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MiPAIN

Michigan Pediatric Adolescent
Interdisciplinary Network



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MiPAIN

OT's Role In An Intensive Pain Multidisciplinary
Program"

Pediatric Rehabilitation Center

Presented By:

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What we will not be covering...

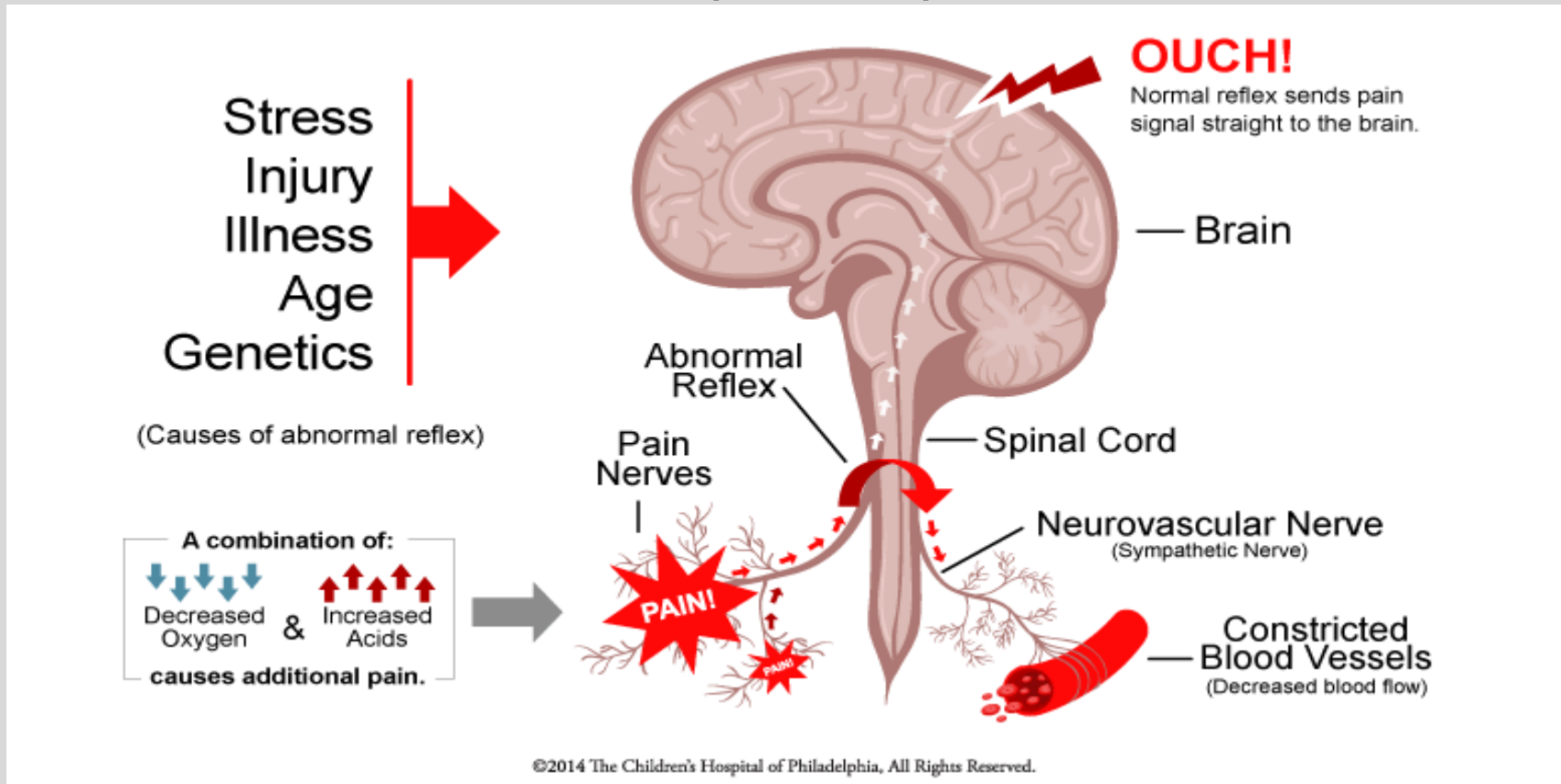


What We Will Be Covering:

- Brief overview of chronic pain disorders
- History of our program
- Importance of a multidisciplinary approach
- OT's role
- OT Evaluation
- OT Treatment
- Preliminary results since October 2017
- Collaboration with other programs around the country

Pediatric Chronic Pain Epidemiology

What causes the abnormal pain response/reflex?



