Pain Is …

“Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.”

International Association for the Study of Pain, 1988

“Pain is whatever the person experiencing person says it is…”

Margo McCaffery RN, 1988

“Pain is like a shark biting me all over.”

8 year old girl with leukemia, 2003 (www.painstory.org)

** Let the child describe the pain to you**
Emotional Pain

End of Life work is so emotionally driven...

Many emotions can occur simultaneously. Explore family culture.

Important to give same awareness to emotional pain as physical pain

- Use your social worker and chaplain!
- Separate assessment and intervention for EACH family member.

Physical pain and symptoms may be exacerbated when emotional pain is present.

Child may carry undue burdens, unknown even to parents.

Be sensitive to balance: ‘Too much talk’ can occur too!
Assessing Emotional Pain

How well is child/parent sleeping?
   Afraid to go to sleep?  Waking up frequently?

How does behavior compare to ‘baseline’ or typical?
   Withdrawn?  Irritable?  Acting out at school?

Presence of physical symptoms? Anxiety?
   Tummyache?  Malaise?  Headache?  Anorexia?
   Use family’s words:  e.g. ‘butterflies in stomach’

What is the parent’s previous history of coping? What do they model?

LISTEN

Anticipation and anxiety...
Is child allowed to talk openly?  R/O depression
Must maintain trust while respecting family’s coping style.
Offer objective information with discernment
Emotional Pain
Strategies and Interventions

Must give child space, time, support and acceptance to do their work of dying.

Provide opportunity to child and parents to talk about feelings and the looming unknown; loss of control is accompanied by tremendous anxiety.

‘AP’ in ‘EP’ => ACCEPTANCE. PRESENCE.

Developmentally appropriate activities: reading directed books together, body outline picture, imagery

Good symptom management and pain control
MYTHS About Childhood Pain

• Pain Control = Respiratory Depression and/or Sedation
  Respiratory depression is rare; preceded by sedation
  Can be a risk in opioid naïve patients, methadone

• Addiction – Persistent myth but no basis in fact

• “Running out of options for pain meds that work”
  This is representative of lack of knowledge or skill in titrating opioids,
  providing balanced analgesia. Rare to run out of options for pain control.

• Presence of pain indicates disease progression and approaching death
  - Unfortunate double standard: good pain control is only associated
    with EOL
  - Good pain control should be offered to all children in need to avoid
    the deleterious effects on child AND family of inadequate pain control
    (Carter and Levetown 2004)

• Neurocognitively impaired children and newborns cannot feel/express pain
FACTS About Childhood Pain

Opioid addictions are rare.

Repeated exposure to pain leads to increased anxiety and increased perception of pain. Pain receptors actually develop lower stimulation thresholds with repeated pain exposure.

Studies have shown that children as young as 3 can use pain scales accurately.

Term neonates experience pain at the same level as older infants, but pain is experienced more acutely in premature infants because of their immature neurological systems. Pain perception is present mid-late gestation.

Infants older than 1 month metabolize drugs in the same way as older infants and children.
Impact of a Child’s Pain

On Parents:
Feeling helpless, need to be vigilant to advocate for child’s pain relief
Feeling unprepared to manage their child’s pain, not knowledgeable about pain assessment and medication
Sense of hopelessness, a wish for their child to be released from pain through death (Ferrell et al, 1994 a & 1994 b).

On the Family and Marriage:
Struggle for normalcy, sleep deprivation
Failure as a parent
Impact on siblings, disruption in the family system
Fathers: helplessness
Overall negative impact on marriage
Developmental Aspects of Pain

Infants and Toddlers

Most consistent indicator of pain is facial expression

Older infants can resist

Distraction not useful – this only increases their fear and fight

Observable behaviors of pain in infants and toddlers:
(Hockenberry & Wilson, 2006)

- Disuse of affected extremity
- Self limitation of activity
- Decreased appetite
- Protest
- Inconsolability
Developmental Aspects of Pain

Preschool
More sophisticated responses to attack: hide away, lock door
More verbal sophistication: “I hate you!” “Please don’t make me take this pill. I will be good.”
More receptive to preparatory intervention: anticipatory guidance, distraction
Pain description sometimes is referred - generalized ‘tummyache’

School Age
Fear disability, even death
More aware of pain as being significant marker of serious illness, loss of function
May seek information as mechanism of achieving control
Verbal abilities increase: can accurately describe pain
Developmental Aspects of Pain

Adolescents

View pain, disability as how it affects them NOW

Body image is supreme

May respond to pain with self-control, minimizing report for fear of being ‘out of control’

May be hesitant to ask for pain relief measures
Principles of Pain Assessment
Overall the Same as in Adults!

• Onset
• Location
• Quality
• Alleviating or Aggravating Features
• Quantity
• Radiation
• Temporal Pattern

What words do the child and family use for pain?

Is the pain affecting the child’s ability to participate in ADLs? Walk? Run? Play? Interact with others?

