



Patient Particulars

• Name :

mamta bai

• Age :

35yr

• Sex : F

• Address :

rajgarh

• Date of Admission :

- Chief complaints

- ~ difficulty in walking

- ~ Giving way of Rt knee for last 10yrs

- History of Present illness

- ~ fall injury 10yrs back, sustained injury to Rt knee following which

- Gait – normal
- INSPECTION;
- ~ No swelling, discoloration, scar marks
- ~ wasting of Rt quadriceps muscle
- ~ position of patella:- centrally placed in extension
- Laterally dislocated in flexion



- Palpation:
 - No rise in superficial temperature
 - No superficial & joint line tenderness
 - No tenderness over patella
 - Patellar movement restricted medially
 - No patello femoral tenderness and crepitus

- Movement
 - Range of movement
 - Flexion
 - Left Knee : 0-135
 - Right Knee : 0-135
 - Loss of Extension : Not present
 - Internal rotation : 10 degree
 - External rotation : 10 degree

Measurement

Right

Left

Q angle

25 degree

20 degree



- Apprehension test :
Negative
- Patellar grinding test:
Negative
- Patellar tracking : Positive J
Sign (Lateral subluxation of
patella in flexion)
- Patellar glide test:
1. quadrant medially

patella to tibial tuberosity; compare.

N- ♂ 8-10° ♀ 15±5°



Dynamic patellar tracking in sitting-
(positive **J sign** -lateral subluxation of
patella in full extension)

Active patellar tracking with knee
extended-normal patella moves more
superiorly than laterally.

