



Rumah Sehat  
untuk Jakarta



RSKD Duren Sawit

# Mengenal Pengapuran Pada Lutut dan Penanganannya

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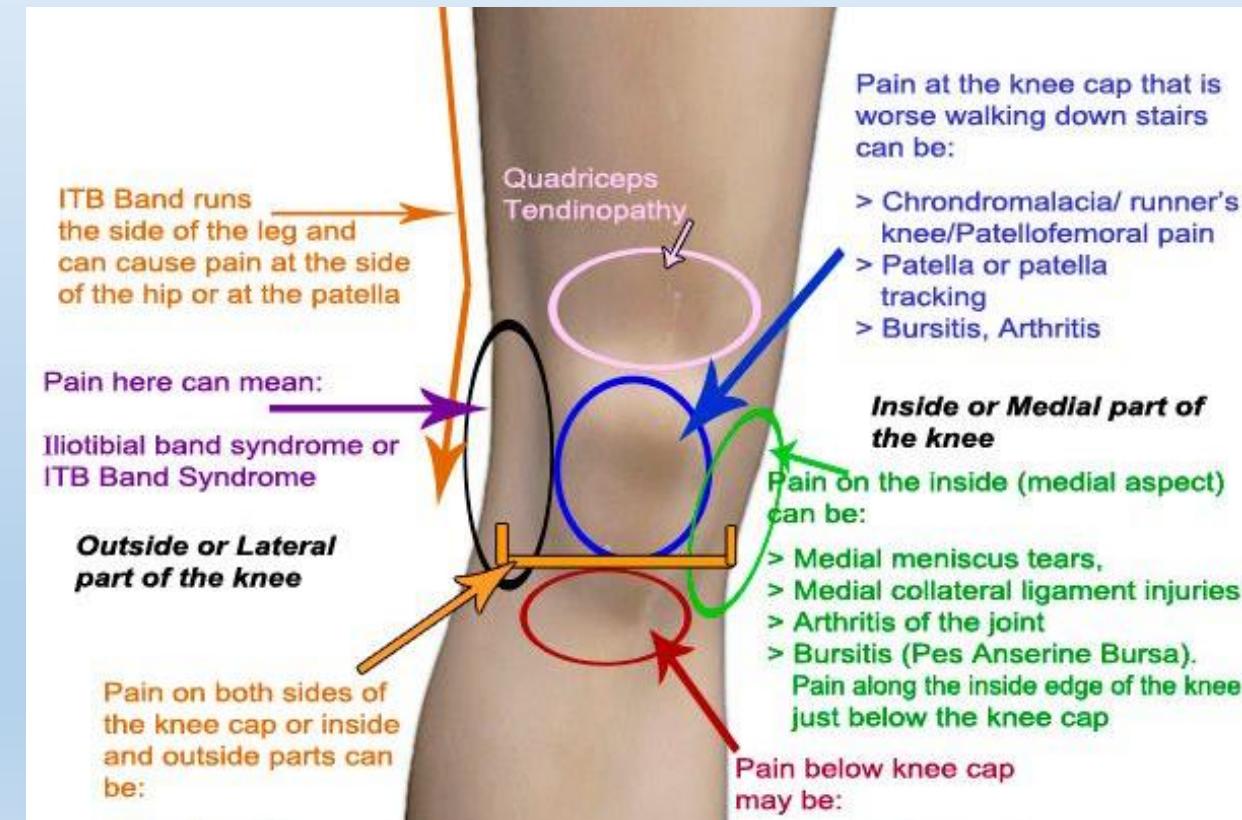
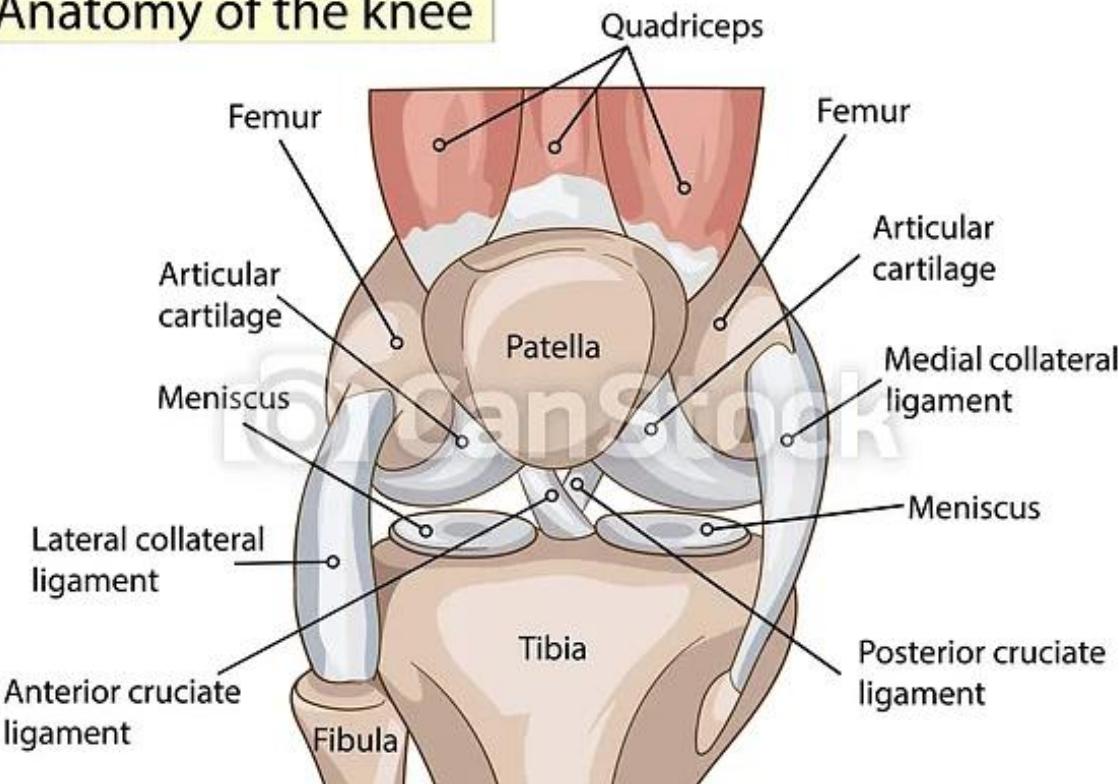


