

# Centre for Pediatric Pain Research

SCIENCE HELPING CHILDREN

## Dr. Christine Chambers' Research Team

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### New and Noteworthy

The Centre for Pediatric Pain Research at the IWK Health Centre has lots of exciting news to share!

Since last fall, we've presented our research at many conferences, including the *Canadian Pain Society* in Whistler, the *American Pain Society* in Honolulu, and the *IASP World Congress on Pain* in Milan! We've shared our research locally by volunteering with *Nova Scotia Seniors for Science*, Dalhousie University's *SuperNOVA* Summer Camps, Saint Mary's University *Mini University* and the *Fun, Learning and Community EXPO* for families.

We've published our research in academic journals, such as *Pain*, the *Journal of Pediatric Psychology*, *Pediatric Pain Letter*, *Pain Research & Management*, *Pain Management*, *The Journal of Pain*, and the *Journal of Cognitive Psychotherapy*.

This year, our team members have won many awards including, the CIHR Doctoral Award (Katelynn Boerner), the Susan Paula Memorial Prize (Samantha Eisen), an Honorary Killam Scholarship (Katie Birnie), the Society of Pediatric Psychology's Outstanding Graduate Student Award (Melanie Noel), the Brian Dufton Memorial Prize (Mark Petter), and conference awards for best posters (Mark Petter & Melanie Noel).

Thank you once again for your assistance with our research and your continued support as we look forward to another exciting and productive year!

Check out our website!

[pediatric-pain.ca/content/Chambers\\_CurrentResearch](http://pediatric-pain.ca/content/Chambers_CurrentResearch)

### Are you between 8 and 14 years old?

If you would like to participate in one of our ongoing studies please call us at 470-6906 or email us at [Leah.Wofsy@iwk.nshealth.ca](mailto:Leah.Wofsy@iwk.nshealth.ca)



Mark has recently completed data collection for his dissertation funded by an IWK Category A Grant and a Psychiatry Research Grant.

## Mindfulness as a tool to help manage pain?

Mindfulness refers to focusing your attention on what is taking place moment-to-moment in an accepting way. Everyone is more or less mindful in his or her daily life, which is known as trait mindfulness. Mark was interested in looking at the role of mindfulness in pain with teenagers.

To look at how trait mindfulness is related to day-to-day and experienced pain, Mark had teenagers answer questions about how mindful they are, as well as about how they think, act, and feel when they are in pain. They were then interviewed about the pain they experience daily, before completing an experimental pain task. Then teenagers either completed the brief mindfulness exercise, or read quietly before going through the pain task, to see whether the mindfulness exercise helped with their pain.

Mark found that teenagers who were higher in trait mindfulness tended to experience less pain in their daily life and their pain bothered them less. Teens who were more mindful also experienced less pain during the pain task, seemingly because they tended to have fewer negative thoughts about their pain. Among teenagers who did not meditate regularly, the mindfulness exercise did not help during the pain task. However, among teens who had been regularly meditating for a year, this brief exercise resulted in less pain intensity during the task. Mark would like to thank all the teens who made this study possible!

## How to make painful procedures less “ouch-y”

Healthy babies and children can experience many painful procedures as a part of routine medical care, such as needles and blood draws. Inadequate management of children's pain during medical procedures can lead to negative consequences later on.

Caregivers should avoid reassuring (for example, saying “You’re OK”) or apologizing to children during their pain, since this can actually make it worse. Breathing exercises and distraction can be really helpful in reducing children's pain and distress!

Pharmacological and physical strategies can also be helpful, such as using a topical local anesthetic cream and injecting the least painful vaccine if the child is having multiple immunizations.



## It's all in the face: Caregiver assessment of children's pain



Sometimes children might not want to show adults how much pain they are feeling because they are scared, embarrassed, or don't want to miss out activities. But it is important that caregivers can tell when children are actually feeling pain, so they know when the child needs help. Children's facial expressions can give caregivers a lot of information about their pain, especially when the child might not want to say how much pain they are really feeling.

Katelynn was interested in seeing whether pediatricians, nurses, and parents could tell if children were hiding pain, faking pain, or genuinely feeling pain based on their facial expressions. She showed health professionals and parents video clips of children's faces and had them guess which expression they thought they saw. She also had them rate how confident they were that they got it right, tell us how much pain they thought the child was actually feeling, and list which cues they used in making their decision.

Katelynn found that nurses did the best at identifying which expressions they viewed. This might be because nurses have the most experience from their daily work in assessing pain in children they are not familiar with. All caregivers found it harder to tell when children were genuinely expressing pain, and often underestimated how much pain the child was actually feeling. Evaluating children's pain can be really tricky, so caregivers might benefit from learning more about what to look for when assessing pain!

