

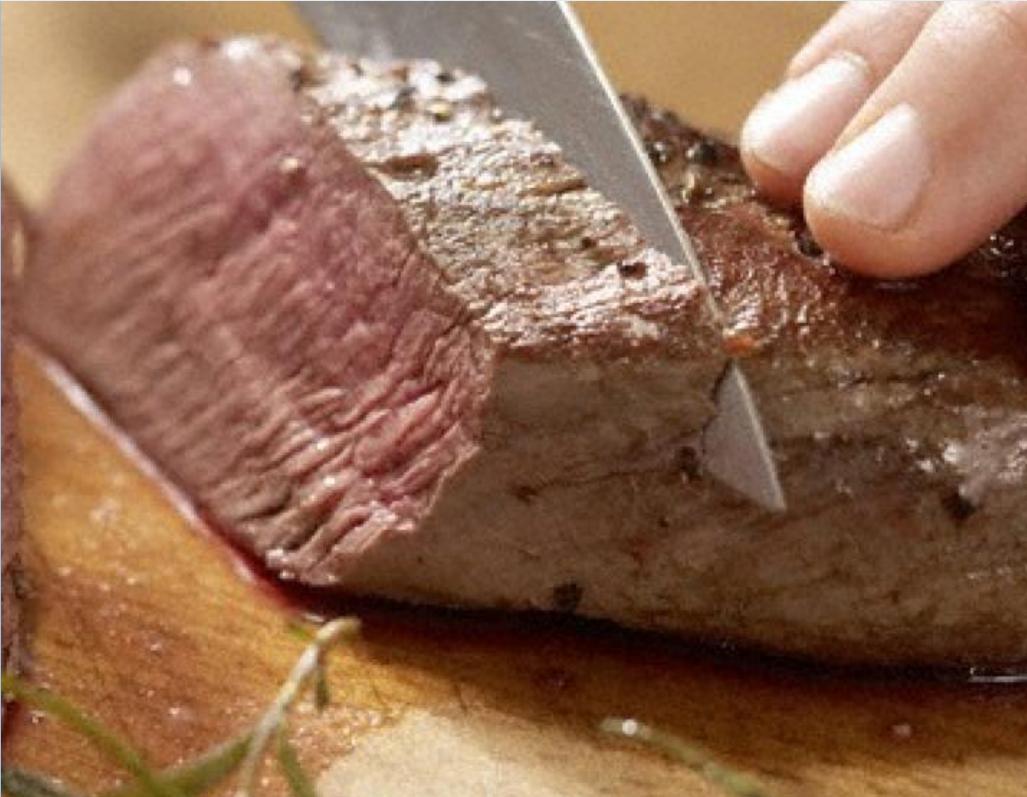
# Pre-Course Bern Hip Symposium 2023

## What to do: Pincer-Impingement

Klaus A. Siebenrock

Department of Orthopaedic Surgery and Traumatology,  
University of Bern, Inselspital, Bern, Switzerland

How much would you like?



# Strategy

- > Analysis of the **acetabulum**
- > Identification of the overcoverage
- > Plan for the correction

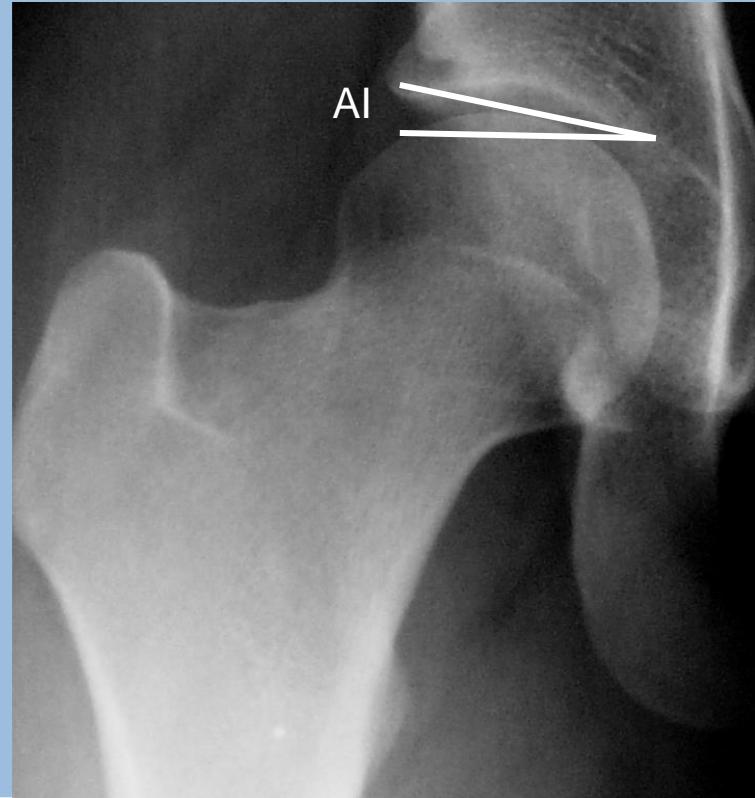
# Analysis

- > Orientation (version)
- > Coverage



# Orientation

- > Acetabular Index 0 - 13°



# Orientation

- > Acetabular Index 0 - 13°
- > Anteversion of the acetabulum
  - Lines meet cranially
  - Anterior wall (dotted) lies medially of the posterior wall (solid)



