

# THE AGEING POLIO SURVIVOR

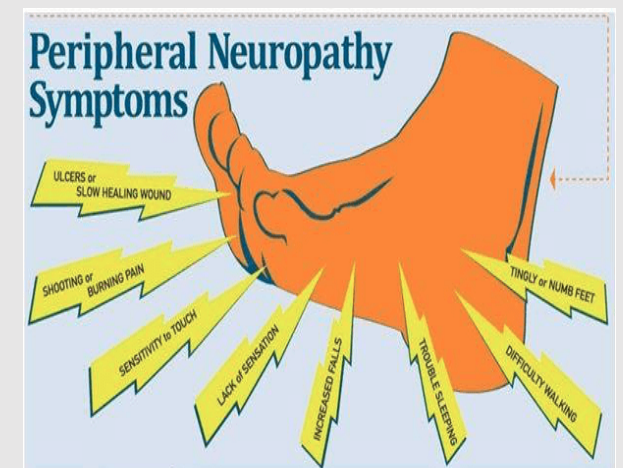
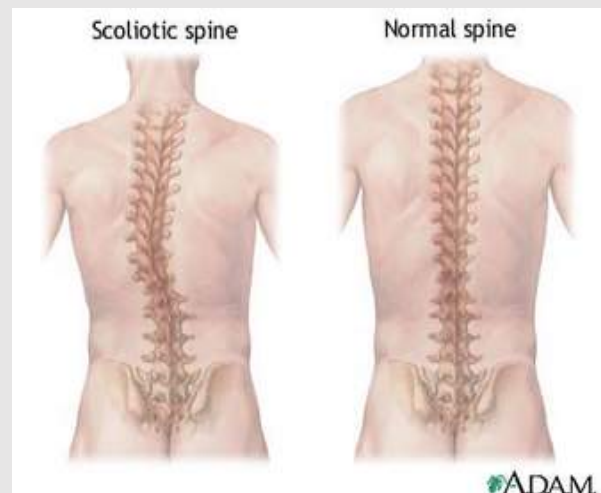
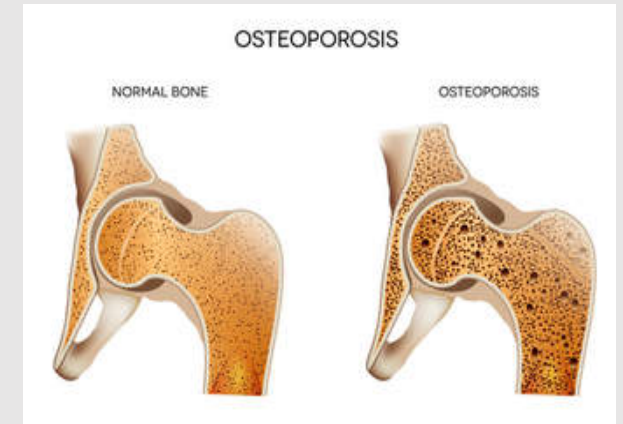
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**The Queen Elizabeth Hospital & Hampstead  
Rehabilitation Centre**

# COMMON MUSCULOSKELETAL AND NEUROLOGICAL CONDITIONS WITH AGEING

- Osteoarthritis
- Osteoporosis
- Degenerative scoliosis/kyphosis
- Decreased sensation:
  - Peripheral neuropathy



# INCREASED INCIDENCE OF MEDICAL CONDITIONS WITH AGEING

- **Diabetes**
- **Thyroid disease**
- **Hypertension**
- **Heart disease, arrhythmias**
- **Peripheral vascular disease**
- **COPD**
- **Parkinson's disease**
- **Cancers**
- **Anaemia**
- **Loss of immune function**

# MAIN CLINICAL FEATURES OF PPS

- Fatigue (most common)
- Muscle pain
- Joint pain
- Muscle spasms
- New weakness/ atrophy
- Cold intolerance
- Increased breathing difficulties
- Increased swallowing difficulties

# POST-POLIO FATIGUE

Post-polio fatigue appears to occur in two forms:

Generalised (central) Fatigue

Muscle (peripheral) fatigue

# GENERALISED FATIGUE

Overwhelming exhaustion with flu-like aching and a marked change in the level of energy, physical and mental endurance following minimal activity

“**Polio wall**”, a sudden feeling of overwhelming exhaustion.

