Popliteal Cyst (Baker's Cyst)

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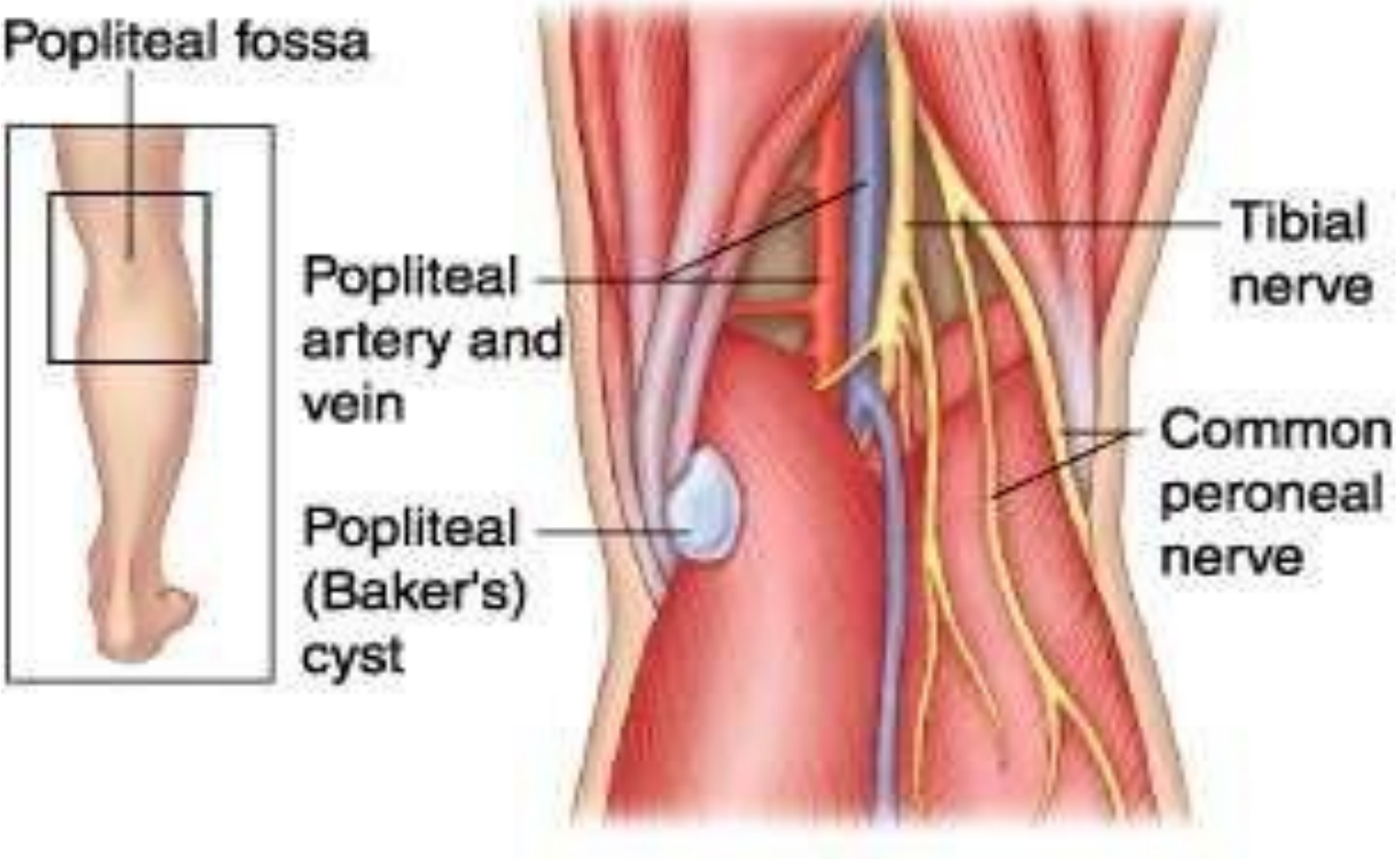
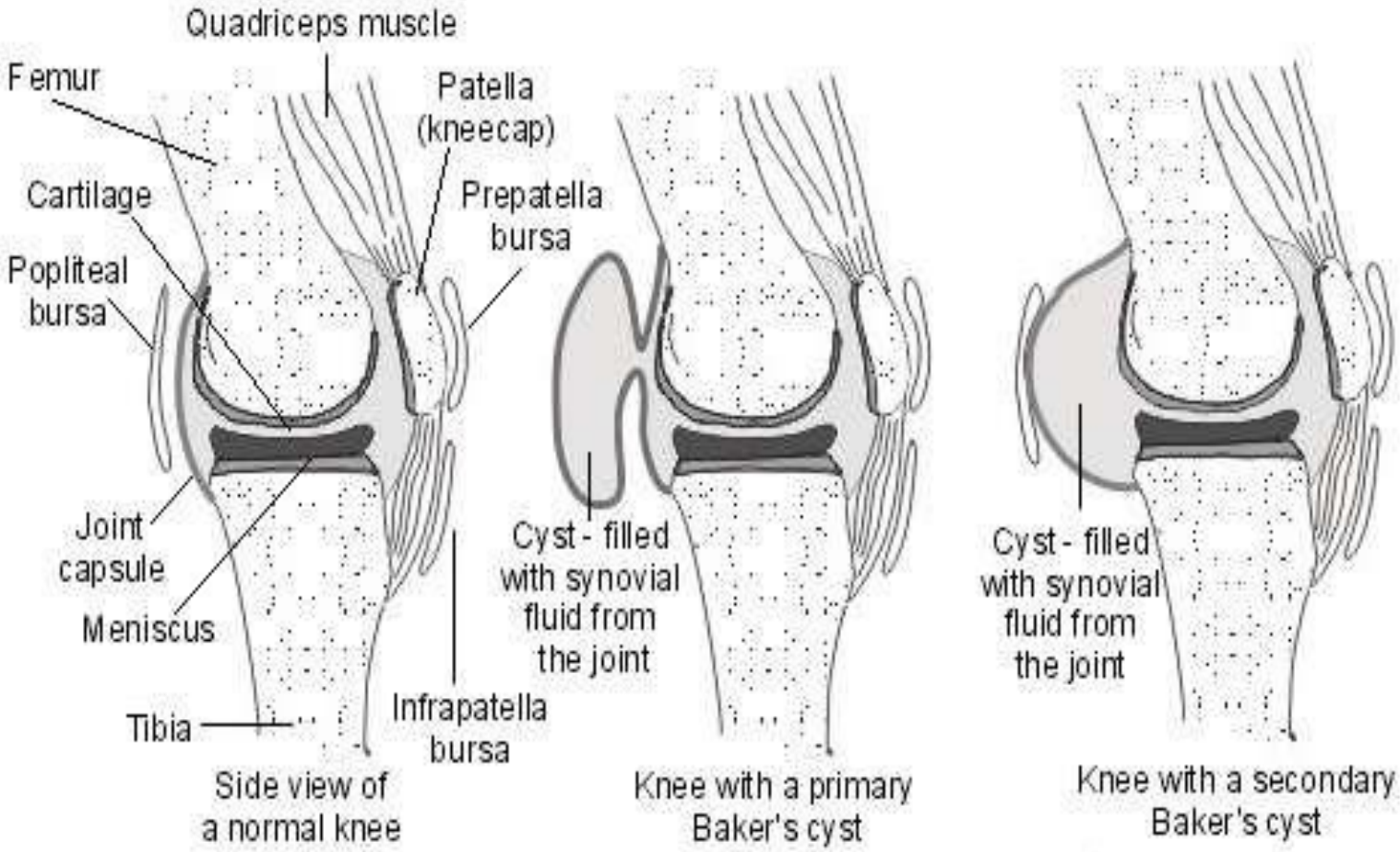
What is a Baker's cyst?

