

Common Illness and Conditions Associated in Elderly : Musculoskeletal Disorders

Intended Learning Outcomes

At the end of this lecture students will be able to,

- understand the impact of aging on the musculoskeletal system.
- identify common musculoskeletal disorders in the elderly.
- review preventive strategies and diagnostic approaches in common musculoskeletal disorders in the elderly.

Introduction

- Healthy aging is the process of developing and maintaining functional ability that enables well-being in older age. (WHO, 2020)
- In Sri Lanka, the aging population is rapidly growing, projected to reach 25% by 2041 while other countries of the region are expected to have lower rates. (Ageing Population of Sri Lanka, 2017)
- Globally, by 2050, 1 in 6 people will be over 65 years. (World Population Ageing 2019 Highlights, 2019)

Introduction

- Aging is a major risk factor for musculoskeletal (MSK) conditions.
- Musculoskeletal health is a critical component of healthy aging as it influences mobility, independence, and quality of life.
- MSK conditions are the leading contributor to disability globally.
- Approximately 1.71 billion people worldwide are affected by MSK conditions. (WHO, 2022)

Changes in Musculoskeletal System with Aging

- Decreased bone density
- Loss of muscle mass-decreases muscle fiber size and number
- Loss of water-reduces joint cushioning and shock absorption
- Joint degeneration-cartilage thinning and synovial changes
- Increased collagen crosslinks-decreases flexibility
- Loss of elastic fibers-decreases elasticity of ligaments
- Decreased range of motion
- Increased risk of injury and falls
- Lean mass decreases and fat mass increases with age

(Avers & Wong, 2019)

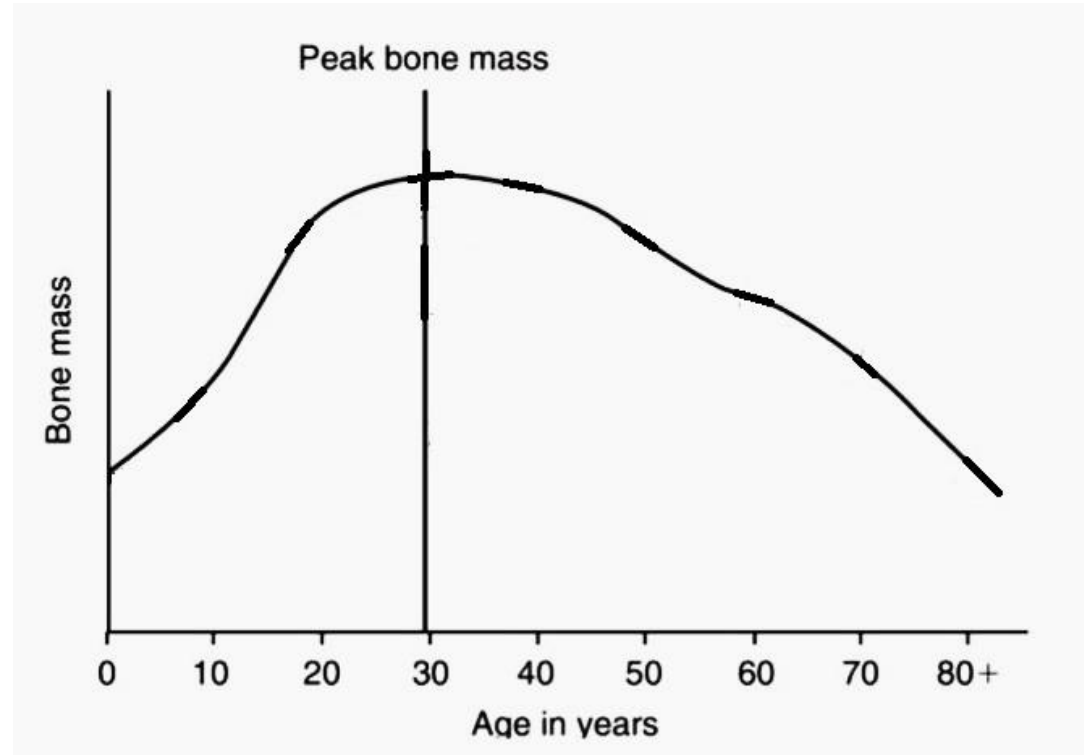


Fig. 01- Bone mass profiles of a woman throughout the course of a lifetime.