<https://www.chop.edu/conditions-diseases/amplified-musculoskeletal-pain-syndrome-amps>

Pediatric Chronic Pain Epidemiology

“Although it is a complex problem, chronic pain has surprisingly nonspecific definition. Chronic pain refers to pain that has lasted for at least 3 or 6 months” ¹ (p.3).

“Chronic pain is very common. Studies show that about 25% of children and teenagers (that is, 1 in 4) have some type of problem with chronic pain” ¹ (p.4).

[1] “The most common types of pain that children experience are head pain, abdominal pain, and musculoskeletal pain. More girls than boys have chronic pain, especially after puberty. The peak age at which chronic pain is reported in childhood is ages 14-15 years.” p. 4

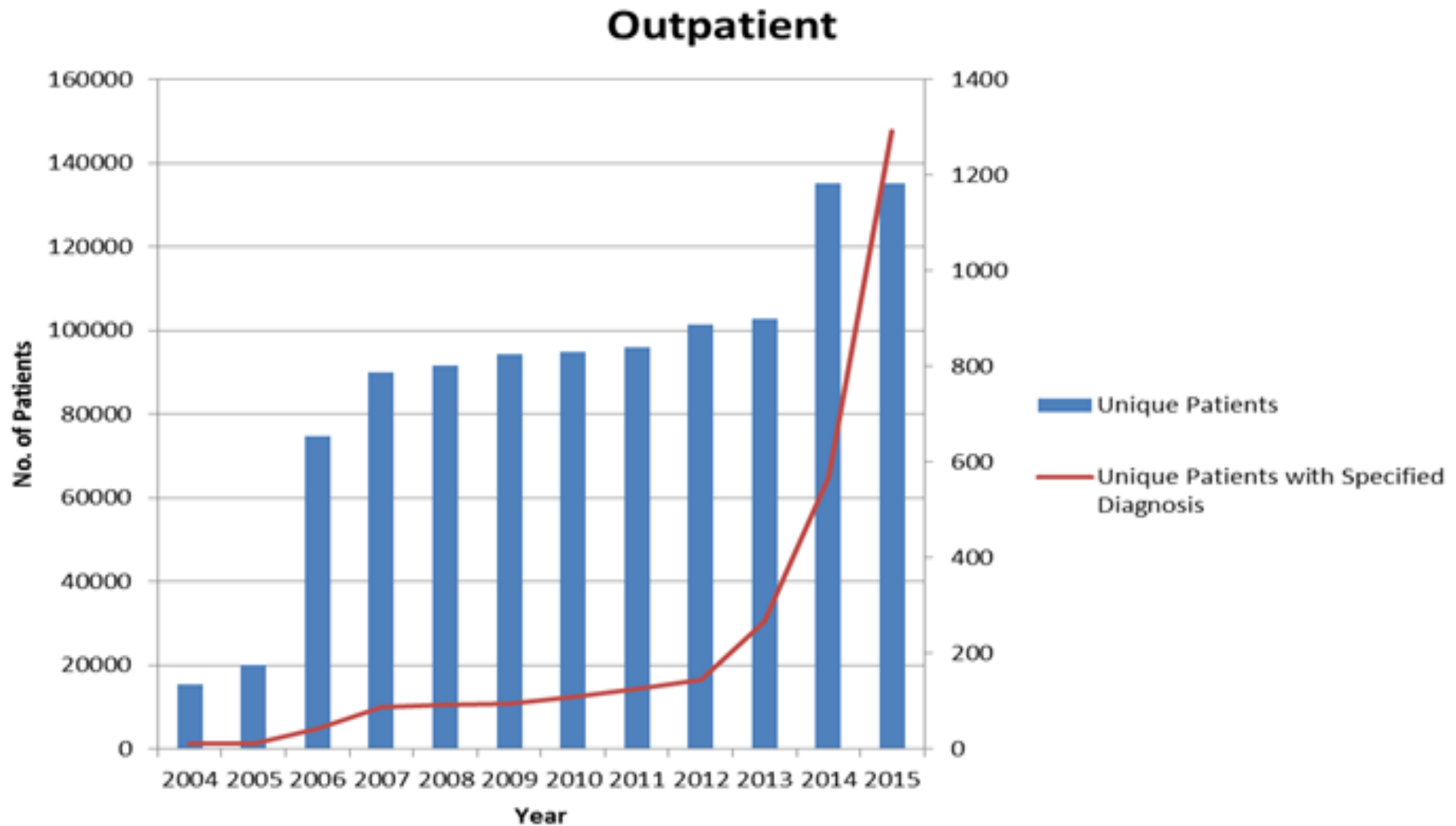
Pediatric Chronic Pain Epidemiology

- 10-20% from injury ⁷
- In at least 80% of children with amplified pain syndrome, psychological factors seem to play a role ⁷
- “illness is an infrequent cause of amplified pain syndrome.. Most commonly it is seen in conjunction with inflammatory illnesses of the musculoskeletal system such as arthritis, tendinitis, myositis or enthesitis. “⁷