- Herniation of synovial membrane through the posterior part of capsule of the knee or escape of fluid through normal communication of the bursa with knee (semimembranous/ gastrocnemius bursa)
- Filled with synovial fluid
- Painless
- Usually seen in older adults


Popliteal fossa
Popliteal artery and vein
Popliteal (Baker's) cyst
Tibial nerve
Common peroneal nerve


Quadriceps muscle
Femur
Patella
(kneecap)
Cartilage
Prepatella
bursa
Popliteal
bursa
Joint
capsule
Meniscus
Tibia
Infrapatella
bursa
Side view of
a normal knee
Cyst - filled
with synovial
fluid from
the joint
Knee with a primary
Baker's cyst
Cyst - filled
with synovial
fluid from
the joint
Knee with a secondary
Baker's cyst

Causes

- **Primary Baker's cyst**
  - idiopathic Baker's cyst
  - usually develops in children

- **Secondary Baker's cyst**
  - most common type
  - associated with osteoarthritis/rheumatoid arthritis
  - meniscal tear

Symptoms

- Mostly asymptomatic
- Symptoms can include pain, swelling and tightness behind the knee
- Larger the Baker's cyst, the more likely it is to produce symptoms
- Symptoms related to underlying knee pathology such as osteoarthritis

Physical Examination

- Popliteal fossa fullness
- Nontender fluctuant swelling
- Translumination test – Positive
- Disappearance on knee flexion

Differential diagnosis

- Thrombophlebitis
- Benign soft tissue tumors
- Lipoma, Xanthoma
- Vascular mass, Popliteal aneurysm
- Fibrosarcoma
- Pyogenic abcess
- Deep vein thrombosis (d/d of ruptured bakers cyst)