(Avers & Wong, 2019)

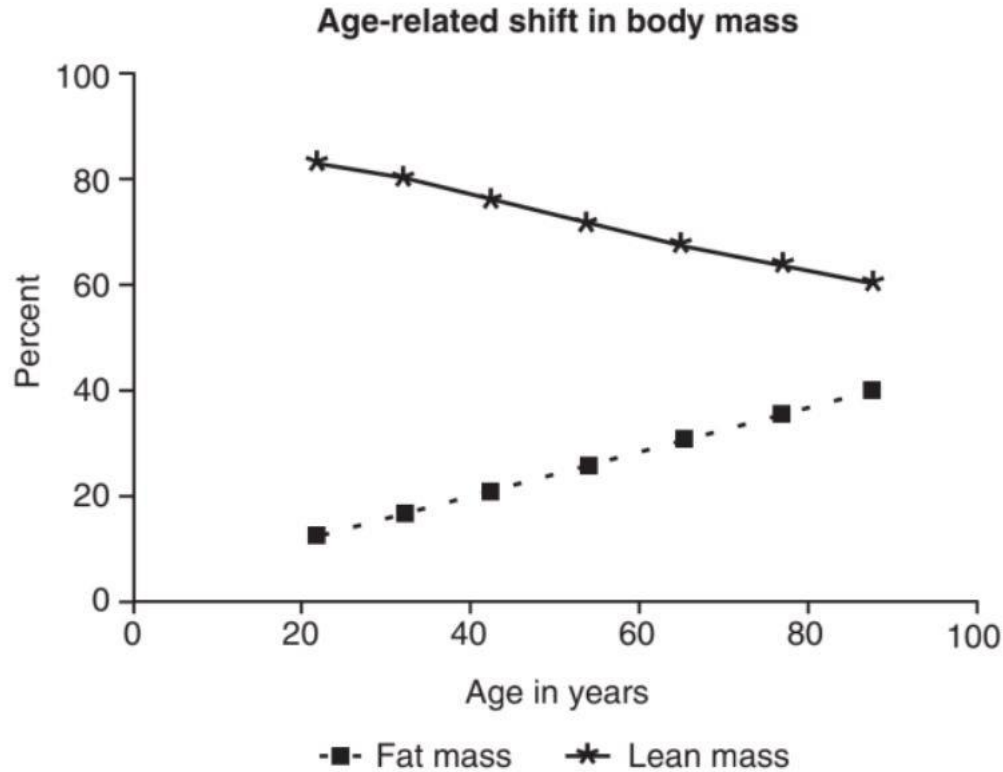


Fig. 02 - Typical shift in fat and lean mass in an aging male. Lean mass, which is mostly muscle, declines continuously after the 3rd decade. Fat mass increases concomitantly. In this individual, body weight has not changed over the 60 years that are represented.

(Avers & Wong, 2019)

Consequences

- Significant limitations in mobility and dexterity.
- Early retirement from work and reduced participation in society.
- Lower levels of well-being and quality of life.

(WHO, 2022)

- Care overload for caregivers' health.
- Caregivers' physical illness and self-neglect.

(Gomes et al., 2021)

Common Disorders in Older Adults

- Osteoarthritis (OA)
- Osteoporosis
- Rheumatoid Arthritis (RA)
- Sarcopenia
- Gout
- Degenerative Disc Disease

(Gheno et al., 2012; Minetto et al, 2020)

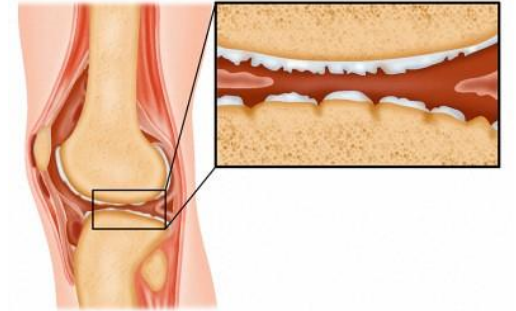
Osteoarthritis

Definition: Degenerative joint disease characterized by cartilage breakdown.

