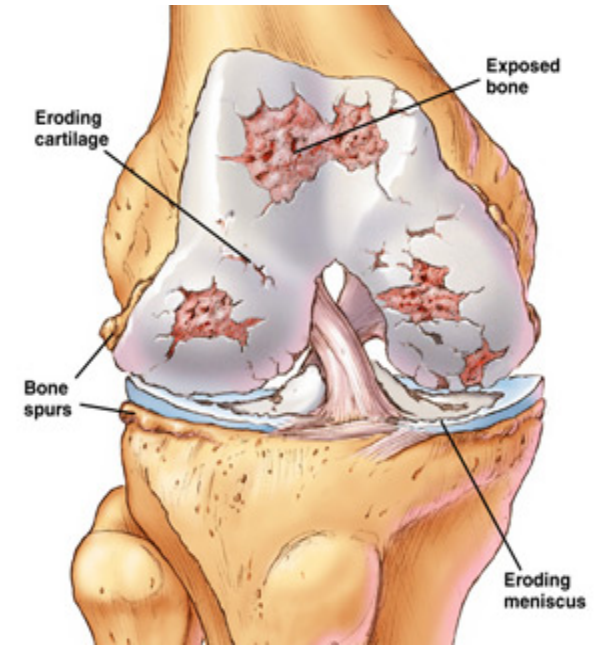


MANAGEMENT OF OSTEOARTHRITIS

Advanced Physiotherapy

OSTEOARTHRITIS



OSTEOARTHRITIS

The most common musculoskeletal disorder

The leading cause of pain and disability in the community

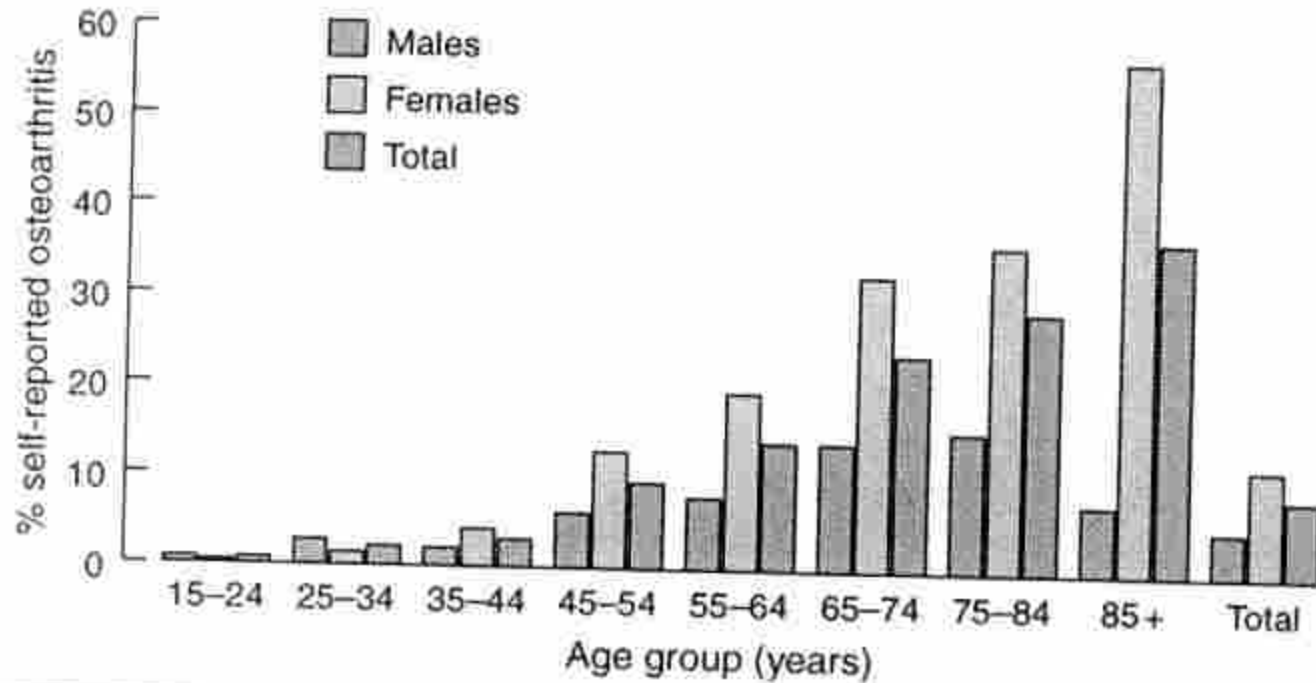
Prevalence expected to double by 2020

Will usually improve with physio intervention (70 - 80%)