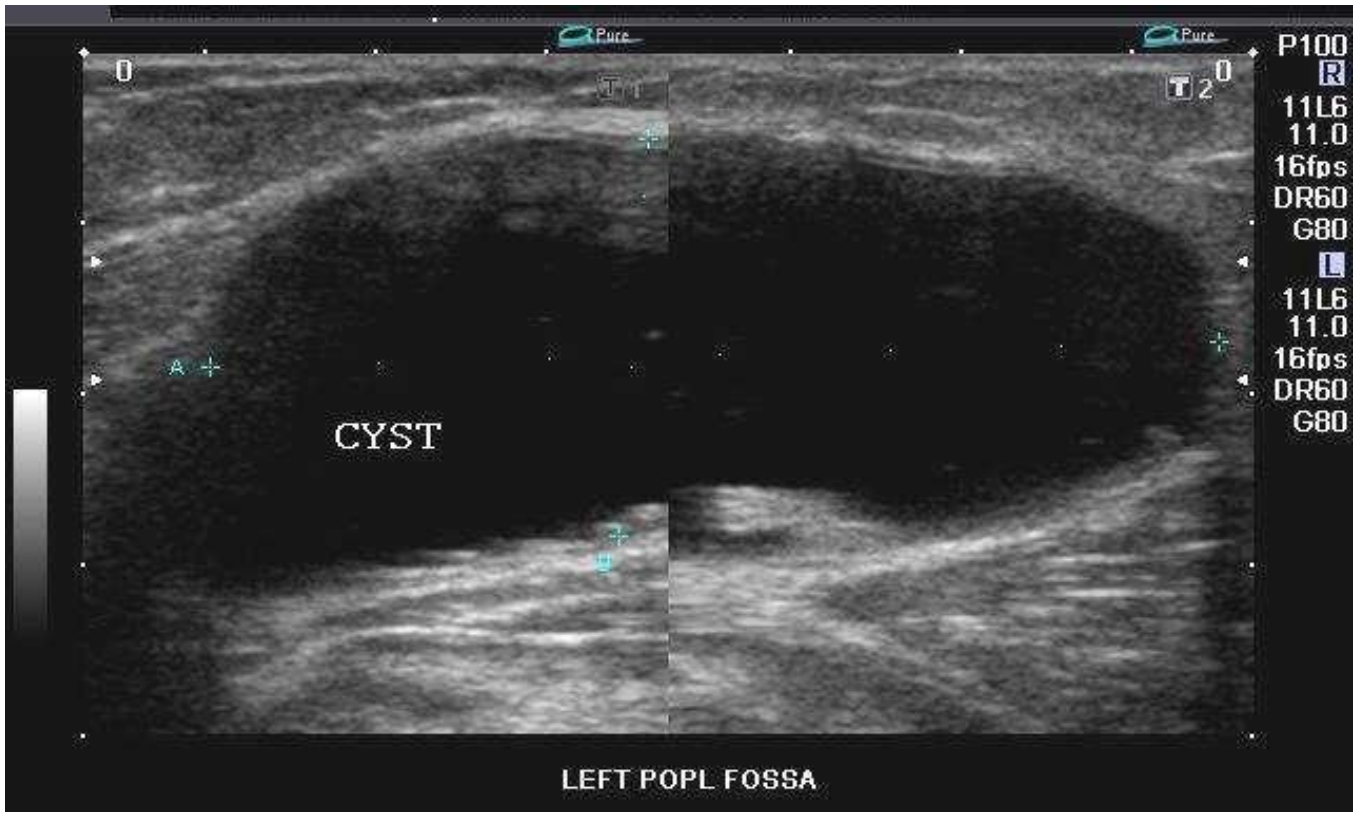
Investigations

Xray

- To evaluate the underlying pathology of knee joint

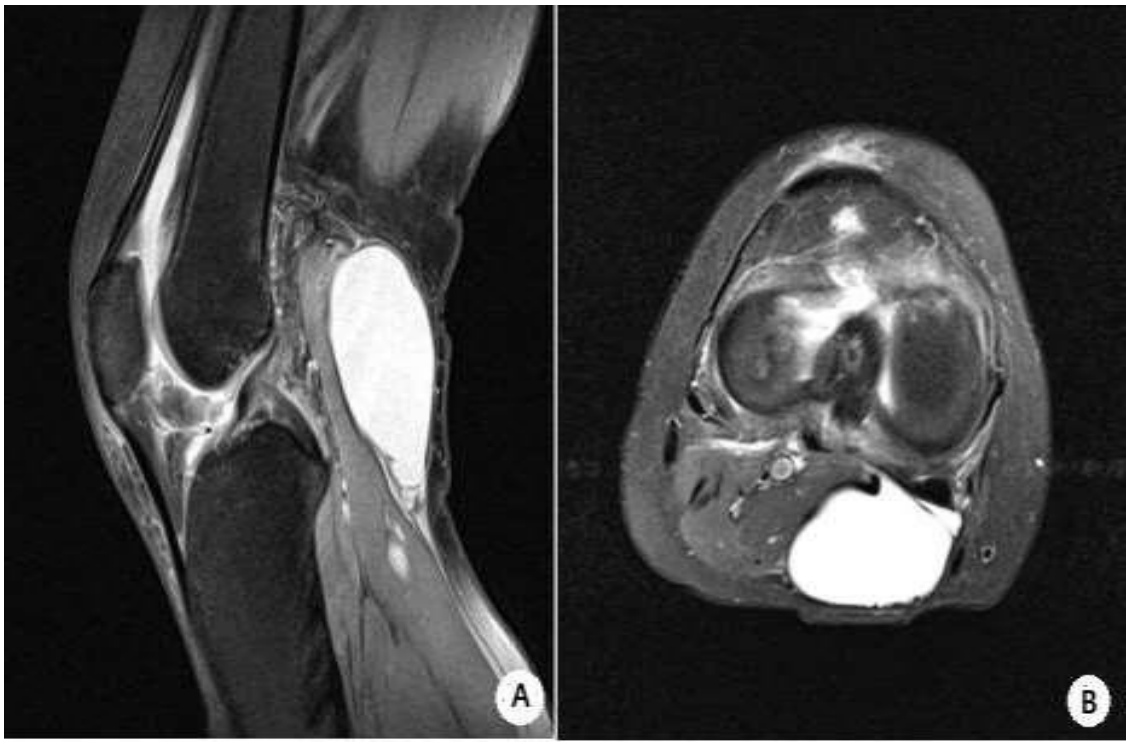
Ultrasound scan

Provides better detailing about the cyst



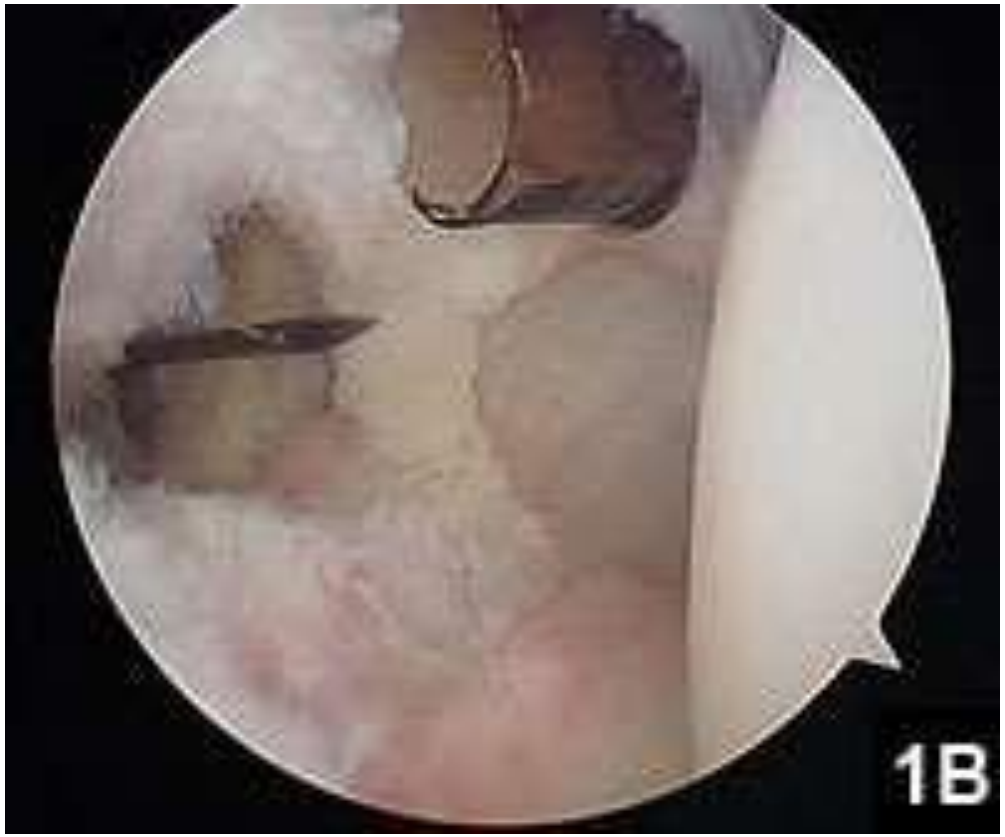
MRI SCAN

- Optional investigation
- For better anatomical detailing before surgical intervention



Arthroscopy