# Nyeri pada Lutut

- Pain is An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage
- Pain characteristics:
  - Onset
  - Location
  - Duration
  - Severity
  - Quality
  - Aggravating and alleviating factors
  - Ability to continuing their activity or ceased by activities?

# Nyeri lutut

## Anatomy of the knee





# Pengapuran (Osteoarthritis/OA)

- Chronic degenerative disorder of synovial joints in which progressive softening and erosion/disintegration of articular cartilage
- extremely common in older people; 80% of people over 55 years of age.
- It mainly affects the hips, knees, spine, hands and feet
- The most common form of arthritis is Osteoarthritis. Other common form: gout, fibromyalgia and Rheumatoid arthritis. An estimated 27 million adults had osteoarthritis in 2005 –arthritis rheum 2008;58(1):26-35



## Gambaran Klinis OA

### Symptoms

- Pain (the nature and severity of which is very variable)
- Joint stiffness (particularly short-lasting stiffness after a period of inactivity)
- Fatigue
- Sleep disturbance
- Depression
- Reduced functional ability and activities

### Signs

- Tenderness of the joint
- Bony swelling
- Reduced range of movement with pain at the end of the range
- Crepitus on movement of the joint
- Weakness and wasting of muscles acting on the joint
- Signs of inflammation (usually fairly mild)
- Deformity and instability in severe cases



### Systemic predisposition

- Genetics
- Age
- Gender
- Diet and obesity

### Local biomechanical factors

- Abnormal joint shape and size
- Previous injury
- Neuromuscular problems
- Obesity
- Loading/occupational factors

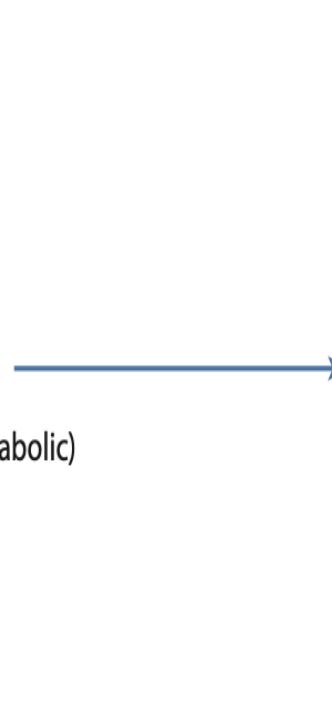
### Bone mineral density

(It is unclear whether this is a local or a systemic factor)

Local  
biomechanical factors  
(bone size/shape, joint stability, joint loading)