Commonly it occurs late in the afternoon or early evening and is **typically brought on by an accumulation of activities that previously did not require special effort.**

Polio survivors with fatigue report problems with concentration, memory, attention, word finding, maintaining wakefulness and clear thinking

# MUSCULAR FATIGUE

Described as “a heavy sensation in the muscles,” “increased physical weakness,” and an increased loss of strength during exercise.

Muscle strength usually returns after a period of rest

Aggravated by overuse, stress, cold

Likely due to loss of nerve fibers/ overuse and damage to muscle tissue

Slow motor unit loss with aging increases weakness and chance of overuse

Activity tolerance decreases over time

# FATIGUE EXACERBATION WITH AGING

Acute illness

Increased pain due to other conditions

Increased weakness

Increased insomnia

Worsening respiratory function

Reduced peripheral circulation

Reduced heart function

**Medications**

**Deconditioning**



# MUSCLE WEAKNESS AND AGING

Aging-loss of about 1% of motor units/ year after age 30 results in sarcopenia

Natural loss of “giant” motor units

“Normal” aging in muscles thought to be unaffected by polio, reveal lack of reserve and evidence of motor neuron loss

Deconditioning due to other factors may contribute to increased weakness

# IS IT PPS? – OTHER THINGS TO THINK OF

- Orthopaedic problems: shoulder rotator cuff tears and impingement syndrome, spondylosis, bursitis, nerve entrapments
- Breathing disorders: restrictive problems with scoliosis, obstructive sleep apnoea
- General medical problems

# KEY POINTS RELATED TO THE AGEING POLIO SURVIVOR

1. PPS is a diagnosis of exclusion
2. Many age related medical & neuro-musculoskeletal changes symptoms of PPS
3. A comprehensive evaluation and appropriate investigations are required to ensure there is no other possible explanation for the symptoms
4. Clinicians treating ageing polio survivors need to have a thorough understanding late effects of polio & PPS

# MEDICAL PRACTITIONER'S UNDERSTANDING OF POLIO

Polio affected skeletal muscles leading to various deformities

Some are unaware of non-paralytic form of poliomyelitis

PPS Symptoms are just a natural ageing process

Excessive fatigue now experienced is due to depression/anxiety

Polio only affected the spinal cord and not other parts of the CNS

Post polio syndrome?-never heard of it

# REHABILITATION PHYSICIAN'S ROLE IN MANAGEMENT OF THE AGING POLIO SURVIVOR

Rehabilitation Physicians are trained to treat people with disabilities secondary to illness/injury and reduce or prevent further functional decline

They work with a multi-disciplinary team of allied health professionals such as PT, OT, Orthotists, SP etc.

**They can help delineate and treat secondary medical conditions contributing to PPS in the aging polio survivors**

They can raise awareness among medical professionals regarding the late effects of polio when treating the aging polio survivor

# POST-POLIO CLINICS IN AUSTRALIA

A small number of clinics (both public and private) in Australia which cater for polio survivors, providing services to enhance their health, mobility and quality of life.

1. Mt Wilga Late effects of polio clinic – NSW
2. Advanced Rehab Centre- NSW
3. Polio Services Victoria
4. Polio Clinic – WA
5. South Australia ???