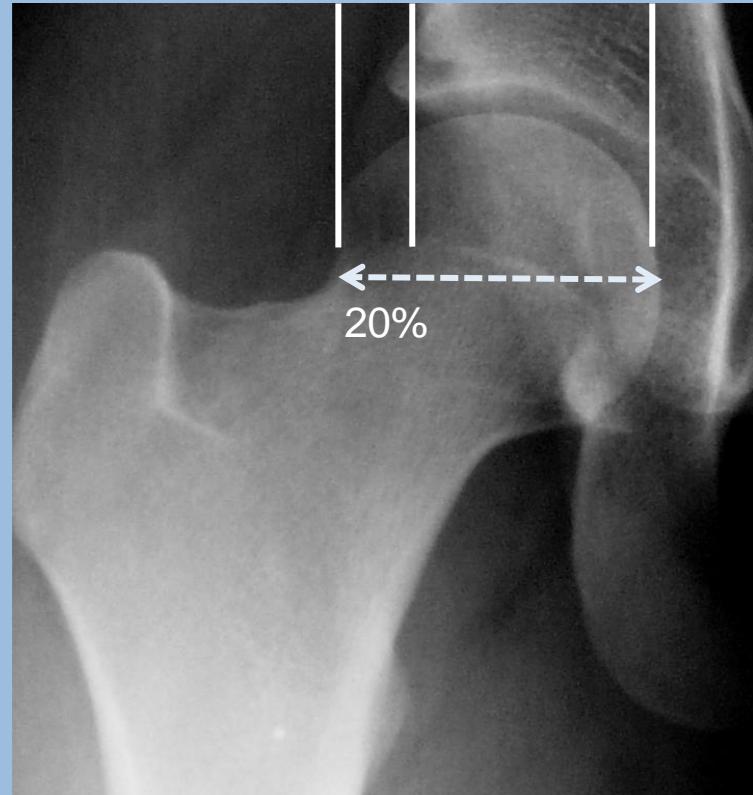
# Coverage

- > LCE Angle **25 – 30°**

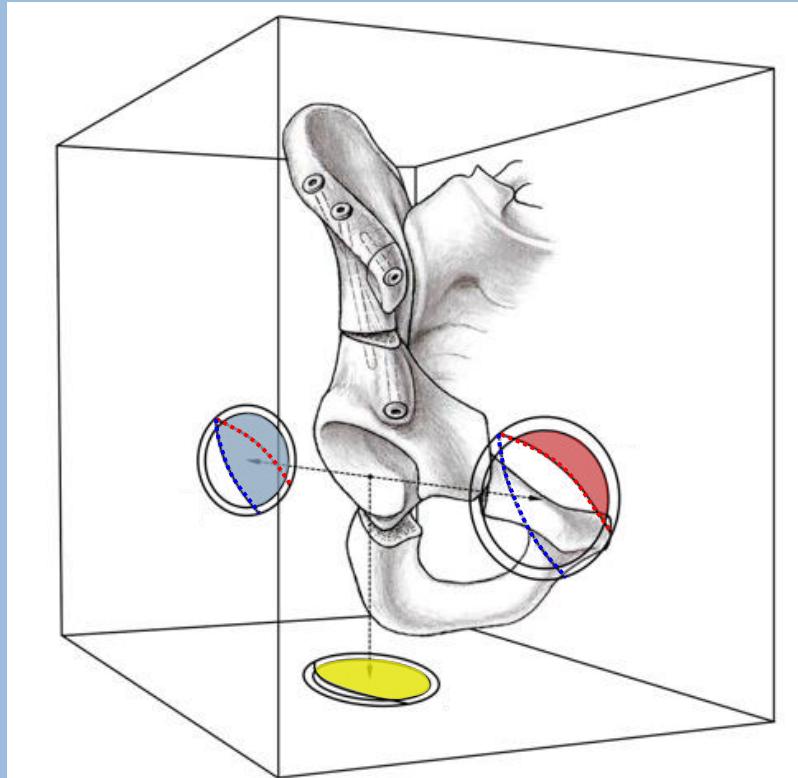


## Coverage

- > LCE Angle **25 – 30°**
- > Extrusion Index 15 - 25%



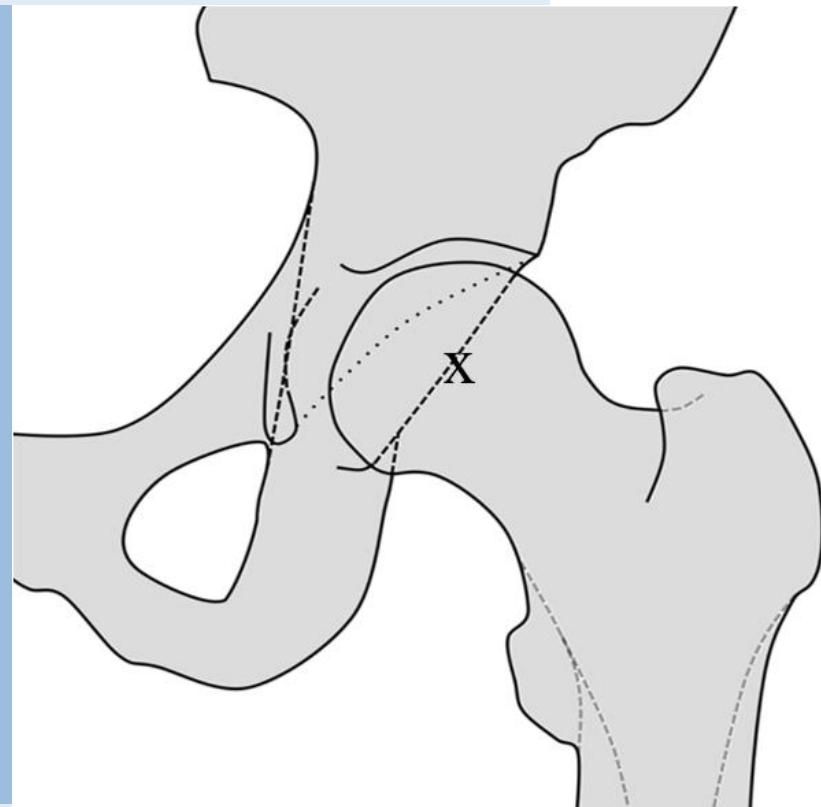
# Quantification



$u^b$

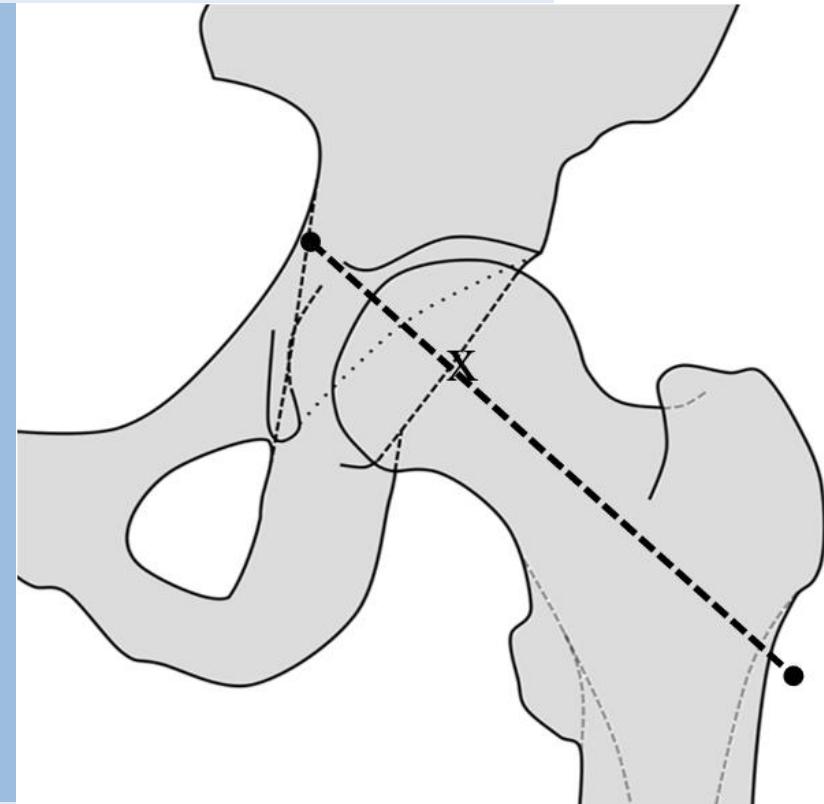
b  
UNIVERSITÄT  
BERN

## Acetabular wall index



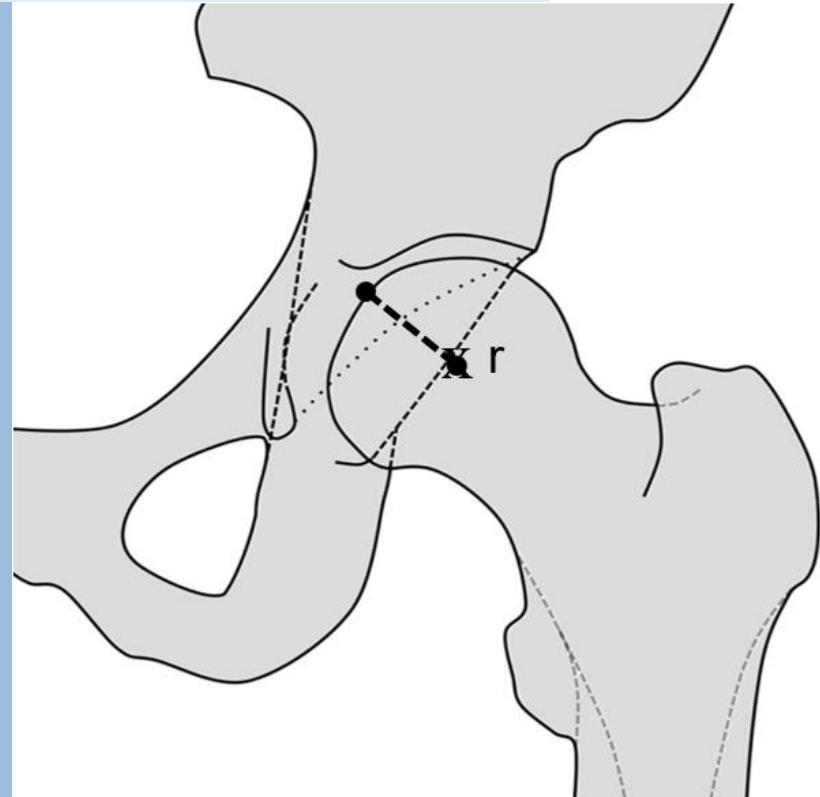
# Acetabular wall index

- > Femoral neck axis



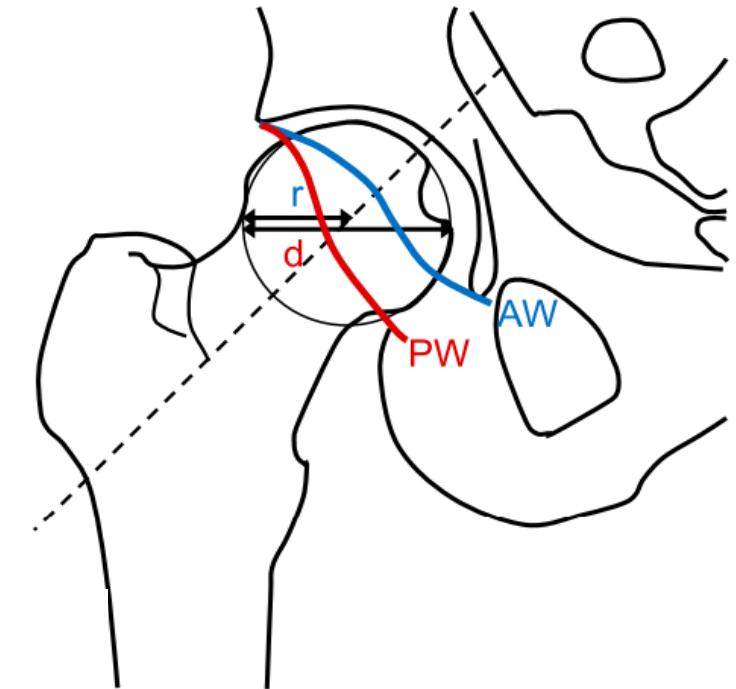
# Acetabular wall index

- > Head radius