**Katelynn has recently received a CIHR Doctoral Award and has begun work on her dissertation.**

## Improving how we study pain in the research lab



The most common way of studying pain in children in the lab is by having children put one of their hands in cold water for up to a few minutes. This is like making a snowball with your bare hands or running your hands under cold water.

We call this task the cold pressor task or cold water task. We use the cold water task so we can find the answers to questions that would be difficult to ask at home or in the clinic (e.g., does your child react differently to pain when mom or dad are around)?

We are always looking to refine the techniques we use to study pain in the research lab. We have ongoing studies to see what water temperature or equipment is best to use. All the while, we are making sure that children are safe and, ideally, having fun!



Katie is currently working on her dissertation and will begin recruitment in the fall.

## **“I worry about my child’s pain!”**

**Does what parents and children think about pain influence how they interact?**

Parents play a critical role in helping their children to manage pain. The types of thoughts and feelings that both, parents and their children have about the child’s pain can impact how well both parents and children are able to cope (e.g., worrying that it won’t go away). We are interested in learning more about what influences how parents and children interact when the child is experiencing pain – particularly how parents respond to their child’s requests for help.

In this study, parents and children will interact with one another during pain-related and non-pain related activities. This will also help us to learn whether parents and children interact with one another in a similar way when the child is in pain as when they interact about other everyday things.

## **'Boo-Boos' in the Toddler Years: Parenting Style and Responses to Children's Everyday Pains**

Every parent who has a toddler is familiar with “boo-boos”. Whether these bumps, cuts, and scrapes are due to falling down in the playground or bumping into toys, one thing is for certain: these everyday pains are a part of growing up! They may also be a powerful way for children to learn about pain and how to cope with it.

Because parents are the most important teachers in the toddler years, Sam was interested in how parenting style influences the ways that parents and children react to everyday pains. She found that parents who used more “Authoritative” behaviors (show warmth, communicate clearly, and act consistently) were more sympathetic (e.g. reassure children that they will be okay) and less punishing and stoic (e.g., “big girls don’t cry”) when their toddlers had everyday pains. On the other hand, parents who were “Permissive” (set very few rules and demands on children) or “Authoritarian” (strict, controlling, and tend not to show warmth) used more punishment and stoicism when their toddlers had everyday pains.



Sam’s research is important because it shows that parents’ style of raising their toddlers in general is related to how they respond to everyday pains in the toddler years, which is a time when children are learning so much about the world and about pain.

Sam presented her honors thesis in April and graduated with her Bachelor of Arts with an Honors in Psychology from Dalhousie in May.

# Junior Scientist Challenge

EXPERIMENT  
FUN  
HOSPITAL  
INVESTIGATE  
LAB  
LEARN  
MINDFUL  
PAIN  
PSYCHOLOGY  
QUESTION  
RESEARCH  
SCIENTIST  
STUDY  
SUMMER  
WATER

T T M I R S C Z N P N G L M M  
L S C I T E H F S N O B F F Q  
H D I U N B T Y T I I J V H I  
A C D T D D C A E A T W I U O  
L Y J I N H F Z W P S S N L Y  
K U G C O E C U H E E U V H C  
B W L L E C I I L A U M E L Q  
R F O L A B K C H L Q M S V N  
J G N R A E L C S W O E T K R  
Y T N E M I R E P X E R I N F  
S D B Y V A H I H V L R G C B  
D U M W E X J I P D M R A Y L  
T O K S Y D H Z Z R P J T G N  
W F E A U W V W N C A X E U A  
I R H O S P I T A L R G F H Q

## Team Updates

Melanie Noel defended her dissertation in April and has begun her one year internship at Seattle Children's Hospital and the University of Washington. We wish her the best of luck in Seattle!



Line Caes will be joining the lab in the fall as a Postdoctoral Fellow. She has recently completed her Ph.D in Clinical & Health Psychology at State University of Ghent in Belgium.

Meghan Schinkel will be joining our lab in the fall as a new Clinical Psychology Ph.D. student. We look forward to working with you Meghan!







## Centre for Pediatric Pain Research

SCIENCE HELPING  
CHILDREN

A sincere  
THANK YOU  
from all of us to  
everyone who  
participated or  
volunteered  
their time to  
take part in our  
studies.

## Are you between 8 and 14 years old?

If so, we need your help! If you would like to participate in one of our ongoing studies please call us at 470-6906 or e-mail us at [leah.wofsy@iwk.nshealth.ca](mailto:leah.wofsy@iwk.nshealth.ca)

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