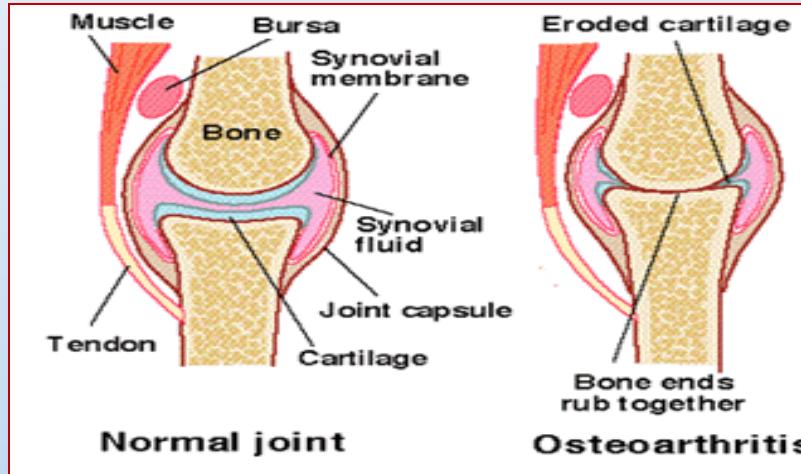
Systemic  
predisposition to OA  
(age, gender, genetic and metabolic)

Site and severity of OA

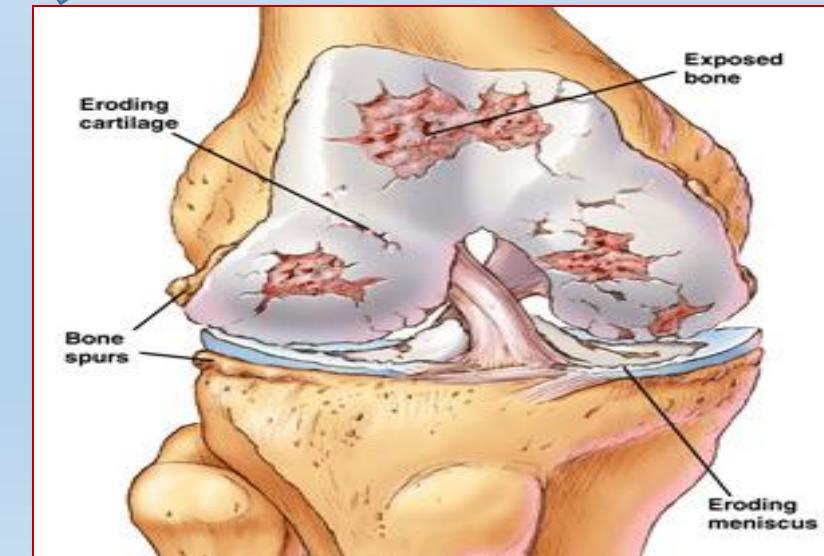




# Perubahan Struktur Anatomy pada Osteoarthritis



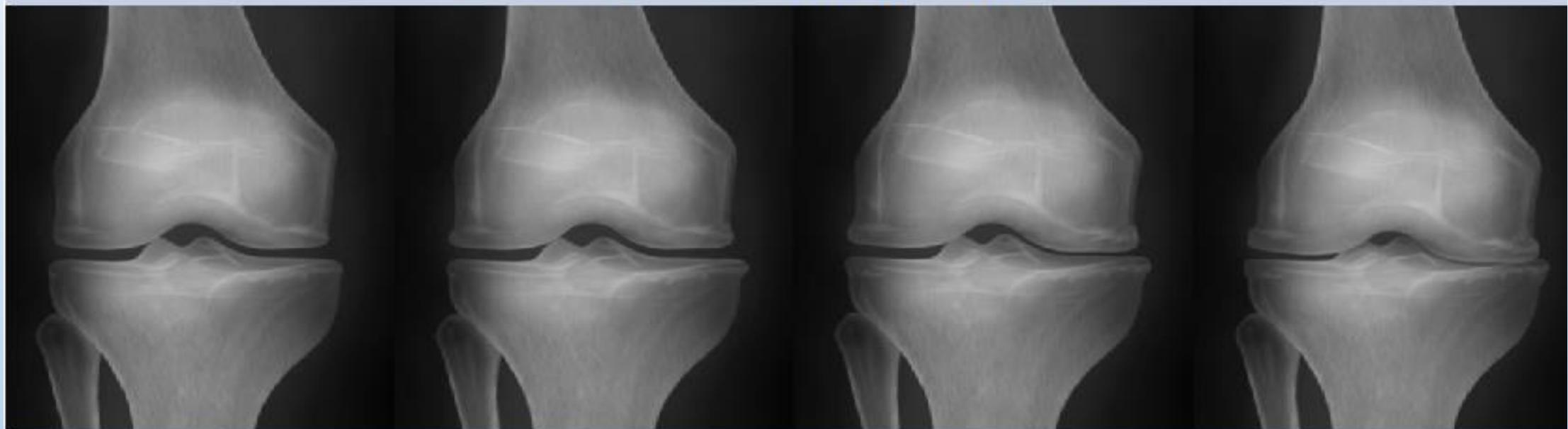
Softening and swelling of the cartilage  
Fragmentation and fissuring of the cartilage in an area less than 1/2 inch in diameter  
Fragmentation and fissuring of the cartilage in an area more than 1/2 inch in diameter  
Exposure of underlying bone.