# Acetabular wall index

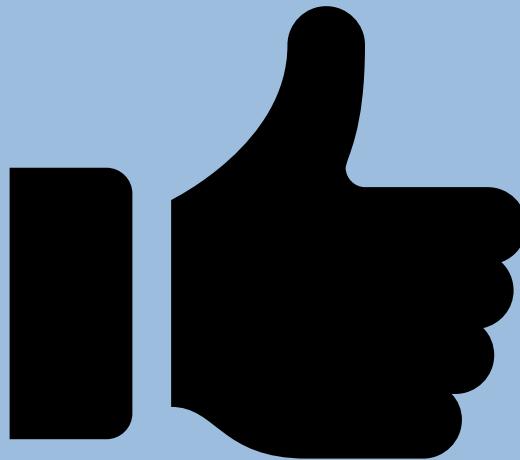
- > Head radius



## Rule of thumb

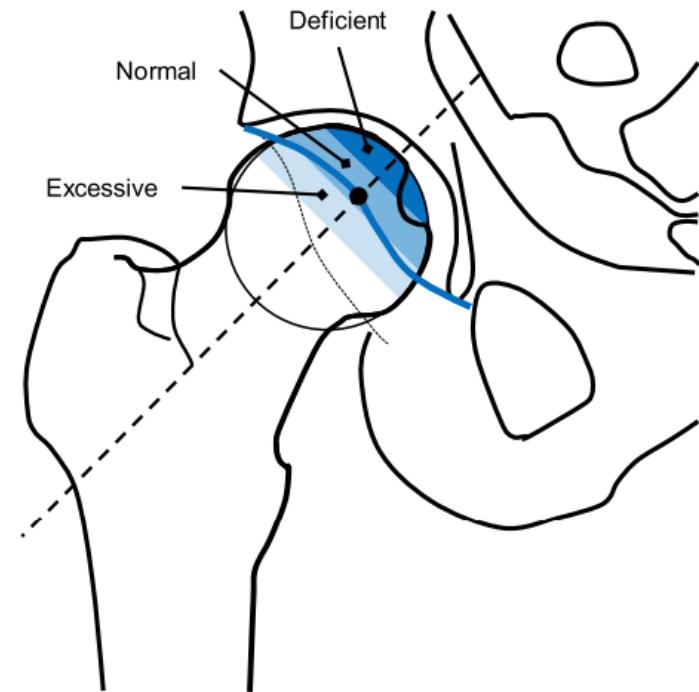
> Quantification of the coverage

- Anterior wall
- Posterior wall



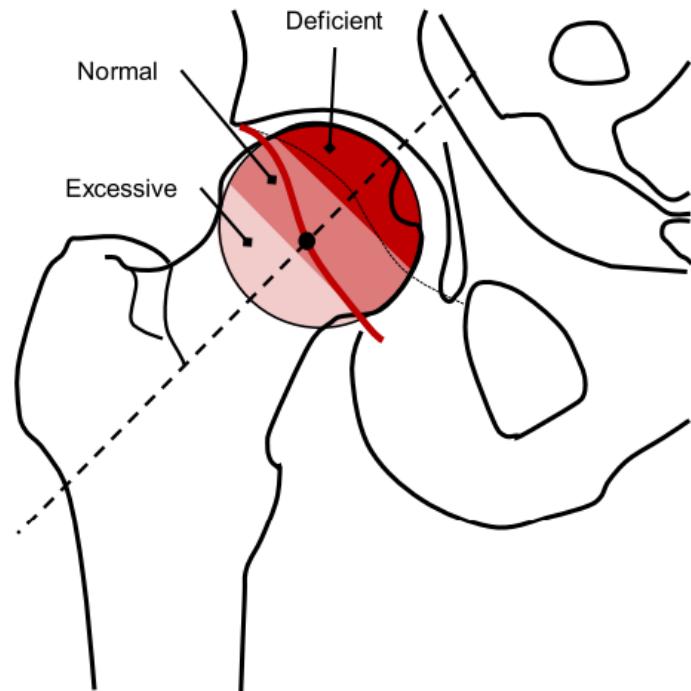
# Acetabular wall index

- > Anterior wall:
  - middle third of the radius



# Acetabular wall index

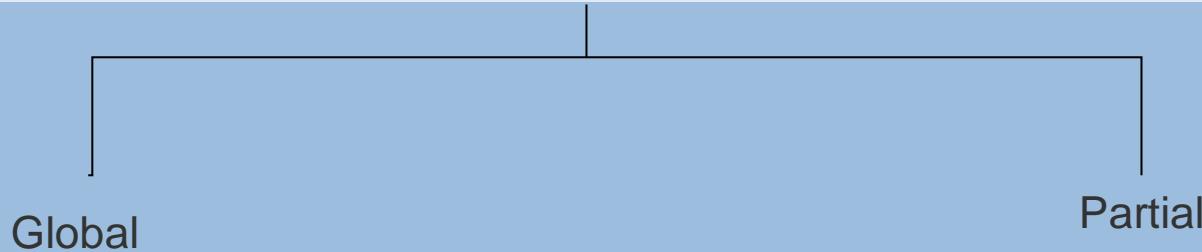
- > Posterior wall:
  - direct medial centre



# Strategy

- > Analysis of the acetabulum
- > Identification of the over-coverage
- > Plan for the correction

