



Follow the Journey of Children with Chronic Pain




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
Welcome



Nationwide Children's Hospital




Chronic Pain in Children




- Chronic pain affects approximately
 - 3% of adolescents ages 11-18 year of age.
 - 3% of children 7-8 years of age suffer from headaches at least 3 times a week.

Hechler, T. et al. (2010).



Common Types of Chronic Pain in Children: Headaches




Headaches is the most common complaint of chronic pain in children.

Types


- Tension Headaches
- Migraine Headaches
- Pseudo Tumor Cerebri

Treatment

- Migraine
 - NSAID, Acetaminophen, consider Triptans
 - If chronic consider daily prevention medication
- Supplements
 - Magnesium
 - Co enzyme Q10
 - Omega 3 fatty acid
- Other
 - Acupuncture
 - Stress management
 - Sleep hygiene
 - Exercise
 - Dietary trigger avoidance



Common Types of Chronic Pain in Children: Abdominal Pain




Common Types of Abdominal Pain


- Functional Abdominal Pain
- Functional Abdominal Pain Syndrome
 - When psychological stress heightens visceral sensation
- IBS

• Treatment

- Pharmacological
 - Celexa, Elavil, Neurontin
- Dietary
- Cognitive Behavioral Therapy (CBT)
- Acupuncture




Common Types of Chronic Pain in Children: Musculoskeletal Pain




Limb Pain

- Most common knees (33%) and ankle/wrist/elbows (28%)
- Differential Diagnosis
 - Traumatic injury
 - Orthopedic/Mechanical
 - Infectious
 - Inflammatory
 - Neoplastic
 - Idiopathic Pain Syndrome
- Red flags
 - relieved by activity and present at rest
 - morning pain
 - swelling, stiffness, limited ROM
 - bony tenderness, Muscle weakness, poor growth and/or weight loss, fevers,
 - check for abnormal CBC, ESR and CRP, Thyroid function
 - child clinical does not look well




Common Types of Chronic Pain in Children: Musculoskeletal Pain




Complex Regional Pain Syndrome

- Ongoing burning of limb after an injury or immobilization, leading to allodynia, hyperalgesia and autonomic nervous system dysfunction
 - Type I
 - Type II
- Important to diagnose and start treatment early
 - Treatment
 - **PT!**
 - Desensitization, gradual increase weight bearing, ROM
 - May need analgesics to tolerate therapy
 - Multi-disciplinary approach
 - Pharmacological management




Common Types of Chronic Pain in Children: Musculoskeletal Pain



Back Pain

- 6% of chronic pain reported in children
- Differential diagnosis
 - Tumor of the spine
 - Infection of the spine
 - Spondylolysis
 - Spondyloisthesis
 - Herniated nucleus pulposus
 - Musculo-ligamentous back pain
- Treatment
 - Safe weight guidelines for backpacks ($\leq 10\%$ of child's body weight)
 - NSAIDS
 - Muscle relaxants
 - CBT
 - PT
 - TENS if fairly localized
 - Trigger point
 - Aqua therapy



Common Types of Chronic Pain in Children: Musculoskeletal Pain



Juvenile Chronic Arthritis (JRA)

- 5th most common chronic disease in childhood
- Experience pain, stiffness, and joint discomfort.
- Pain Management Treatment Options
 - Analgesics – NSAIDs, occasional use opioids
 - PT/OT
 - Cognitive Behavioral Therapy
 - Massage



Common Types of Chronic Pain in Children: Musculoskeletal Pain



Juvenile Fibromyalgia

- An idiopathic chronic pain syndrome defined by widespread musculoskeletal pain and generalized tender points.
- Associated with
 - Non-refreshing sleep, fatigue, irritable bowel, stress, anxiety, headaches, and paresthesias.
- Management
 - Non pharmacological - exercise, complementary medicine, and CBT
 - Pharmacological – gabapentin or pregabalin, SSRI, analgesics, NSAIDs,

Buskila, D (2009) Rheum Disease Clinic of North America.




Treatment Options for Chronic Pain in Children: Pharmacological





- Focus on treating pain, mood and sleep
 - Analgesics
 - Acetaminophen/NSAIDS
 - Adjunctive Analgesics
 - Opioids
 - Mood Meds
 - Mild Antidepressants
 - Referral to psychiatry
 - Sleep Aides




Treatment Options for Chronic Pain in Children: Pharmacological




- Opioid Management**
 - Long-Term Controlled Substance Therapy Agreement**
 - All patient/parents sign if starting any controlled substance managed in pain clinic
 - OHIO Automated RX Reporting System**
 - Monitor for all patients prior to medical visit appointment
 - Random Urine Drug Screens**


Supplements




- Vitamin B Complex**
 - Good for energy and mood
 - Recommend to take in the morning as it may affect sleep




"You have a fear of Thiamine, Riboflavin, Niacin, etc.,...better known as a Vitamin B Complex."




