MedicCast Extra

Special Extra Release:

Pediatric Pain Assessment:

Guidelines for the Emergency Medical Professional

Note: ALWAYS follow your own protocols and medical direction. The information presented here is for general information review only and not meant to take the place of your local guidelines.

In a recent EMS Bootcamp webinar, paramedics Greg Friese and Jim Hoffman discussed overall challenges for pediatric assessment in general. In this article, we'll cover specific pediatric pain management tips for both working emergency medical technicians and paramedics as well as EMS students.

You'll learn to measure pain levels through:

1. **Self Measurement** (numeric or pictorial scales, verbal description)
2. **Behavioral Assessment** (facial expression, withdrawal from pain, guarding, agitation)
3. **Physiological Assessment** (vital signs, diaphoresis)

Let's go a bit deeper, and look at each of these assessment options in turn along with some links to some additional reference materials and journal articles that might be useful for follow-up reading. Later this week, we'll follow up with some more information on ways to treat and manage pain in pediatric patients.

Children and Pain

Choose the one thing that makes children fearful of a visit with a medical practitioner and I'd be willing to bet it's pain. I have no study to back this one up, just personal experience from my own childhood and from my observations as a parent watching my own children. Knowing this, I still find it hard to believe that some medical professionals are not more proactive in the management of pediatric pain. Some of this is just entrenched medical convention based on previous articles from long ago. A 1968 article on pediatric pain relief actually said:

"Pediatric patients seldom need medications for relief of pain. They tolerate pain well" (Swafford & Allen, 1968, p. 133).

As I child who grew up during that time frame, I'd like to have a few words with Swafford and Allen.

I believe the issue has been some medical professionals don't take into account the differences in the ways pediatric patients communicate with their surroundings, as well as the dynamics of adult/child relationships. Thankfully, there has been a broad swing away from the

Three Methods of Pain Assessement

- Self Reported Assessment: 1 - 10 scale, FACES scale, description of quality and location of pain.
- Behavioral Pain Assessment: Facial expression, posturing, guarding, N-PASS chart, FLACC Scale
- Physiological Assessment: Vital sign trending (must be coupled with other methods due to pediatric compensation during shock and stress).

earlier conventional wisdom on pediatric pain towards a more balanced and scientific assessment based approach. The understanding that painful experiences from similar stimuli are not universally measurable from individual to individual has changed medicine's approach to pain management.

Pain is Personal

The concept that we all experience pain differently may be hard to comprehend. Why should an injection hurt me more than you. It is the same needle size and technique, right? Other variables aside, the differences lie in each person's past experience with pain, socio-cultural differences attitudes towards pain, their anxiety levels and experience dealing with anxiety, as well as their individual genetic wiring for pain. When these aspects are taken into account, the concept of accurate pain assessment may seem impossible.

Remember, though, that pain is personal. Assessment accuracy doesn't depend on population averages as vital signs do, but on an individual scale that may be broader or narrower for each patient. Managing pain involves working within that patient's pain scale. The challenge, therefore, is for the medical professional to remain objective and not impose their own pain tolerance or lack of tolerance on top of the patient's. Simply assessing and recording pain levels consistently, using the same measurement tools will give the providers the information they need to treat the patient.

Children may not be able to understand the source of the pain, may not be able to communicate its level and quality, or respond to adult assessment techniques. Ask any parent: kids are hard to read. The psychological, behavioral, and personality development that changes constantly from birth to early adulthood make all aspects of child assessment difficult and this may be at the heart of the prior standard of care when managing pediatric pain. The goal of medical personnel interacting with pediatric patients should be focused on improving communication of needs either actively or passively through careful observation and interaction.

Links

- **American Pain Foundation Facts and Figures**
- **Cleveland Clinic page on Pediatric Pain Assessment**
- **Nemours Kids Health on Why Do I Have Pain? (for Kids)**
- **FLACC Scale**
- **Neonatal/Infant Pain Scale (NIPS)**
- **University of Michigan Pediatric Pain Assessment Site (Many resources and pain scale tools here)**

Self Measurement and Assessment

Self measurement of pain is the method most are familiar with. Having the individual rate their pain on a scale of 1 to 10 achieves the goal of both measuring the pain and allowing the patient's personal pain experiences and tolerance to be included in the process. In older children, school age and up, the traditional 1 to 10 scale may be enough to get the pain assessment started, accompanied by careful assessment using the other methods mentioned later in this article. Younger children, meaning young school-age down to older toddlers and preschoolers, may not possess the verbal or cognitive skills to use an abstract numerical scale.

