PARALYTIC HIP DISLOCATIONS

SPINA BIFIDA AND POLIO

Problems of management

- Muscle imbalance
- Deformities of hip pelvis and spine
- Adaptive bony changes

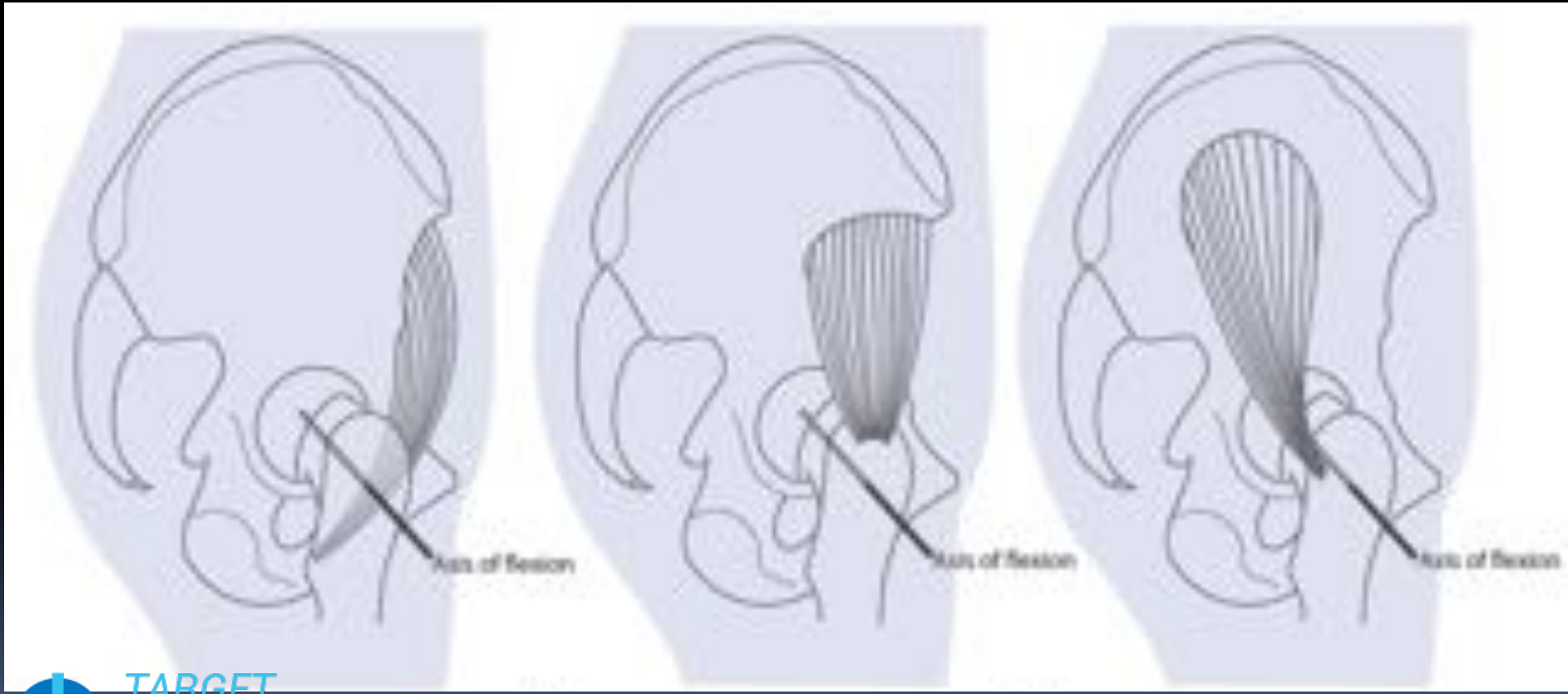
Aims of treatment

- Obtain a stable concentric reduction in children with good long-term potential for independent community ambulation
- Prevent loss of sitting balance in children with unilateral hip dislocation and poor walking ability
- Minimize the risk of development of ischial pressure sores if sensation is lost