If more lateral movements, abnormal

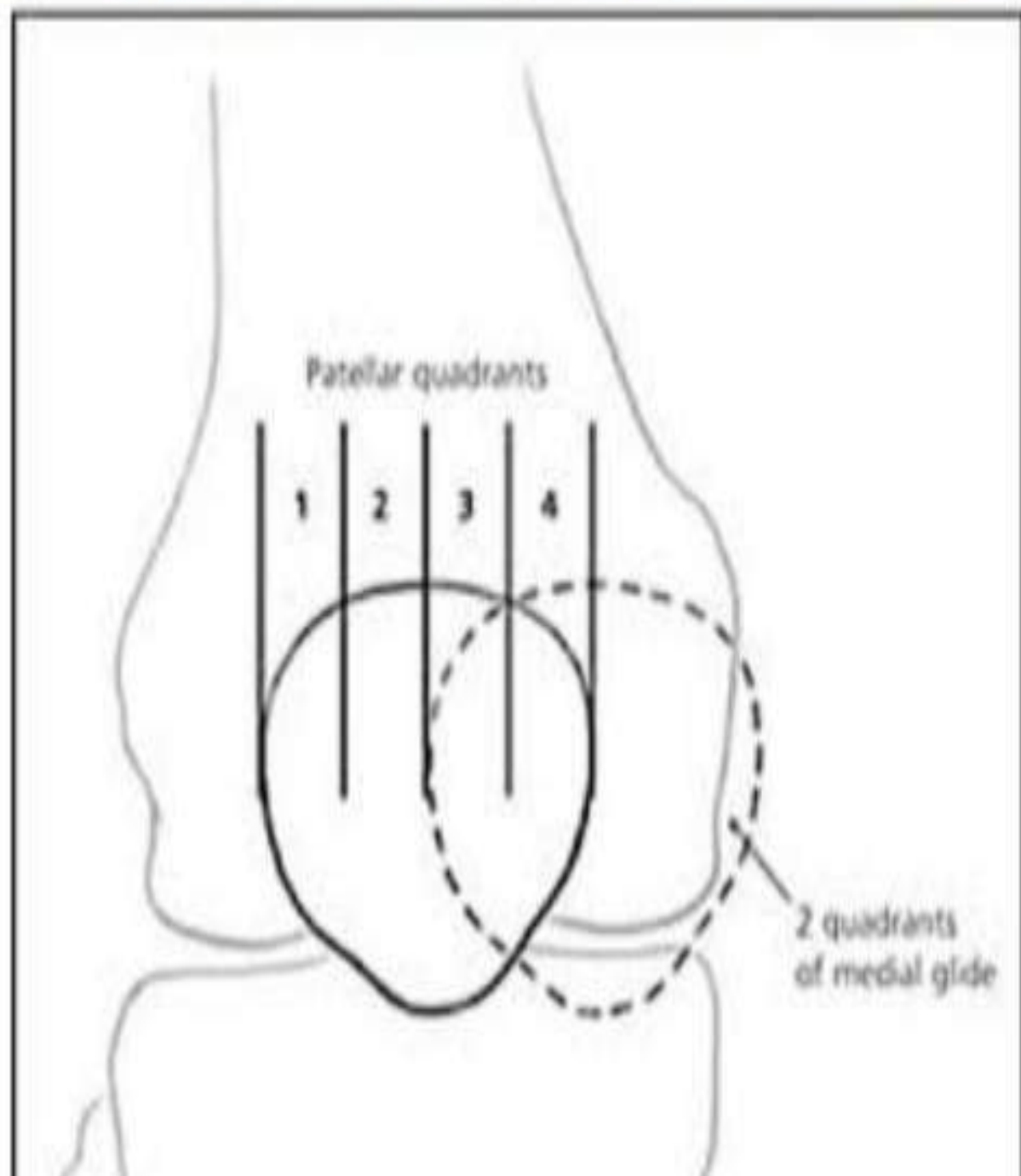


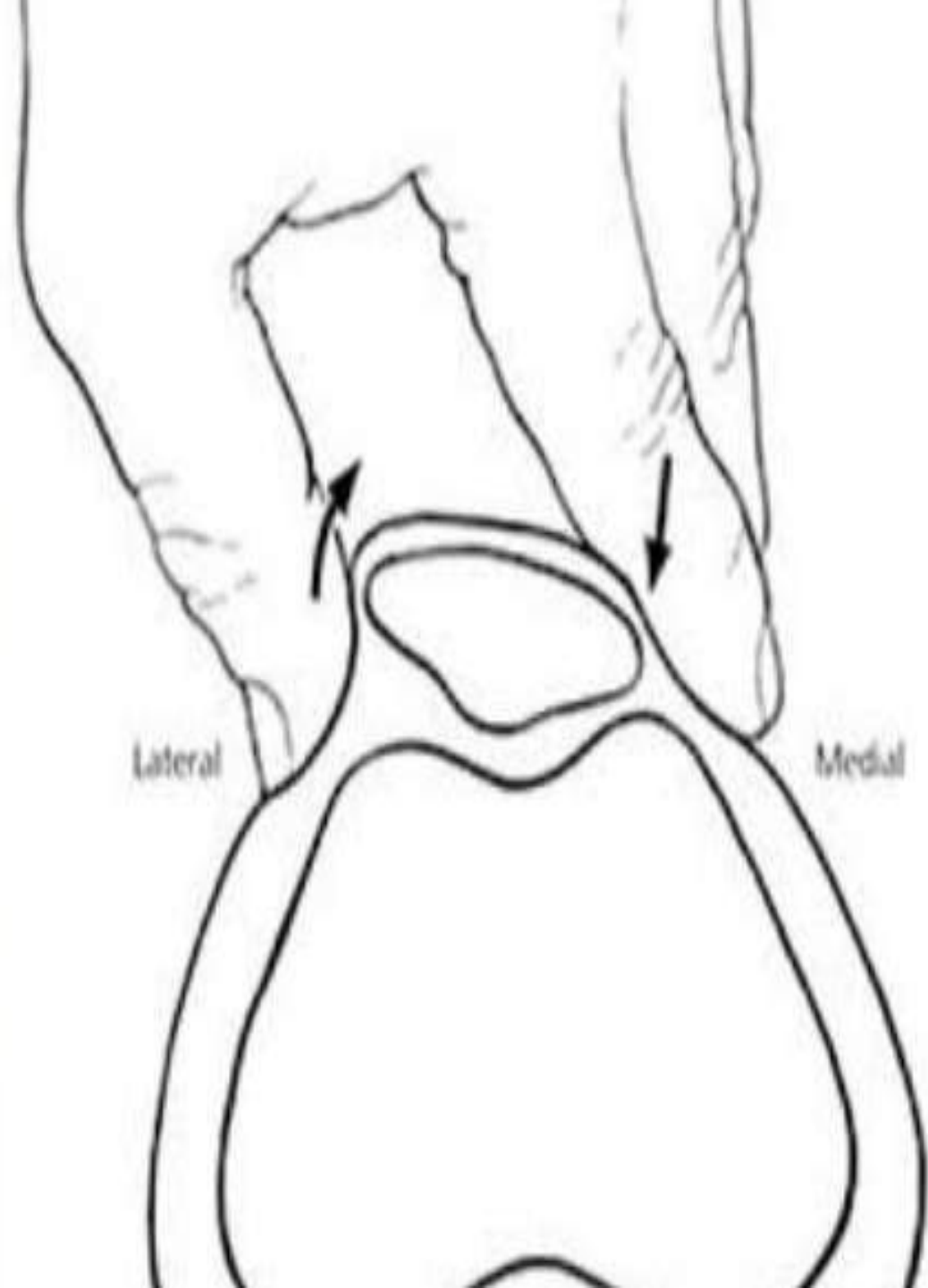


Patellar grind (or inhibition) test.

While the patient is in the supine position with the knee extended, the examiner displaces the patella inferiorly into the trochlear groove (pictured). The patient is then asked to contract the quadriceps while the

- Assesses patellar mobility
- Displacement of more than three quadrants suggests patellar hypermobility caused by poor medial restraints





The knee is extended and the patella is grasped between the thumb and forefinger. The medial aspect of the patella is then compressed posteriorly while the lateral aspect is elevated.

If the lateral aspect of the patella is fixed and cannot be raised to at least the horizontal position (0 degrees), the test is positive and indicates tight lateral structures.

X-Ray B/L Knee AP

MAMTA BAI
35 Years
Female

R



L



X-Ray B/L Knee Lateral



X-ray B/L Knee Skyline



Right

patella dislocated
laterally out of the
trochlear notch

Right

trochlear sulcus
shallower than



- Various method have been described to taking axial view.
- Knee flexed in range of 20-45 degree.
- Shape of patella should be evaluated ,along the shape of the femoral trochlea and the relationship of patella to femur.





- Ratio of Patellar tendon length/patella length
- Range lies between 0.7-1.5
- **patella baja:** <0.8 (perhaps <0.74)

