Pain Management in Geriatric Rehab

Presented by
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Outline

- Epidemiology of pain
- Goals of rehab in the elderly
- Challenges in identifying pain in the elderly
- Pain management
  - Assessment
  - Treatment approaches
  - Outcomes
PREVALENCE OF PAIN IN THE ELDERLY
Pain in the Elderly

- The prevalence of persistent pain increases with age
  - Increases in joint pain and neuralgias are particularly common.
- A majority of elderly persons have significant pain problems and are under treated.
- Detection and management of chronic pain remain inadequate.
  - In one study, 66% of geriatric nursing home residents had chronic pain, but in almost half of the cases (34%) it was not detected by the treating physician.
Chronic Pain

• “An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage, for persons who are either aged (65 to 79 years old) or very aged (80 and over) and who have had pain for greater than 3 months.”

• The consequences:
  • Impaired activities of daily living (ADLs)
  • Impaired ambulation and gait abnormalities
  • Depression
  • Strain on the health care economy
  • Deconditioning,
  • Accidents (falls)
  • Polypharmacy
  • Cognitive decline.
Physical Rehabilitation

- The rehabilitative aspect of pain management may help the patient live a more independent and functional life.
- Adapting to loss of physical, psychological, or social skills.
- The assessment of ADLs can help assess the level of function and direct treatment.
- The objectives of rehabilitation include:
  - stabilizing the primary disorder
  - preventing secondary injuries
  - decreasing pain perception via a multidisciplinary approach
  - treating functional deficits
  - and promoting adaptations to current disabilities.
Effect of aging on pain threshold

- Definite evidence of an increase in pain threshold with advancing age.
- There may be a difference in pain threshold depending on the type of pain.
- Non-noxious stimuli increase with age, whereas pressure pain thresholds decrease and heat pain thresholds show no age-related changes.
Pain Assessment

- Assessment of what instigated the pain, how it can be terminated, and what management modalities are most effective for a particular patient.

- Clinical manifestations of persistent pain are often complex and multi-factorial
  - Even the perception of pain may differ from that perceived by those of less advanced years.

- Factors that contribute to the complexity of the situation:
  - Physical accessibility to treatment
  - Cost of drugs
  - Presence of coexisting illness
  - Use of concomitant medication
  - Ability to understand the complaints of the patient who has cognitive impairment
  - Depression
  - Psychosocial concerns
  - Denial
  - Poor health, and poor memory

- Without a thorough assessment, pain that is causing severe impairment may not be revealed for an array of personal, cultural, or psychological reasons.
Pain Assessment

- Pain may be under-reported because some elderly patients incorrectly believe that pain is a normal process of aging.
- In other cases, such as with cancer pain, it is under reported because of fear of disease progression.
- Caregivers and relatives are often the most reliable source of information.
Pain Assessment

• Evaluation of the patient’s level of function is important as it affects the degree of independence, level of need for caregivers, as well as overall quality of life.

• Should be assessed.
  • Activities of daily living
    - eating, bathing, dressing
  • Instrumental ADLs
    - light housework, shopping, managing money, preparing meals
Pain Assessment

- The visual analogy scale (VAS), verbal descriptor scale, and numerical rating scale are frequently used to assess pain intensity.
- VAS should be used with caution as it is associated with a higher frequency of responses from the elderly that are incomplete or unable to be given a score.
- Elderly patients report difficulty in completing the VAS.
- It has proven reliability in clinical and research settings, and offers the advantages of simplicity, ease of administration, and minimal intrusiveness.

- The McGill Pain Questionnaire
  - Has evidence for validity, reliability, and discriminative abilities that are not age-related.
  - Used to assess the sensory, affective, evaluative, and miscellaneous components of pain.

- SPADI
  - Shoulder Pain and Disability Index
  - Developed to measure current shoulder pain and disability in an outpatient setting.
VAS

No pain
Mild, annoying pain
Nagging, uncomfortable, troublesome pain
Distressing, miserable pain
Intense, dreadful, horrible pain
Worst possible, unbearable, excruciating pain

0-10 VAS Numeric Pain Distress Scale

No pain
Moderate pain
Unbearable pain

0 1 2 3 4 5 6 7 8 9 10
McGill Pain Questionnaire

**SHORT-FORM McGILL PAIN QUESTIONNAIRE**

**PATIENT'S NAME** _____________________________  **DATE**

*Instructions*: Since you have reported that one of your problems is **physical pain**, the purpose of this checklist is for you to give us an idea about what your **physical pain** feels like. Each of the words in the left column describes a **quality** or **characteristic** that pain can have. So, for each pain quality in the left column, check the **number** in that row that tells how much of that specific **quality** your pain has. Rate **every** pain quality.

