Amplified Musculoskeletal Pain Syndrome in Children and Adolescents: When It Hurts Too Much

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Conflict of Interest Disclosure

• Authors Conflicts of Interest:
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Learning Objectives

• Discuss and evaluate the different clinical patterns of pain in amplified musculoskeletal pain syndrome
• Describe the place for medication use in adjunct treatment of AMPS and taper of pain medications
• Describe the principles behind and outcomes of a therapeutic exercise program
• Describe a team approach to treatment, resources and treatment programs offered for amplified musculoskeletal pain syndrome
Our Mission Statement

We provide a comprehensive holistic interdisciplinary team approach to the individualized treatment and care of children with Amplified Musculoskeletal Pain. We uphold this mission by empowering children and their families through instilling confidence and providing hope to restore overall healthy life function.

Pain – Definitions Are Important

• Subjective expression of an unpleasant sensory and emotional experience associated with actual or potential tissue damage

• Every child’s pain experience is unique

• Pain is what the patient says it is, and exists when he says it does

In Addition To Pain There Can Be…

• Loss of independence and function
• Loss of participation in activities and relationships
• Isolation from peers and others
• Disbelief from others including medical and health professionals
  – You’re faking it!
  – You don’t look sick!
Impact

- Physical
- Academic
- Social
- Emotional
- Athletics
- Financial
- Family

Pain Amplification Syndromes

- Reflex Neurovascular Dystrophy
  - Intermittent
  - Constant
  - Localized
  - Diffuse (3 or more sites)
  - Complex regional pain syndrome (CRPS)
  - Total body with multiple painful points (fibromyalgia)

Amplified Pain: A Perfect Storm

- Causal Factors
  - Injury
  - Illness
  - Psychological Stress
- Other Possible Contributing Factors
  - Age
  - Hormones
  - Genetic predisposition
• 10 year old girl with cold blue foot, no sock, on crutches
• 13 year old boy cannot walk wheelchair bound
• 8 year old girl cannot go to school after playing soccer – crawls because of pain
• 15 year old girl sensitive to touch from head to toe
• 14 year old boy with shoulder pain and sensitivity after basketball
• 16 year old girl with widespread painful points

What Do I Do First?

RECOGNIZE IT

Evaluation
  • General History/ROS
  • Medication History
    • Testing
    • Bone Health
  • School History (School Avoidance)
  • Life Changes
  • Family and Child Mental Health History
    • Psychosocial Evaluation
    • Physical Exam
Important Historical Clues

• Increasing pain over time
• Pain out of proportion to the injury
• Minor trauma common
• Alldynia
• Pain worsens or no better with immobilization
• Pain has spread to other sites or becomes migratory
• Failed all prior therapies
• Color and temperature changes
• Incongruent – la belle indifference

Social History Clues

• Major life event or change
• Role model for the same or chronic pain
• “Typical” personality – Family
  – Spokes-Mother
  – Enmeshment (subjective)
  – Enforcing the sick role
• “Typical personality” – Child/Adolescent
  – Mature
  – Excels
  – Pleaser
  – Perfectionist

Medical Testing

• Blood Tests – Normal
• Radiographs – Normal
• Bone Scan – Decreased/Normal
• MRI – Soft Tissue and Bone Edema
Medication History

- Careful medication reconciliation
- Discontinue all medications used for treatment of amplified pain
- Med Weaning - Based on current dosage and how long they have been taking the medication
  - Tricyclic Antidepressants
  - Anti-epileptics
  - Opioids

Common Medications

- Ibuprofen (Motrin®) (pain)
- Acetaminophen (Tylenol®) (pain)
- Opioids (pain)
- Compounded gels and patches (pain)
- GI medications (gastric reflux & nausea)
- Topiramate (Topamax®) (headache)
- Amitriptyline (Elavil®) (tricyclic antidepressant - pain)
- Zolpidem (Ambien®) (sleep)
- Gabapentin (Neurontin®) (anti-epileptic - pain)
- Duloxetine (Cymbalta®) (SSRI – pain, depression)
- Vitamins and Neutraceuticals