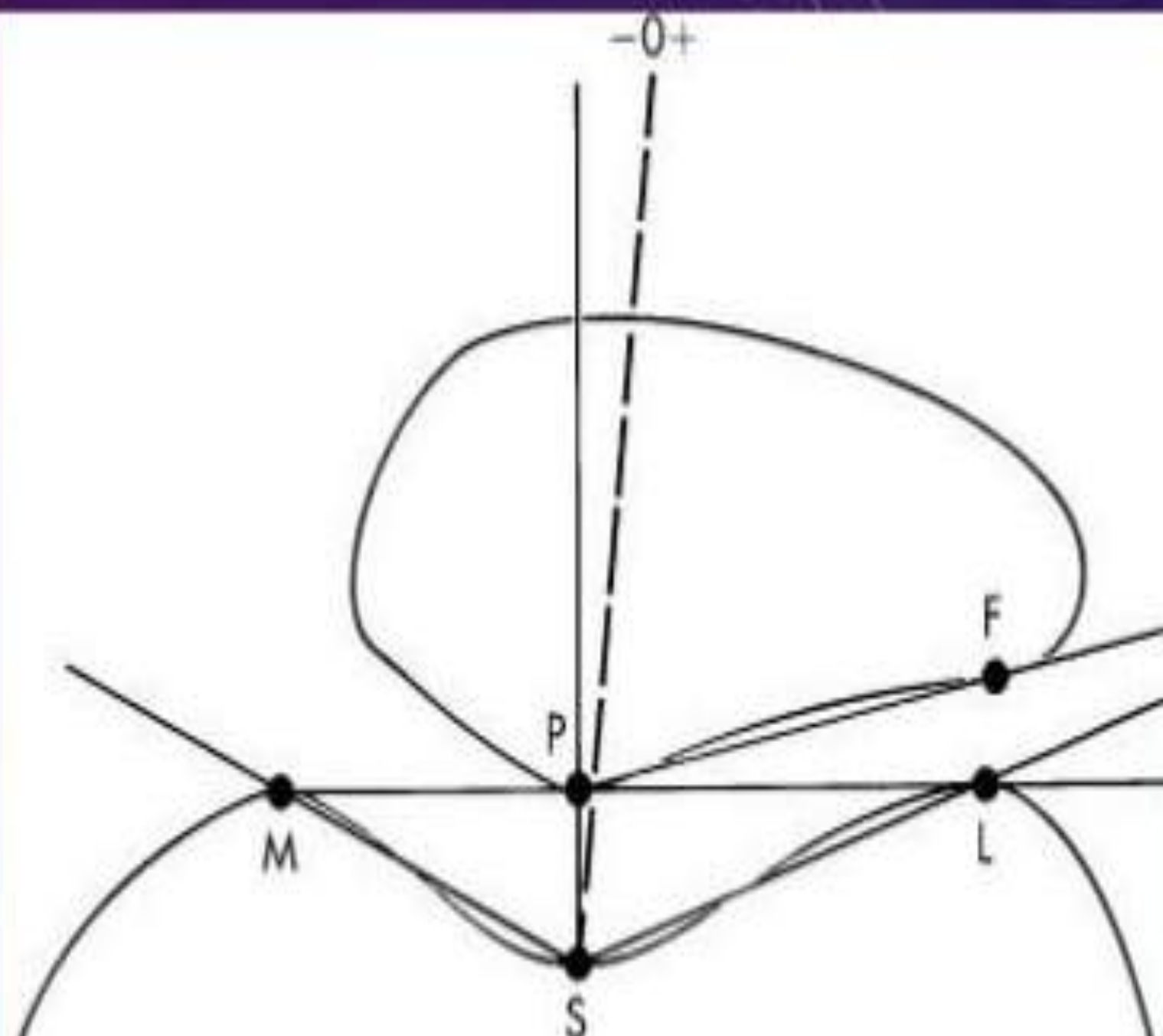


Patella baja



Patella alta

- Angle *MSL* is the sulcus angle
- Angle *PSO* is the congruence angle



- Avoids problems associated with positioning, obesity etc
- Avoid image overlap and distortion
- Look for
 - sulcus angle, tilt, congruence and subluxation

-MR imaging can be used to diagnose prior patellar dislocation on the basis of typical injury patterns.

-In general, deformity or edema of the inferomedial patella and the lateral condyle, in conjunction with MPFL disruption and patellar lateralization, is diagnostic for recent patellar dislocation.

- More than two-thirds of the patients will show chondral

SURGICAL

CONSERVATIVE

MANAGEMENT

- ◆ Core stability
- ◆ McConnell Taping
- ◆ Insoles



outer aspect of the knee. gently push the knee cap towards the inner aspect of the knee. whilst simultaneously using your fingers to pull the skin at the inner aspect of the knee towards the knee cap. Repeat this process 1 – 3 times depending on the amount of support required.



stress as a result of reduced joint reaction forces.

- Barefoot runners are more likely to use a forefoot vs a heel strike pattern in the initial loading response, which has been shown to increase ankle eccentric work and simultaneously decrease the loading on the knee joint.

Principle :

- Medialization of Patella
- Maintenance of proximal & distal alignment

Surgery performed

- Insall (Suprapatellar realignment)

called a proximal and If the operation involves structures below the kneecap, it is called a distal realignment.