<table>
<thead>
<tr>
<th>PAIN QUALITY</th>
<th>NONE</th>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Throbbing</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>2. Shooting</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>3. Stabbing</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>4. Sharp</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>5. Cramping</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>6. Gnawing</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>7. Hot-burning</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>8. Aching</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>9. Heavy</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>10. Tender</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>11. Splitting</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>12. Tiring-exhausting</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>13. Sickening</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>14. Fearful</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>15. Punishing-cruel</td>
<td>(0)</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
</tbody>
</table>
McGill Pain Questionnaire

A. PLEASE MAKE AN "X" ON THE LINE BELOW TO SHOW HOW BAD YOUR PAIN IS RIGHT NOW.
   NO PAIN |-----------------------------------------------| WORST POSSIBLE PAIN

B. PLEASE CHECK THE ONE DESCRIPTOR BELOW THAT BEST DESCRIBES YOUR PRESENT PAIN.
   0  NO PAIN ______
   1  MILD ______
   2  DISCOMFORTING ______
   3  DISTRESSING ______
   4  HORRIBLE ______
   5  EXCRUCIATING ______

C. IS YOUR PAIN?
   (check one word)
   ____ Brief
   ____ Intermittent
   ____ Continuous

Note: Adapted with permission from the "Short Form McGill Pain Questionnaire". Copyright 1987 Ronald Melzack.

S = ___/33  A/E = ___/12
Shoulder Pain and Disability Index (SPADI)

Please place a mark on the line that best represents your experience during the last week attributable to your shoulder problem.

**Pain scale**

How severe is your pain?

Circle the number that best describes your pain where: 0 = no pain and 10 = the worst pain imaginable.

<table>
<thead>
<tr>
<th>At its worst?</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>When lying on the involved side?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Reaching for something on a high shelf?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Touching the back of your neck?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Pushing with the involved arm?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

**Disability scale**

How much difficulty do you have?

Circle the number that best describes your experience where: 0 = no difficulty and 10 = so difficult it requires help.

<table>
<thead>
<tr>
<th>Washing your hair?</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing your back?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Putting on an undershirt or jumper?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Putting on a shirt that buttons down the front?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Putting on your pants?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Placing an object on a high shelf?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Carrying a heavy object of 10 pounds (4.5 kilograms)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Removing something from your back pocket?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>
Medication Management

- Poor medical compliance due to:
  - poor physician-patient communication
  - Cost
  - Race
  - Drug dosage form
  - Insurance coverage.
- A multidisciplinary approach is recommended to investigate all possible options for optimal management:
  - Pharmacotherapy (most commonly employed)
  - Physical Rehabilitation
  - Psychological support
  - Interventional Procedures
Medication Management

- We must investigate in detail patient's pain medications
  - Medication group
  - Indications
  - Dosage
  - Frequency
  - Compliance/adherence
  - Contraindications with other medications patient is taking
Assessment/Evaluation

- You should perform a systematic orthopedic evaluation when assessing pain.
  - Postural assessment
  - Neurological screening of upper/lower quadrants
  - Muscle length
  - Joint mobility
    - Osteokinematic, arthrokinematic
    - Primary joint as well as above and below joints
  - Assessment of strength (all muscle groups involved in joint)
  - Special Tests
    - Should be performed on all patient age groups, modify your strength when applying resistance to avoid injury
Assessment/Evaluation

• Systems Review

• Certain types of pain may be caused by non musculo-skeletal factors. It is important to perform a thorough systems review on every patient you are seeing regardless of their diagnosis.
  
  – Cardiopulmonary
  – Neurological
  – Dermatological
Treatment approaches

• Manual Therapy
  • Is it safe?
    – NSAID's 15.3/100,000
    – General Exercise 2.3/100,000
    – Airline Travel 3/10,000,000
    – Lumbopelvic Manipulation 1/5,000,000,000

• Put your hands on patients!
Comparison of Supervised Exercise With and Without Manual Therapy for Patients With Shoulder Impingement Syndrome; Bang; JOSPT, 2000

- Manual Therapy combined with supervised exercise is better than exercise alone for increasing strength and function, and decreasing pain.
- 2x/week for 3 weeks
  - Core Exercises
    - Stretch ant and post shoulder muscles
    - Strengthening with Theraband in all planes
    - Functional Strengthening – chair pushups
Case Study

- Patient is a 72yr old female complaining of progressively worsening R shoulder pain that began 6 months ago. Patient reports she is now unable to reach into overhead cupboards, pull on a sweater, or reach to wash her back noting “my arm just doesn't go that far anymore.” Patient's medical history is significant for DMII, HTN, COPD and R THR (6yrs ago).
Case Study