- According to AMP - A Guide for Families - 80% of children with AMP are girls. ⁷

Common Chronic Pain Diagnoses

- Amplified pain syndrome
- Complex regional pain syndrome
- Fibromyalgia
- Somatoform disorder/conversion disorder

Increased Pain Incidence In Mott Ambulatory Care



Let's Go Team!

[2] “Chronic pain is a multifaceted epidemic that encompasses many different diagnoses and requires multimodal management (NIH Interagency Pain Research Coordinating Committee, 2016)

Meet Our Team

Art Therapy

Julie Moreno

PM&R Physician

Rita Ayyangar, Cristina Sanders

Physical Therapy

Beth Riske, Amanda Hughes, Kim Walainis

Psychology

Eric Scott, Emily Foxen-Craft

Therapeutic Recreation

Becky McVey

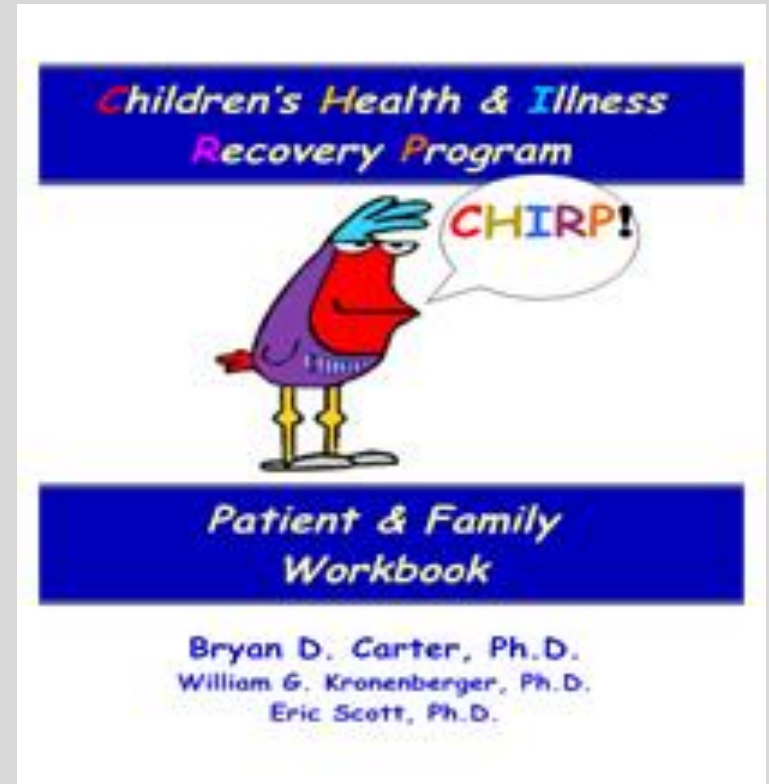
Occupational Therapy

Joe Latocki

Disciplines Involved

Psychology

- Enhance coping skills to more effectively manage pain.
- Assess and provide intervention related to the emotional consequences of pain¹³.