# Acetabular over-coverage



# Acetabular over-coverage



# Protrusio

Version



# Protrusio

Version



LCE



# Protrusio

Version



LCE



Extrusion



# Protrusio

Version



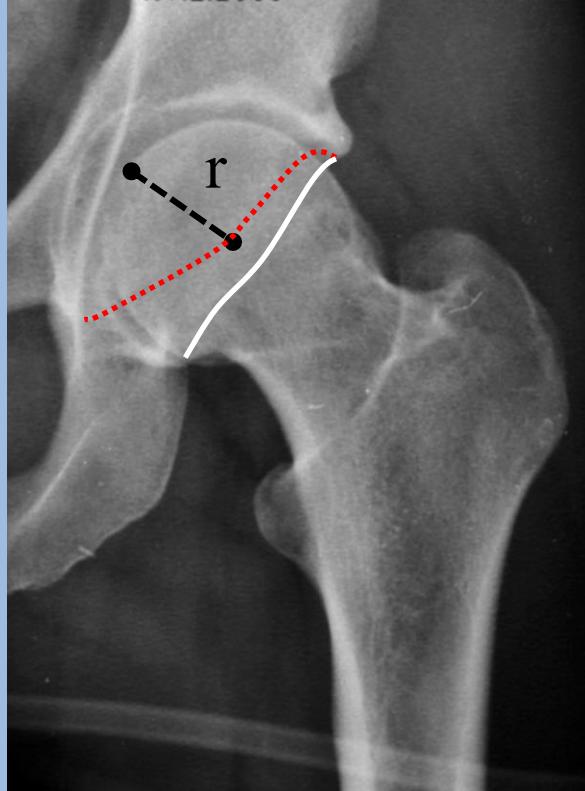
LCE



Extrusion



AW



# Protrusio

Version



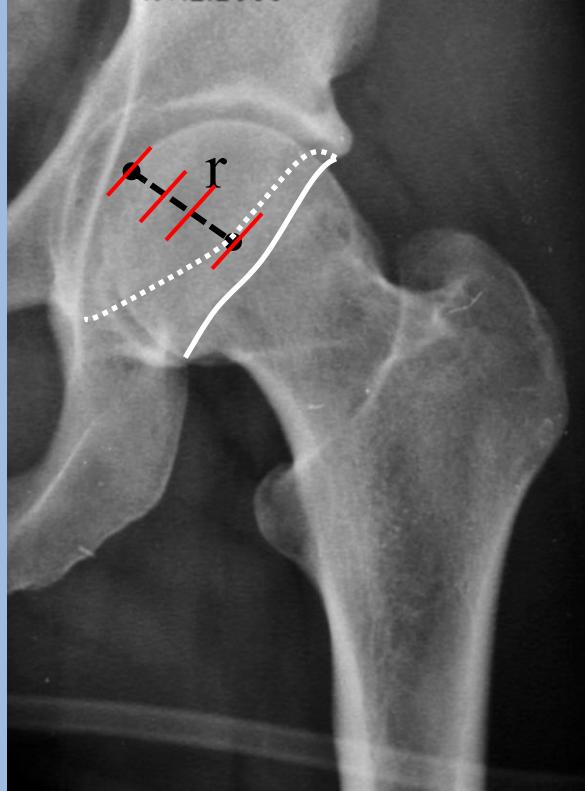