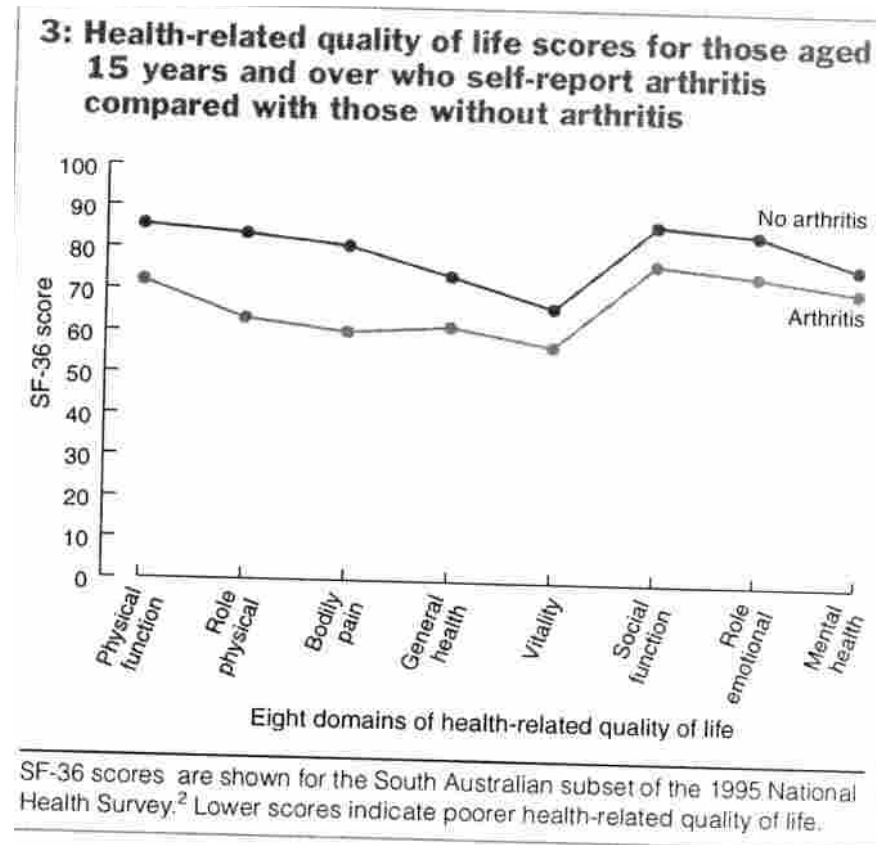
Increase dramatically with age – see next slide

AGE AND GENDER (MJA MARCH 2004)

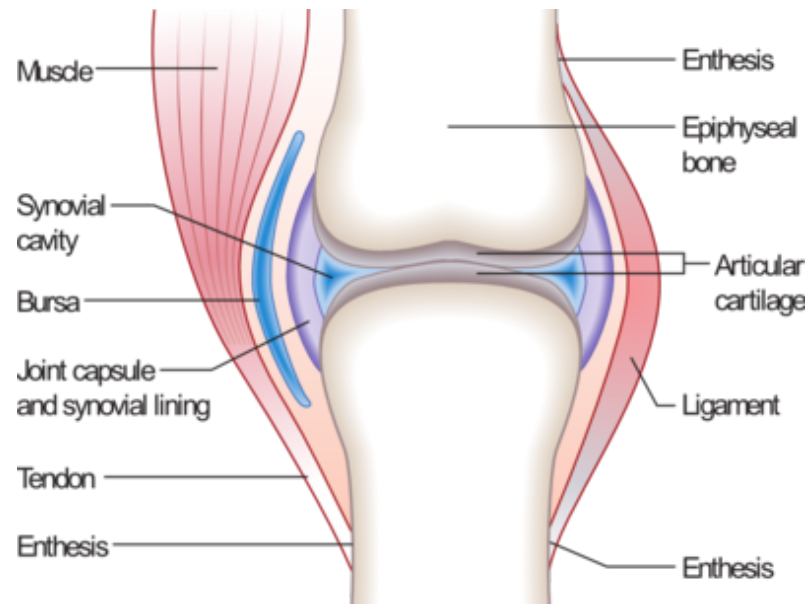
2: Percentage of self-reported osteoarthritis in South Australians aged 15 years and over, 1995²