Working Model of Amplified Pain

- Makes the pain understandable
- Reinforces that they are not faking it
- Most kids relieved to know what’s going on
Allodynia

• Pain due to stimulus that does not normally provide pain
• Pain to light touch or gentle pinch of a fold of skin – can be extremely sensitive
• Variable border – check repeatedly

Signs of Autonomic Dysfunction

• Cold
• Cyanotic
• Clammy
• Edema
• Decreased pulse
• Dystrophic skin

The Role of Stress in Amplified Pain

• It is okay to talk about stress
• A trigger and a complicating factor
• Most parents are very interested in their child’s emotional wellbeing
• Discuss in a straightforward manner
• You may learn more than you wanted to
Check for Conversion

- Presence of one or more neurological symptoms affecting voluntary or sensory function
- No organic cause
- Brain converts feelings and emotions into physical symptoms
- Gait changes**
- Motor Stiffness**
- Motor Paralysis**
- Shaking**
- Dizziness**
- Pseudo seizure
- Blindness
- Deafness
- Memory loss

Pain Behavior or Conversion?

Treatment Principles for AMPS

- Full return to normal functional activities
- Patients assume an active role in their wellness and rehabilitation
- Education and support of patients and families
- Team support and communication
Movement Is Medicine

Lifestyle Activities

Examples of Lifestyle Activities
- FT school as a goal
- Socializing with friends
- Household chores
- Yard chores
- Grocery shopping – Walking at a mall
- Walking stairs
- Walking or playing with the family pet
- Sitting rather than standing for activities
- Cooking and baking
Structured Physical Activities

Examples of Structured Physical Activities
• Leisure walking
• Wii Fit
• Leisure biking, dance, swimming
• Gym activities
• Team sports
• Yoga
• Dance class
• Outdoor play

Desensitization
Examples of Desensitization

- Patting, rubbing, scrubbing to painful areas – 5 minutes 3-4 times daily
- Standing, lying, walking on textured surfaces
- Towel rubbing after a bath or shower
- Massage – with or without lotion
- Wearing snug clothing
- Vibration

Begin Psychotherapy

Role of Psychotherapy

- A focus on feelings, emotions and ways to include coping strategies into everyday life
- As important as getting them moving – most of the time more so!!
- Mind-Body connection
- People who go to counseling are not dumb or CRAZY
- Counselors are experts in feelings and emotions
- What do you tell a counselor?
AMPS Therapeutic Hospital Treatment Program at CHOP

- 5 hours intense PT/OT daily
- Therapy pool
- Endurance therapies
- Desensitization
- Focus on functional activities
- Average treatment LOS 4 weeks

Overall Physical and Emotional Progression

Co-Treatment Support

- Art Therapy
- Music Therapy
- Psychology Evaluation and Support
- Group Therapies
  – Music, Art, Talk Time
  – Parent Support
Family Participation

- Families not allowed in therapy gym
- Behavior plans and limiting visitation
- Ignore pain
- Reinforce independence
- Weekly meetings
- Maintain normal schedule and routine
- Parent support group and family therapy
- Family/Team meetings
- Very challenging families who are very challenged by the program and their child’s pain

Our Hospital Treatment

Program Outcomes

- Within 1-2 weeks 80% are fully functional
- Within the first month 95% are fully functional
- Within the first month 75% are pain free
- ~10-12% fail and will need psychotherapy before they can allow themselves to get better

Discharge from Hospital Treatment

- Patients have reached their critical mass
  - Functional goals met
  - Compliant and independent with home program
  - Can handle pain flares
  - Follow-up in clinic in one month
  - Outpatient psychotherapy
Now You Have Recognized It…

- No further medical investigations unless absolutely indicated
- Sympathize and acknowledge pain
- Resist urge to treat with medications
- Refer to a local PT/OT facility to get the child moving – movement is medicine!
- Discuss stress and refer to counseling
- Refer to a center for consultation