

It Doesn't Have to Hurt: Strategies for Helping Children with Shots and Needles

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Objectives

- Describe how pain works
- Address *how* and *when* to explain medical procedures to children
- Provide strategies to help children cope
- Describe what parents should *say* and *do* during and after painful needle-related procedures
- Discuss how parents can advocate for the best pain management for their child
- Provide information on other pain relieving interventions




The Complex Nature of Pain



Gate Control Theory of Pain - Melzack & Wall 1962

Things that open the gate
(and make pain worse)


- Stress or tension
- Tiredness
- Low mood
- Anxiety or worry
- Focusing on pain



Yes. We're
OPEN


Things that close the gate
(and make pain better)

- Distraction
- Positive emotions
- Relaxation
- Medications
- Counter stimulation



The ABC's of Pain

- Pain perception is regulated by the brain
- **All** pain is physical **and** psychological
- Feelings and thoughts increase or decrease pain
- Memories can affect pain
- The body has a natural pain control system
- Pain can be controlled



Preparing Children for Procedures

- Information provided before procedure
- Coping strategies to use during procedure
- What to say after the procedure

Why tell children

- Helps children to regulate expectations (separate reality from fantasy)
- Enhances child's belief in their ability to cope with the procedure
- Minimizes distress and pain during procedure
- Fosters trust, reduces uncertainty
- Child can ask questions
- Benefits to parents (reducing own stress)



What to tell children

- Describe what will be done and what the child will experience (i.e., feel, see, hear, smell)
- Use specific and detailed, rather than general, information
- Give guidance on coping strategies
- Tell children if a procedure will be painful
- Share the reason for the procedure with children > age 6
- Use neutral, age appropriate language
- Give children a chance to ask questions

Examples

You will see a nurse and the doctor there. Mom and Dad will be with you too.

This is to help you stay healthy.

Some children think it is uncomfortable and some think it is ok. We don't know how it will feel for you, but we will do different things so that it does not feel so uncomfortable.

You can help by holding still and breathing deeply with me.

You will get a medicine called a vaccine in the arm using a tube that looks like a straw called a syringe.

You might feel a pinch and some pushing and pressure that will last a few seconds.

When to tell children

- Children > age 5 should receive a 5+ day notice
 - Less notice needed for more minor and less distressing procedures
- For children < 5, need to use your best judgment
- Keep new information to a minimum just before and during procedure
- Consider your own child



How to tell children

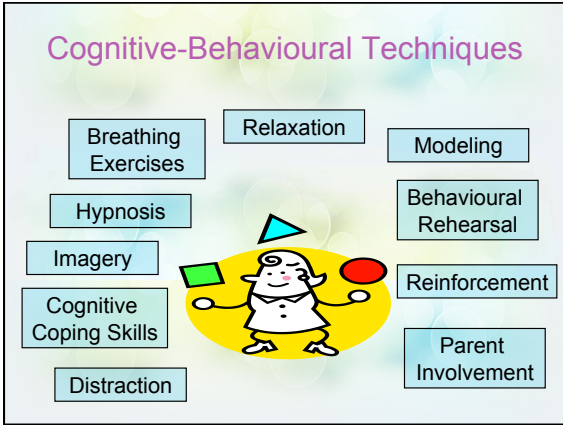
- Be calm and express confidence in your child's ability to handle the procedure well
- Peer modeling (e.g., through videos)
 - ** watch video yourself first**
- Written information + illustrations



Coping Strategies: Psychological Pain Management

- Primarily addressing what you
 - **Think (Cognitive)** =
 - What you know, believe, feel, or say to yourself
 - **Do (Behavioural)** =
 - What you learn by observation of others or by reward and punishment
- Specific strategy used depends on the age of the child





Relaxation

Deep Breathing

- Rest your hands on your stomach.
- Breathe in as much as you can (feel stomach expand). Then breathe out all of the air (feel stomach deflate).
- Close your eyes and slow down your breathing.

