

19.04.2023 Hip Symposium 2023 Pre-course

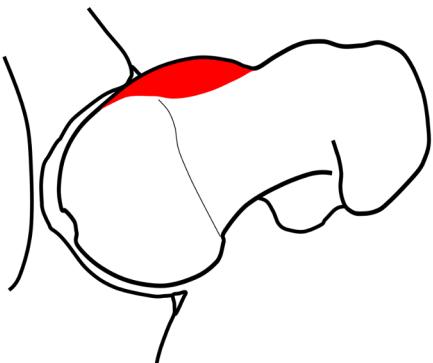
What to do: torsion

Dr. med Vera M Stetzelberger, Dr. med Corinne A Zumühle, Prof. Moritz Tannast

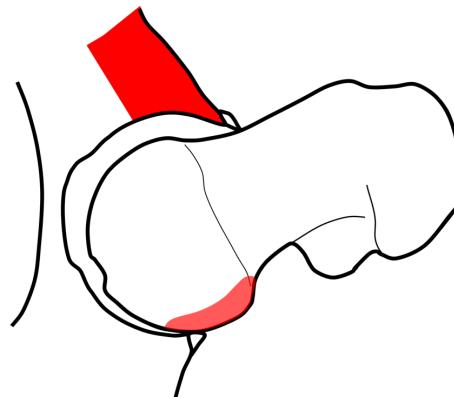
Departement of orthopaedic surgery and traumatology
University of Fribourg, HFR cantonal hospital Fribourg

Three pillar concept of femoroacetabular impingement (FAI)

Cam

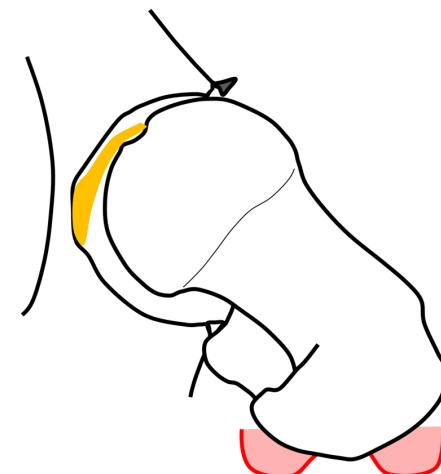


Pincer

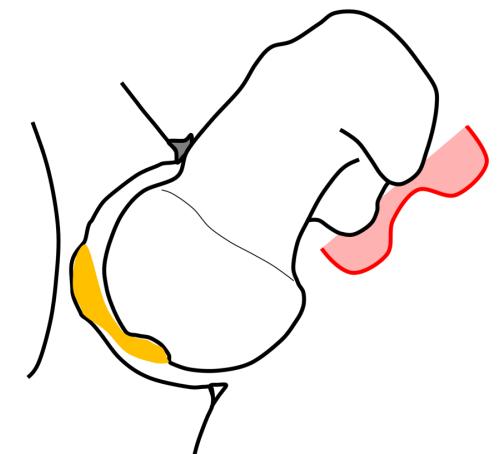


Femoral torsion deformities

Excessive

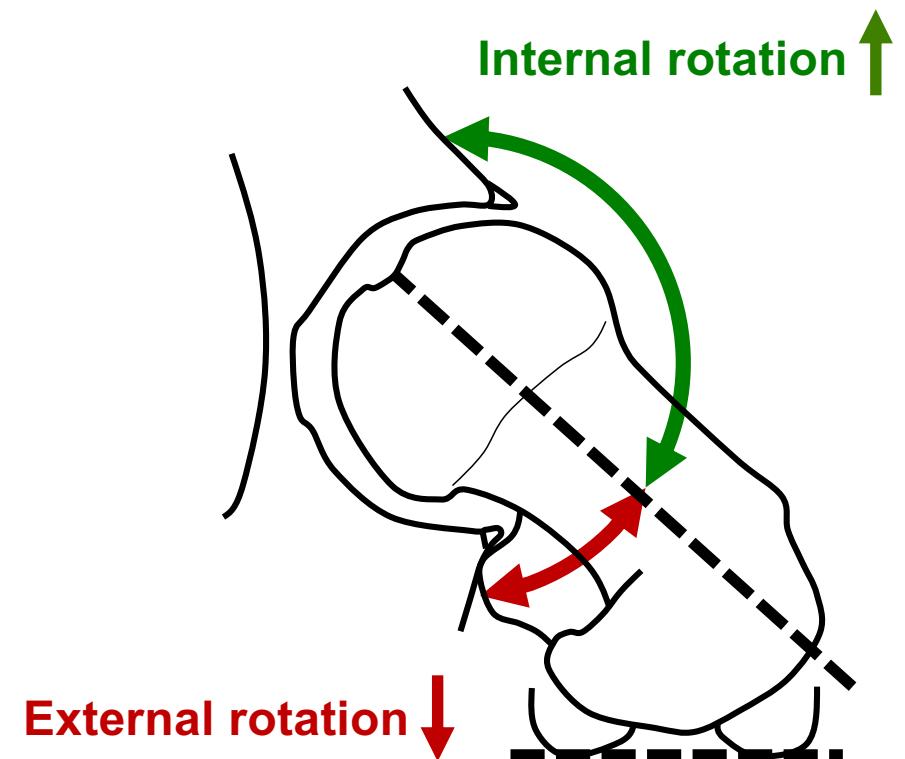


Deficient

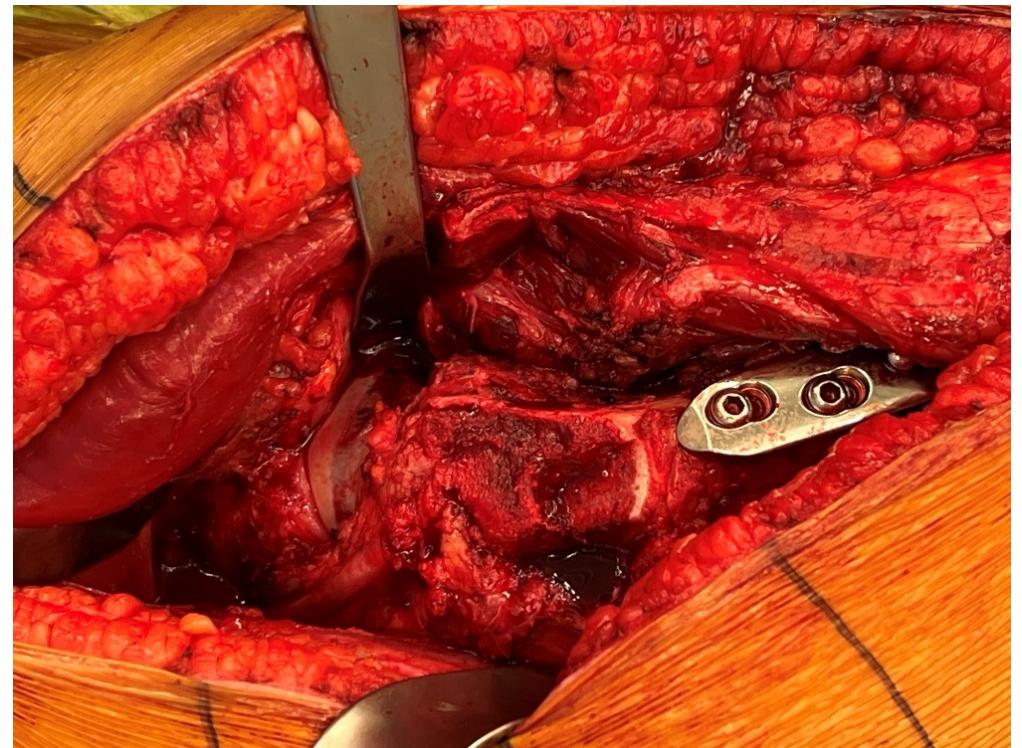
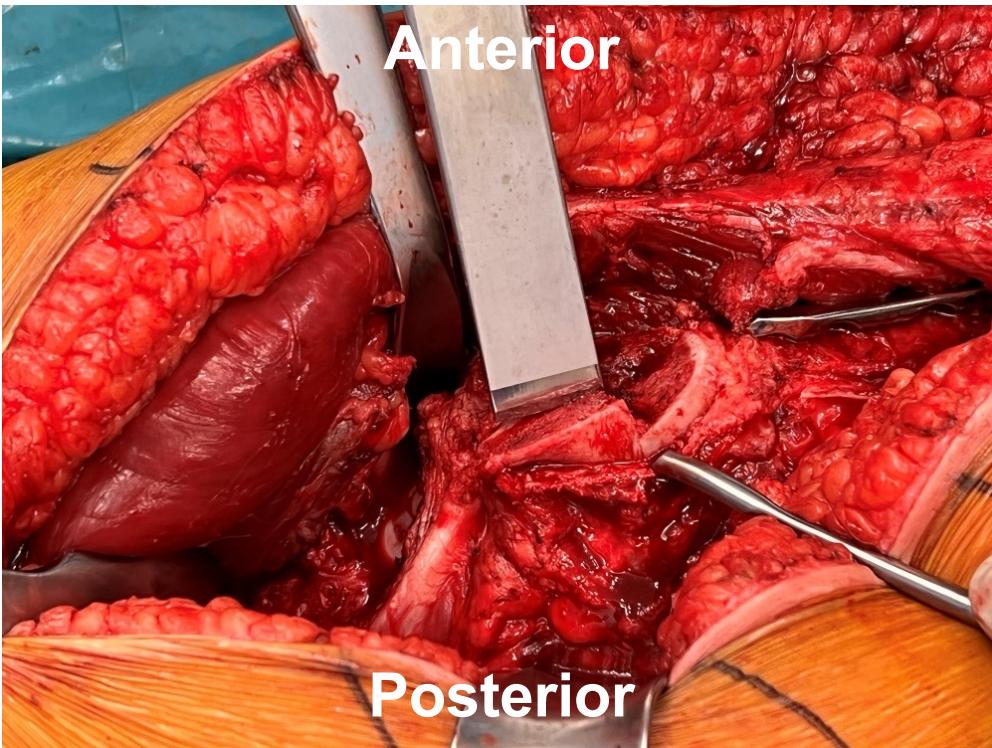