Disciplines Involved

Physical Therapy

- While pain is acknowledged, it is not emphasized during individual or group therapy.
- Teach the client how to use movement and exercise to modulate pain.
- Aerobic/Strengthening/Balance/Coordination
- Provide individualized home exercise programs to clients, with a weekly progression increasing the amount of activity the client engages in.
- Clients are offered choice in exercise selection¹³.

Disciplines Involved

Recreational Therapy

- Leisure Awareness
 - Breaking leisure activities down into components (i.e. social, cognitive, physical, emotional)
- Leisure Participation
 - Includes cards, games, cooking/baking, arts and crafts
- Community Re-Integration
 - Exploring new leisure activities
 - Non-competitive leisure engagement
- Benefits include:
 - Coping strategies
 - Social resources
 - Learn to hold each other accountable
- Patient driven goal setting
- Pain is not emphasized¹³

Disciplines Involved

Art Therapy

- Goals are accomplished through a variety of mediums and the creative process.
- Goals
 - Improved self-concept
 - Management of anxiety
 - Socialization
 - Expression of oneself
 - Improve a client's functioning & sense of personal well-being
 - Increase self-esteem¹³

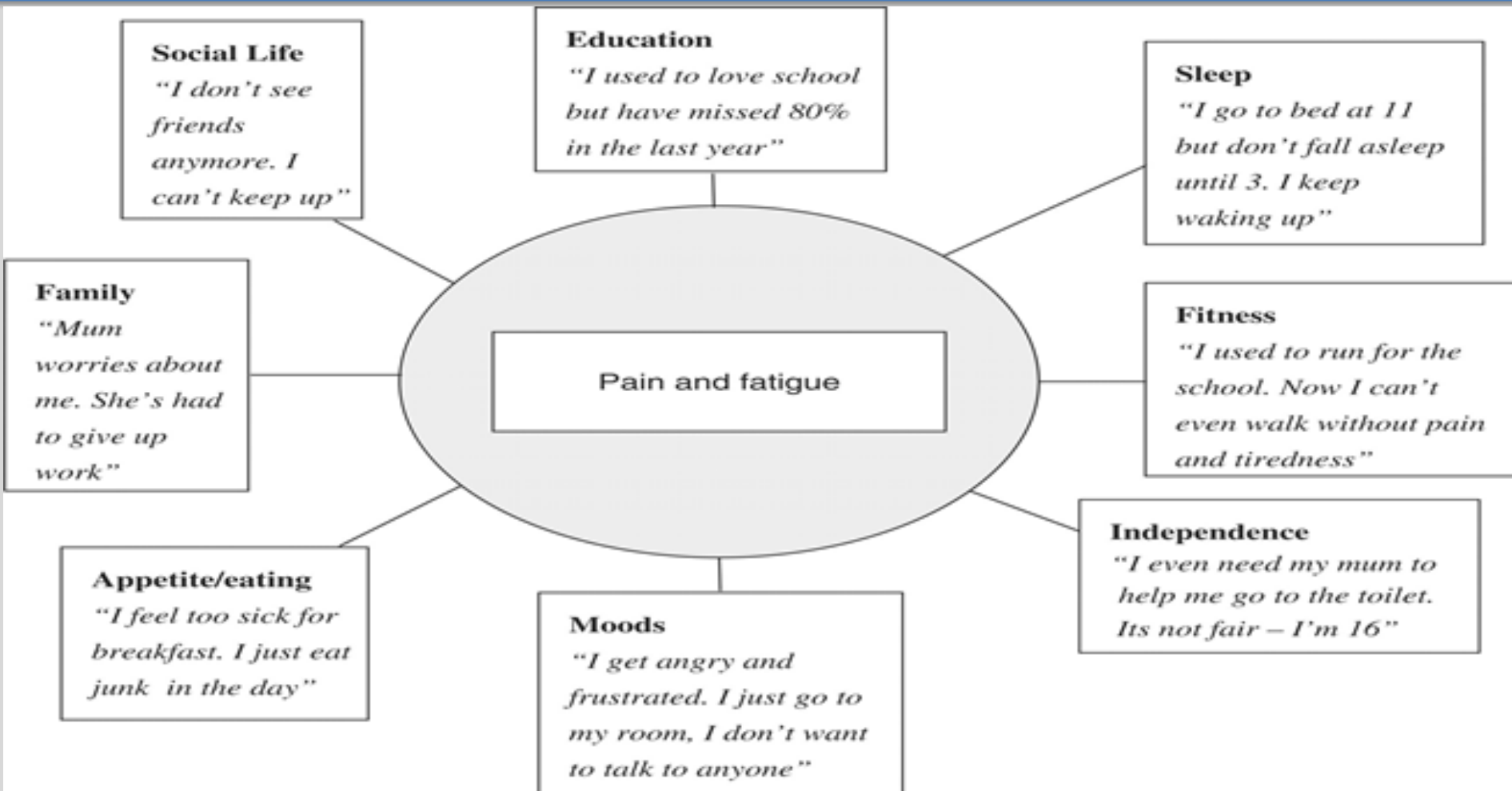
OT's Unique Role

Occupational therapy is represented in some reviews of interdisciplinary pain programs; however, physical therapy and psychology are more commonly identified professions. ⁹

OT's Unique Role

What is the unique role OT plays on this interdisciplinary team?

Widespread Impact Of Chronic Pain (Bursch et al)



Clinch J. et al. Rheumatology 2009 48:466-474; doi:10.1093/rheumatology/kep001

Ot Evaluation

Co-eval vs. individual



Clues to amplified pain from the history and physical examination:

Pre-to adolescent girl (80%)

Increasing pain after minor trauma

Marked disability

Crawls around house or up stairs

Unable to bear light touch, clothing, or bedcovers

May have symptoms of autonomic changes: cold, color changes, clammy, edema