Treaatment options

- Correcting muscle imbalance
- Iliopsoas and adductor release
- Adductor release and psoas transfer
- External oblique, adductor and fascia lata transfer

Iliopsoas transfer



EO transfer to greater trochanter

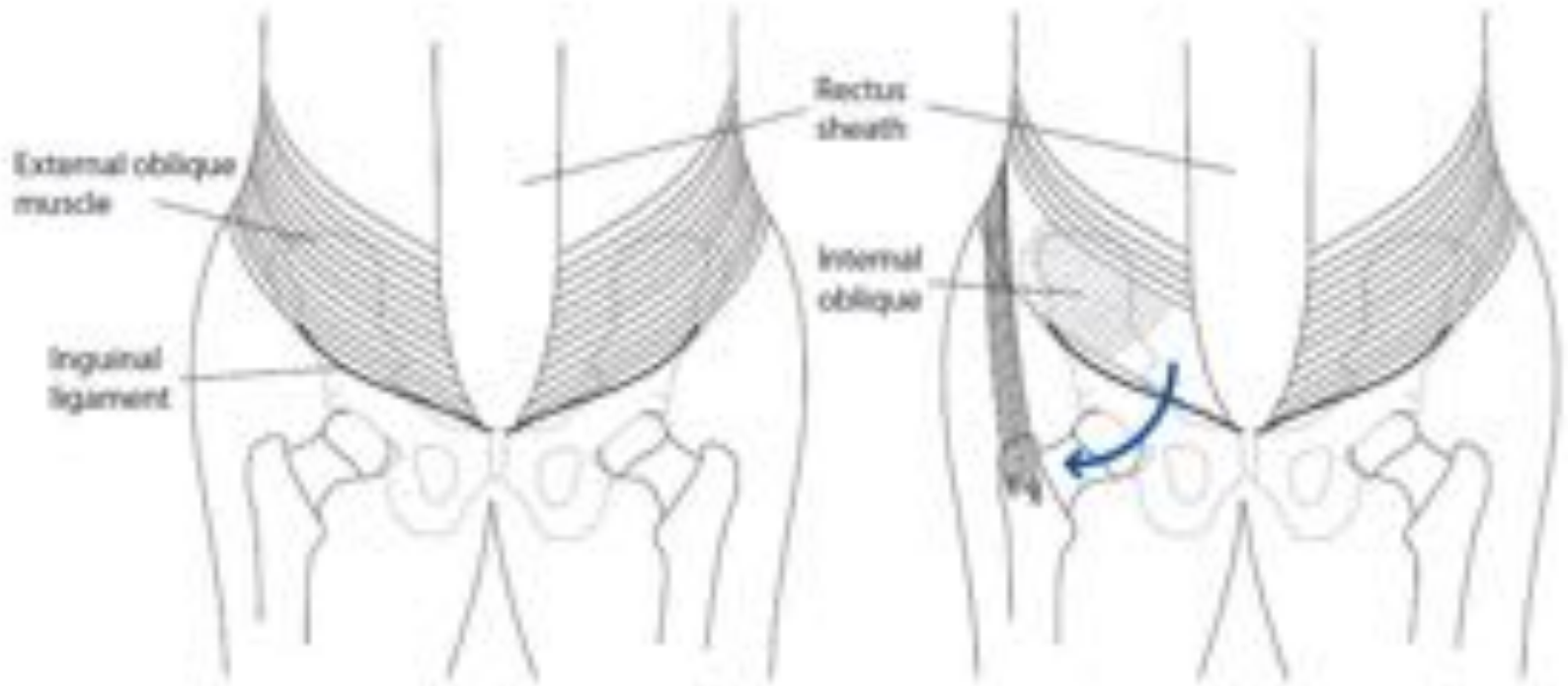
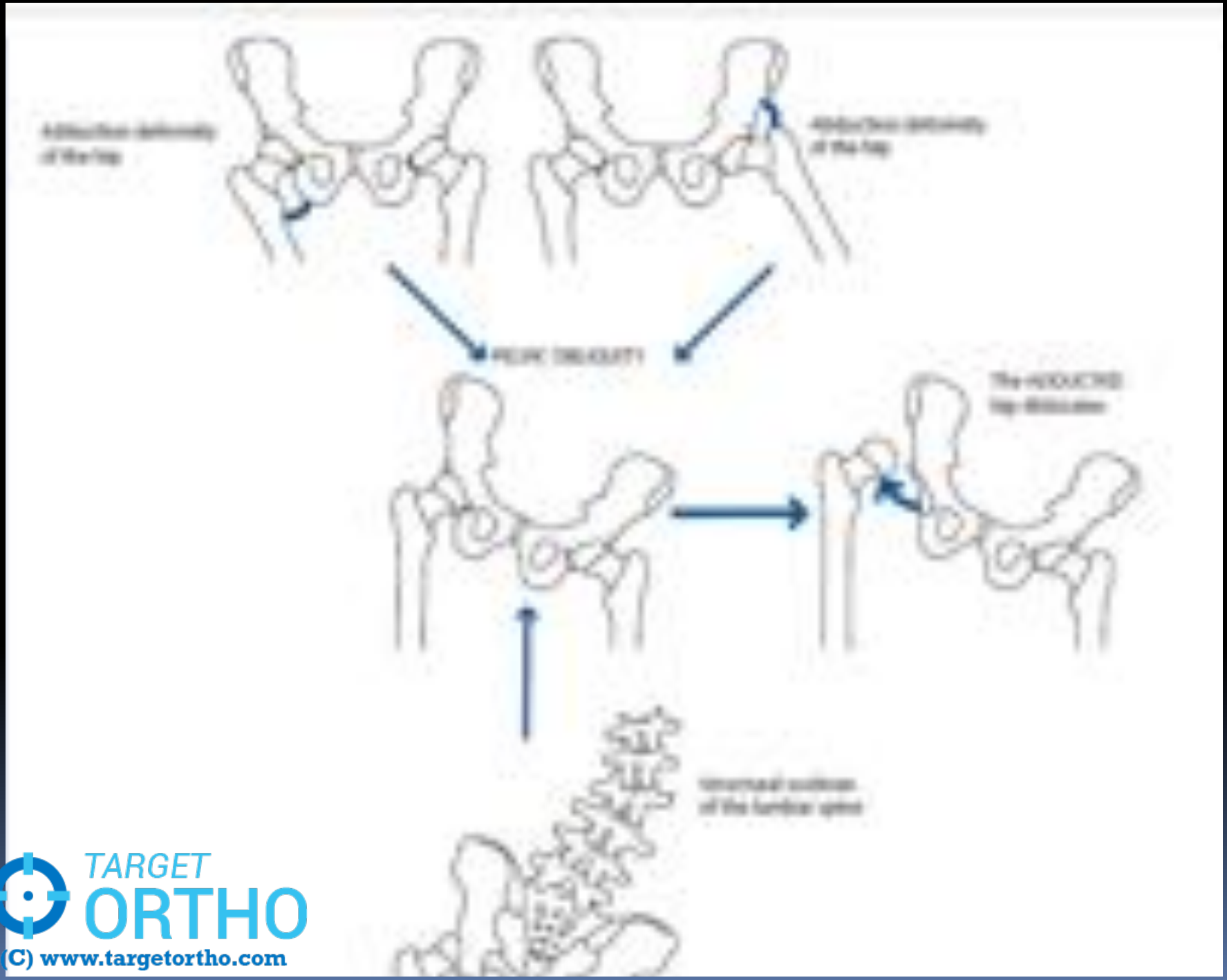
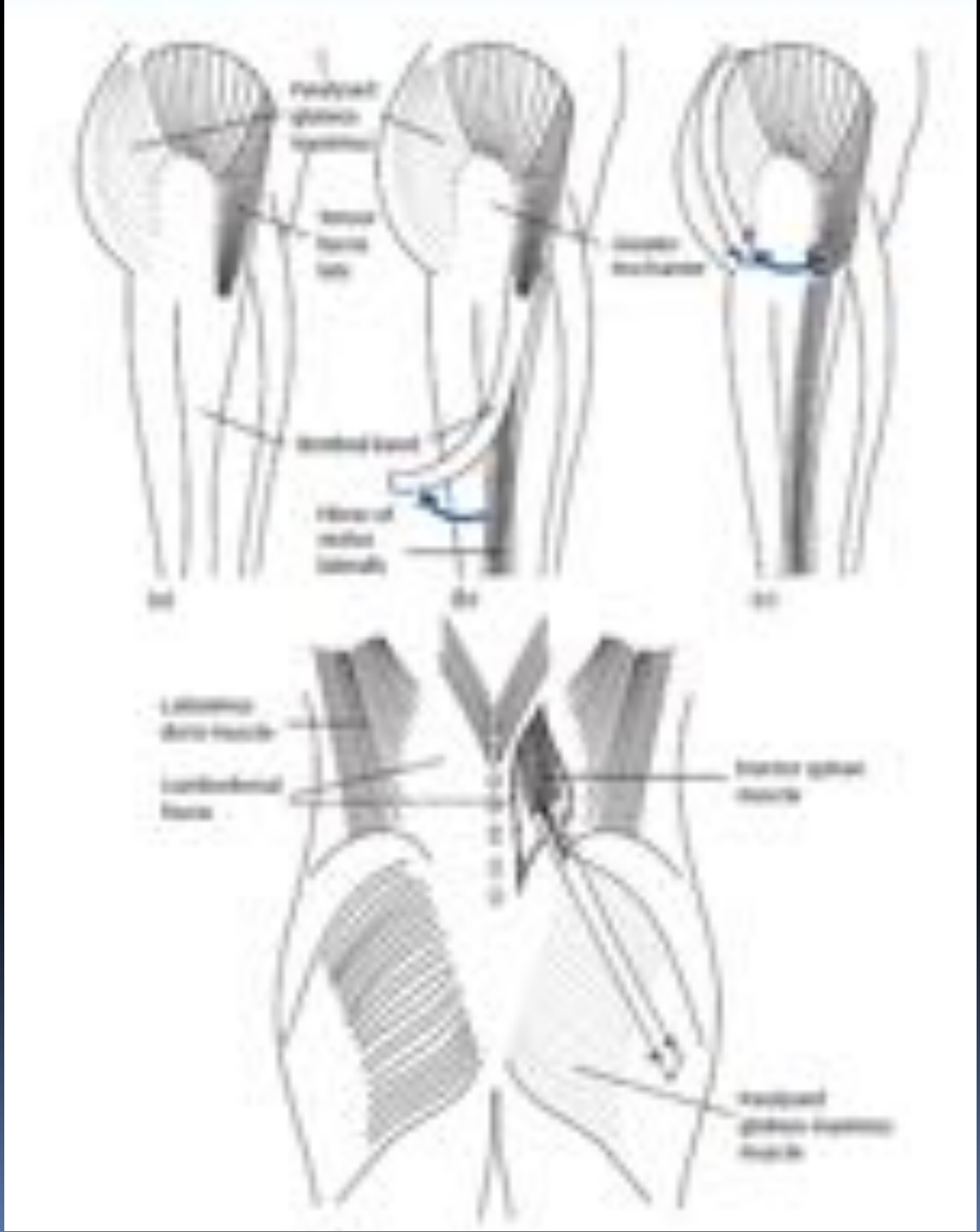