Proximal Realignment Of Extensor Mechanism

- 1.Lateral retinacular release
2. Medial plication/ reefing
3. VMO advancement
- 4.MPFL reconstruction



Proximal realignment

- Release of tight lateral patellar retinaculum & vastus lateralis completely
- Plication of medial capsule & patellar retinaculum to strengthen the lax medial structures.
- Vastus medialis obliquus (VMO) was advanced & sutured to lateral border of patella &

reefing

release



Mattress
sutures



Medial

Lateral

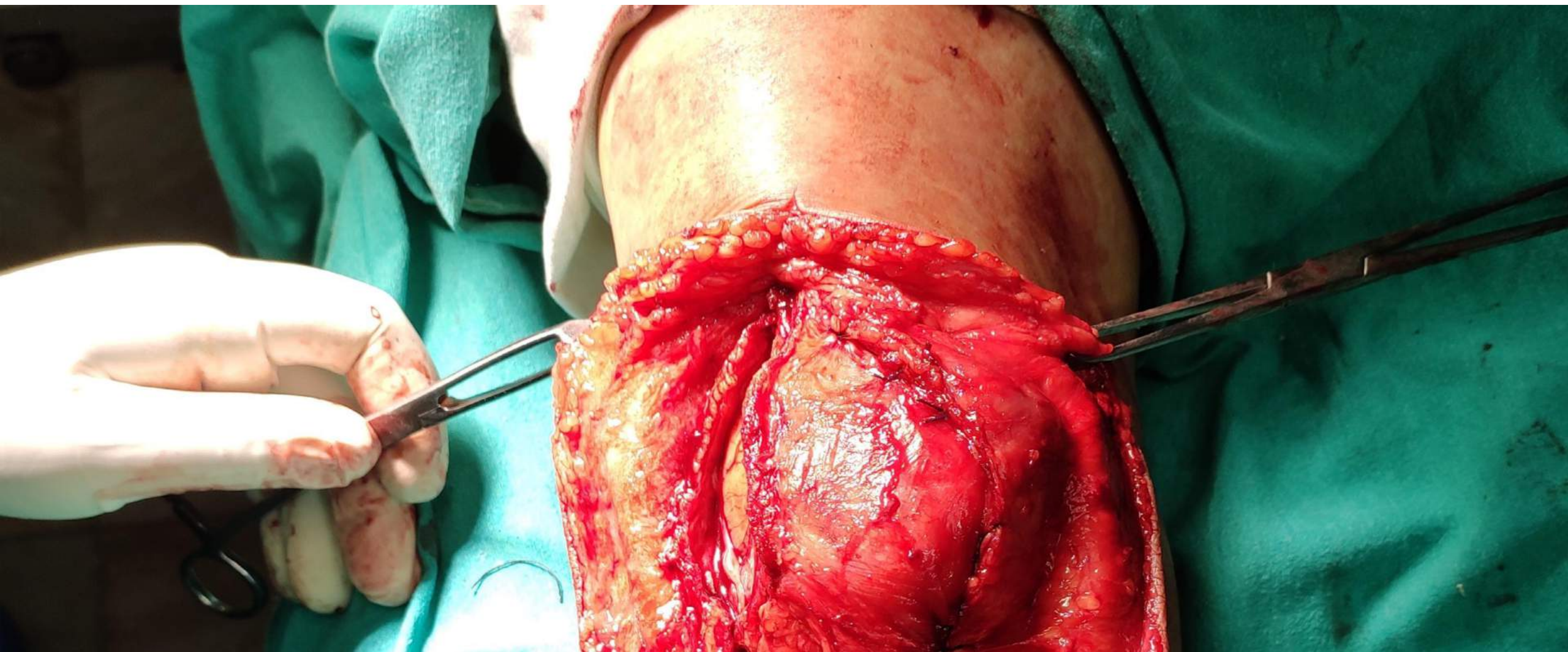


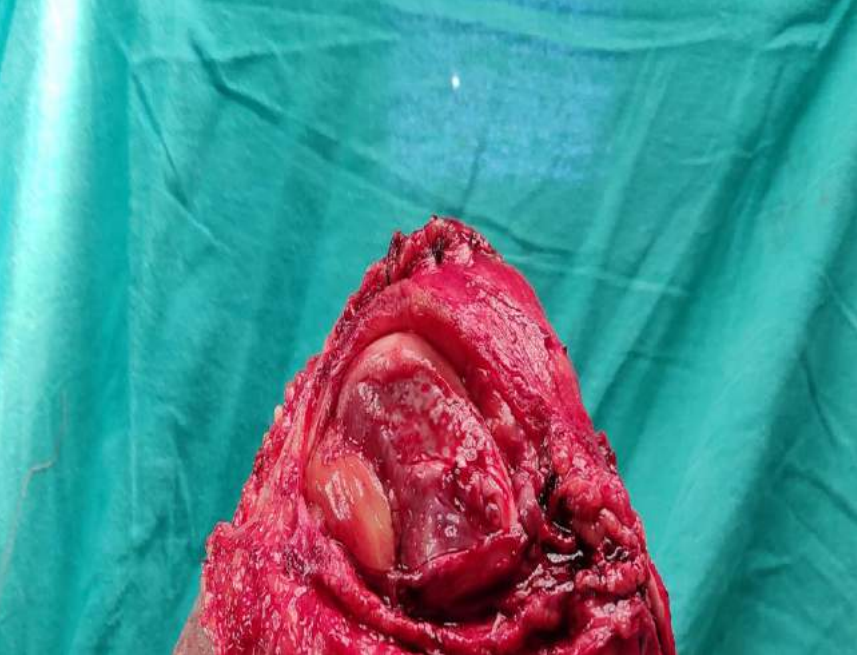
Distal Realignment

- Lateral third of patellar ligament was released from tibial tuberosity and passed underneath medial portion of patellar tendon & sutured upwards & medially to pes