Distraction

- Taking attention away from pain by focusing on another activity

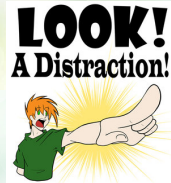
Infant: Pacifier, bubbles, toys, singing, rattles, parent's voice

Toddler: Bubbles, songs, pop-up books, party blower, kaleidoscope, toys, pinwheel, comfort toy

Distraction

School-age: Videos, electronic toys (e.g., iPod, Nintendo DS), stories, jokes, counting, talking about other things

Adolescent: Music (iPod), video games, jokes/humor talking about other things, focusing on something else



Imagery

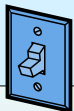
"I want you to close your eyes and picture yourself at the beach. It's a perfect beach day. It's warm. The sun is shining, but it's not too hot. You're not even sweating. You're sitting on a brightly coloured canvas beach chair. Your feet are in the warm, soft sand. Your eyes are closed. Feel the warm sun on your face . . ."



Imagery

The Switch Trick

- Imagine that your brain has switches, and you can help to control pain by turning off the switches.
- Turn off the pain switch to your arm. As the switch goes off, you notice your arm feeling more comfortable and relaxed.



Progressive Muscle Relaxation

Get comfortable, close your eyes, and relax. Briefly tense parts of your body. Then, relax.

- 1. Hands and Arms.** Squeeze Lemons. 
- 2. Arms and Shoulders.** Stretching like a furry, lazy cat. 
- 3. Shoulders and Neck.** Like a turtle tucking your head into your shell! 
- 4. Jaw.** Bite down as hard as you can, like on a jaw breaker. 
- 5. Face and Nose.** There's a pesky fly on your nose. Scrunch your face to get it off! 
- 6. Stomach.** An elephant is about to step on your body. Then make your belly skinny to squeeze through a fence. 
- 7. Legs and Feet.** You're standing in a mud puddle. Stick your toes deep into the mud. 



Negative Self-Talk

"I hate this"

"Nothing helps, so why should I bother trying?"

"I can't stand it anymore"

"I give up"



Positive Self-Talk

"I can handle this"

"I've handled pain like this before; I can do it again"

"It will be over soon"

"Every time I practice managing my pain, I get a little better at it"

Electronic "Apps"

- iPhone, iPad, iPod, Android (google play)

Breathing/Relaxation

- HealthyStar
- RelaxMelodies
- MyCalmBeats
- Breath2relax
- Guidedimageryforchildren
- Relax Light
- Relaxing Sounds
- Stress checks

Distraction

- Angry Birds
- Cat vs. Dog
- Talking Tom Cat
- Cake Decorate

And many more....



The Keys to Comfort Kit

- Kit for parents that includes:

- Bubbles
- Stress ball
- Ideas for things to do when in pain (e.g., count to 10, listen to music)
- Brochure for parents with age-appropriate pain management recommendations and suggestions on what to say and what not to say





Parent Behaviour



What parents say and do has been found to account for over half of the pain and distress children experience during medical procedures (e.g., Chambers, 2003)

Parent Behaviour

- Things parents say that help decrease pain and distress

Non-Attending

- Non-procedural talk (distraction)
- Humour
- Suggestions on how to cope

Let's sing a song together.

Do you want to go to the playground on the way home?

Let's play Angry Birds!

Isn't that silly?

What kind of cake do you want for your birthday next week?

Take some deep breaths.

Imagine you are Superman and this is a test of strength.

Parent Behaviour

- Things parents say that make pain and distress worse

Attending

- Criticism
- Apologies
- Empathy
- Giving control
- Reassurance

I'm sorry that you're hurting.

I know it hurts.

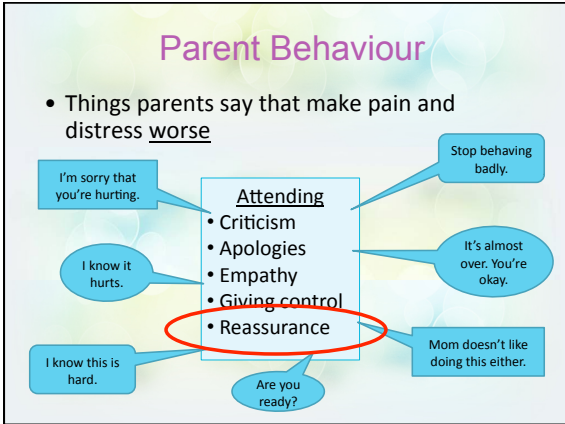
I know this is hard.

Are you ready?

Stop behaving badly.