# Tingkat Keparahan

**Kellgren-Lawrence (KL) grading scale**



**Grade 1**

**Grade 2**

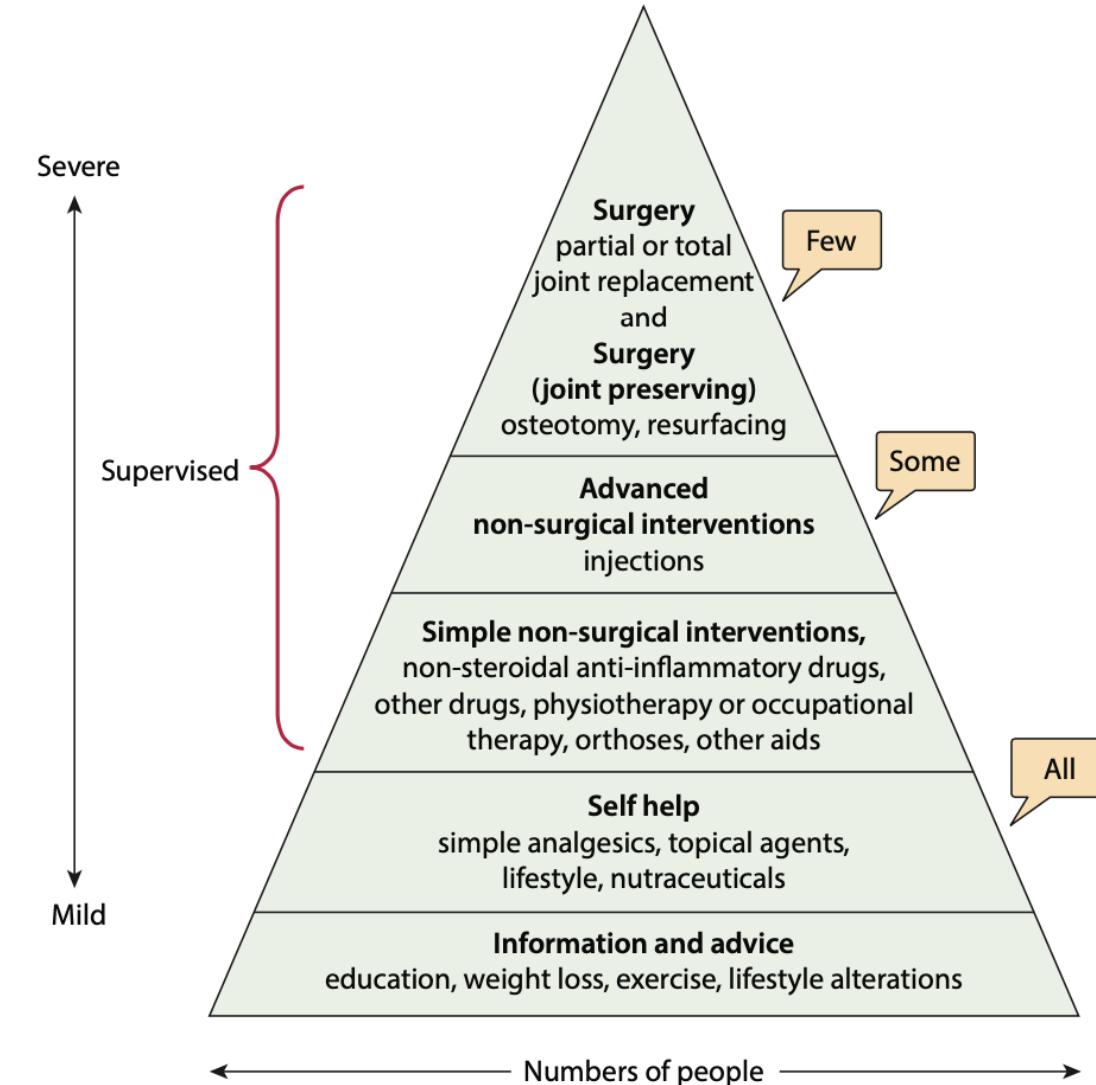
**Grade 3**

**Grade 4**

<b>CLASSIFICATION</b>	<b>Normal</b>	<b>Doubtful</b>	<b>Mild</b>	<b>Moderate</b>	<b>Severe</b>
<b>DESCRIPTION</b>	No features of OA	Minute osteophyte: doubtful significance	Definite osteophyte: normal joint space	Moderate joint space reduction	Joint space greatly reduced: subchondral sclerosis



# Modalitas Pengobatan



? The pyramid of treatment for symptomatic osteoarthritis (From Dieppe & Lohmander, 2005.)



Terima Kasih