LCE



Extrusion



AW



# Protrusio

Version



LCE



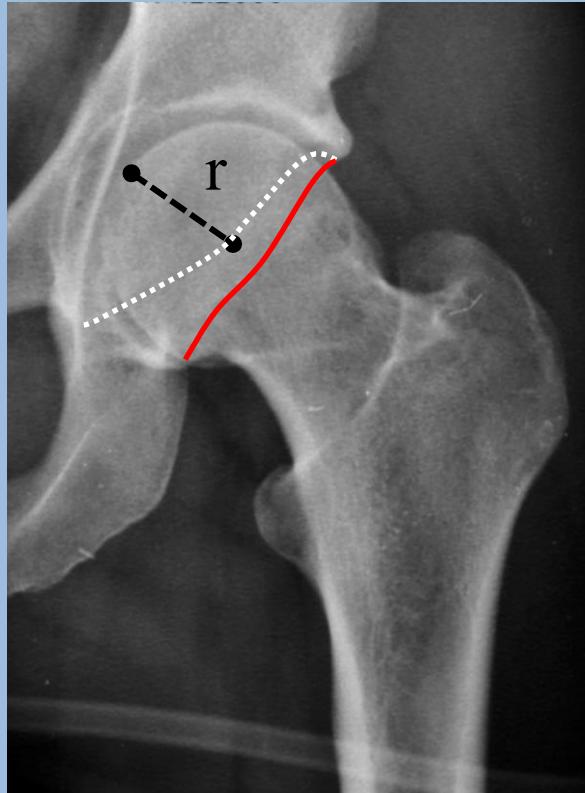
Extrusion



AW



PW



# Protrusio

Version



LCE



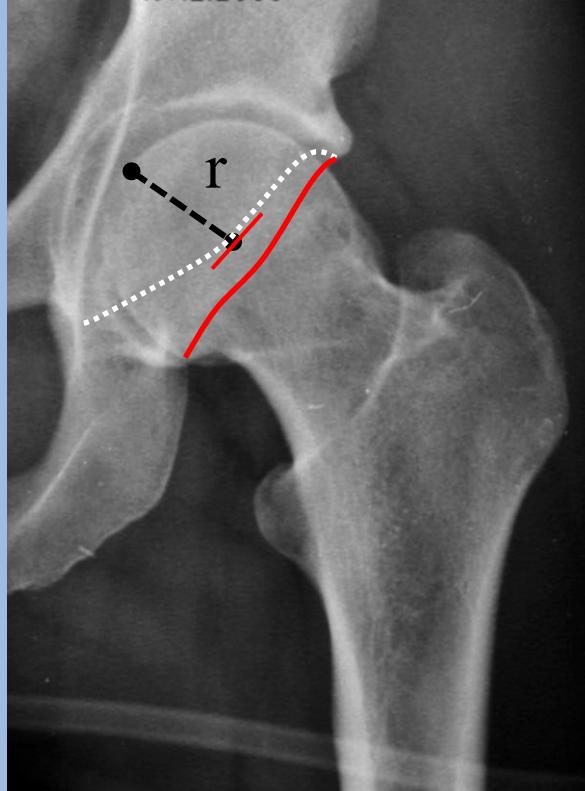
Extrusion



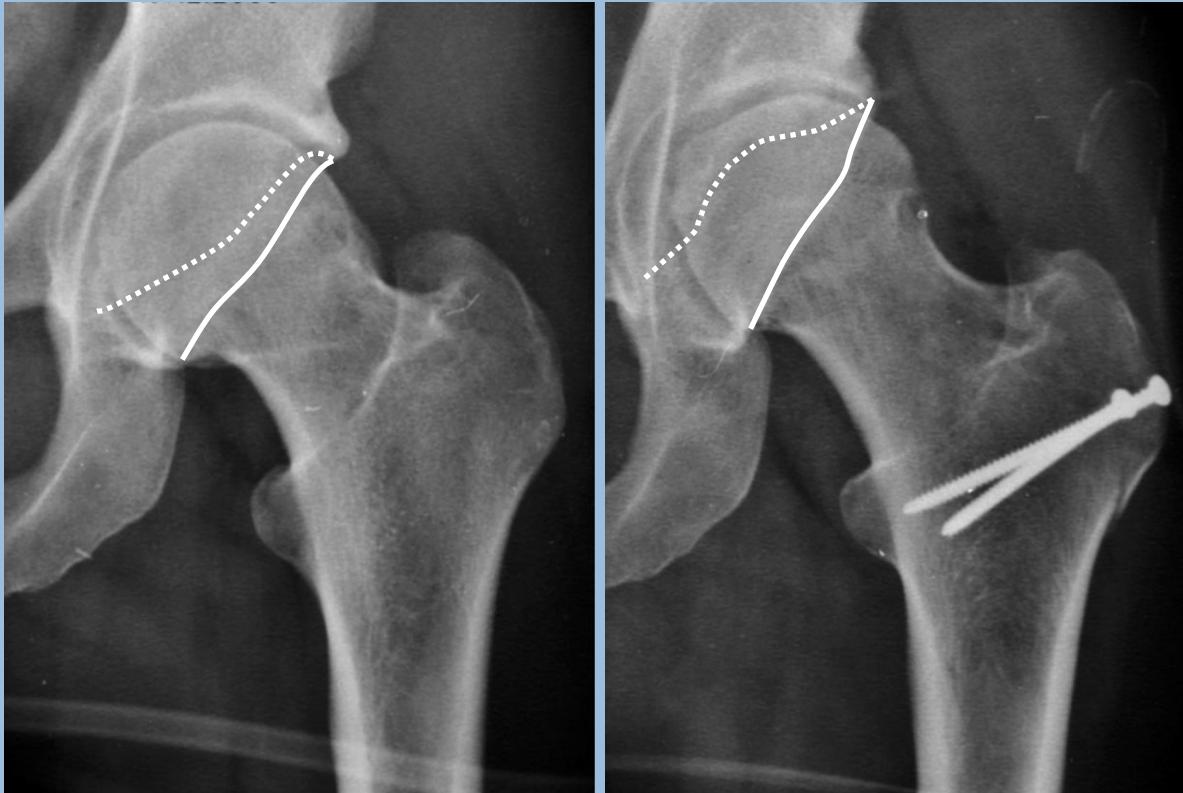
AW



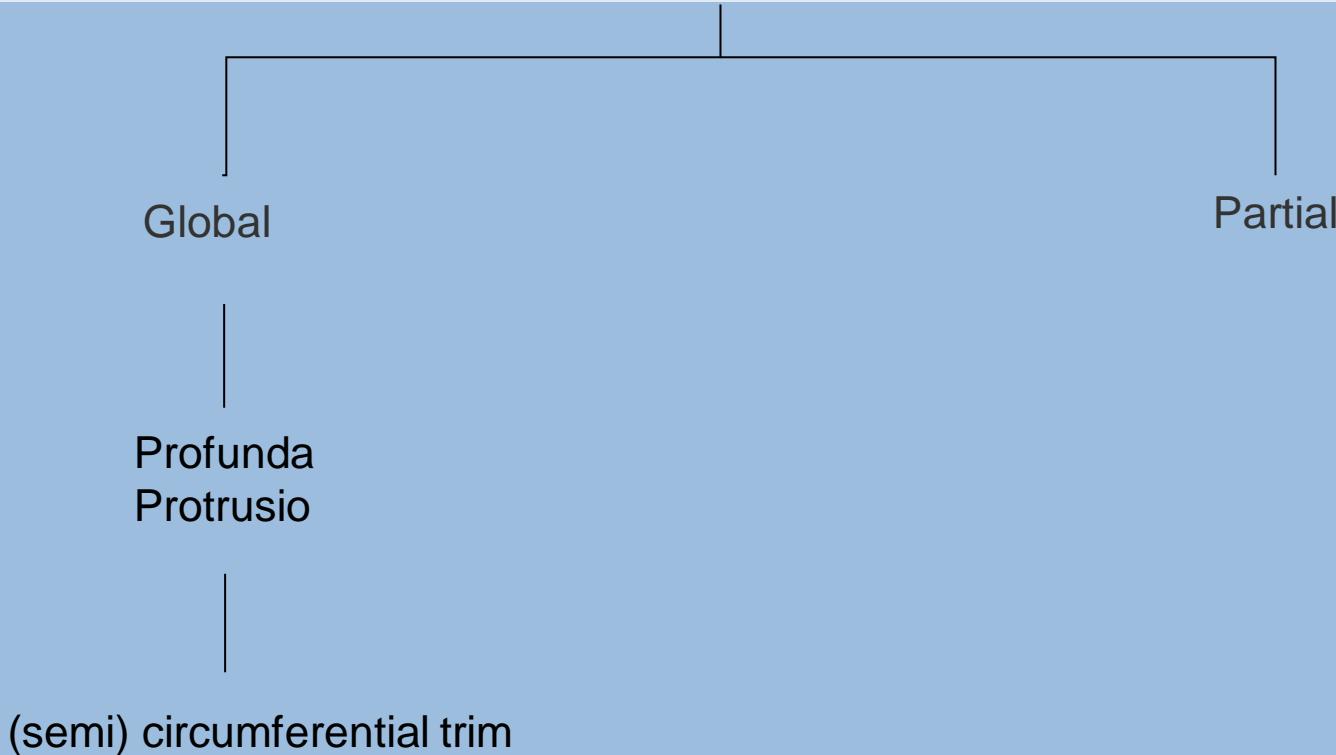