Does the pain disturb the child’s sleep?
Principles of Pain Management
Same as in Adults!

- Severe uncontrolled pain = medical emergency
- Regular assessment and reassessment
- WHO analgesic ladder should be used
- Adequate dosing and schedule, regular and breakthrough
  
  Goal: undisturbed sleep and participation in desired activities
- Side effects anticipated and treated proactively
- Total pain components assessed and addressed
- Non-pharmacologic therapies used
- Role of parents and other family
- By the clock, not PRN!
Pain Assessment Measurement Methods in Infants, Children, Adolescents

Self-report
  Inquiry, verbal scales, numeric scales, pictorial scales

Behavioral (includes parental report – their observations)
  Motor responses, facial expressions, crying, consolability, sleep-wake patterns, fear of being moved, school performance

Physiologic
  Pulse, respirations, sweating, (blood pressure)
Pain Assessment – Quick Tools
Preschool and Early School Age
Pain Scales
Numeric and FACES

0-10 SCALE for children over age 7
On a scale of 0 to 10, with '0' being no pain and '10' being the worst pain you can imagine, what number are you feeling right now?

No pain 1 2 3 4 5 6 7 8 9 10 Worst pain

Wong-Baker FACES™ Pain Rating Scale

0 No Hurt
2 Hurts Little Bit
4 Hurts Little More
6 Hurts Even More
8 Hurts Whole Lot
10 Hurts Worst

©1983 Wong-Baker FACES™ Foundation. Used with permission.
## Pain Scales

**FLACC – Face, Legs Activity, Cry, Consolability**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Face</strong></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No particular expression or smile</td>
<td>Occasional grimace or frown, withdrawn, disinterested</td>
<td>Frequent to constant frown, clenched jaw, quivering chin</td>
</tr>
<tr>
<td><strong>Legs</strong></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Normal position or relaxed</td>
<td>Uneasy, restless, tense</td>
<td>Kicking, or legs drawn up</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Lying quietly, normal position, moves easily</td>
<td>Squirming, shifting back and forth, tense</td>
<td>Arched, rigid, or jerking</td>
</tr>
<tr>
<td><strong>Cry</strong></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No cry (awake or asleep)</td>
<td>Moans or whimpers, occasional complaints</td>
<td>Crying steadily, screams or sobs, frequent complaints</td>
</tr>
<tr>
<td><strong>Consolability</strong></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Content, relaxed</td>
<td>Reassured by occasional touching, hugging or “talking to”. Distractable</td>
<td>Difficult to console or comfort</td>
</tr>
</tbody>
</table>
Assessment
Mild, Moderate, Severe Pain

Evaluate pain on all patients using the age and developmentally appropriate pain scale

Numeric, FACES and FLACC use 0 – 10 scoring:

- **NO pain** 0
- **MILD pain** 1 – 3
- **MODERATE pain** 4 – 7 Interferes with play or sleep
- **SEVERE pain** 8 – 10 Interferes with all activities

** Respond urgently to pain > 8
Pain Assessment in a Neurologically Compromised Child

Assess for the presence of:

- Crying
- Moaning
- Fussy, irritable
- Arching, stiffening
- Seeking comfort
- Pulling legs up
- Teeth grinding
- Withdrawn, less active

Consider FLACC
Superman, Superwoman, and Bravery

Helping parents navigate ‘bravery’

What does ‘being brave’ mean?
   To the child?
   To the parent?

Does the child feel he/she is letting the parent down by
   Using pain meds? Being in pain?
   Extra caregiving required for child- ‘burden’?
   Dying?
Classification of Pain – Same as in Adults
(Diagnostic Terms) – Listen for Child’s Description

*Somatic pain*: localized, ache, throb, gnaw

*Visceral pain*: often referred, crampy, pressure, deep ache, squeeze  *(‘an elephant is standing on my stomach’…)*

*Neuropathic pain*: burning, ‘electric’, shock, hot, stab, numb, itch, tingle  *(‘a shark is biting me’…)*

*Acute pain*: increased HR, increased BP, diaphoresis, pallor, fear, anxiety

*Chronic pain*: sleep difficulties, loss of appetite, depression
Goals of Pharmacologic Therapy

Dosing for children is **always** mg/kg/dose or mg/kg/day (in divided doses).

Use WHO Pain Ladder as a ramp.

Use adjuvant therapies PRN.

Do not use demerol or aspirin.

Avoid codeine.

Use care with combinations including acetaminophen:
   Count ALL acetaminophen (eg in APAP/opioid combinations).

Use ONE short acting medication for acute pain exacerbation.

Switch to ONE long acting medication when pain is stabilized.
Chronic moderate or severe pain

Give baseline long acting opioid around RTC, *NOT* PRN.

For breakthrough dose, give 10% of total daily dose as PRN.

PRN interval: 1 – 2 hour oral, 30 – 60 min parenteral

If child needs > 3 breakthrough doses per 24 hours, increase baseline dose.