Supplements




- Vitamin D**
 - Essential for efficient utilization of dietary calcium
 - Deficiency causes symmetric low back pain, proximal muscle weakness, muscle aches, and throbbing bone pain elicited with pressure over the sternum or tibia.
 - Recommended Level serum 25-hydroxyvitamin D >30 mg per mL
 - Recommended Dosing
 - Maintenance
 - Adults 800-1,000 IU per day
 - Infants and Children – 400 IU per day
 - Deficiency
 - Ergocalciferol (Drisdol) 50,000 IU per week




Bordelon, P., Ghetu, M.V., Langan, R.C. (2009). Recognition and management of vitamin D deficiency. American Family Physician. Oct 15;80(8): 841-6.




Supplements





- Magnesium
 - Known to block the MND A receptor
 - Good for chronic pain and migraine headaches prevention
 - Helps with constipation
 - Dosing recommendations
 - Adult dose 250-500 mg/day
 - Children ¼- ½ adult dose




Supplements





- Omega 3 Fatty Acid DHA/EPA
 - Competitively inhibit the proinflammatory interleukins, tumor necrosis factor alpha, and the 2 series of inflammatory PGs
 - Dosing Recommendations
 - >12 year old – 1-2 gm DHA/EPA q day can do in divided doses
 - >6 year old – ½ adult dose
 - Toddler ¼ adult dose




Supplements





- Co Enzyme Q10
 - Good for headaches
 - Works on energy pathways
 - Dosing recommendations
 - 50 mg daily




Supplements





- **Melatonin**
 - Used to treat insomnia
 - Dosing
 - 1-10 mg 1 hour before bedtime




Supplements






- **Probiotics**
 - Probiotics are an effective treatment for diarrhea, lactose intolerance, irritable bowel syndrome, vaginal yeast infections, oral thrush, Crohn's disease, and ulcerative colitis
 - Recommended dosing
 - ¼ tsp or capsule for kids. They also have chewable
 - 100,000,000 unit 1-2 capsules 1-4 times a day.




Supplements




- **Other**
 - Peppermint Oil
 - Ginger




Treatment Options for Chronic Pain in Children: Psychosocial




- Cognitive Behavioral Therapies
- Relaxation therapy
- Biofeedback
- Stress management
- Coping skills
- Individual psychotherapy
- Family therapy



Treatment Options for Chronic Pain in Children: Physical Management




- Physical Therapy
 - A physical therapist can help an individual learn to interpret pain signals, and manage and decrease symptoms through exercise. As an expert in restoring and improving motion in people's lives, a physical therapist will consider all of these factors when developing an individualized treatment program.
 - Physical Therapy for core strengthening, flexibility and non-impact aerobic exercise as tolerated (walking, biking or swimming).



Treatment Options for Chronic Pain in Children: Complementary Therapies



- Complementary therapies included:
 - Hypnosis
 - Massage therapy
 - Acupuncture
 - Yoga
 - Relaxation



Massage Therapy



- A form of treatment that uses varied types of touch on the whole body or specific areas of the body for healing, relaxation, pain reduction, and relief of stress and anxiety.
 - The types of massage therapy include Swedish Massage, Manual Lymphatic Drainage, Cranial Sacral Therapy, Myofascial Therapy, and Healing Touch.



Acupuncture




- Stimulates the flow of what is known as Qi (pronounced “chee”).
 - The general theory of acupuncture is that the proper function and health of the body depend upon the circulation of nutrients, vital substances and bio-energy called Qi through a network of “channels” or “meridians.” This network connects every organ and part of the body, providing balance, regulation and coordination of internal processes.




Pain Services Clinic at Nationwide Children's Hospital




Patients followed in Pain Services Clinic at Nationwide Children's Hospital




- Outpatient Pain Program Includes
 - Medical Providers
 - MD
 - APN
 - Nurse Clinician RN
 - Psychologist
 - Physical Therapist
 - Massage Therapist
 - Acupuncturist




Patients followed in Pain Services Clinic at Nationwide Children's Hospital



- Intake Process – Multidisciplinary intake
 - Medical Provider
 - Psychology
 - Physical Therapist




Patients followed in Pain Services Clinic at Nationwide Children's Hospital




New Patient Intake Includes


- Pain Assessment
 - History of treatment
- Sleep Description
- School History
- Friends
- Mood
 - Worries
 - Habits
- Energy/Fatigue
- Memory/Concentration
- Appetite/Diet
- Risk-taking behaviors (Sex/Drugs and Rock N Roll)
- 3 wishes
- Highlights of Past Medical History (birth, development, medical)
- Relevant Family Medical History (attention to pain syndromes & mood disorders)
- Who lives at home
- ROS
- Physical Assessment
 - Physical Therapist
 - Medical Provider



Patients followed in Pain Services Clinic at Nationwide Children's Hospital



- Questionnaires (Completed separately by Patient and Parent)
 - Peds QL – Initial Intake, Monthly, Completion of Program
 - PCQ – Intake and Completion
 - CSI - Intake and Completion
 - Mood and Feeling Questionnaire - Intake and Completion
 - Functional Disability Inventory - Intake and Completion




Patients followed in Pain Services Clinic at Nationwide Children's Hospital




- Follow up Appointment
 - Medical Provider
 - Psychology
 - Physical Therapy
 - Massage Therapy or Acupuncture





Patients followed in Pain Services Clinic at Nationwide Children's Hospital




Case Review Presentations



Thank You



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