PW



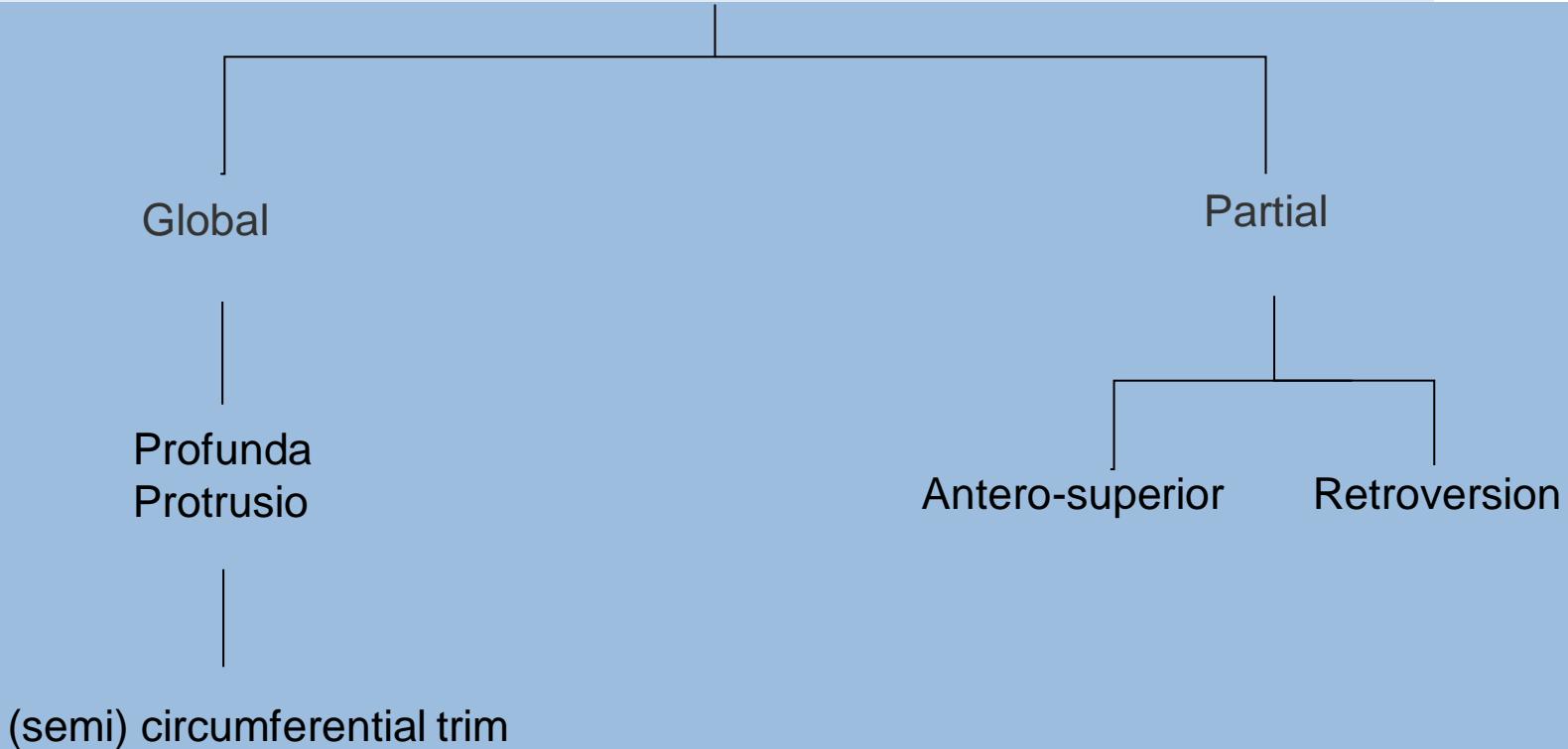
# Circumferential trimming



# Acetabular over-coverage



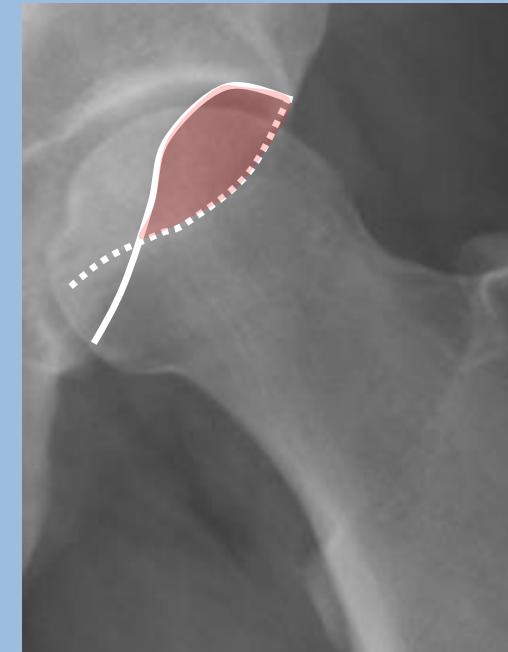
# Acetabular over-coverage



## Partial over-coverage



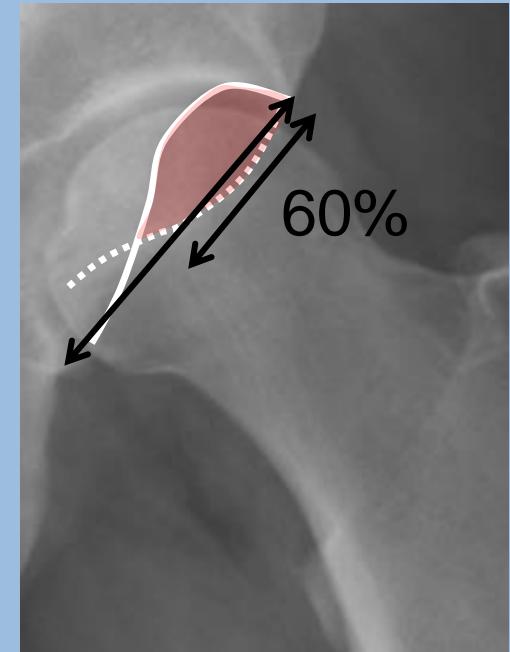
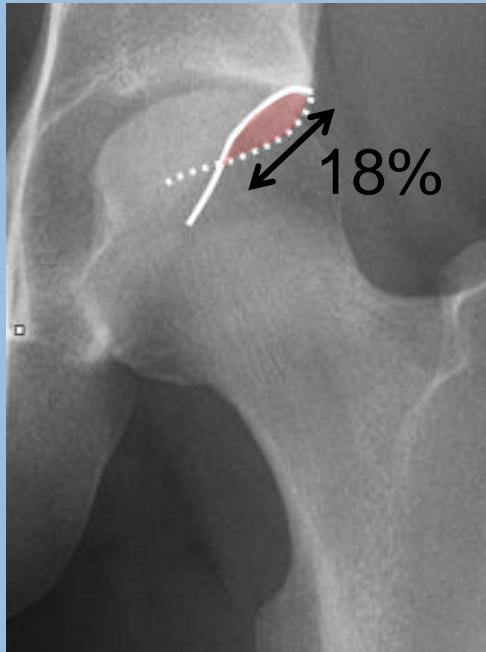
antero-superior



