Non-Pharmacological Management of Arthritis in the Elderly
Above and Beyond Medication

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Objectives

- Outline the impact of Arthritis on seniors
- Recognize the common features of Arthritis
- Recognize whether optimal management of Arthritis is being provided
- Understand factors affecting pain perception
- Identify optimal approach to care in this patient population
- Understand the evidence based non-pharmacologic management strategies in Arthritis Care
Section A
Impact of Arthritis on Seniors
Arthritis Prevalence in Ontario

- second most prevalent chronic condition, and results in more pain and disability than any other chronic disease

- Prevalence highlights:
  - 1.8 million Ontarians are living with arthritis or approximately 17 per cent of the population over the age of 15 years.
  - By 2021 the prevalence of arthritis will increase to between 21 and 26 per cent of the population over the age of 15 years.
  - 1 in 10 Ontarians are living with osteoarthritis while 1 in 100 Ontarians live with rheumatoid arthritis.
  - Two-thirds of people living with arthritis are women.
  - 3 of every 5 people living with arthritis are younger than 65 years.
  - 40 per cent of the population over the age of 65 are living with arthritis
  - Arthritis costs Canadians $4.4 billion each year in health care and disability related costs.

- Annual direct health care utilization due to arthritis:
  - 2.8 million physician visits
  - 165,000 Emergency Room visits
  - 26,000 Hip and Knee replacements
Aging Fallacies!!

- It’s normal to have pain at your age
- As you age it’s normal to have arthritis
- There is nothing you can do about it, it’s part of aging
- It’s only arthritis, just ignore the pain
Section B
Common Features of Arthritis
Common faces of Arthritis

- **Def:** Arthritis ('arth' meaning joint, 'itis' meaning inflammation); actually consists of more than 100 different conditions.

- **Common Types of Arthritis**
  - Osteoarthritis
  - Inflammatory/erosive Osteoarthritis
  - Rheumatoid Arthritis
  - Gout
  - Psoriatic Arthritis
  - Fibromyalgia
MSK Pain: Differential Diagnosis

MSK Pain

Articular

Inflammatory

Seropositive

Seronegative

Crystalline

Infectious

Non-articular

Non-inflammatory

Osteoarthritis
Osteoarthritis

- Common findings: bony, soft tissue, synovitis
- Causes? Outcomes?
  - Genetic predisposition
  - Poor lifestyle choices
  - Prior injury or disease
- Common areas
  - Spinal stenosis (neurological compromise)
  - DDD (facet, uncovertebral joints)
  - OA WB joints
  - Hands and UE (multijoint involvement)
Degenerative Changes

- Normal aging process? Or inflammatory systemic disease
- Impact of postural loading
- Tissue properties
- Prognosis?
- Early detection and management is crucial
Imaging and degenerative changes

Arthritis does not equal pain

Pain is not an image, it is not part of normal aging,
But it does occur more frequently
Imaging and rate of disability
Health Care in 2010 and beyond

- Primary health care provider
- Case management
- Patient advocacy
- Collaboration
Medical Follow-up

- **Subjective assessment**
  - Joints involved, primary complaints, secondary complaints, pattern of pain and joint involvement
  - Associated features: articular and non-articular
  - Functional impact/impairments

- **Physical assessment**
  - AROM
  - Obs: Deformity, nodules, contractures, antalgic/adaptive postures
  - Active joint count: effusion/joint line pain/o-p
  - strength
  - Mobility and balance

- **Laboratory tests?**
- **Imaging?**
- **Pain management**
Impact of Arthritis in the elderly

- Increased fatigue
- Decreased energy
- Pain
- Poor mobility
- Progressive loss of strength and flexibility
- Falls
- Fractures
- Frailty
Section C
Optimizing Arthritis Management

- Early detection and control of disease activity
- Minimizing further damage and slow progression
- Education
- Pain control
- Maintain function
Checklist

- Primary health care provider?
- Is pain well controlled?
  - Medications?
  - Frequency and dose?
  - Side effects?
- Number of joints affected?
  - Swelling/redness
  - Joint pain
  - Range of motion
- Functional difficulties?
  - Gait
  - Self-care/ADL’s
  - Fine motor
  - IADL’s
  - Cognition
- Home setting?
  - Social support
  - Services
  - Accessibility
  - Equipment
Section D
Factors Affecting Pain Perception

What is pain?

`An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage`

(International Association for the Study of Pain)

Current understanding
Poor outcomes?