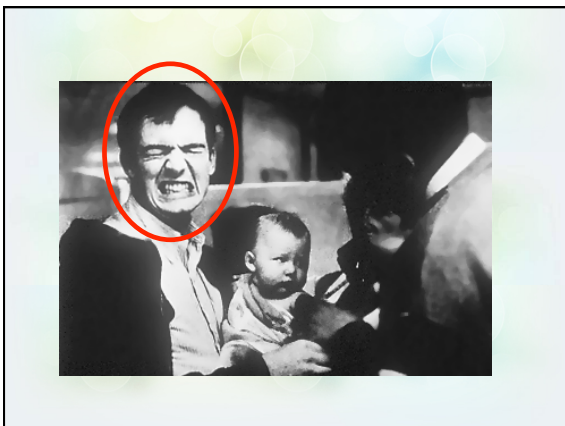
It's almost over. You're okay.

Mom doesn't like doing this either.



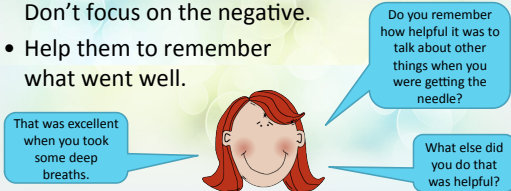
“If an adult tells you not to worry, and you weren't worried before, you better hurry up and start because you're already running late.”

Curtis (1999)



After the Procedure

- Memory matters! Focusing on the positive can help children to cope better next time.
- Praise what they did well and identify any helpful coping strategies they used. Don't focus on the negative.
- Help them to remember what went well.




That was excellent when you took some deep breaths.

Do you remember how helpful it was to talk about other things when you were getting the needle?

What else did you do that was helpful?

After the Procedure

- Keep the negative in perspective. Help them see that the negative parts lasted for less time and could have even helped them.
- If they remember the experience as being worse than it was, tell them that you don't remember it as being that bad.




I remember you telling me that it wasn't that scary.

Do you remember when yelling made you feel in control and helped you get through it?

So do these strategies help?

Uman et al (2006; 2008, update in progress)



- Thirty-nine research studies including > 3500 participants (aged 2 to 19 years)
- The strategies that are most helpful for reducing child pain and distress during needles are:
 - Distraction
 - Hypnosis
 - Combined cognitive-behavioral interventions (e.g., positive self-talk, imagery, deep breathing, progressive muscle relaxation, etc.)

Remember

Psychological approaches are just one part of the whole package in managing children's pain

Topical Anesthetics

- EMLA cream or patch
 - Mixture of lidocaine and prilocaine
 - Available over the counter at pharmacy
 - ~\$5 for 2 patches
 - Apply 60-90 min before
- Ametop gel
 - Tetracaine
 - Apply 30-45 min before




Breastfeeding during Procedures



- An effective intervention to reduce pain!
- Does not increase risk of choking or negative associations with mother

Sucrose

- Sucrose given to an infant by mouth effective in reducing pain
 - 2 min before procedure
 - Dose: 0.5–2 ml of 12%–50% solution
 - Effective up to 12 months
 - Mix 1 packet of sugar (with 2 tsp water)



Immunization Pain Guidelines

Taddio et al. (2009; 2010)

Pharmacological	Physical	Psychological
<ul style="list-style-type: none"> • Topical local anesthetics • Breast feeding (infants) • Sweet solutions (infants) 	<ul style="list-style-type: none"> • Sitting up • Stroking skin • Injecting least painful vaccine 1st • Not aspirating 	<ul style="list-style-type: none"> • Distraction • Breathing exercises • Combined cognitive-behavioural interventions



Pain relief of childhood shots focus of guide

Parents and health-care providers can take several steps to help reduce the pain of childhood immunizations, new Canadian guidelines say. Vaccinations are the most common source of children's pain in health care, the researchers said.

Studies suggest that up to 25 per cent of adults have a fear of needles, and most of those fears originate in childhood.

Pain from vaccine injections need to be addressed at an early age to prevent middle years and anxiety from building. An estimated 70 per cent of the population avoids vaccination and other such procedures because of fear of needles.

A panel of Canadian experts in immunization, pediatrics, pain, evaluating medical research, education and other topics developed the guidelines.



Children are often undertreated for pain.