Retroversion

## Stigmata “severe” retroversion

Retroversion  
Index > 33°



# Stigma "severe" retroversion

Retroversion

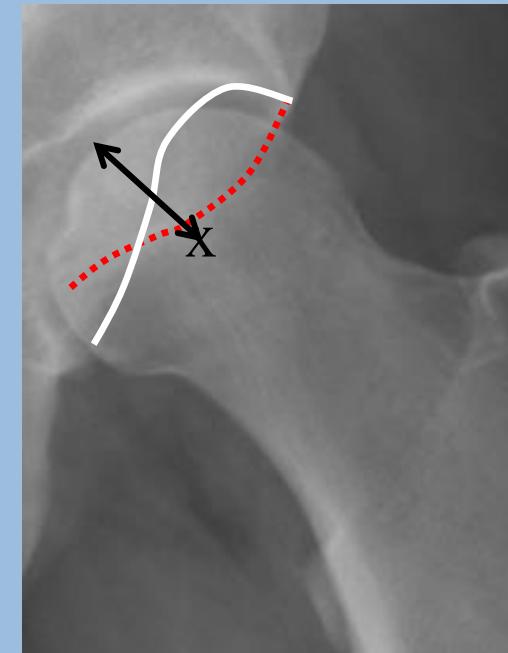
Index > 33°



Anterior wall too big



antero-superior



Retroversion

## Stigma "severe" retroversion

Retroversion

Index > 33°

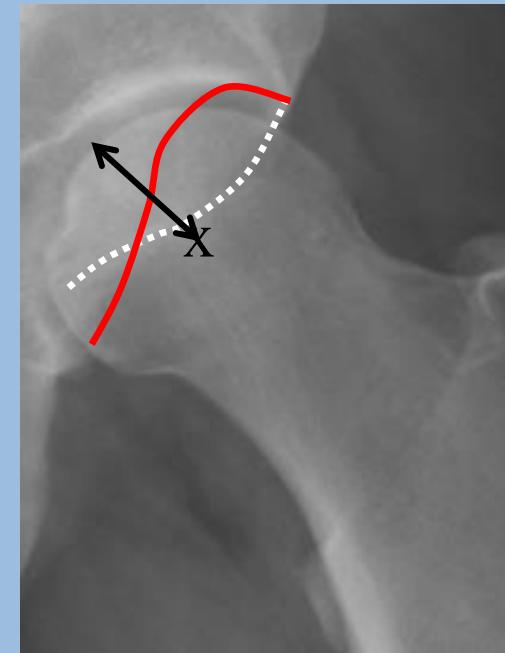


Anterior wall too big

Posterior wall deficient

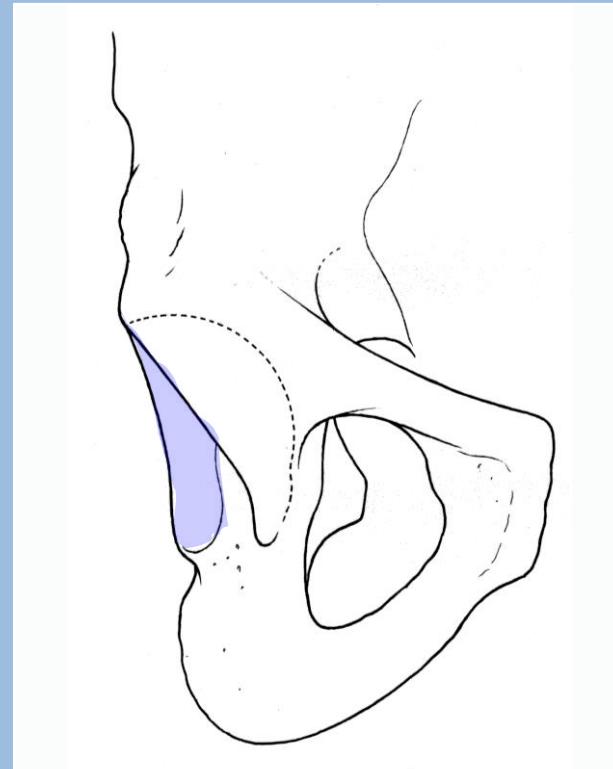
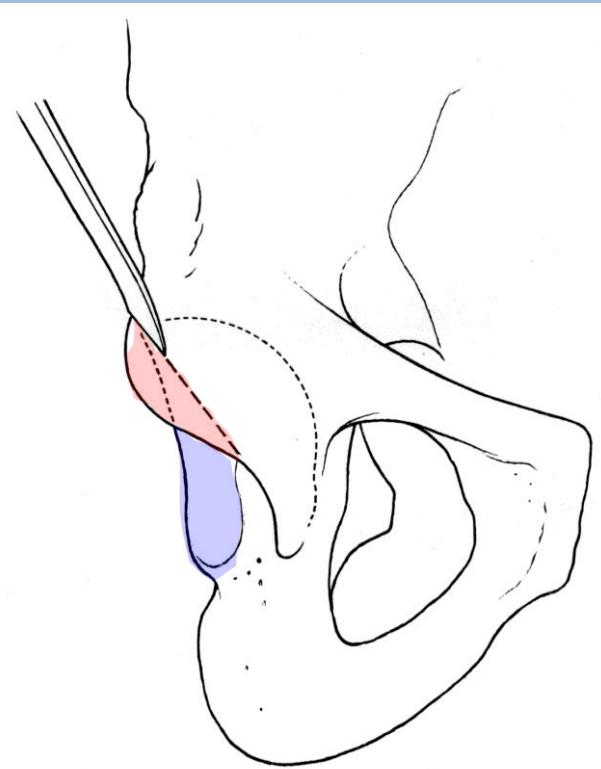