Excessive femoral torsion ($>35^\circ$ according to Murphy)

- **Excessive femoral antetorsion:**
Posterior extraarticular impingement
Reduced external rotation
- **Levering out anteriorly with subluxation phenomenon**

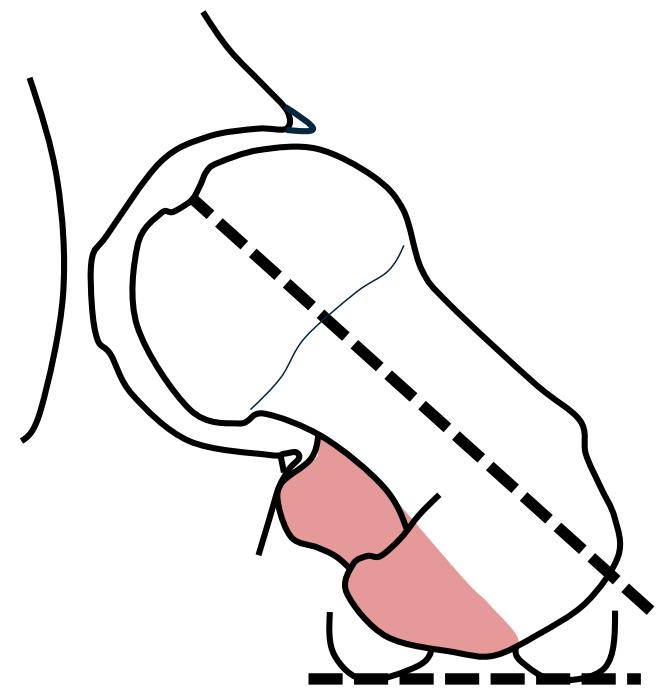
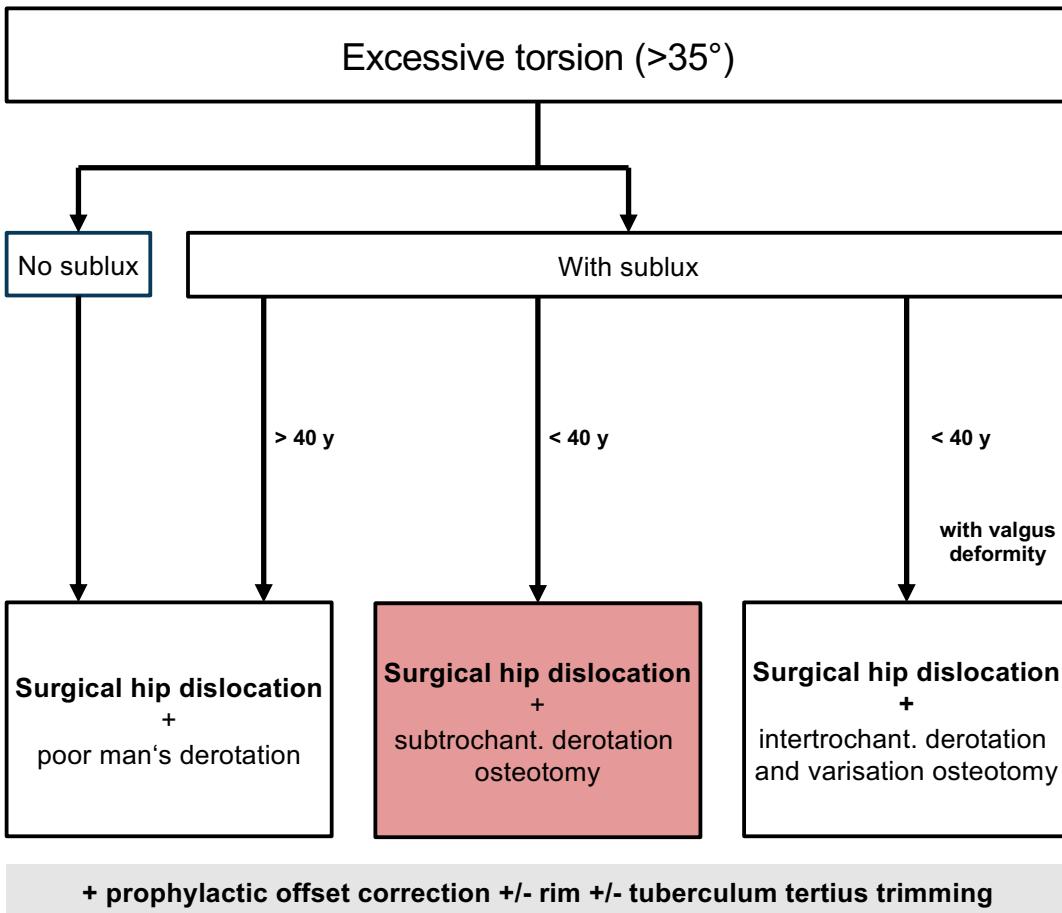


„Poor man's derotation“

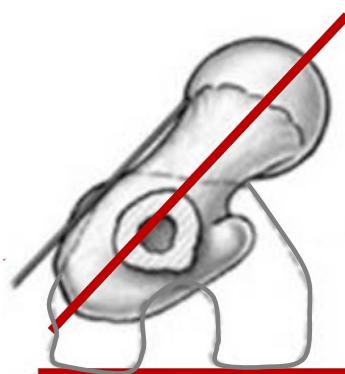


- Trimming of the posterior greater trochanter with mini-retinacular flap

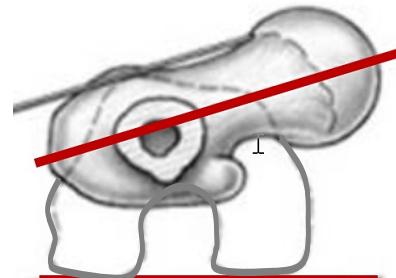
Excessive femoral torsion: What to do?