OSTEOARTHRITIS HAS SIGNIFICANT EFFECTS ON QUALITY OF LIFE



OA EFFECTS THE ENTIRE SYNOVIAL JOINT



Articular Cartilage

Bone

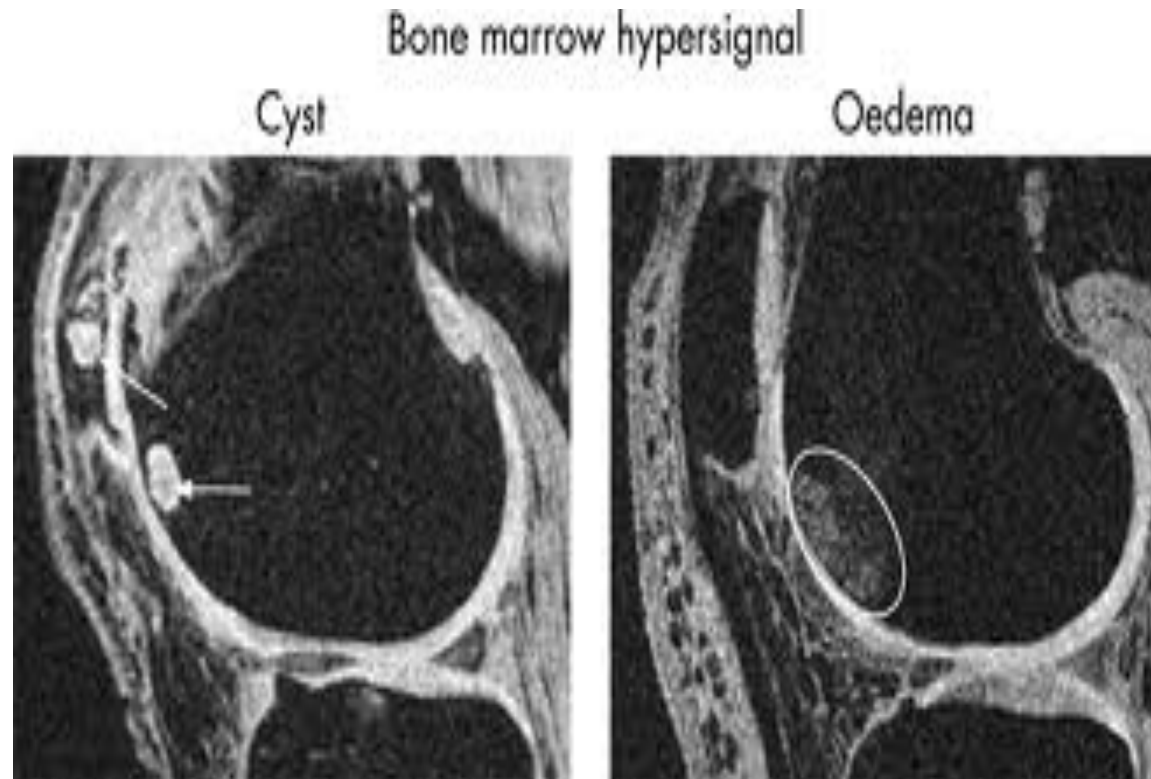
Synovium

Periarticular Soft Tissues

Muscles

Nerves

SUBCHONDRAL BONE — THE BONE BELOW THE SURFACE OF THE JOINT IS PROBABLY THE CAUSE OF MOST OF THE PAIN



FEATURES OF OSTEOARTHRITIC JOINTS

Painful, which usually increases with activity

Sometimes Deformed

Limited with their movement, although this depending on severity

Less able to complete normal tasks such as gripping, descending steps or even walking

There is accompanying loss of strength and muscle

Often swollen

CAUSES OF OSTEOARTHRITIS

- injury such as an injury to the meniscus or anterior cruciate ligament of the knee can lead to osteoarthritis later in life
- excessive body weight. We think that this relates to increased force with lower limb osteoarthritis, but also we think that increased circulation of inflammatory chemicals called cytokines, released from fat tissue can break down the joint surface
- genetics. Some people are unfortunately predisposed.

WHAT HAPPENS AT THE PHYSIO WITH OSTEOARTHRITIS

Aims

- Increase movement
- Increase strength/endurance
- Improve fitness
- Assist with weight loss (Classes format useful)
- Load management
- Footwear advice
- Slow disease progression

WHY DOES STRENGTHENING HELP

- Load Sharing Occurs Between Joints and Muscles
- Muscle weakness is likely to be present in knees with symptomatic Osteoarthritis.
- It is also likely to be a risk factor for the development and progression of knee osteoarthritis. (Ann Intern Med. 1997)
- Muscle weakness is probably more important in the pathogenesis of OA than wear and tear (Br J Sports Med 2004)

HOW DOES WEIGHT LOSS HELP

- lower weight is less force through lower leg
- loss of adipose tissue (body fat) will lead to lower cytokines in the blood stream and less joint inflammation

EVIDENCE FOR WEIGHT REDUCTION

- For every 2 units of BMI increase there is a 36% increase in the risk of developing knee OA
- For every 2 units of BMI increase there is a 36% increase in the risk of developing knee OA
- BMI > 30 there is a 20 fold increased risk of knee OA
- Body fat % perhaps more important than BMI
 - Inflammatory proteins such as cytokines may contribute to sensitisation of nerve endings,
 - Connective tissue degeneration

WHAT EXERCISES

Exercise programs need to be individually prescribed, taking into account the severity of the symptoms, the physical capacity of the person and their goals, budget and time available.

Non- painful

Non-impact

Strengthening

Mobility

Program length is generally 12 week - forever

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS – CLINICAL GUIDELINES



AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS

CLINICAL GUIDELINES - AAOS

Recommendation 1

We suggest patients with symptomatic Osteoarthritis of the kneeincorporate activity modifications (e.g. walking instead of running; alternative activities) into their lifestyle.

CLINICAL GUIDELINES - AAOS

Recommendation 3

We recommend patients with symptomatic OA of the knee, who are overweight (as defined by a BMI > 25), should be encouraged to lose weight (a minimum of five percent (5%) of body weight) and maintain their weight at a lower level with an appropriate program of dietary modification and exercise

CLINICAL GUIDELINES - AAOS

Recommendation 6

We suggest quadriceps strengthening for patients with symptomatic OA of the knee.