- The procedure consist of lateral retinacular release, medial retinacular plication, and medial transfer of tibial tuberosity.
- Tibial tuberosity is moved 8-10mm medially and secured with a cancellous screw.
- Usually this method not indicated in atheletes due to high mean load to failure and total energy to failure rates.

Final picture after proximal and distal realignment.







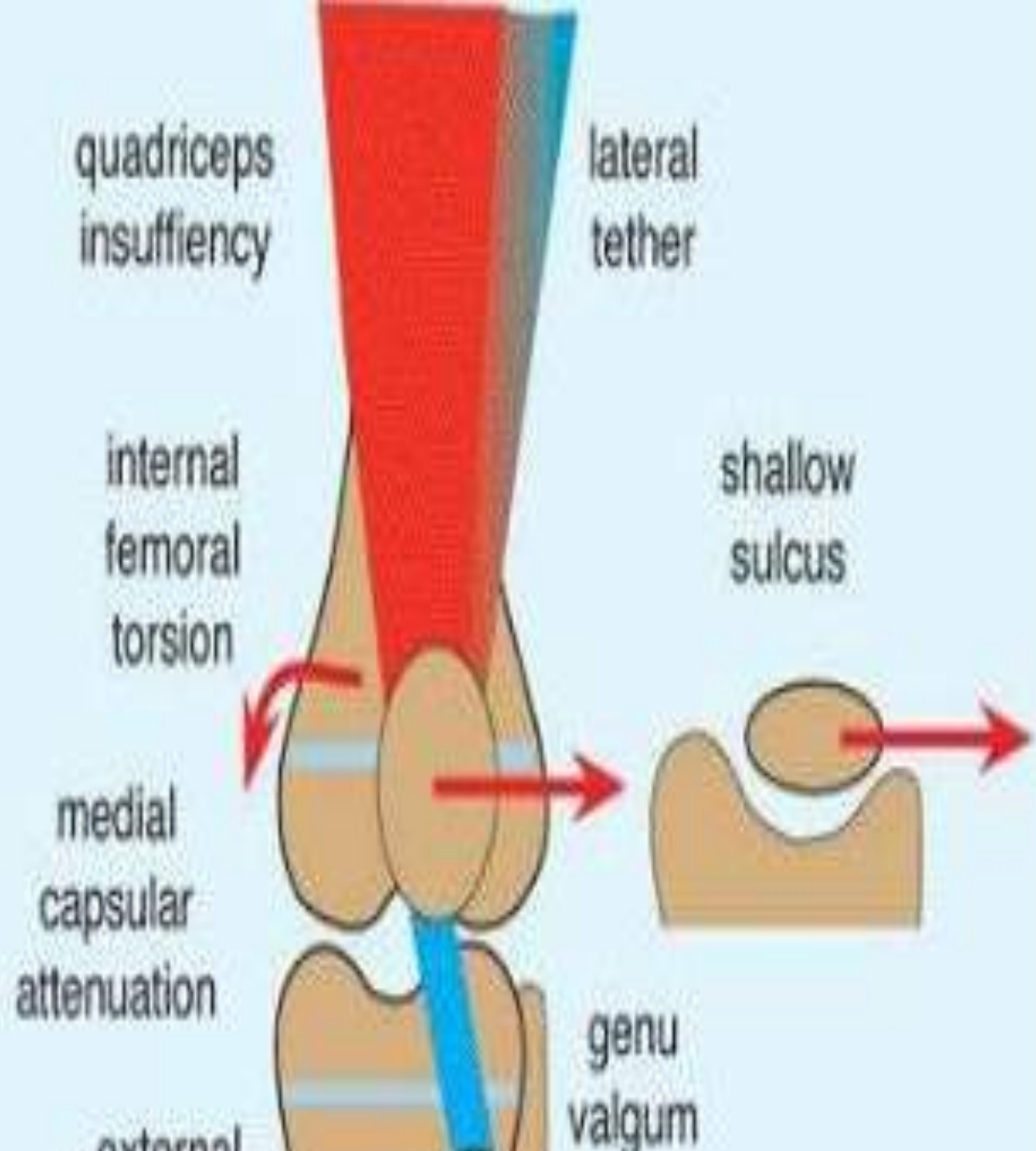
- Above knee posterior slab with knee in 5 degree of flexion was given for first 5 days
- A long-leg hinged knee brace was applied later with the knee in 20° of flexion
- Partial weight bearing with crutches for four weeks was advised, during which the patient was encouraged to do static quadriceps strengthening exercises

