Improved Functioning, Depression and Catastrophizing in Teens with CRPS after Participation in Pain Rehabilitation

Connie Luedtke, MA, RN, BC
ASPMN
Saturday September 20th, 10:30

Conflict of Interest Disclosure

- Authors Conflicts of Interest
  - A. Connie Luedtke, No Conflict of Interest
  - B. Daniel Hansen, No Conflict of Interest
  - C. Wendy Timm, No Conflict of Interest

A conflict of interest is a particular financial or non-financial circumstance that might compromise, or appear to compromise, professional judgment. Anything that fits this should be included. Examples are owning stock in a company whose product is being evaluated, being a consultant or employee of a company whose product is being evaluated, etc.


Any views or opinions in this presentation are solely those of the author/presenter and do not necessarily represent the views or opinions of the American Society for Pain Management Nursing.

Objectives

- Discuss 3 components of this comprehensive Pediatric Pain Rehabilitation Center (PPRC)
- Describe 2 therapies used to break out of the guarding cycle of chronic pain in CRPS
- Identify Clinical Data obtained in program
- Describe highlights from patient video
Pediatric Pain Rehabilitation Program

- 17 day out patient program
- Teens and parents
- Cognitive-Behavioral Therapy
- Teen program started ’08
- Adult program 1974
- Evidenced-based outcomes

PPRC and CRPS

- Patients with CRPS and their parents often present one of the biggest challenges
- High level of anxiety, fearing the worst
- Dramatic observable features make them “different” from many patients
- Parents often more protective than others
Adolescents with CRPS attending the PRC

General Demographics
– 16 adolescents with CRPS
– Length of symptoms ranged 3 months-8 years, M=3 years
– 12-17 years of age
– Other diagnoses include: headaches, thoracic pain, back pain, hip pain, knee pain, dysautonomia, POTS, anxiety, memory problems

Therapies
Directed at breaking the pain cycle:
• intensive
• progressive weight bearing
• movement and functional use of the effected limb

Photos of Equipment
Nursing Approach

- Significant trust building
- Pick your battles
- Give and take
- May need to have serious “tough love” conversation with parents
- “If your daughter had cancer that was completely curable and yet was refusing chemotherapy, would you let her?”

Review of Clinical Data

Time Frames
- Admission
- Discharge
- 3-months post program
- 6-months post program

Review of Clinical Data

Measures Used:
- Center for Epidemiological Studies-Depression-Children
- Pain Catastrophizing Scale-Children
- Functional Disability Inventory
- Multidimensional Anxiety Scale for Children
Center for Epidemiological Studies-Depression-Children

- CES-DC is a self-report measure with acceptable reliability and validity for adolescents
- Measured on a 4-point scale ranging from 0 (not at all) to 3 (a lot)
- Total scores range from 0 to 60, higher scores = more frequent/severe symptoms
  - 16-20 = mild
  - 21-30 = moderate
  - >31 = severe depressive symptoms

Weissman et al., 1980; Faulstich, 1986; Roberts, Andrews, Lewinsohn, & Hops, 1990

Pain Catastrophizing Scale-Children

- PCS-C is a 13-item self-report questionnaire, shown to be reliable and valid for children and teens
- Refers to exaggerated negative thoughts about anticipated or actual pain experiences (Sullivan et al., 2001)
- Indicates the frequency with of certain thoughts and feelings while in pain
- Responses range from 0 (not at all) to 4 (extremely)
- Total scores range from 0 to 52 with high scores indicating greater catastrophizing

Crombez et al., 2003; Vervoort, Eccleston, Goubert, Buysse, & Crombez, 2010

Functional Disability Inventory

- 15-item, self-report, measures functional impairment related to health concerns
- Measures difficulty engaging in activities of daily living in regard to home, school, and social tasks on a 5-point scale ranging from 0 (no trouble) to 4 (impossible)
- Scores range between 0 and 60
  - with 0-12 = none or minimal
  - 13-20 = mild
  - 21-29 = moderate
  - >29 = severe functional disability
- The FDI has good reliability and validity in pediatric populations