- From the patient's history you are suspecting that she has developed adhesive capsulitis.
  - Females with diabetes are more likely to develop A.C.
- You performed a thorough assessment of her pain and function using the SPADI
- You performed a complete evaluation of her ROM, joint mobility, strength, posture and functional mobility. Your diagnosis was correct.
- You ruled out neurological factors.
- How do we treat it?
Treatment Strategies

- Heat (at most elongated position)
  - Can use US at most elongated position as well
- Joint Mobilizations
- Stretching
- Strengthening (at end range)
The immediate effects of soft tissue mobilization with PNF on GH ER and Overhead Reach; Godges; JOSPT-12-03

- Treatment group received:
  - Subscapularis STM
  - IR and ER stretching
  - PNF patterns

- Treatment group improved an avg of 16 degrees in one treatment session compared to controls (exercise only)
Mobilization Techniques

• Every moving joint in our body needs to be mobilized in order to increase functional and osteokinematic ROM.
• Simply strengthening joints in a poorly aligned position will potentially cause more long term damage to the tissue.
• Mobilization techniques are varied and should be utilized with competency and confidence.
Mobilization Examples

Ankle mobs useful with:
- Poor foot clearance during gait
- Pain with stair negotiation
- Difficulty with negotiating ramps
- Knee/hip pain with ambulation (due to compensation for ankle immobility)
- Poor balance (poor ankle strategies)
- Pain relieve after sprains/fx
Mobilization Examples

Scapular Mobilization
- Shoulder impingement
- Adhesive capsulitis
- Post surgical
- Poor posture
- Add scapular PNF pattern for muscle re-education

GH mobilizations (top – utilizing Mulligan Technique)
- Pain relief
- Increase ROM
Mobilization Examples

Elbow Mobs (Mulligan):
- Decreased Flex/Ext
- Difficulty with feeding
- Difficulty with dressing
- Pain
- Increase ROM after Fx

Wrist Mobs:
- Pain with equipment handling (Cane/Walker)
- Difficulty with feeding, grasping, manipulating objects, dressing
Taping Techniques

- Considered an important modality in treatment of shoulder dysfunction as it stimulates greater proprioceptive feedback and helps to improve scapulo-humeral rhythm and joint position.

- Taping can be applied to all major joints in the body.

- The effects have been shown to last well after the application of the tape.
Taping

- Proposed mechanisms of taping are: the proprioceptive and mechanical
  - taping has a positive psychological effect

- Proprioceptive:
  - Tape is said to stimulate neuromuscular pathways via increased afferent feedback from cutaneous receptors which with expert re-training can facilitate a more appropriate neuromuscular response.

- Mechanical:
  - effects are to re-locate the joints in such a way as to stabilize the joint, provide a splint or alter length-tension relationships
Some Examples

**Fig. 4** Facilitation of serrotus anterior and rhomboids.

**Fig. 5** Facilitation of scapular retraction and depression.

**Fig. 6** Acromio-clavicular joint strap.
Shoulder

1. Anchor tape above elbow and apply upwards, following the curve of the shoulder with the tails.

2. Apply 2nd strip across top of shoulder, Stretch tape 50% in middle, no stretch in ends.
Neck Pain

Low Back Pain

Shoulder Pain

Foot Pain
Modalities

- **Ultrasound**
  - increased blood flow
  - reduction in muscle spasm
  - increased extensibility of collagen fibers
  - pro-inflammatory response

- **Heat Packs**

- **Cryotherapy**
Electrical Stimulation

- **TENS**
  - There are 4 theories about the physiological effects of TENS:
    - Gate control theory
    - Opiate-mediated control theory
    - Local vasodilatation of blood vessels in ischemic tissues
    - Stimulation of acupuncture points causes a sensory analgesia effect

- **IFC**
  - Pain Relief
  - Reduction in swelling

- **Russian**
  - "Strength training by NMES does promote neural and muscular adaptations that are complementary to the well-known effects of voluntary resistance training" [1] This statement is part of the editorial summary of a 2010 world congress of researchers on the subject

- **PENS**
  - Patterned Electrical Neuro Stimulator
Clinical Pearls

- All patients/residents in your communities should be screened and assessed for pain disorders.
- Chronic pain **SHOULD BE ADDRESSED** even if the patient had it for “30 years” - you can still help!
- Use your knowledge and develop your skill set to incorporate multiple treatment approaches in your care.
- Establish a “hands on” practice – you will see quick, and significant results in your patients. It also helps establish a connection with your patients which they will value.
- Don't be intimidated by diagnoses you have not treated before.
- Rehabilitation is a profession, and we as professionals should continuously motivate ourselves to improve our clinical practice, develop our skills, and provide our clients the care they deserve.
Bibliography

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Thank you!

Questions?