Worse or no better with splint or cast

Failed prior therapy

High level athlete

Sherry, D. (2001). Diagnosis and treatment of amplified musculoskeletal pain in children



Clues to amplified pain from the history and physical examination:

Typical personality: mature, excels at school and extra-curricular activities, perfectionistic, pleaser

Role model for chronic pain or a similar pain

Recent major life event

Mother acts as spokesperson

Child is mature beyond years

Incongruent affect for amount of pain reported

La belle indifference towards disability & pain

Compliant regardless of reported disability & pain

Autonomic signs, especially after use

Allodynia with a variable border



Clues to amplified pain from the history and physical examination:

Pain is not along a dermatome

Pain is not in the distribution of a peripheral nerve

Otherwise normal neurological examination

ADL'S

“Self-care performance are frequently disrupted or altered because of chronic pain” (Breivik et al., 2006; Henricksson, 1995; Müllersdorf, 2002). ¹⁰

IADL'S

EDITABLE

PRINTABLES
BY BUBI

LETTER
8.5"X11"

WEEKLY CHORES

MICHAEL

CHORES

	S	M	T	W	T	F	S	POINTS
BRUSH MY TEETH								
GET DRESSED								
MAKE MY BED								
PICK UP TOYS								
DO MY HOMEWORK								
TAKE OUT GARBAGE								
EAT VEGETABLES								
TAKE A BATH								
PUT CLOTHES IN HAMPER								

Standardized Assessments

The QuickDASH Outcome Measure

- Upon evaluation, patients are screened for any upper extremity pain that may impact their daily occupations.
 - If any symptoms in the upper extremity impact a patient's ability to perform a task, they are provided the complete QuickDASH.
- Assessment completed at evaluation and at the end of the MiPain program.
- This assessment is widely used in chronic pain programs and research studies related to chronic pain¹⁴.
- Overall, data collection shows that patients exit with decreased symptoms in their upper extremity impacting their functioning during daily tasks.