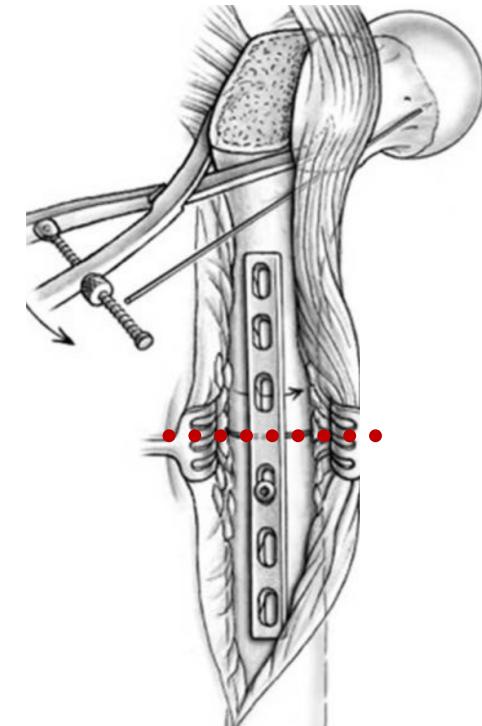
Subtrochanteric derotation osteotomy



Excessive torsion

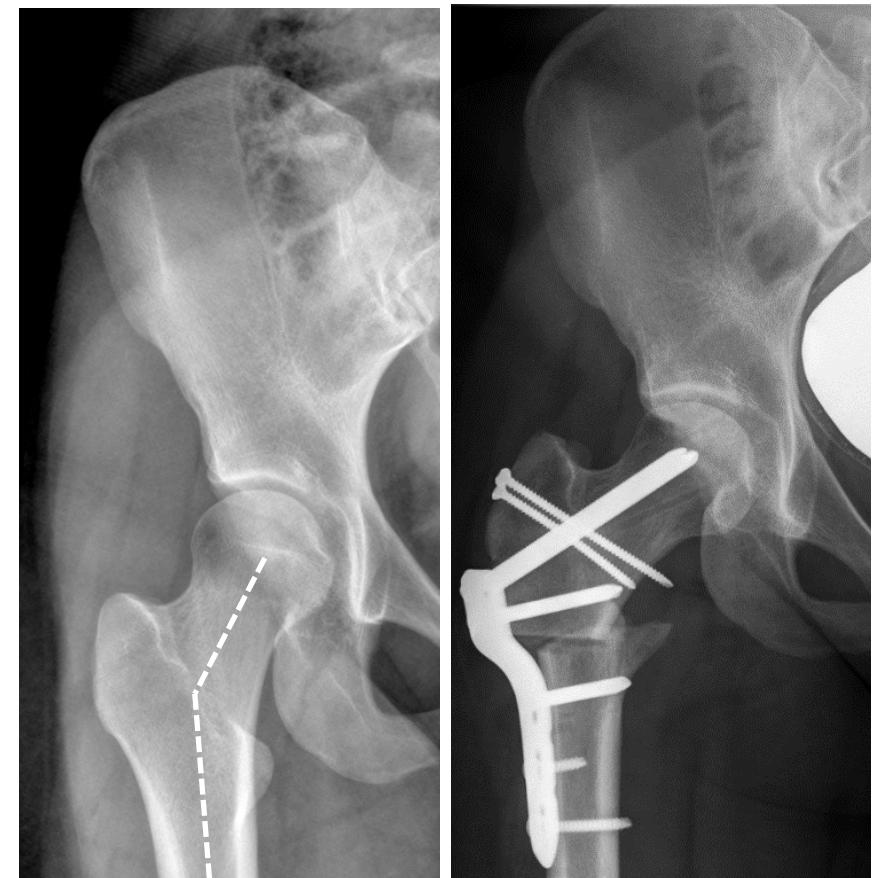
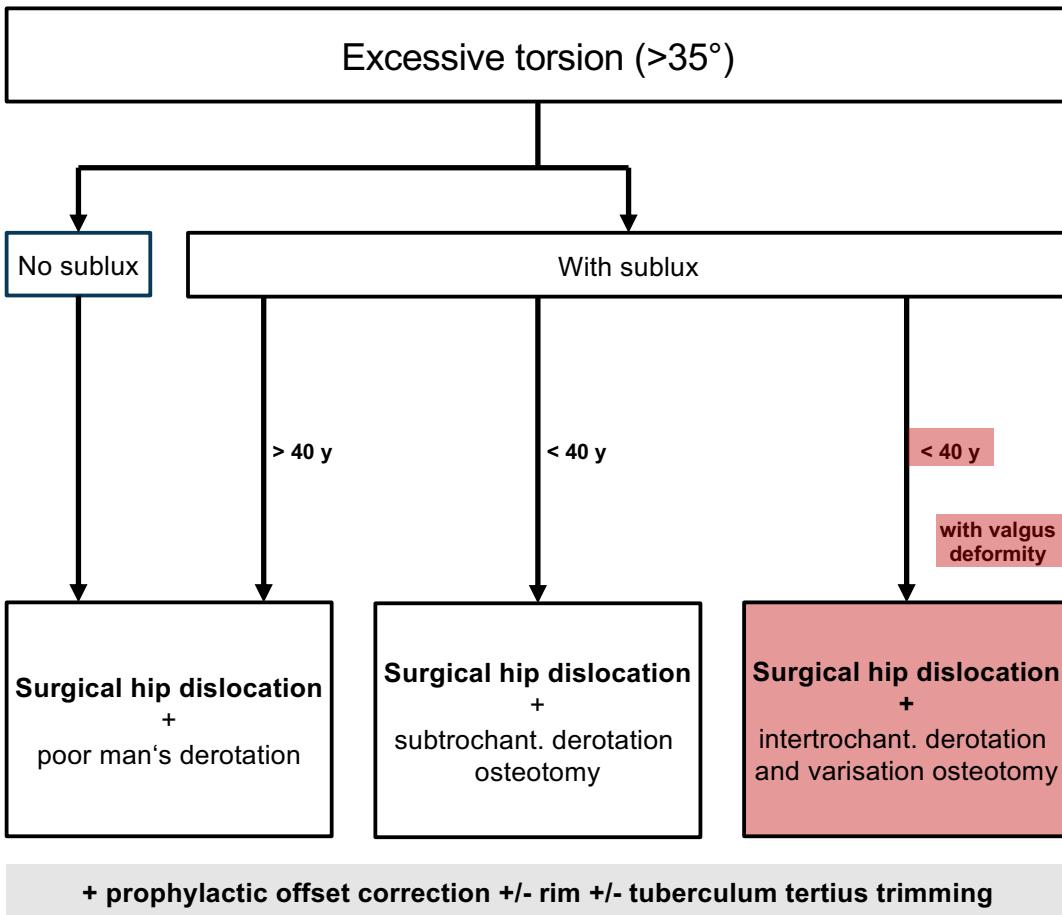


Normal version

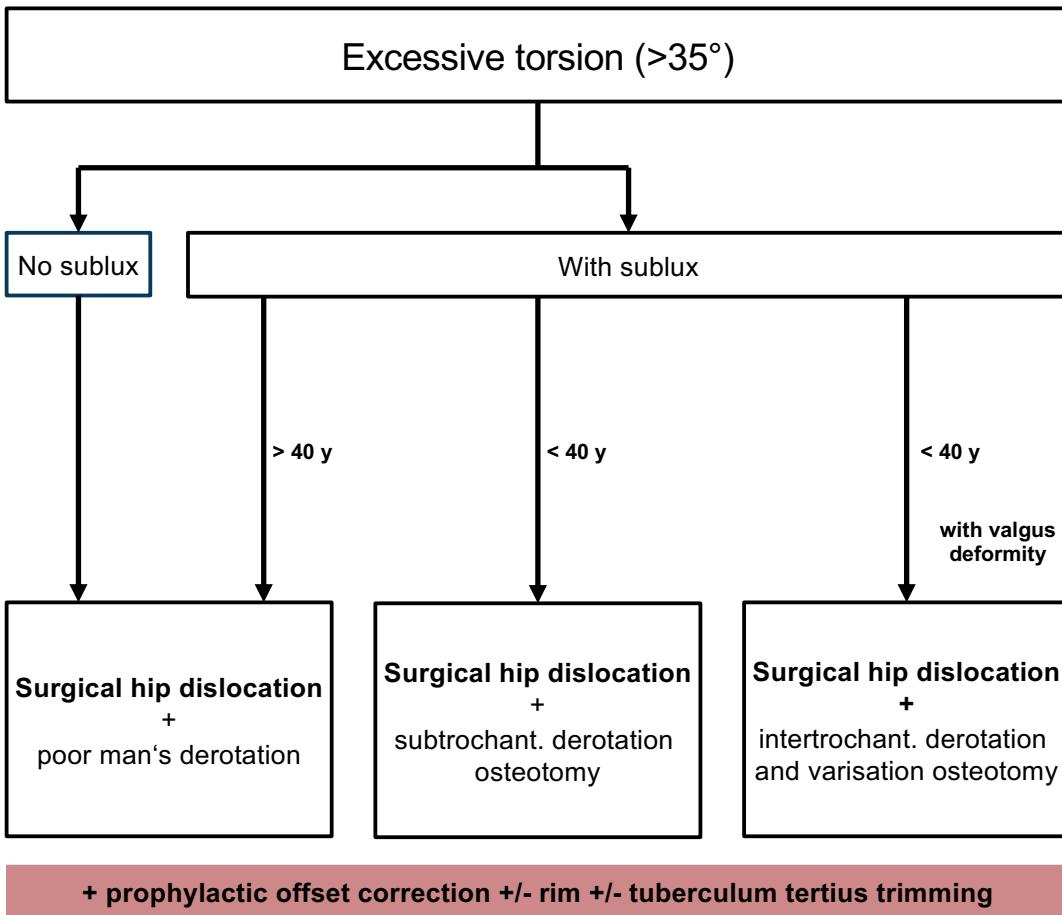


Kamath et al., J Hip Preserv Surg. 2015

Excessive femoral torsion: What to do?

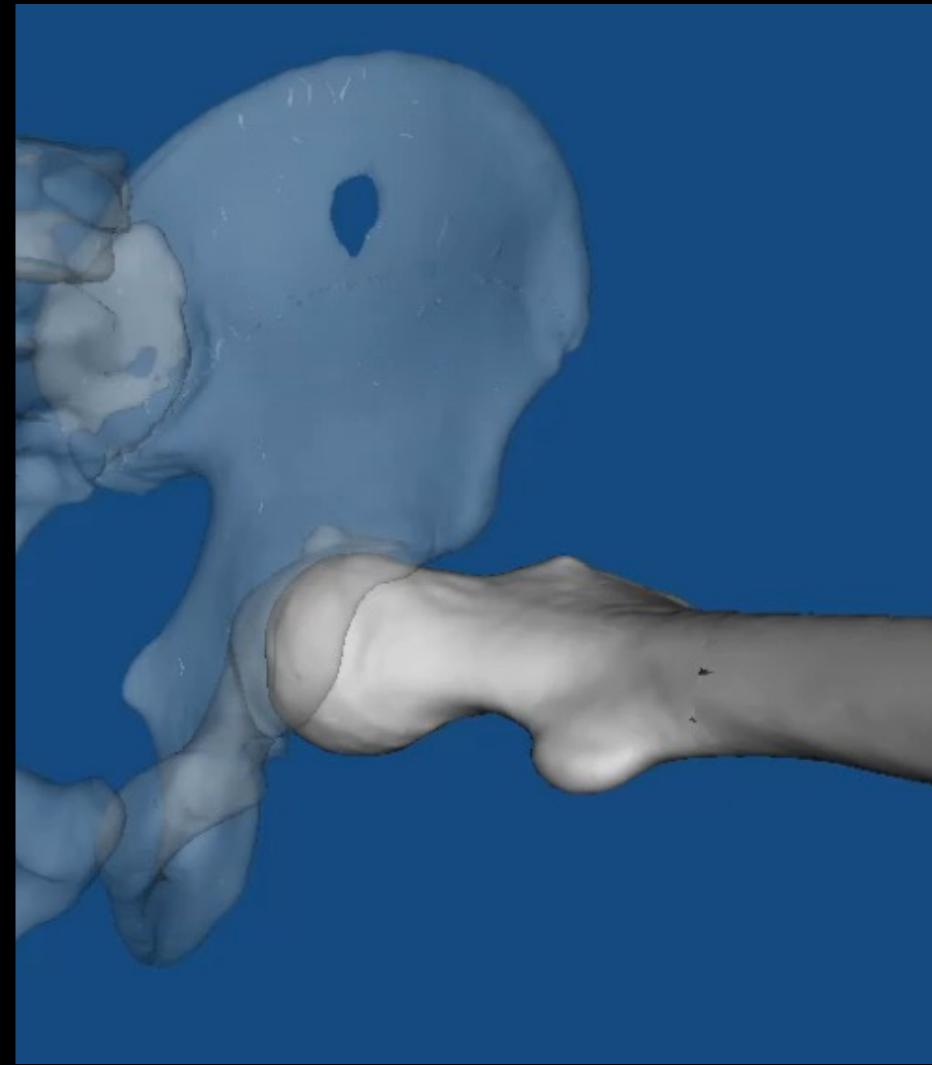


Excessive femoral torsion: What to do?





