Fracture Of The Patella

INTRODUCTION

- Three types of fracture are seen:

(1) an undisplaced fracture across the patella, which is probably due to a direct blow;

(2) a comminuted or ‘stellate’ fracture, due to a fall or a direct blow on the front of the knee;

(3) a transverse fracture with a gap between the fragments – this is an indirect traction injury due to forced, passive flexion of the knee while the quadriceps muscle is contracted.

MECHANISM OF INJURY

Direct trauma

- Undisplaced crack

- Comminuted

Indirect trauma

- due to contraction of Quadreceps -Transverse fracture with a gap

CLINICAL FEATURES

- Knee joint swelling due to haematoma
- Pain
- Extension of knee- Possible/ not possible
- Gap can be felt
- Usually there is blood in the joint. It is helpful to establish whether the patient can actively extend the knee, as this will influence the choice of treatment.

X-RAYS

- The three types of fracture are usually clearly distinguishable, but it is important not to confuse a fracture with a congenital bipartite patella in which a smooth line extends obliquely across the superolateral angle of the bone.

TREATMENT

- The key to the management of patellar fractures is the state of the extensor mechanism

Fracture type	Management
Undisplaced or minimally displaced crack	• **If there is a haemarthrosis threatening the skin, it Is aspirated.** • **The extensor mechanism is intact and treatment is mainly protective.** • **A plaster cylinder holding the knee straight is worn for 4–6 weeks and during this time quadriceps exercises are practised every day**.

TREATMENT

Fracture type	Management
Comminuted (stellate) fracture	• The extensor expansions are intact and the patient may be able to lift the leg. • However, the undersurface of the patella is irregular and there is a serious risk of damage to the patellofemoral joint. • All attempts should be made to preserve the patella. • A partial patellectomy might be required, with the fragments held by a circlage wire. • After an initial period in a back-slab, a hinged brace can be applied

TREATMENT

Fracture type	Management
Displaced transverse fracture	• The lateral expansions are torn and the entire extensor mechanism is disrupted. Operation is essential; the fragments are held apposed by internal fixation (using the tension band principle) and the extensor expansions are repaired. • A brace is worn until active extension of the knee is regained, but flexion and extension exercises are practiced each day.