Clinical features: Joint pain, stiffness, swelling, limited range of motion

Common sites: Knees, hips, spine

Treatment strategies: NSAIDs, physiotherapy, weight prevention strategies, Joint replacement in severe cases



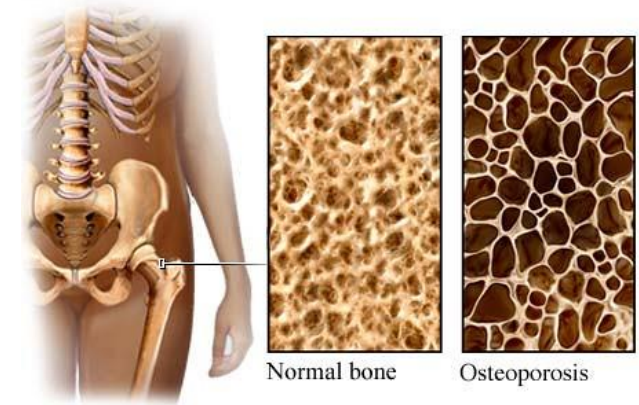
Osteoporosis

Definition: Loss of bone mass leading to fragile bones.

Clinical features: back pain, loss of height,
stooped posture, brittle fingernails

Complications: Vertebral fractures, hip fractures

Treatment strategies: Bisphosphonates, calcium
and vitamin D supplements, Resistance training, fall
prevention



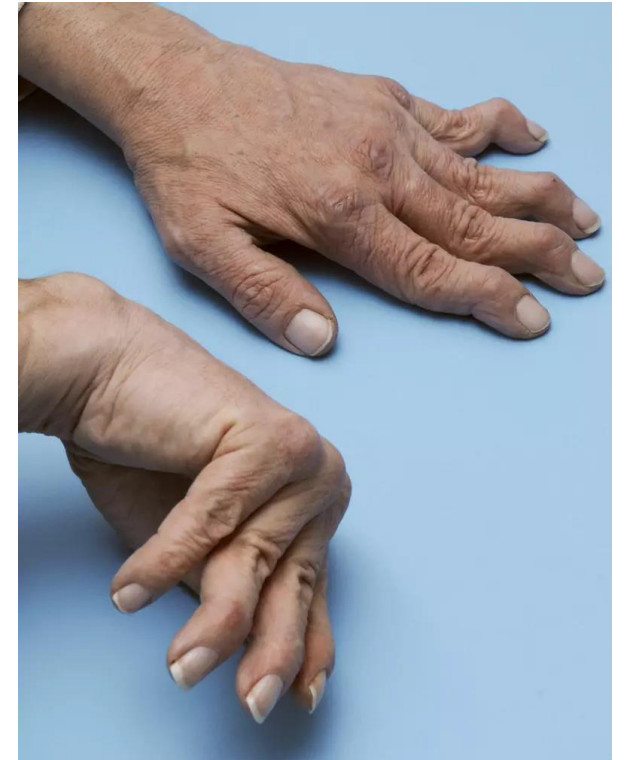
Rheumatoid Arthritis

Definition: Autoimmune inflammatory disorder primarily affecting joints

Clinical features: pain, swelling, morning stiffness, systemic fatigue

Common sites: joints of the hands, wrists, feet, ankles, knees

Treatment strategies: DMARDs, corticosteroids, biologics, physiotherapy and occupational support