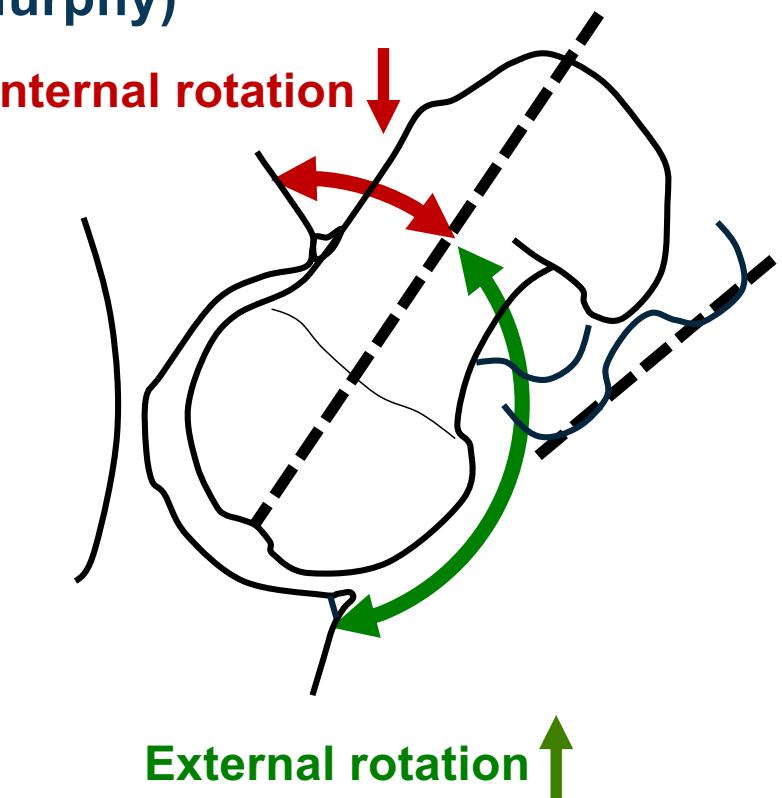
Deficient femoral torsion



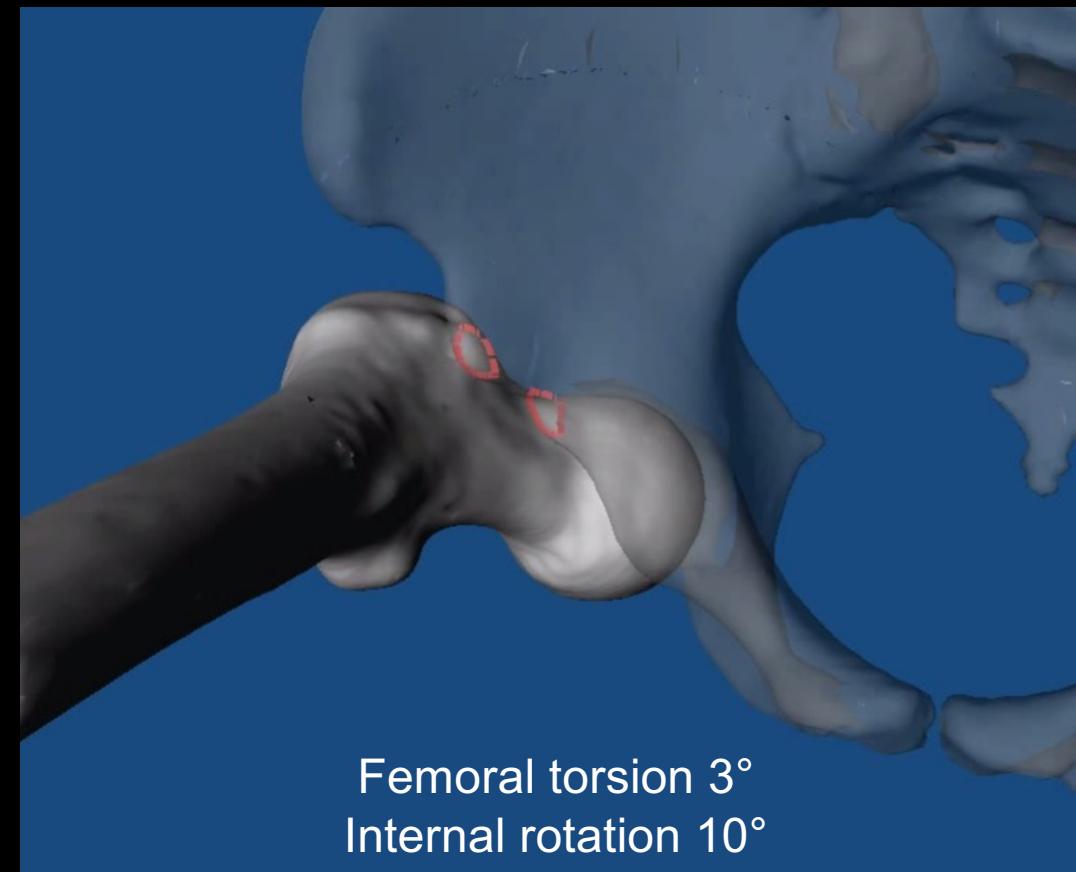
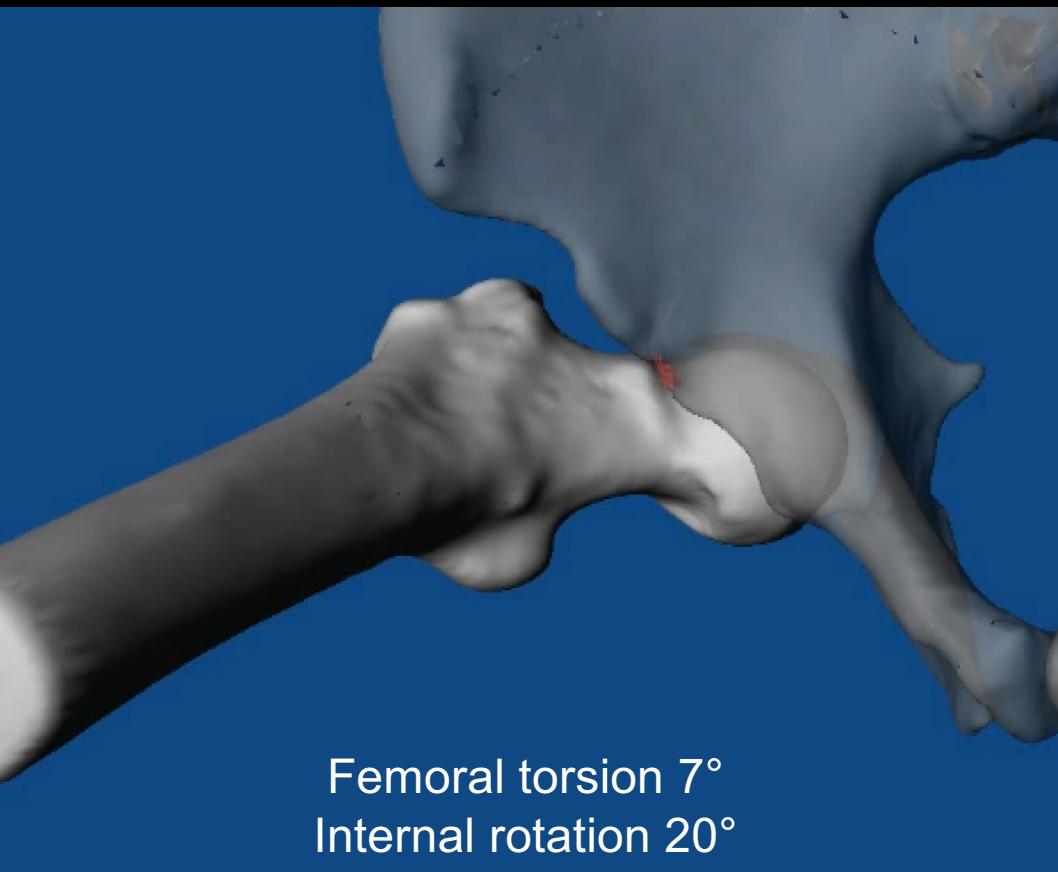
Extra/intraarticular anterior impingement

Deficient femoral torsion (<10° according to Murphy)

- **Deficient femoral antetorsion:**
Anterior intra and extraarticular impingement
Reduced internal rotation