A visual measurement scale like the Wong-Baker FACES Pain Rating Scale or the newer Faces Pain Scale-Revised may be used to assist a younger child with self measurement. The choice of scale may not matter as long as the same scale and assessment technique is used consistently for each patient (McCaffrey, 2002). It is also important to follow any self measurement with the use of behavioral and physiological assessment to verify the correct application of the visual measurement tool.

Behavioral Assessment

For younger children and older children or adults who are developmentally pre-verbal communicators, an assessment of behavior in response to potentially painful procedures or stimuli is in order. The FLACC scale offers one technique. The FLACC scale is based on a mnemonic device and is scored in a fashion similar to the APGAR score with each value receiving a score of 0, 1, or 2 based on the response or assessment. FLACC stands for:

- **Face** - 0 = no expression/smile; 1 = occasional grimace, frown, withdrawn, disinterested; 2 = frequent or constant quivering chin, clenched jaw
- **Legs** - 0 = normal, relaxed position; 1 = uneasy, restless, tense; 2 = kicking or legs drawn up
- **Activity** - 0 = lying quietly, normal position, moves easily; 1 = squirming, shifting back and forth, tense; 2 = arched, rigid, jerking
- **Cry** - 0 = no cry (awake or asleep); 1 = moans or whimpers, occasional complaint; 2 = crying steadily, screams or sobs, frequent complaint
- **Consolability** - 0 = content and relaxed; 1 = reassured by occasional touch, hug or being talked to, distractable; 2 = difficult to console or sooth

A score of 0 to 10 is the result, with 0 = little to no pain and 10 = high level of pain. According to the University of Michigan's pediatric pain assessment site, this scale is effective in assisting with the assessment of children ages 3 months to 7 years.

For children younger than 3 months, there are several neonatal assessment scales out there. The Neonatal/Infant Pain Scale (NIPS) is one such tool, another is the Neonatal Pain, Agitation, and Sedation Scale (N-PASS). Both of these tools require the provider to have experience with neonatal assessment in general but use similar behavioral observation approaches as the FLACC scale to assess the child's level of pain or discomfort.

The UCLA Medical School website offers a look at several adult and pediatric assessment tools here.

Physiological Assessment

This tool is the last tool in the tool box for a reason. Pediatric vital signs are notoriously unreliable markers for tracking early changes in condition. The child's healthy vascular system and sympathetic response gives them a remarkable ability to compensate for changes wrought by external stimuli such as shock states and pain. The University of Michigan Health System page on pediatric pain management writes:

"Changes in vital signs do not occur with all children who are experiencing severe pain. Do not rely on vital signs to determine the severity of a childs's pain."

However, I believe that tracked over time and coupled with the other assessment tools, the use of vital signs as an additional pain indicator is useful. This is supported by the Cleveland Clinic Foundation's page on pediatric pain as they choose to include physiological assessment as one of the three methods used when assessing pain in children.

Pain should be assessed at least as often as each set of vitals. Looking back at correlations between the findings of other pain assessment tools and concurrent vitals signs may offer additional insight into the patient's overall pain level. Place that information in the context of your current assessment findings along with reports of previous caregivers to determine pain level.

Conclusions

Pediatric pain assessment requires a toolbox approach. The competent medical professional reaches into the tool box and bring out the tool or tools needed for each child in order to assess the child's level of pain and to prepare the necessary interventions and medications to manage that pain. Whether those tools include the FLACC scale, the Wong-Baker FACES scale or the Faces Pain Scale - Revised, or the child's own measurement and description of pain, the caregiver's understanding and accurate assessment of a child's pain followed by prompt treatment and follow-up reassessment should be the goal.

Read the second part of this series on alternative pain management techniques for pediatric patients here at the Nursing Show podcast site.

Also, listen to this episode of the MedicCast EMS podcast on Pediatric Sports Injuries featuring an interview segment with Pediatrician Dr. Mike of the Pediacast podcast.

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