Anxiety

• Multidimensional Anxiety Scale for Children MAS-C (March, 1997)
• Self-report questionnaire of anxiety symptoms in children assessing symptoms in four basic scales
  — physical symptoms
  — harm avoidance
  — social anxiety
  — separation/panic
• MAS-C uses T-scores (mean=50, SD=10) which are normed by age and gender

Results

<table>
<thead>
<tr>
<th></th>
<th>Admission</th>
<th>Discharge</th>
<th>3 months post</th>
<th>6 months post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>M = 21.44</td>
<td>M = 11.56</td>
<td>M = 19.81</td>
<td>M = 13.63</td>
</tr>
<tr>
<td></td>
<td>SD = 12.82</td>
<td>SD = 9.24</td>
<td>SD = 10.17</td>
<td>SD = 10.56</td>
</tr>
<tr>
<td>Pain Catastrophing</td>
<td>M = 27.94</td>
<td>M = 19.81</td>
<td>M = 20.5</td>
<td>M = 8.64</td>
</tr>
<tr>
<td></td>
<td>SD = 11.68</td>
<td>SD = 10.17</td>
<td>SD = 14.6</td>
<td>SD = 7.89</td>
</tr>
<tr>
<td>Functional Disability</td>
<td>M = 29.88</td>
<td>M = 15.13</td>
<td>M = 8.64</td>
<td>M = 7.89</td>
</tr>
<tr>
<td></td>
<td>SD = 11.71</td>
<td>SD = 10.88</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graphs
Courtney’s Admission

“Patient reports pain in distal LLE from toes to just below knee, pain is most intense in a band across the ankle and also plantar surface of foot, pain decreases in intensity toward the knee. Pain is described as tingling, burning, piercing. She has allodynia, cannot tolerate clothing or sheets touching her leg. Does not wear a shoe, but is wearing a sock today to protect her foot from touch and sensation of air on her foot.”

Courtney’s Admission

- “Previous P.T./Home Treatment: Several trials of physical therapy, multiple interventions attempted including TENS, InterX stimulation, mirror therapy, contrast bath, stretching exercises for hip, desensitization exercises, manipulation of ankle under anesthesia, use of CAM boot, sympathetic nerve blocks, steroid injection, neuro feedback therapy.”
- Assistive Devices: crutches
- Pain Level: 8/10 (Scale of 0-10 on the Numeric Pain Intensity Scale)

Physical Therapy Program

Short Term Goals:
1. Wean from crutches, begin weight bearing on left foot, wear a shoe on left foot, normalize gait
2. Twenty minutes of continuous aerobic exercise
Discharged from Physical Therapy

“Patient has weaned from crutches, is now wearing a shoe, is weight bearing on LLE without gait device, ambulating functional distances, up to several city blocks. Going up and down stairs with one rail. Gait mechanics are not fully normalized, however patient has achieved great strides and is nearing a normal gait pattern. Patient and parents verbalize understanding of exercise guidelines and have no more questions. Patient will be discharged from PT following completion of PRC programming on 6/15/12.”

Exercises for Courtney

- Exercise 6-7 days per week at local health club for 30 minutes
  - work on the treadmill and elliptical at every visit
  - continue to improve (step length, weight shift onto L leg, avoid hip retraction and knee extension).
  - Lower extremity weight training should occur three days out of the week on alternating days
- Continue aggressive left lower extremity stretching exercises several times per day, always mindful of foot position
- Continue Wii Fit balance activities, step-ups, running planks, planks
- Progress to treadmill running in small increments.

Courtney’s Video

- [http://www.youtube.com/watch?v=zGAY0MiWWNs&feature=plcp](http://www.youtube.com/watch?v=zGAY0MiWWNs&feature=plcp)

Used with permission!
Implications for Nursing Practice

• Establish trust
• Rely on your nursing experience and instinct
• Accentuate interpersonal relationships
• Communicate with teen and parents
• Teach parents about warm neutrality
• Focus on the teens specific goals
• Use team as needed: good cop, bad cop
• Offer genuine praise and encouragement

References