Figure 54.1 ● Diagram illustrating the technique of an external oblique transfer for restoring hip abductor power.



Erector spine transferred to gluteus maximus

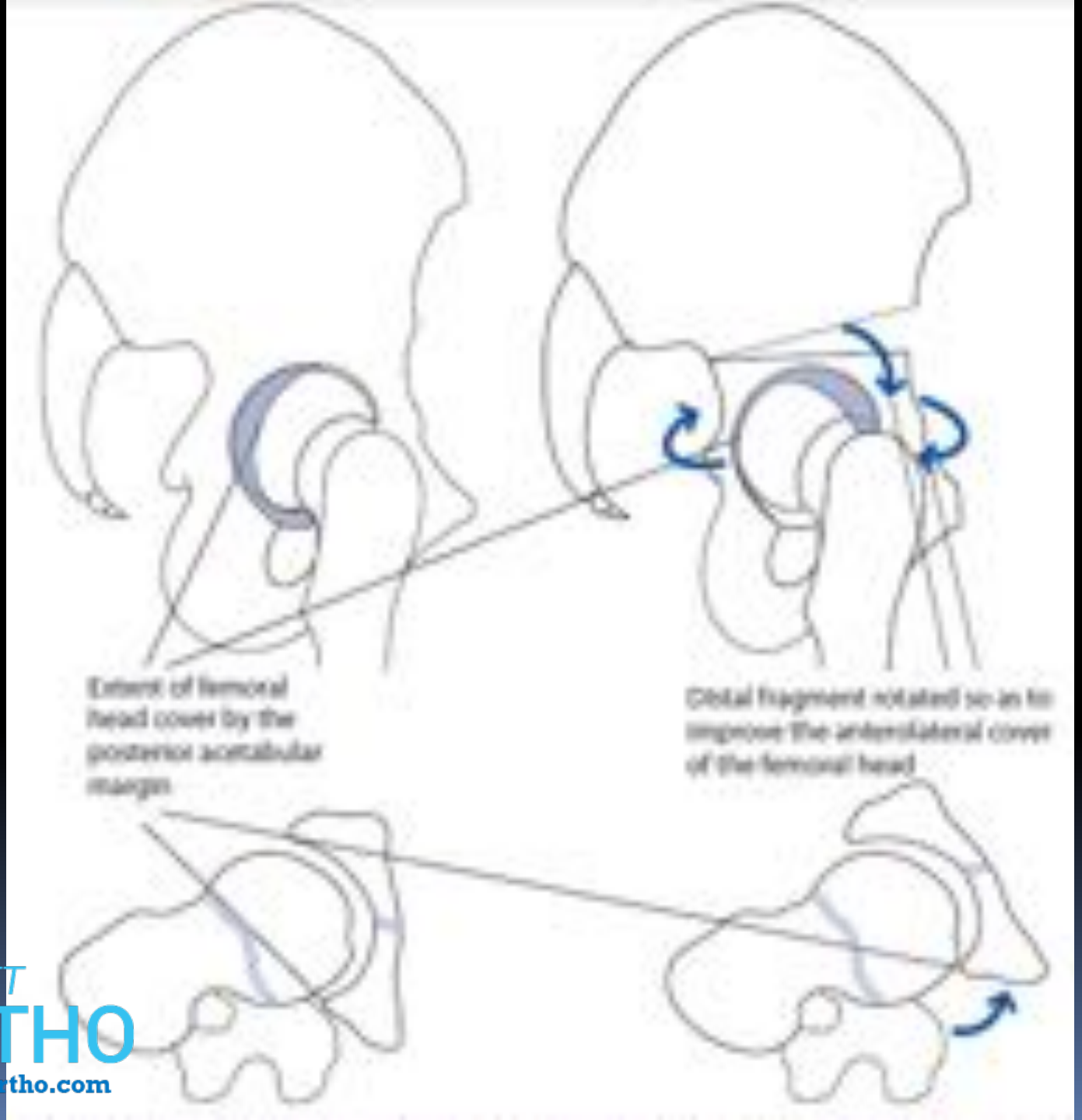


Correcting adaptive bony changes in the femur and acetabulum

- Coxa valga

- Acetabular dysplasia

  acetabular augmentation preferred



Correcting pelvic obliquity

- Releasing contractures of the hip

- Soft tissue release in young
- Bony osteotomy in older children

Factors to be taken into consideration while planning treatment

- Level & extent of neurological defiict

  level at or below L4
- Long term walking potential

- Unilaterlal or bilateral dislocation
- Presence of demonstrable muscle imbalance
- Presence of adaptice bony changes in the hip, acetabulum and pelvic obliquity

Why is lateral transfer of the iliopsoas being recommended for both polio and spina bifida

- The results of tendon transfers in these conditions are fairly predictable and a strong hip flexor can be converted into a hip abductor in a proportion of cases.

- Even if active abduction does not occur and the transfer works only as a tenodesis, the tenodesis effect may help in improving the stability of the hip.