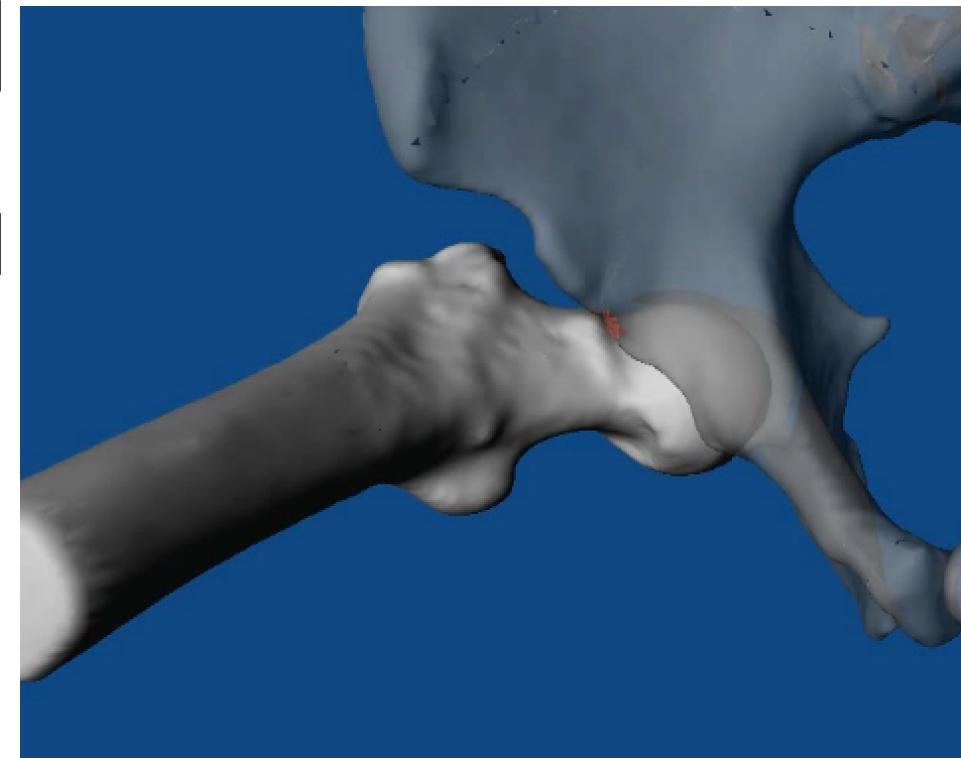
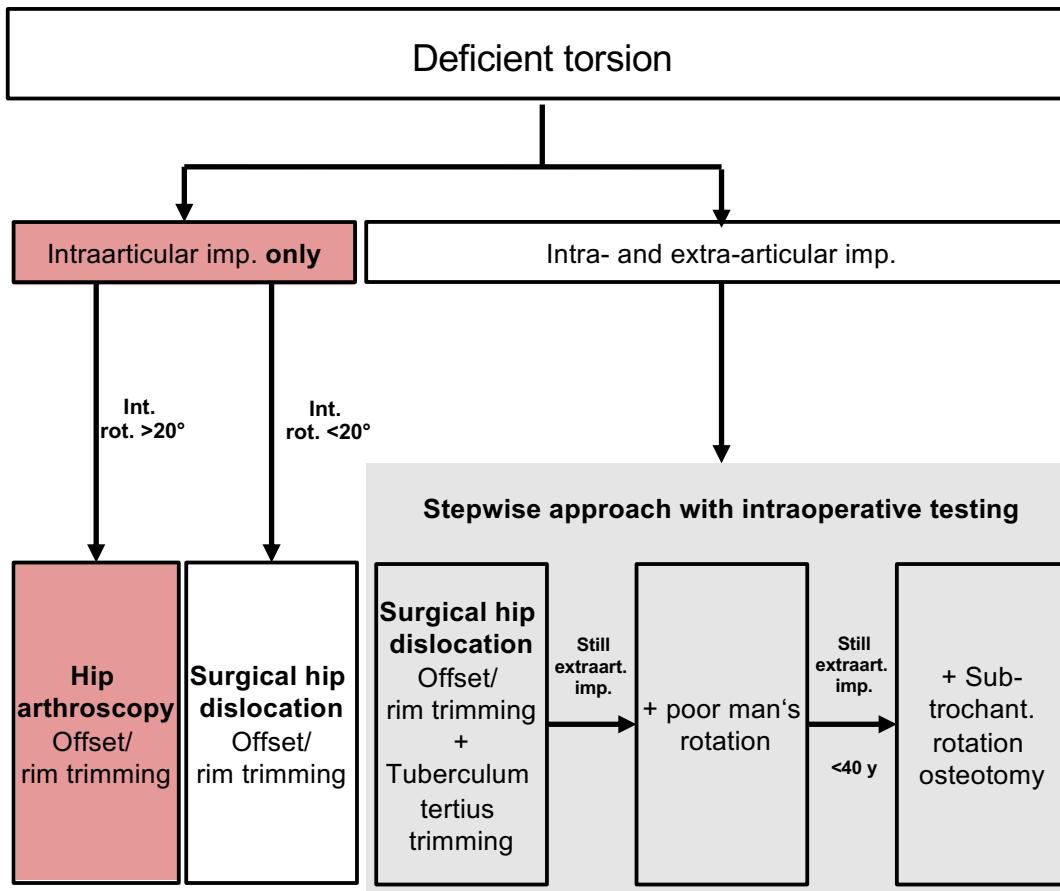


Intra-and extra-articular impingement in deficient femoral torsion



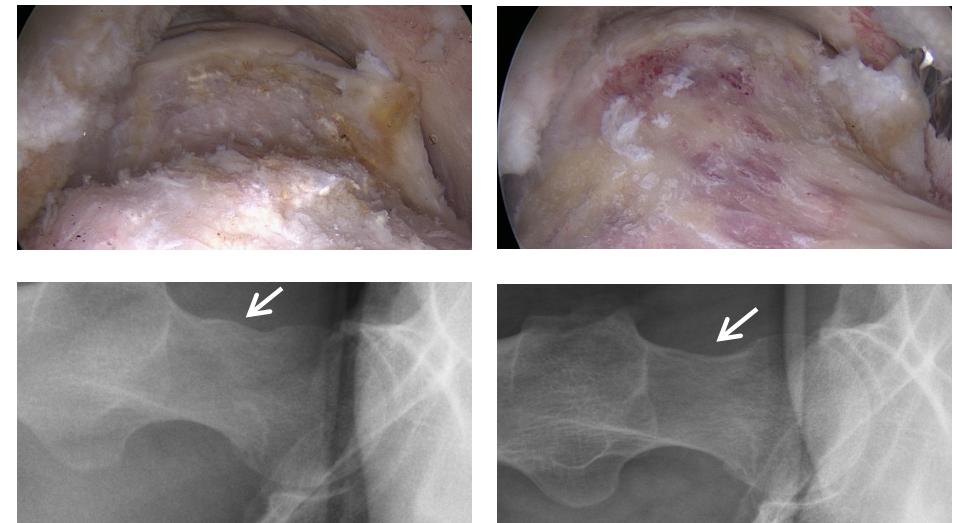
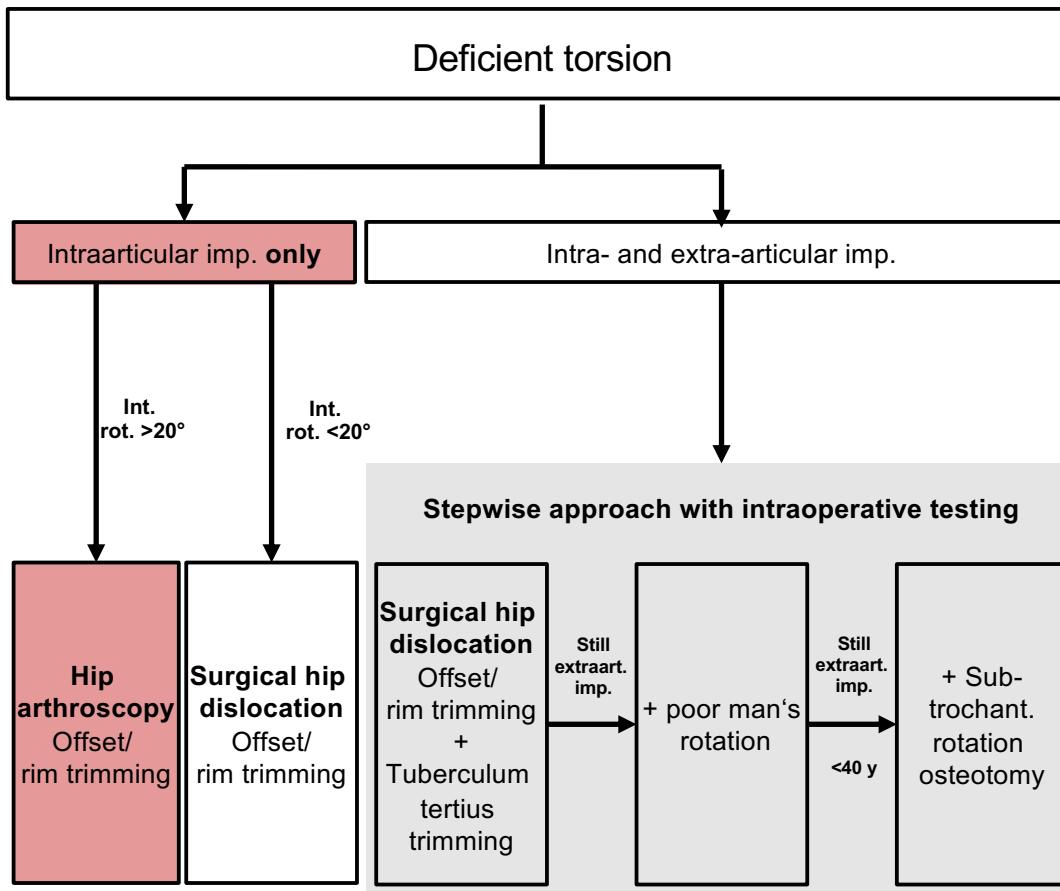
Diagnostic intraarticular infiltration for assessment of extraarticular component