To treat intra-articular pathology



Management

- No specific treatment is needed usually
- Treatment of any underlying knee problem
- Aspiration + steroid injection (high chance for recurrence)
- Surgical excision

Complications

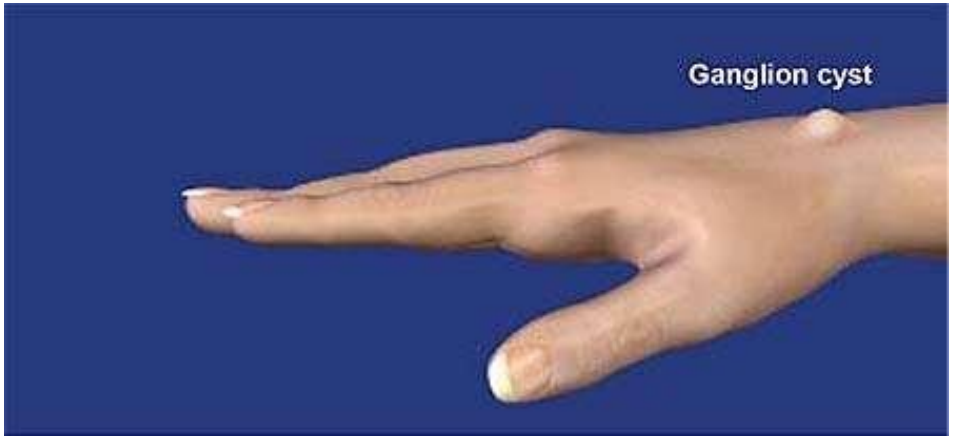
- Rupture
- Infection
- Posterior compartment syndrome
- Common peroneal nerve and tibial nerve compression