In children with spina bifida, why is the lateral transfer of the iliopsoas being recommended only if the neurological level is below L4?

Flow chart from book

Paralytic knee

- Confined to quadriceps
- Hamstrings
- Quadriceps and hamstrings

Deformity

- Quadriceps paralysis
- Fixed flexion ang genu recurvatu
- Flail kee

???

Joint instability

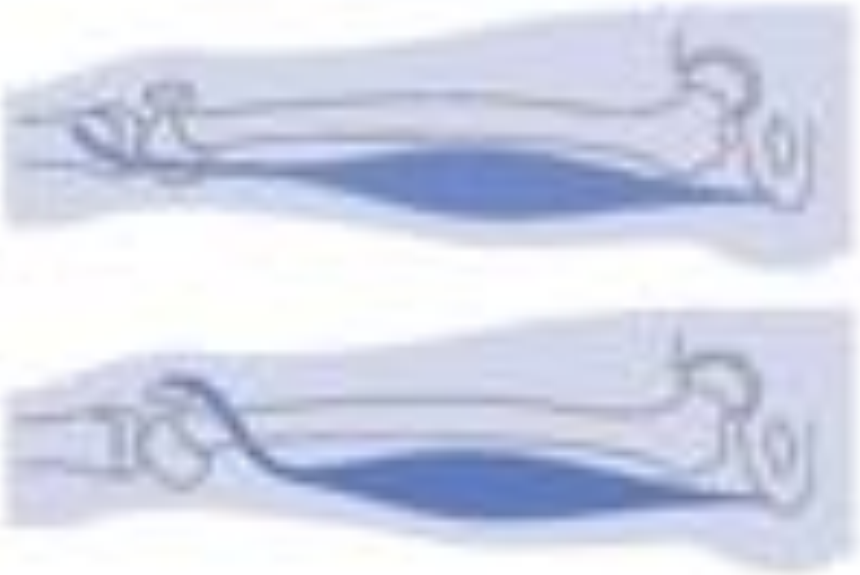
- Quadriceps is an antigravity muscle

Aims of treatment

- Restore muscle power
- Prevent and correct deformity
- Restore stability

Restoring muscle power

- Schwartzmann and Crego defined the criteria that must be fulfilled before performing the transfer.
- These prerequisites are normal power (grade V) of the hamstrings, gastrocsoleus and the gluteus maximus
- and the absence of either a flexion deformity or recurvatum at the knee.
- If these criteria are satisfied, the biceps femoris and the semitendinosus tendons may be transferred to the patella



Correcting deformities

- even minor degrees of flexion deformity of the knee must be corrected in any patient in whom the quadriceps is paralysed.

- This is because in the presence of a flexion deformity, the weight-bearing line passes posterior to the axis of motion of the knee and it is impossible for the paralysed knee to remain stable

Restoring joint stability