- Approach to management:
  - Medical model (anatomical) not always ideal
  - Goal of patient
  - Beliefs of patient
    - Fear avoidance: disuse, weakness
    - Somatization, catastrophization, depression
  - Ability of patient to follow program (cognition)
  - Multidisciplinary approach
  - Family support
  - Education ++++

Successful surgery ≠ return to function
Pain Management

“Pain is not always in the tissues”

- Pathophysiological mechanisms
- Pain mechanisms (pie chart)
- Biopsychosocial factors influencing prognosis significantly impact therapeutic approach
Pain Mechanisms

- Peripheral Nociceptive
- Peripheral Neurogenic
- Motor Control
- Autonomic
- Central Processing
- Cognitive/affective
Medical Lingo and pain perception

- Nocebo effect
- Be careful of explanations
- Don`t overdramatize
- Empower and educate patients
- Don`t use negative imagery
Functional limitations and/or disabilities

- 1 in 4 people with arthritis report year over year decreases in their health
- More than 50 per cent of people with arthritis reporting long-term disability
- 1 in 3 people of working age with arthritis reporting being without a job
- Reduced aerobic fitness, weakness, disability, and joint pain
Disability and Return to Work
Disability and return to independance

Probability of Return to Work (%)

Duration of Disability (Months)

(Source: 1987 WCB Report)
Section E
Optimal Approach to Care

- Individualized
- Clients objectives and goals
- Management vs treatment

- Therapeutic Approach
Case Study 1

- Mr. Backlow presents with complaints of longstanding back pain
- Radiates down right anterior leg now with any WB and walking tolerance 50 feet
- Doesn’t trust his right leg
- Cannot stand more than 5 minutes secondary to pain
- Followed by physiatrist and anesthesiologist
- Known to have DDD and spinal stenosis more pronounced at L4/5 level
Objective findings

- Limited WB tolerance
- Difficult to assess given obesity
- Neuro: inconclusive on testing
- No pain in sitting
- Pain with standing and walking (avoids extending the hip)

Patient Goals:
- Regain mobility
- Decrease leg pain
Management

- Anestheologist: epidural injections X 2, no benefit
- Physiatrist believes it is spinal related and referred neurogenic leg pain (femoral nerve)
- Physiotherapist/Occupational Therapist
  - Home exercises and manual therapy (non-responsive)
  - Bathroom equipment
    - RTS
    - Bath bench and bars
Outcome

- Improved pain control with transfers but mobility remains limited
- Followed up with physiatrist, and then referred to orthopedic surgeon
- Hip arthritis significantly progressed in past year and placed on list for THR
- Patient goals only partially met

Requires further treatment
Therapeutic Approach: Arthritis, Pain, and Function

- Identify the pain mechanisms
  - Contributing Factors
  - Functional limitations and/or disabilities

- Type of arthritis
  - Stage of the disorder
  - Disease activity
  - Precautions and contra-indications to assessment and treatment

- Management vs Treatment

- Available resources and support network

No Cure!
Stage of the disorder

- Early
  - Limited clinical signs
  - Subjective reports of pain and discomfort
  - Minimal impact on ADL’s and recreational activities
  - Minimal or absent findings on imaging, possible lab findings

- Moderate
  - Functional impairments modifying ADL’s
  - Subjective complaints of pain and objective findings or arthritis on assessment
  - Limitations in tolerance to higher physical demanding activities
  - Evidence of arthritis on imaging

- Late
  - Evident signs of arthritis
  - Severe limitations of functional abilities, resulting in disability
  - Moderate to severe pain
Arthrosis a normal process but…

- Can lead to pain and disability
- Exacerbating factors:
  - Loading habits
  - Obesity
  - Deconditioning/Weakness
  - Poor management during inflammatory phases
  - Further injury
- Other factors:
  - Family support
  - Dementia
  - Socio-economic status
Section F

- Non pharmacological management strategies in Arthritis Care
  - Pain Control Principles
  - Case Studies

- Betty's visit to the Dr's office

"It's unbelievable, a miracle even. You walk in bent in half and now you walk out erect. What a fantastic doctor he is. Tell me, what did the Doctor do to you?"

"Miracle, shm miracle," says Betty, "he just gave me a longer walking stick."
Pain Control Principles

- Medications
- Unload the joint
- Improve strength and mobility
Unloading the joint

- Mobility aids
- Bathroom and transfer aids
- Braces/splints
  - Resting
  - Working
  - Footwear/orthotics
- Weight loss
- Activity pacing
- Posture/ergonomics
  - Core and girdle strengthening
  - ADL aids
Improving strength and mobility:
What is your goal, maintenance or strengthening?