# THE QUEEN ELIZABETH HOSPITAL INITIATIVE

Develop a medical supervised healthy ageing clinic for polio survivors

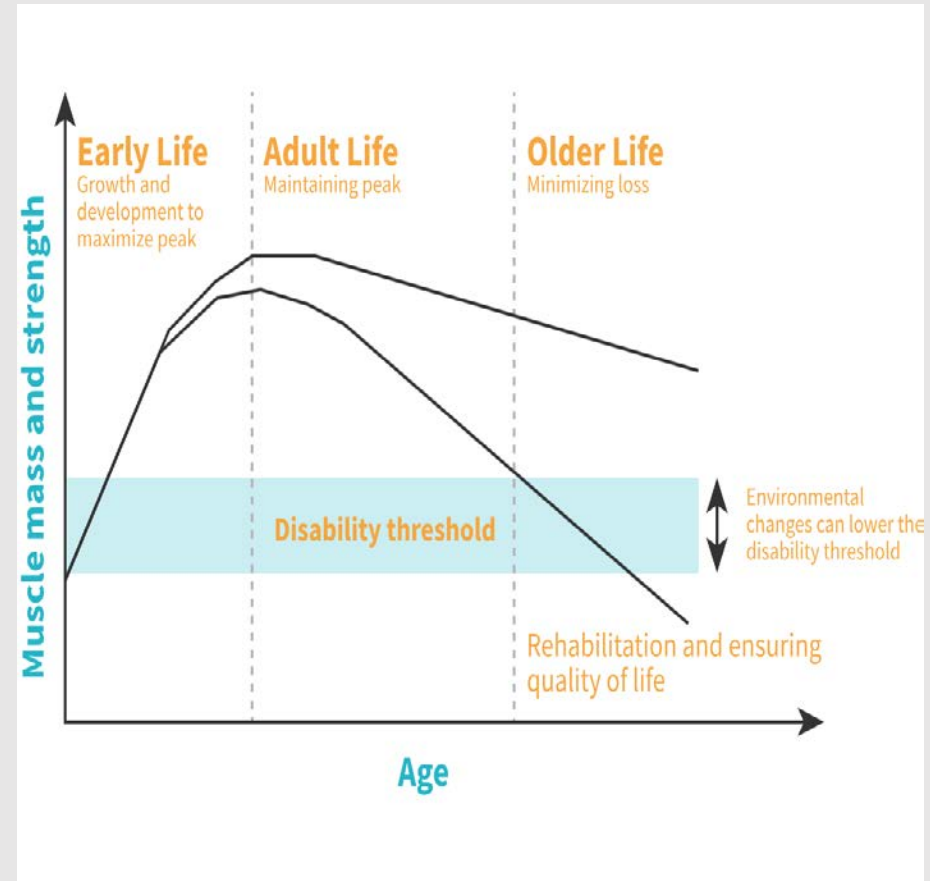
1. Medical consultations provided at the QEH by Rehabilitation Physicians
2. Allied health support from private sector (Griffith Rehabilitation and Memorial hospitals) and public sector-QEH Day Rehab Service
3. Orthotic support from QEH, Prostek & OPSA
4. Research on loss of muscle mass and function in the polio survivor

# SARCOPENIA

Sarcopenia is the progressive loss of skeletal muscle mass, strength and function that occurs with advancing age.

Peak muscle mass is attained by age of 30-40 years, after which a gradual loss of muscle mass begins and can continue a steady, downhill as we age.

The reported prevalence of sarcopenia in the community is up to 33%, with higher prevalence in long-term and acute care settings.