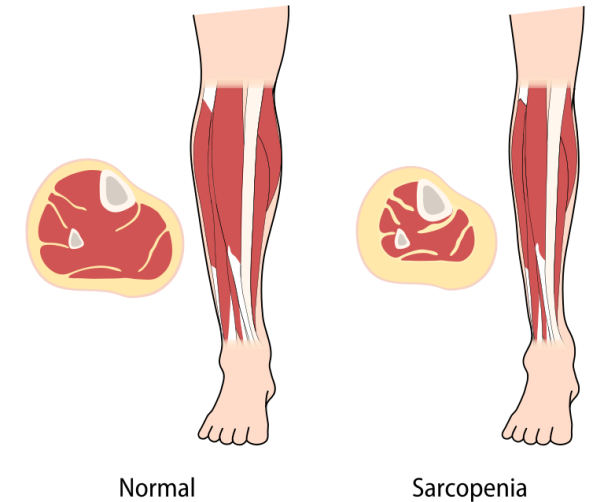
Sarcopenia

Definition: *Progressive loss of skeletal muscle mass and strength*

Clinical features: muscle weakness, difficulty with ADLs, decreased stamina, slow movement, tendency to fall

Causes: hormonal changes, inactivity, poor nutrition

Treatment strategies: resistance exercise, protein supplementation, hormonal therapy



Gout

Definition: Metabolic arthritis due to uric acid crystal deposition

Clinical features: sudden/intense pain, swelling, redness, and warmth in joints (often in the big toe)

Triggers: high urine diet, alcohol, diuretics

Treatment strategies: Colchicine, allopurinol, NSAIDs, lifestyle and dietary changes

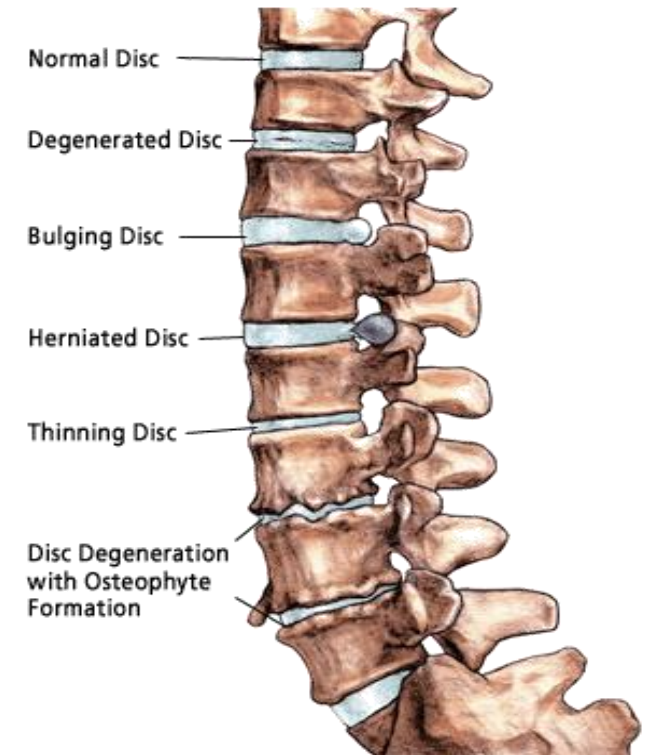


Degenerative Disc Disease

Definition: *Disc degeneration leads to reduced cushioning in the spine.*

Clinical features: chronic low back pain, reduced mobility, sensory abnormalities/deficits

Treatment strategies: physiotherapy including posture correction & ergonomic education, injections or surgical intervention



Diagnosis and Assessment Tools

- Clinical evaluation
- Imaging (X-ray, CT, MRI, DEXA scan)
- Laboratory tests (inflammatory markers, Vitamin D, calcium levels)
- Functional assessments

Gait analysis, Time up and Go (TUG) test, Berg Balance Scale, Barthel Index etc.

Multidisciplinary Approach

- Primary care physician
- Geriatrician
- Rheumatologist
- Physiotherapist
- Occupational therapist
- Nutritionist
- Psychiatrist
- Pharmacist
- Nurse
- Social worker etc.



Call to Action



- Enhance awareness, early detection and understanding of MSK conditions.
- Promote early diagnosis and appropriate management.
- Promoting community-based rehabilitation (CBR) in rural areas.
- Implement educational programs on proper caregiving techniques.
- Invest in research and data collection to inform policies.

Summary

- Musculoskeletal disorders are common and impactful in the elderly.
- Early diagnosis, prevention, and multidisciplinary care are key elements.
- Holistic, evidence-based, and culturally sensitive care is essential.
- Tailored interventions improve quality of life and functional independence.

References

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Questions or comments



Thank you !