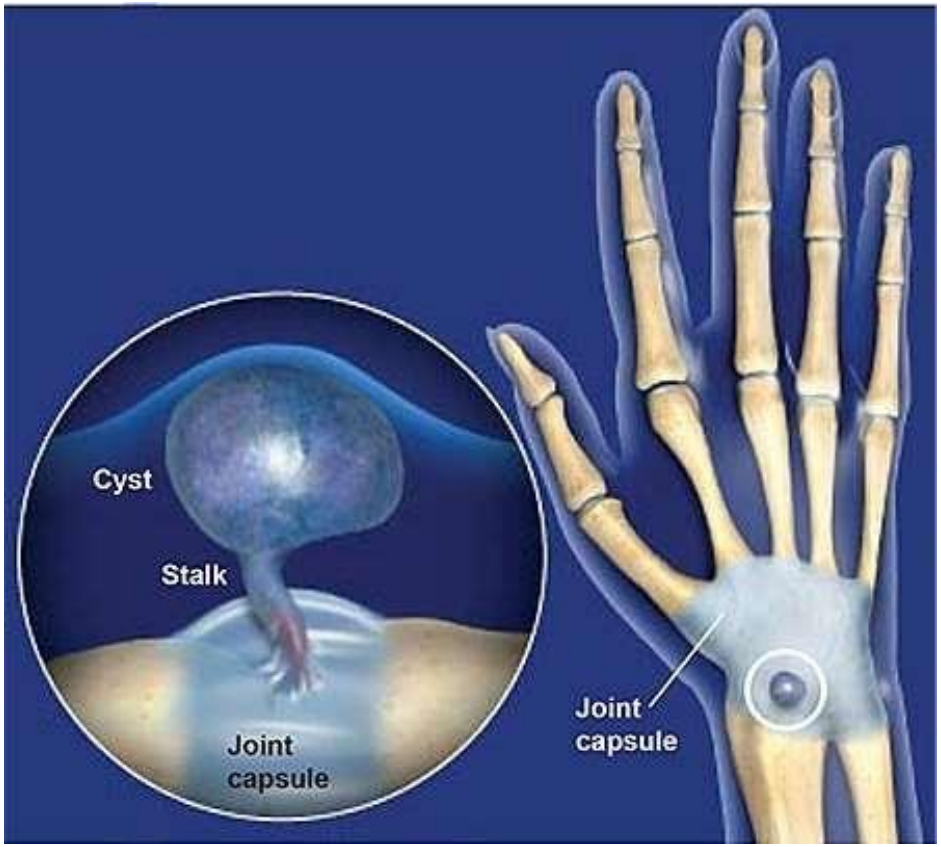
GANGLION CYST

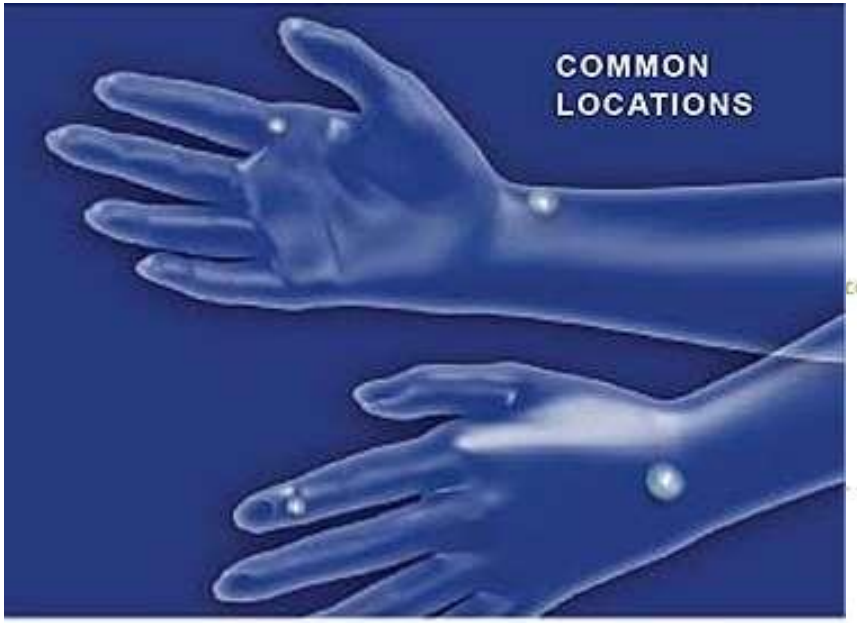
- Ganglion
  - Small cystic swelling filled by mucin
- Also known as Bible cyst
- Common in women, and 70% occur in people between the ages of 20-40.
- Rarely, ganglion cysts can occur in children younger than 10 years.

- Commonly occur around wrist

- Other sites (less common)
  - Base of fingers
  - Around knee and ankle
  - Dorsal aspect of foot


Ganglion cyst


Cyst
Stalk
Joint capsule
Joint capsule


COMMON LOCATIONS


volar
wrist

ETIOPATHOLOGY

- Not a true cyst!
- Theories of formation
  1. Synovial herniation
  2. Mucus cyst formation
  3. Mucoid degeneration of connective tissue and cyst formation

CLINICAL FEATURES

- Common in female
- Occasionally painful, usually following acute or repetitive trauma,
- Up to 35% are without symptoms except for swelling

INVESTIGATIONS

- **Xray –** to rule out underlying pathology of bones/ joint
- **Ultrasonography**
  - Confirmation by using ultrasound.
  - Assess proximity to neurovascular structures
  - Better idea about the content of the cyst
- **MRI**
  - Optional. For detailed imaging of local anatomy

MANAGEMENT

- Small ganglions- often resolve spontaneously
- Aspiration + steroid injection
- Surgical excision for long duration and unresolved swellings

COMPLICATIONS

- Recurrence after excision
- Infection
- Mechanical restriction to adjacent joint

DIFFERENTIAL DIAGNOSIS

- Giant cell tumour of tendon sheath
- Dermatofibroma
- Lipoma
- Haemangioma
- Glomus tumour
- Schwannoma

THANK YOU