Post operative results

- Position of patella : Centrally placed & no lateral dislocation on flexion.
- Q angle : 20

Discussion

- Habitual dislocation of the patella is a rare condition among adults, where the patella dislocates during flexion and relocates during extension without pain and swelling unlike the recurrent patellar dislocation.
- Predisposing factors
 - ligamentous laxity (in women, connective tissue disorder)
 - contracture of the lateral patellar soft tissues
 - patella alta
 - quadriceps contractures



- Genu valgum
- Increased femoral anteversion
- External tibial torsion
- Internal femoral torsion
- Tight lateral retinaculum

- Habitual dislocation of the patella in flexion implies that dislocation occurs every time the knee is flexed. The displacement is painless.
- Recurrent dislocation which occurs as isolated episodes, often in response to trauma and is accompanied by pain and followed by swelling.

Acute Dislocation	In response to trauma	Present	Present
Recurrent	Isolated episode in response to trauma	Present	Present
Habitual	Everytime when knee is flexed	Absent	Absent
Congenital	Since birth	Absent	Absent

- ▶ Subluxation or dislocation of the patellofemoral joint most commonly occurs secondary to a rotational or twisting injury with simultaneous contraction of the quadriceps.
- ▶ Less commonly glancing blows to the knee can cause dislocation of the patella

First episode of traumatic dislocation



Tear of capsule on medial side of patella



If improper healing



Persistent laxity



Recurrent dislocation



Damage to contiguous surface of patella & fem.

Condyles

- Symptoms
 - Feeling of insecurity in knee (Giving way of knee)
- Signs
 - Patellofemoral crepitus
 - Positive J sign
 - Increased Q angle

- Proximal realignment
 - Lateral release
 - Reconstruction of vastus medialis obliquus
- Distal realignment
 - partial medialization of the ligamentum patella
 - Medialization of tibial tuberosity.
- always lateral release is combined with medial

- • No single procedure is fully effective in the surgical treatment of habitual dislocation of patella.
- The pathology is primarily proximal: hence proximal procedures are done before distal procedures which are required only in older children.
- Extensive proximal lateral release is a must in all cases.
- Decision to be taken intra-op for the correct combination of procedures required

Thank you