- There are evidence-based methods for managing pain in children
 - Pharmacological
 - Physical
 - Psychological

Pain in Hospitalized Children
Birnie et al. (2011)

- 107 parents or inpatients ≥ 5 years interviewed
- During previous 24 hours of hospitalization:
 - 95% reported some pain
 - 7.5% clinically significant current pain
- Most common sources of pain:
 - Disease, post-operative pain, procedures
- 90% of those with pain received pharmacological pain intervention
 - 10% said “no one” had helped with pain



Advocating for Your Child

- Don't be afraid to ask what is being done to manage your child's pain!
- Be proactive in helping your child to cope before, during, and after the procedure
- Let your doctor or nurse know beforehand what pain management strategies you are planning to use and try to enlist their support
- Share guidelines and information with your pediatrician or other health professionals

Resources to Share with Pediatrician

- Boerner, K.E., Noel, M., Birnie, K.A., McMurtry, C.M., & Chambers, C.T. (2012). Procedural pain in children and adolescents. Society of Pediatric Psychology Fact Sheet. www.apadivisions.org/division-54/evidence-based/procedural-pain.aspx
- McMurtry, C.M., Chambers, C.T., & Taddio, A. (2011). Needle pain. Psychology Works Fact Sheet. www.cpa.ca/psychologyfactsheets/needlepain
- HELPinKIDS team Clinical Practice Guideline: <http://www.cmaj.ca/content/182/18/1989>

Consequences of Poorly Managed Needle Procedures

**Help Eliminate Pain in Kids:
The Hidden Cost of Immunization**



20-minute video

<http://www.aboutkidshealth.ca/En/News/Video/PsychologyVideos/Pages/Video-Help-Eliminate-Pain-in-Kids.aspx>

Needle Phobia

- Can result if pain and distress is not well managed during needle procedures
- 1 in 10 children/adults
- Associated with significant distress and avoidance of health care
- Requires specialized psychological assessment and treatment



Treatment of Needle Phobia

- Psycho-education
 - Learn about our body's response to fear and pain
 - Links between thoughts, feelings, and behaviours
- Learn and practice coping strategies
- Take *gradual* steps exposing to needles
- Practice and praise!



Sample Steps to Face Needle Fear



- 10: getting needle
- 9: all steps but needle
- 8: touching a needle
- 7: watching someone get needle
- 6: going to clinic waiting area
- 5: watching a video
- 4: looking at pictures of needles
- 3: looking at toy needles

Treatment of Needle Phobia

Group at the IWK Health Centre
For children aged 9-13 years with significant anxiety
about needles. Children are required to have an
upcoming needle procedure in Fall 2012.

Children and parents attend once/week from 3:30-5:00pm.
Starts October 15th, 2012.

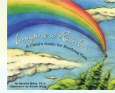
Call Mary Lynn at 470-8406.

If not suited for group, ask
your pediatrician to refer
your child to IWK Pediatric
Health Psychology.




Resources For Parents

- Kuttner, L. (2010). *A Child in Pain: How to Help, What to Do.* Hartley & Marks.
- Miles, B.S. (2006). *Imagine a Rainbow: A Child's Guide for Soothing Pain.* APA Press.
- About Kids' Health
– <http://www.aboutkidshealth.ca>



Centre for Pediatric Pain Research
SCIENCE HELPING CHILDREN

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SCIENCE HELPING CHILDREN
The Centre for Pediatric Pain Research is located in the IWK Health Centre, in Halifax, Nova Scotia, Canada and is affiliated with Dalhousie University.

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Our Faculty Participate in Research Forum on Pediatric Pain

For Health Professionals For Families For Teenagers

Science Helping Children
The Centre for Pediatric Pain Research is an international leader in children's pain research. The interdisciplinary research conducted by our faculty, students, and staff tackles many facets of children's acute and chronic pain. We are committed to conducting high-quality research on how to better understand, assess, and manage children's pain and translating this research into improved practice.

This site provides an overview of our work, including current research activities at the Centre, information about our faculty and students, as well as links to useful resources on pain assessment and management in children.

You can also check out our blog for more information on upcoming events and research opportunities happening at the Centre.

Chambers Lab wins 1st and 2nd prize for clinical poster prizes at CPS May 25, 2012 May 28th, 2012
Congratulations to Melanie Noel and Mark Pitter for winning 1st and 2nd place for clinical posters at the Canadian Pain Society Conference in Whistler this past week. Melanie's poster was on the influence of anxiety on [read more](#)

Conclusions

- There are effective ways in which you can help prepare your child and support them during needle procedures
- There are many psychological techniques that can be used for procedural pain
- Research shows that these strategies work to reduce pain and distress associated with needle procedures across childhood

Questions?