Standardized Assessments

Allodynia Hypersensitivity Scale

- After researching previously used tactile assessments and discussing with other programs their process of assessing tactile hypersensitivity, the MiPain program was unable to find a currently established, effective measurement.
- The creation of an Allodynia and Hypersensitivity Scale was created to meet the needs of the MiPain program.
 - Patients are screened upon evaluation to identify any hypersensitivity to tactile stimulation.
 - If hypersensitivity is identified, the full scale is completed.
 - Implemented using a standardized protocol: items tested in the same order, for the same duration, and the same number of times for each patient.
- Assessment completed at evaluation and at the end of the MiPain program.
- Overall, data collection shows that patients exit with reduced tactile hypersensitivity.

Allodynia Hypersensitivity Scale

Excel interface: Allodynia and Hypersensitivity Score Sheet 2.xlsx - Excel

File Home Insert Page Layout Formulas Data Review View Tell me what you want to do... Latocki, Joseph Share

Clipboard: Cut, Copy, Paste, Format Painter

Font: Arial, 8, Bold, Italic, Underline, Text Color, Background Color

Alignment: Wrap Text, Merge & Center

Number: General, \$, %, .0, .00

Styles: Conditional Formatting, Format as Table, Cell Styles

Cells: Insert, Delete, Format

Editing: AutoSum, Fill, Clear, Sort & Find & Filter - Select

	A	B	C	D	E	F	G	H	I	J	K
1	NAME	DATE	light touch	deep pressure	brushing	towel rubbing	vibration	cold temperature	Repeated stimulation (pencil tapping)	total	
2		10/24/2017	0	3	1	4	5	4	7	24	
3			0	2	3	2	3	4	4	18	
4		10/26/2017	0	0	7	0	7	0	0	14	
5		12/20/2017	0	0	1	0	0	0	0	1	
6		11/2/2017	7	9	8	10	0	8	6	48	
7		12/20/2017	0	3	0	2	0	3	3	11	
8		3/22/2018	0	1	0	0	0	0	0	1	
9		10/11/2017	0	0	0	0	0	0	0	0	
10											
11		10/17/2017	0	2	0	0	0	0	0	2	
12			0	2	0	0	0	0	0	2	
13		10/17/2017	1	3	1	2	6	5	7	25	
14		11/30/2017	0	3	1	2	3	4	3	16	
15		1/9/2018	3	2	2	6	6	8	5	32	
16		10/5/2001	0	1	0	0	1	0	0	2	
17			0	0	0	0	2	0	0	2	
18		11/16/2017	0	0	0	0	0	0	0	0	
19											
20		11/22/2017	0	3	0	2	5	0	3	13	
21			0	3	0	0	2	0	1	6	
22		11/30/2017	4	7	7	7	8	5	6	44	
23		2/6/2018	7	6	6	8	8	8	5	48	

Ready

Taskbar: Windows Start, Search, Task View, Standardized..., M, Word (Fehse, Asht...), Outlook (Inbox - jose...), Chrome (Latocki MiPa...), X, Phone, Edge, PowerPoint (C MiPAIN.p...), Excel (Allodynia an...), System tray: Network, Bluetooth, Speaker, 1:34 PM, 9/19/2018, 2 notifications.



Standardized Assessments

Grip & Pinch

- Completed using a dynamometer and pinch gauge meter.
- All patients evaluated for the MiPain program complete this assessment.
- Normative assessment: compare the patient to a population of the same gender and within 2 years of age.
- Overall, data collection shows that patients exit the program with increased grip and pinch strength.