Hip arthroscopy for the treatment of deficient femoral torsion

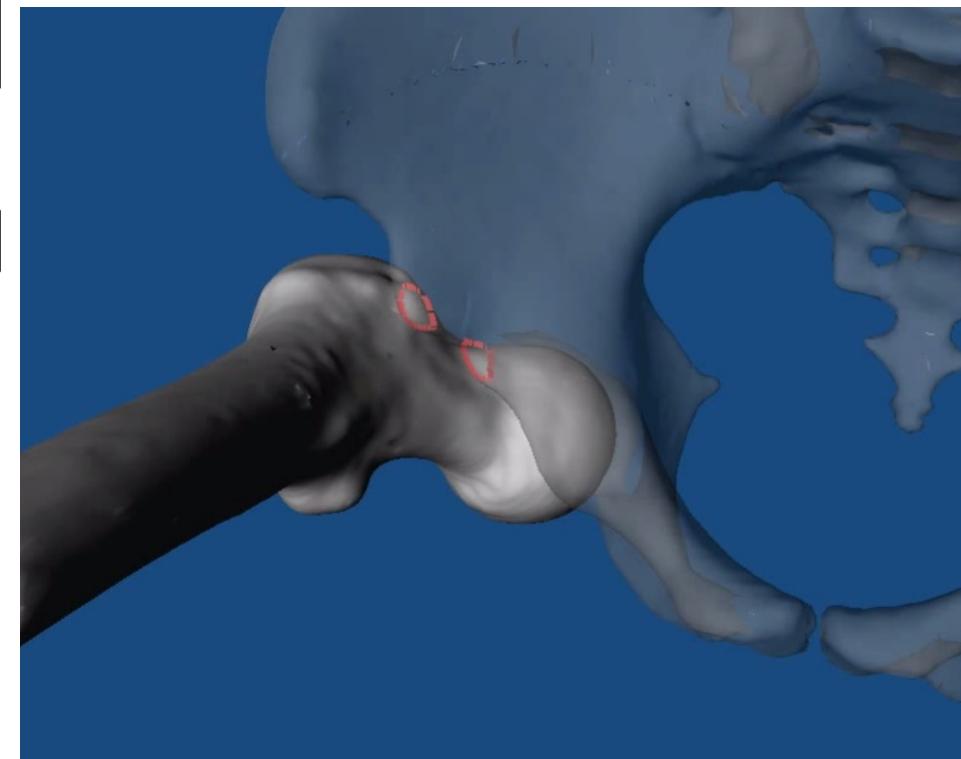
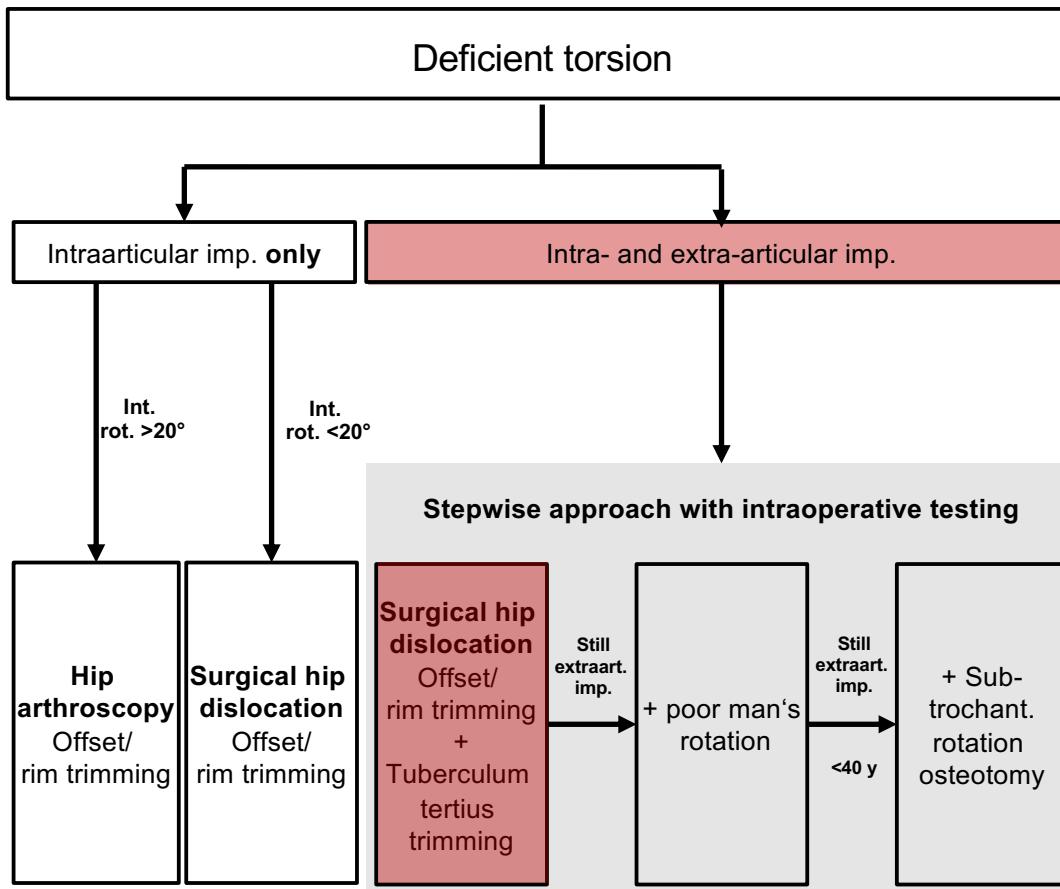


Femoral torsion 7°
Internal rotation 20°

Hip arthroscopy for the treatment of deficient femoral torsion

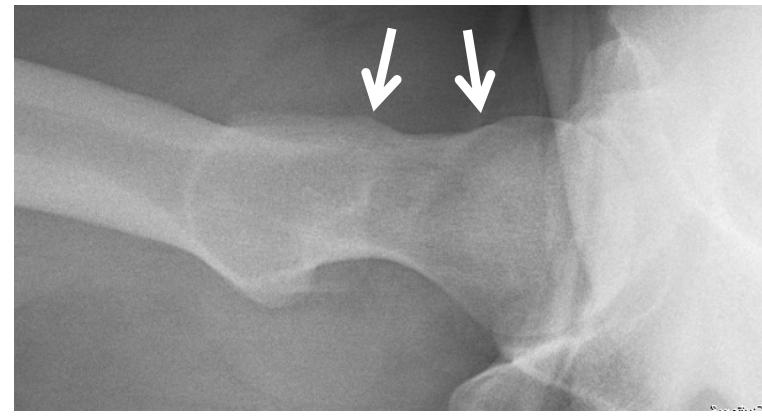
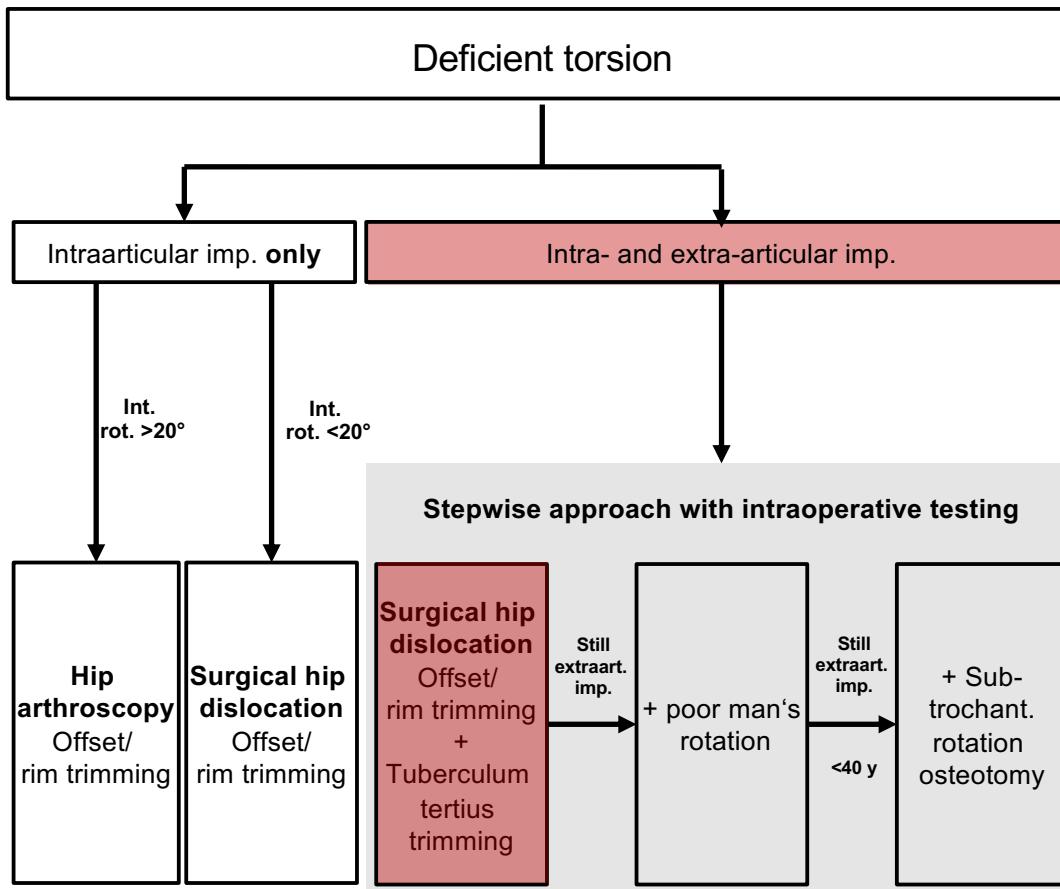