- **Strengthening exercises**
  (gradual loading: low impact)
  - Quadriceps and gluteals
  - Standing
  - aquafitness

- **Stretching exercises**
  - Loss of hip and knee extension

- **Cardiovascular exercise**
  - Weight loss, decreased pain, improved function
Living with disability

Interventions: Optimizing management and function

- Mobility aids
- Bath aids
- Braces
- Lifestyle changes
  - Activation and exercise
  - Weight loss (Dietician)
- Allied health (Physio/OT)
- Medication Management (MD and/or Pharmacist)
- Energy conservation/activity pacing
  - Activity restriction/modification (avoid moderate to vigorous activity levels)
    - eg. Swimming, walking on level ground
    - Avoid uneven ground, ladders.
  - Avoid inactivity
- Self management program
- Consider the patient’s goals and impact on their function
Case Study 2

- 75 yo ♀ of low socio-economic status and education, and limited social network
- Gradual isolation and deconditioning, followed by falls and hospitalization
- Morbidly obese woman wishing to remain independently living in inaccessible building (5 step access)
- Moderate to severe OA bilateral knees, using 4 point walker for indoor ambulation (25 feet)
- PSW for sponge bath sitting on toilet
Management and outcome
(followed for 12 sessions over 6 month period)

- Set-up with dietician and gradual weight loss
- Conditioning program
  - Walking in hall
  - Low level sitting exercises, progressed to standing
  - Stairs training with cane
  - Bariatric walker for outings
  - Accompanied outings/confidence building
  - PSW supervising stair exercises and outdoor walks
- Results
  - Regained ability to do stairs
  - Returned to outdoor ambulation and grocery shopping
  - Improved self care (bathing using a bath transfer bench)
  - Weight loss > 100 lbs
Case Study 3

- 78 yo ♂ 4 weeks post THR and geri rehab
- PMHx: longstanding severe RA
  - joint replacements: R shoulder and elbow, bilateral knees, bilateral hips with a few revisions
  - Severe multi-joint involvement
  - Only able to transfer with one person assist, independent for indoor mobility PTA
  - Falls, poor mobility and equipment needs
  - Deconditioning due to hip surgery (increase in disability from disuse)
Recommendations/interventions
6-8 sessions during a 3 month interval

- Bed and sitting home exercise program
- Transfer training for wife
- Energy conservation/activity pacing
  - Bedside commode
  - Multiple small sessions of rehab
- Walking program (2 person assist at beginning)
- Arthritis Society OT referral for ADL`s & adaptive aids for self-care activities
- Extra bars at entrance to house (4 step access)
Case studies

- Neck and arm pain: active senior, lifting grandchildren (neck pain):
  - strength/postural loading, avoid aggr. factors, optimize jt play (manual therapy)

- Spinal stenosis:
  - posture and positioning, manual therapy and exercise

- Non-surgical cases (knee/hip pain):
  - unloading, activity pacing
Rehabilitation Plan (hands and wrists)

Where does pain come from? Most disabling factors?

- **Pain Control**
  - Energy conservation and activity pacing
    - Don’t lift/drag
    - Use carts
  - Break down the task
    - MOW
    - Joint protection
      - Resting splints
    - Improving ADL’s
      - Equipment
      - Working splints
Physiotherapy effectiveness

- J Rheumatol 2001; 28:156-64
  - Individual and class format showed improvements in pain, physical function, and quality of life for patients with knee OA (1 hour, twice weekly, 8 weeks)
  - Poor referral rate by specialists to Physiotherapy
  - Good response for early to moderate OA
  - Lengthier lower intensity physical treatment needed for older patients
  - Less responsive in patients with a severe loss of medial space
Physiotherapy effectiveness

- N Engl J MED 2008; (359)11:1097-1107
  - RCT of arthroscopic Sx with physical and medical therapy vs physical and medical therapy alone in patients with moderate to severe knee OA
  - No superiority of surgery
  - Therapy (1 hour for 12 weeks), home exercises (twice daily + education on arthritis management)
  - NOTE: arthroscopic surgery appears indicated in patients with large meniscal bucket handle tears
Review

- Arthritis does not equate to pain
- Little changes can have huge impacts
- Optimal management not only based on the use of surgery and medications
- No cure, but symptoms and impact of impairments can be controlled
- Listen to your patient, they often have the solution
Resources

- www.arthritis.ca
- www.afcinstitute.com
- Riverside Hospital Physiotherapy Dept
- CCAC (VHA Rehab Solutions/Care 4)
- Private Rehabilitation

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