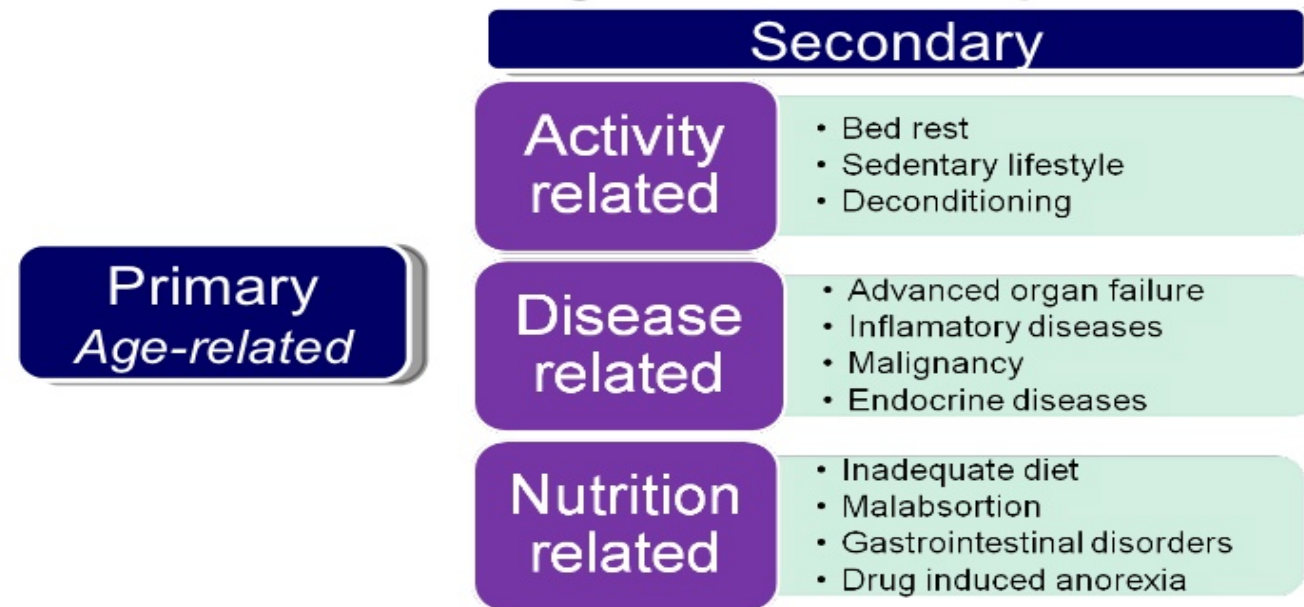




# EUROPEAN CONSENSUS ON DEFINITION OF SARCOPENIA

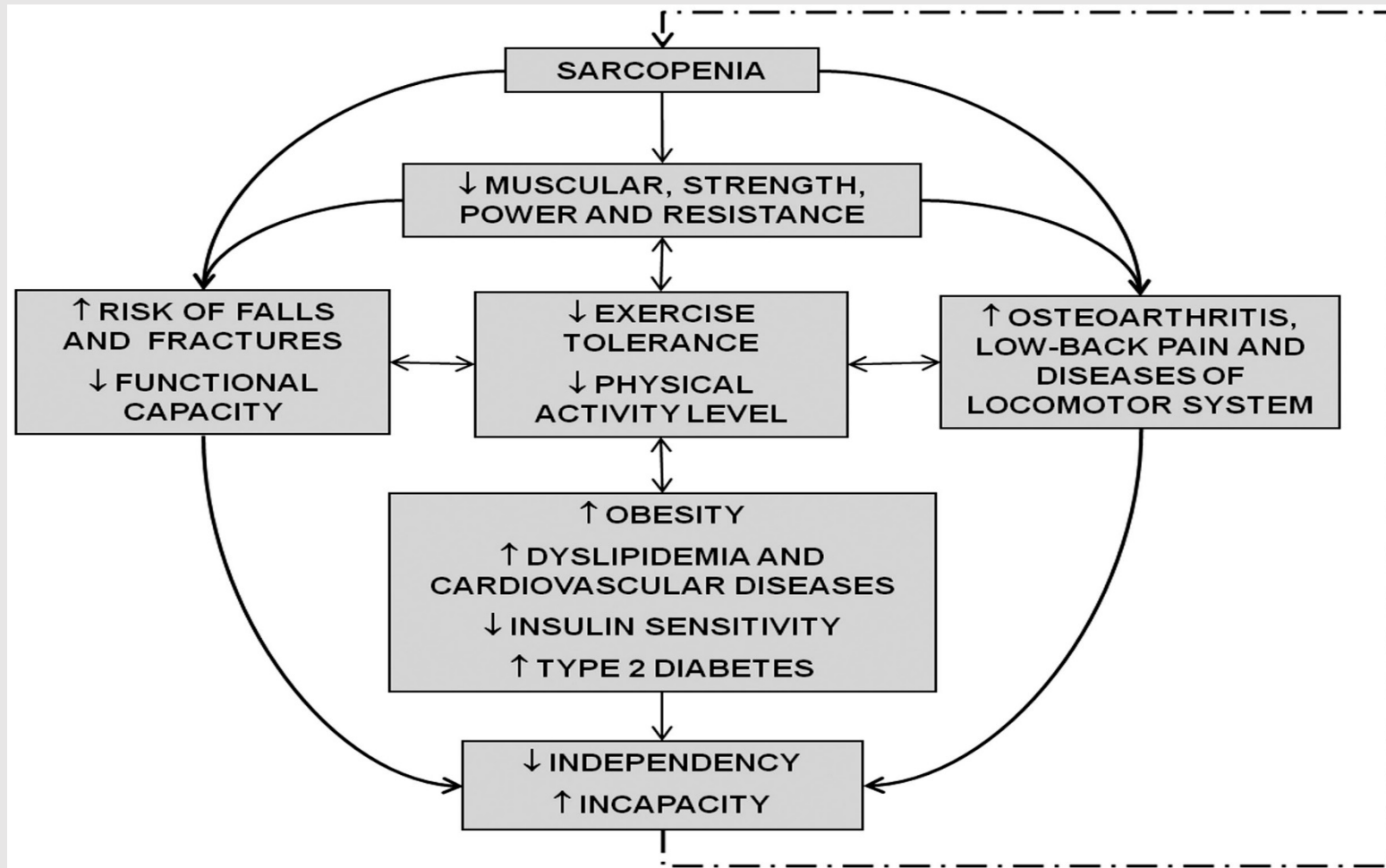
C - EWGSOP Working Definition of Sarcopenia

## EWGSOP Categories of sarcopenia



*Cruz-Jentoft AJ et al. Sarcopenia: European consensus on definition and diagnosis. Report of the European Working Group on Sarcopenia in Older People. Age Ageing 2010*

# ROLE OF SARCOPENIA IN AGEING POPULATION



# SARCOPENIA IN POLIO SURVIVORS

## **Research hypothesis:**

Could sarcopenia (loss of muscle mass, strength & function) in ageing polio survivors in part account for the increased weakness, fatigue and decline in physical performance compared to healthy aging individuals?

## **Method:**

Longitudinal study

# BENEFITS OF THE LONGITUDINAL STUDY

Measurement of muscle mass, strength and function on an annual basis may provide an objective way to record functional decline with ageing in the polio survivor.

Design specifically tailored exercise for polio survivors to reduce the progression of sarcopenia

Provide support for ageing polio survivors and an opportunity to communicate with their treating health professionals.

Assist elderly polio survivors and younger immigrants who have suffered polio to age healthily.

# ADDITIONAL INFORMATION

## **QEH- Rehabilitation Medicine Clinic**

Referral letter from GP required and addressed to Dr Nigel Quadros,  
Department of Rehabilitation Medicine QEH

Fax: 82228593 email: [nigel.quadros@sa.gov.au](mailto:nigel.quadros@sa.gov.au)

## **Participation in Sarcopenia-polio study**

Contact Dr Kandiah Umapathy Sivam (called Sivam) on

0434991583 email: [kandiah.umapathysivam@adelaide.edu.au](mailto:kandiah.umapathysivam@adelaide.edu.au)