No hip arthroscopy when extraarticular component

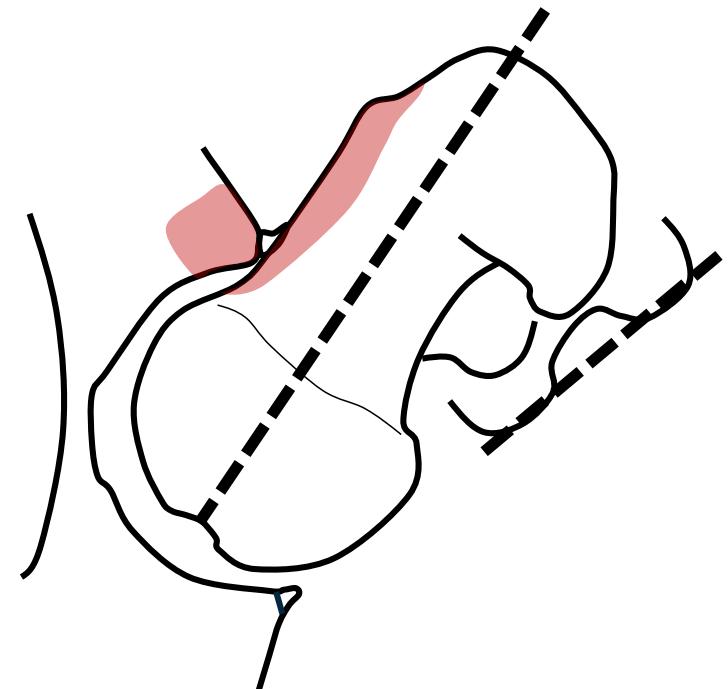
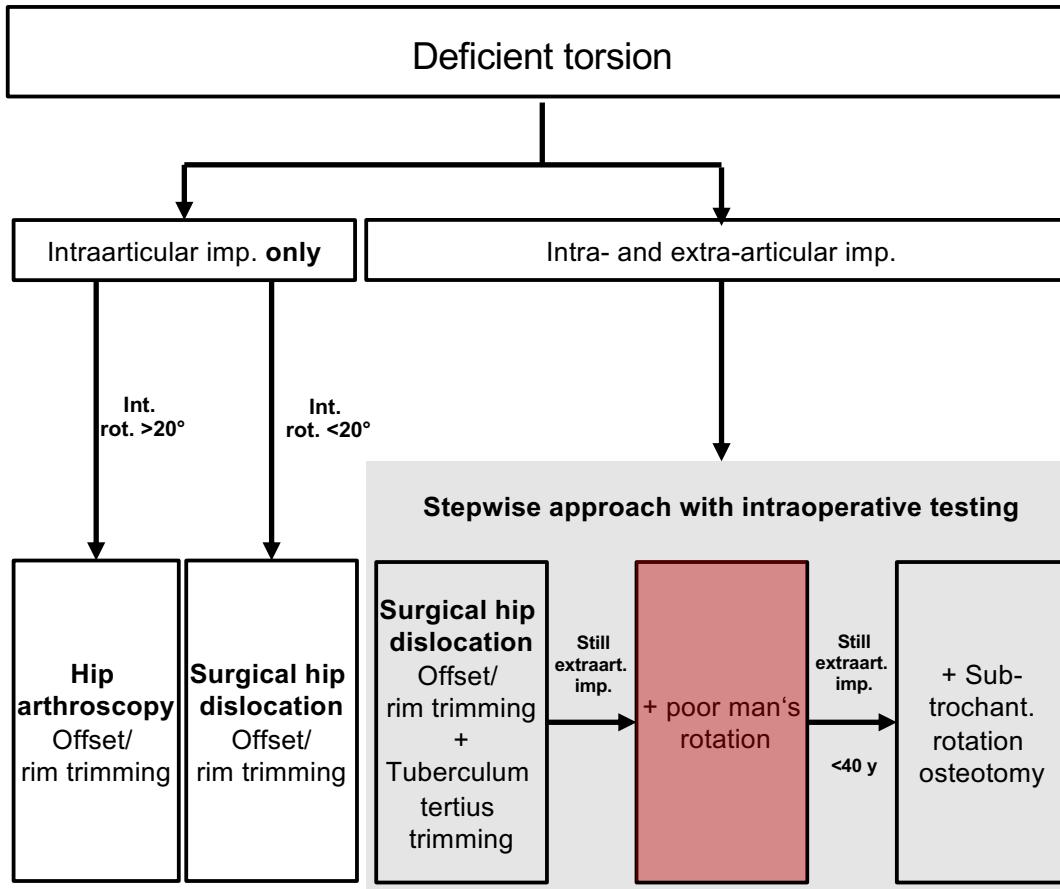


Femoral torsion 3°
Internal rotation 10°

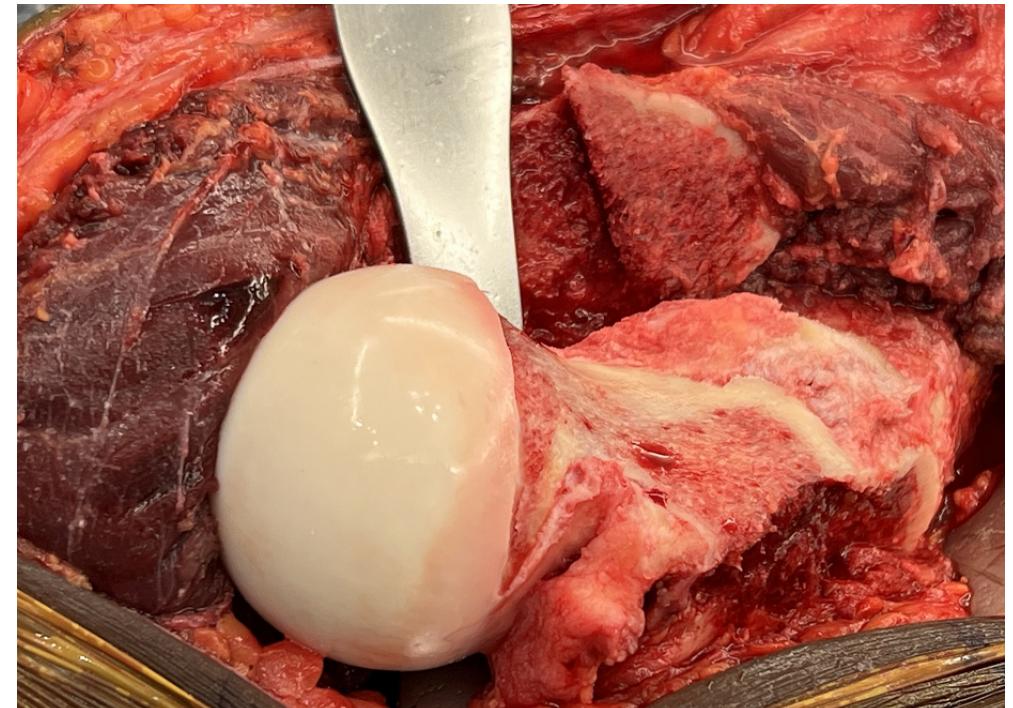
No hip arthroscopy when extraarticular component



Deficient femoral torsion: What to do?