Methadone is a wonderful drug in children when used carefully. But methadone rules are different! Consult your pharmacist!

Consider inpatient unit for initiation of methadone.

Methadone and morphine can be given as SQ infusions.

When converting from one opioid to another, reduce total dose by 1/3 – 1/2 to account for incomplete cross tolerance

Most all medications can be compounded into *concentrated* flavored syrups by your wonderful compounding pharmacist!
Adjunct therapy and side effects

Prevent constipation – start senna or polyethylene glycol (Miralax) with opioids – no exceptions! Stool softener is not enough.

Nausea: treat with antiemetics; may need to change meds. Consider antiemetic prophylaxis use when starting opioids.

Pruritis: treat with antihistamines; may need to change meds

Clonus: treat with benzodiazepines or change meds

Neuropathic pain: Use anticonvulsants as adjuvants
## Pain Severity and Analgesic Choice

<table>
<thead>
<tr>
<th>Pain Severity</th>
<th>Analgesic Choice</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>Acetaminophen or NSAID</td>
<td>Tylenol, Ibuprofen, Naproxen</td>
</tr>
<tr>
<td>Pain score 1-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>PO APAP/opioid combinations</td>
<td>Toradol, Tylox, Percocet, Lortab</td>
</tr>
<tr>
<td>Vicodin</td>
<td>Low dose MSO4</td>
<td></td>
</tr>
<tr>
<td>Pain score 4-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe</td>
<td>Opioid</td>
<td>Morphine, Fentanyl, Hydromorphone</td>
</tr>
<tr>
<td>Pain score 8-10</td>
<td></td>
<td>Methadone, Hydrocodone, Oxycodone</td>
</tr>
</tbody>
</table>
# Dosing Parameters in Children and Adolescents

<table>
<thead>
<tr>
<th>Drug</th>
<th>Oral Dose</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mild Pain</strong></td>
<td></td>
<td><strong>Children</strong></td>
<td><strong>Adolescents</strong></td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>5-10 mg/kg</td>
<td>400-600 mg Q 6 hrs prn</td>
<td></td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>10-15 mg/kg</td>
<td>300-600 mg Q 4-6 hrs prn</td>
<td></td>
</tr>
</tbody>
</table>

***APAP limit: 15 mg/kg/dose or 5 doses/day (75 mg) – children < 40 kg  
2000-3000 mg/day (2-3 Gm) in adolescents > 40 kg***

<table>
<thead>
<tr>
<th><strong>Moderate or Severe Pain</strong></th>
<th><strong>Children and Adolescents</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>0.2 – 0.5 mg/kg/dose Q 3-4 hrs</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>0.03 – 0.08 mg/kg/dose Q 3-4 hrs</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>0.1 – 0.2 mg/kg/dose Q 3-4 hrs</td>
</tr>
<tr>
<td>Methadone</td>
<td>see pharmacist for dosing recommendations</td>
</tr>
</tbody>
</table>
Methadone and Fentanyl

Methadone

Cautions when starting methadone...

Dosing and schedule

Can use for short-acting breakthrough once steady-state is achieved in 3-5 days.

Fentanyl

Do not use in opioid naïve child.

Use care in placement location of patch. NO LOLLIPOPS.

Hazardous waste concerns in homes with other small children.
Pediatric E-Kit (Comfort Kit)

Children’s Comfort Kit

Child’s Name ________________________  Weight ______ kg  Date ________

Nurses’ Signature ________________________________

Each medication to be labeled: TAKE AS DIRECTED BY HOSPICE NURSE

___ Ativan (Lorazepam) 2 mg/ml; give by mouth/NG tube/in rectum
May give every 4-6 hours for seizures, agitation, or persistent vomiting.
Dose: _____ mg = ______ ml

___ Liquid Morphine (Roxanol) 10 mg/ml; give by mouth/NG tube/ in rectum
May give every 4 hours as needed for pain or respiratory distress
Dose: _____ mg = ______ ml

___ Atropine ophthalmic drops 1-2 drops **SUBLINGUALLY - Under the tongue**
May give every 4 hours as needed for increased secretions
Dose: _____ drop(s)

___ Tylenol Infant Drops 80 mg/0.8 ml; by mouth/NG tube
May give every 4-6 hours as needed for fever
Dose: _____ mg = ______ ml

___ Tylenol suppository – 80/120/325/650 mg;
One in rectum every 4-6 hours as needed for fever

___ Glycerin suppository – One in rectum every 2-4 days as needed if no bowel movement

___ Haldol (Haloperidol) 2 mg/ml; by mouth/NG/in rectum
May give every 8-24 hours as needed for acute agitation
Dose: _____ mg = ______ ml

Tuberculin syringes
You are not in this alone.
REFERENCES


Walden, Marlene & Gibbins, Sharyn; Pain Assessment and Management Guidelines for Practice 2nd edition. National Association of Neonatal Nurses; Glenview, IL. 2008