Intervention Strategies

MiPAIN program:

- 3 days a week
- 3 weeks
- 9am - 3pm
- 1 session cancelation policy

Occupational therapy frequency:

- 3 sixty minute sessions a week
 - $\frac{2}{3}$ group of 4 format. $\frac{1}{3}$ group of 2 format.

Intervention Strategies

Moreover, many studies have indicated that occupation has the potential to mediate the pain experience. Neville-Jan (2003) ¹⁰

Chronic pain significantly disrupts occupational performance (Breivik et al., 2006), and research has suggested that engaging in occupation has the potential to mediate the pain experience and to alter biological, psychological, and social factors that are known to influence the pain experience. ¹⁰

Intervention Strategies

OT Binder materials: Week/Phase 1-3



Intervention Strategies

Desensitization

- 10-15 minutes of desensitization to the affected area(s) each day
- vary the stimulus each day



Intervention Strategies

Meal Planning Activity

- Tour the kitchen to see what they have access to during their meal preparation session.
- Plan a cooking activity under a \$___ budget (\$5 per patient). Remind the patient they are each responsible for bringing in \$5 for week 3 grocery shopping trip.

grocery list

PRODUCE ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____	PANTRY & DRINKS ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____	MEAT & SEAFOOD ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____
BAKERY ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____	FROZEN ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____	DAIRY & DELI ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____ ○ _____

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Intervention Strategies

Grocery shopping

- budget
- functional mobility
- team work - compromise
- problem solving



Intervention Strategies

Meal preparation

- sequencing
- managing stress
- team work
- safety
- hygiene
- standing tolerance



Intervention Strategies

IADL training

- o Pick weeds outside
- o Wash mirrors
- o Wash door windows
- o Empty out trash cans
- o Vacuum
- o Shovel snow
- o Cleaning shower in ADL bathroom
- o Clean staff kitchen
- o Wash windows
- o Fold towels
- o Sort the silverware drawer
- o Sweep

Intervention Strategies

Classroom Scenario & Jeopardy!

<https://www.playfactile.com/edit/mipain1>



Intervention Strategies

Resistance Circuit training

- Focus on upper body strengthening
- Many have weak/grip scores
- body mechanics
- exercise pain vs. injury pain



Outcome Findings

Allodynia findings (23 patients)

- Average decrease of 11.6 points from time of initial evaluation till 3rd week of MiPAIN program
- High 47 point drop. Low 4 point increase.

Quickdash findings (11 patients)

- Average decrease of 21 points from time of initial evaluation till 3rd week of MiPAIN program
- High 46 point drop. Low 2 point drop..

- Disciplines involved vary
- While many programs exist, some are more known than others.
 - Pediatric Pain Rehabilitation Program, Cleveland, OH
 - 2015 Recipient of the American Pain Society Clinical Center of Excellence in Pain Management.
 - Children's Hospital of Philadelphia (CHOP), Philadelphia, PA
 - Intense inpatient program for children with chronic pain.
 - Also provide an outpatient program as well.
- Participant ages vary from birth to early adulthood¹².

- Children's Specialized Hospital, Chronic Pain Program
 - New Brunswick, NJ
 - Disciplines involved: OT, PT, psychology, and Child Life.
 - Program format:
 - Outpatient
 - Inpatient

(J. Merrick, personal communication, 2018)

- SRALAB's Pain Management Center
 - Chicago, IL
 - Program format:
 - Outpatient
 - Patients seen 1x/wk for individual therapy, 1x/wk for group treatment.

(A. Ovaska-Weber, personal communication, 2018)

- Pediatric Pain Rehabilitation Program at Cleveland Clinic
 - Cleveland, OH
 - Disciplines involved: OT, PT, recreational therapy, psychology, educator.
 - Program format:
 - Group and individual session daily, Monday-Friday.
 - 3 weeks in duration (ideally, the first 1-2 weeks are inpatient).

(G. Banez, personal communication, 2018)

- Always growing and always learning
- Team collaboration
- Learning from other institutions

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- <https://www.mottchildren.org/conditions-treatments/ped-chronic-pain>



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QUESTIONS?