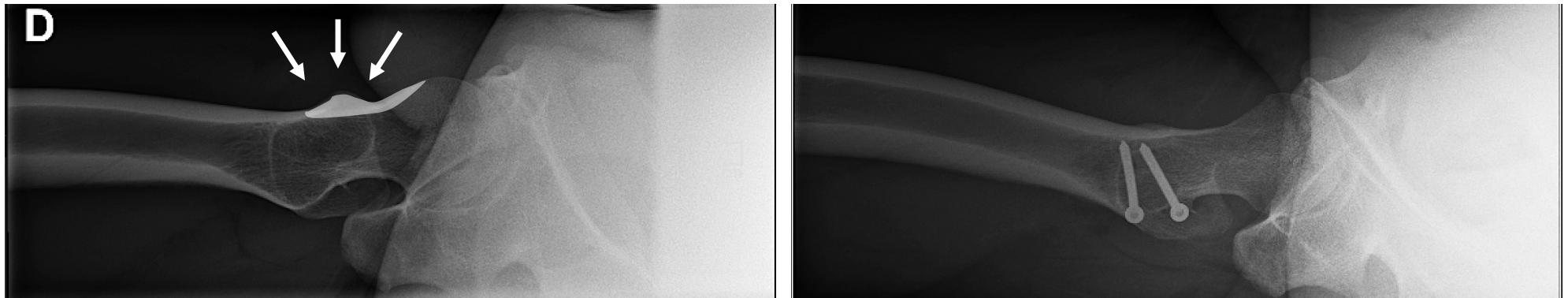


„Poor man's rotation“



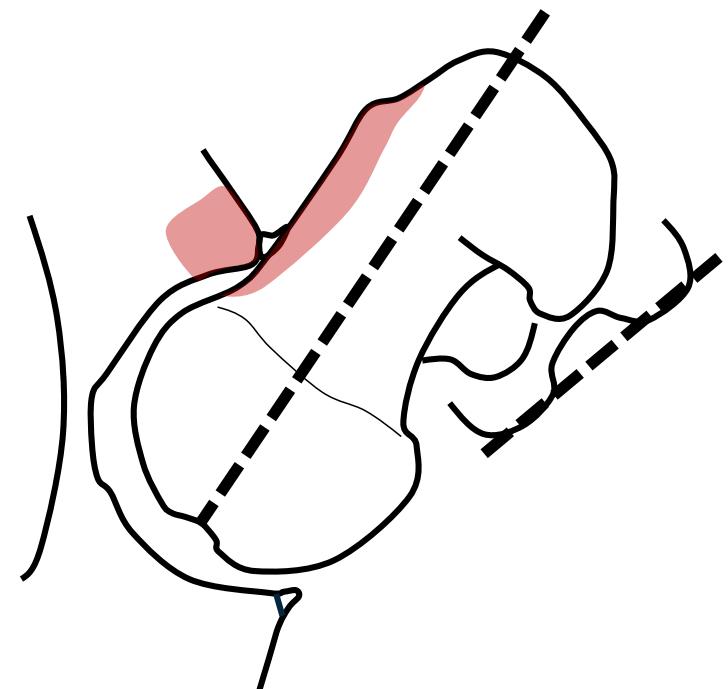
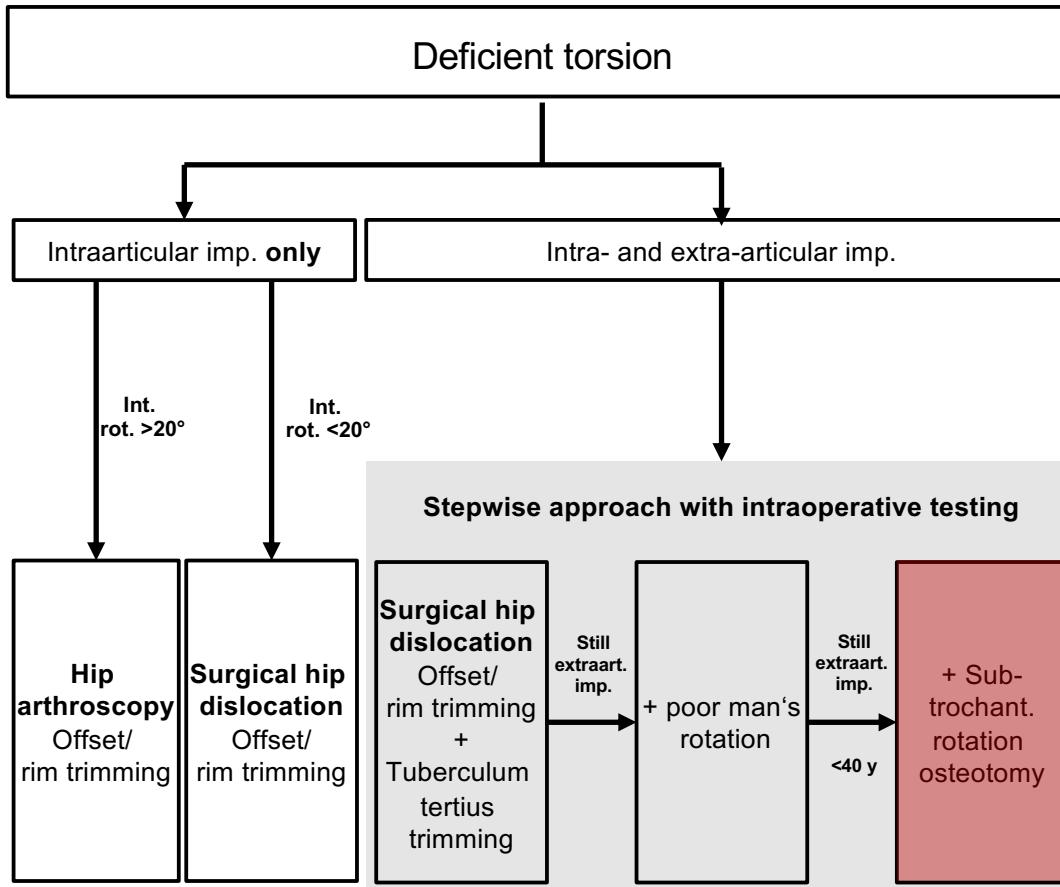
- Excessive offset correction of the femoral head with trimming of the tuberculum tertius

„Poor man's rotation“

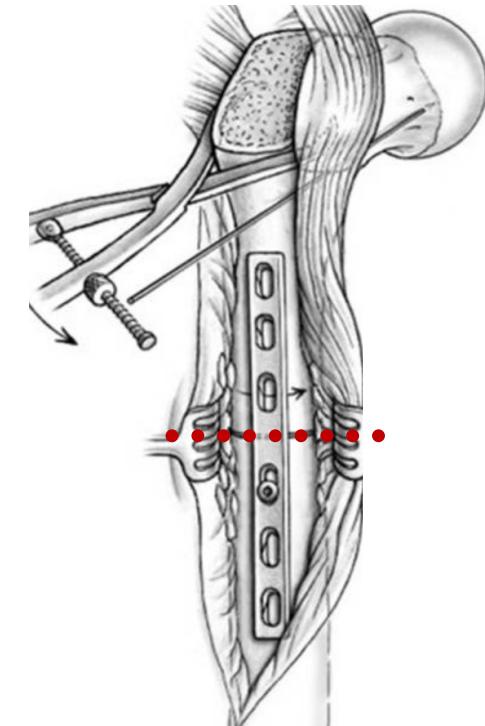
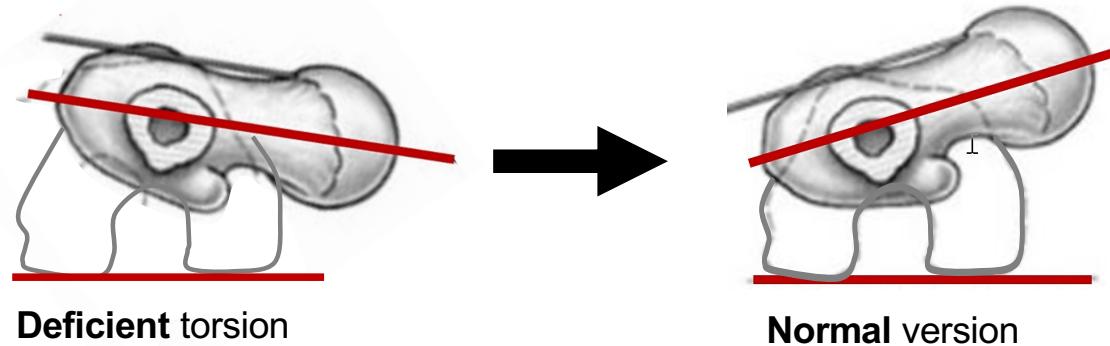


- Excessive offset correction of the femoral head with trimming of the tuberculum tertius

Deficient femoral torsion: What to do?



Subtrochanteric rotation osteotomy

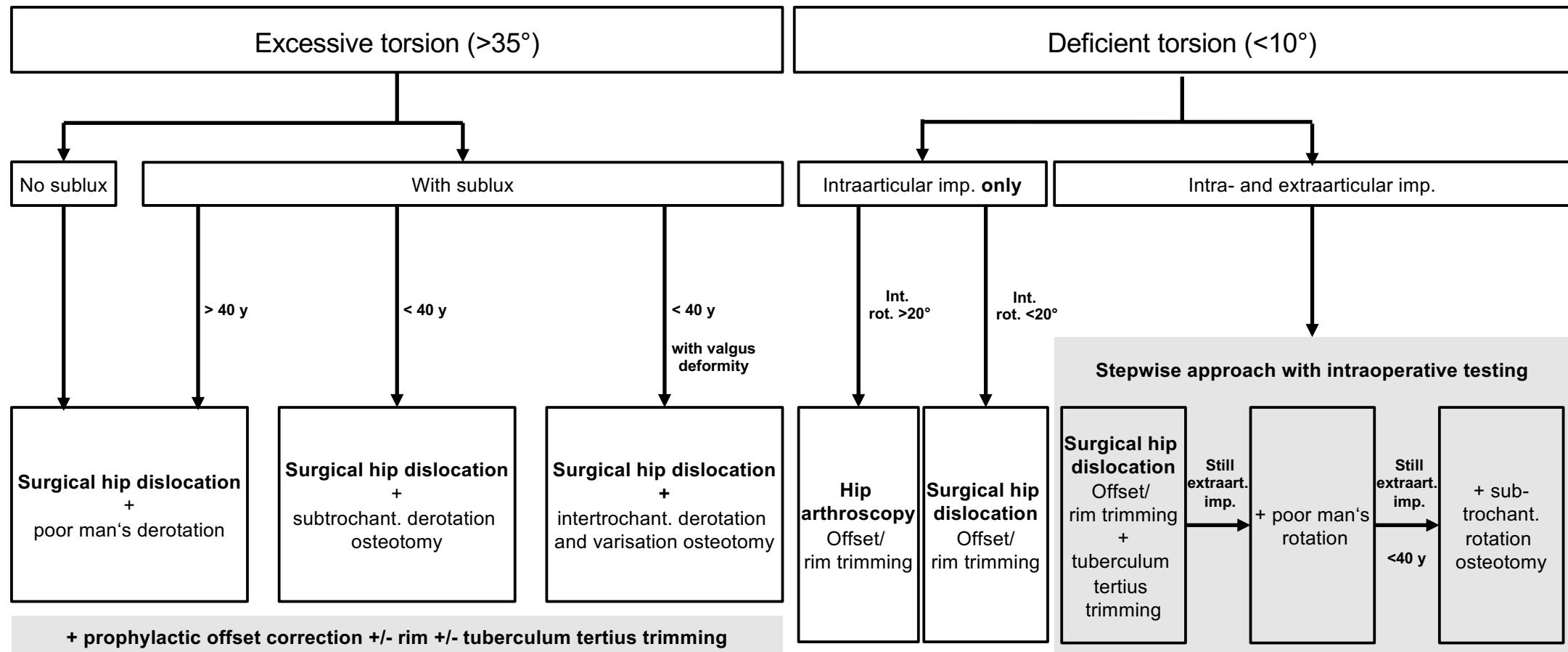


Kamath et al., J Hip Preserv Surg. 2015

Hip arthroscopy for treating deficient torsion rarely indicated

- Only addressing **intraarticular component** of the impingement
- Should **not** be performed in patients **with limited internal rotation** ($< 20^\circ$)
- Does **not allow a dynamic intraoperative visualization of the impingement**

Torsion deformities: Treatment algorithm



Take home message excessive torsion

- Always assess for joint subluxation
- **Poor man's derotation:** Trimming of the posterior greater trochanter with mini-retinacular flap
- Subtrochanteric and intertrochanteric osteotomies rather in **young patients** (<40 y)
- **Always prophylactic offset correction** to avoid an iatrogenic anterior impingement

Take home message deficient torsion

- Always assess for extraarticular **impingement**
- **Intraarticular diagnostic infiltration** helps in the detection of the impingement location
- **Positive Drehmann sign** suggests extraarticular impingement
- Choose a **stepwise approach with intraoperative testing**
- **Poor man's rotation:** Excessive offset correction of the femoral head with trimming of the tuberculum tertius
- Hip arthroscopy only in patients with $>20^\circ$ internal rotation and without an extraarticular impingement component.