antero-superior



Retroversion

# Trimming of the acetabular rim

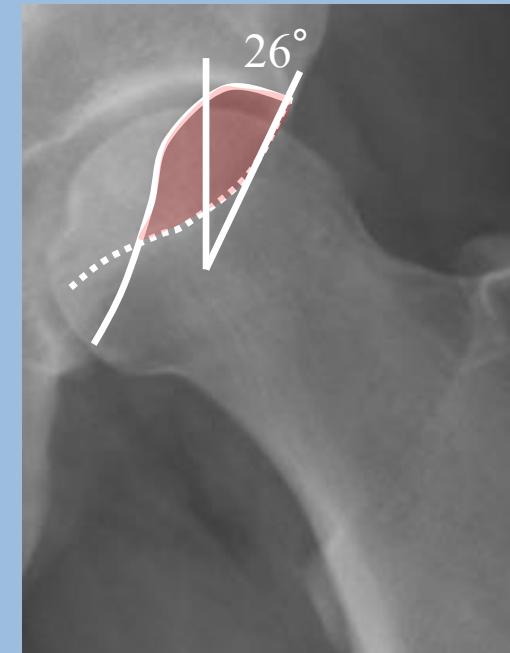


## Partial over-coverage

LCE Angle



antero-superior



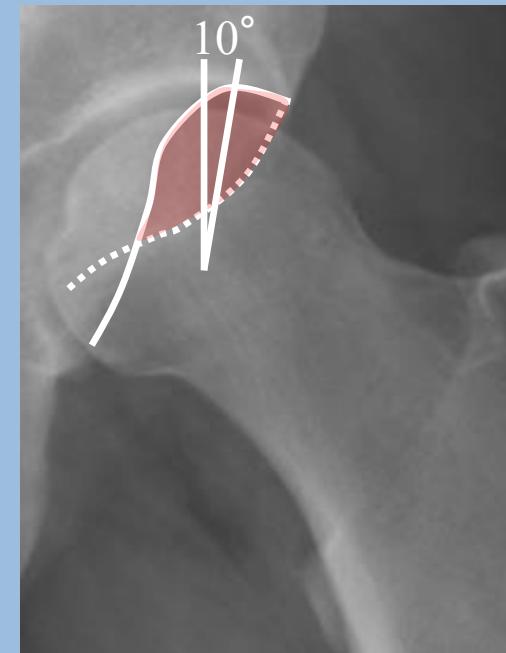
Retroversion

## Partial over-coverage

LCE Angle



antero-superior

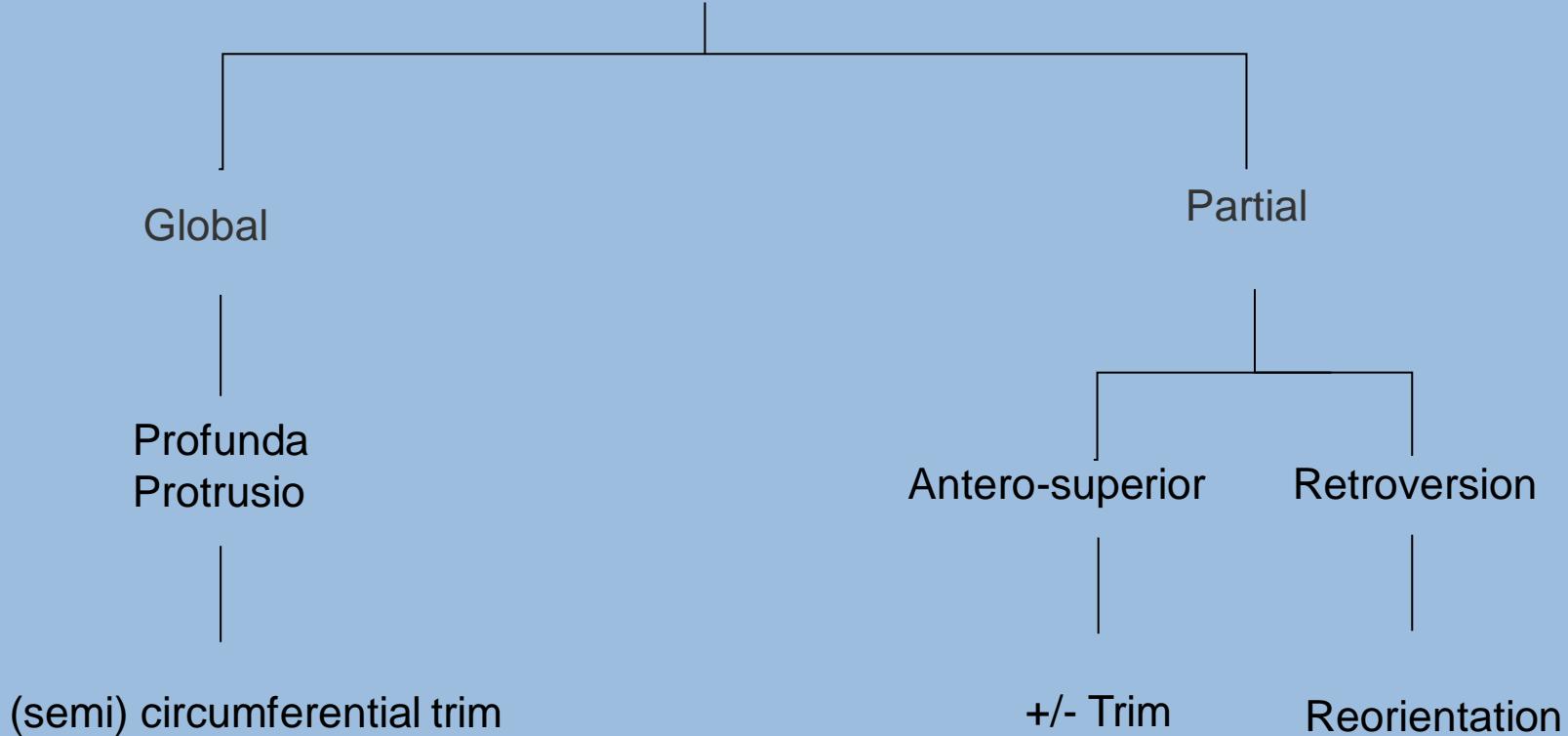


Retroversion

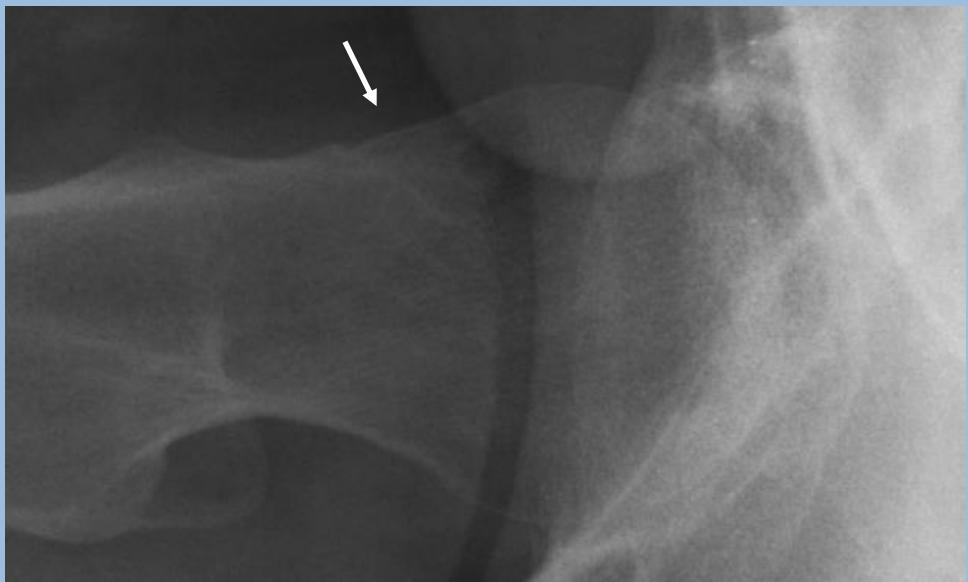
# Strategy

- > Analysis of the acetabulum
- > Identification of the overcoverage
- > Plan for the correction

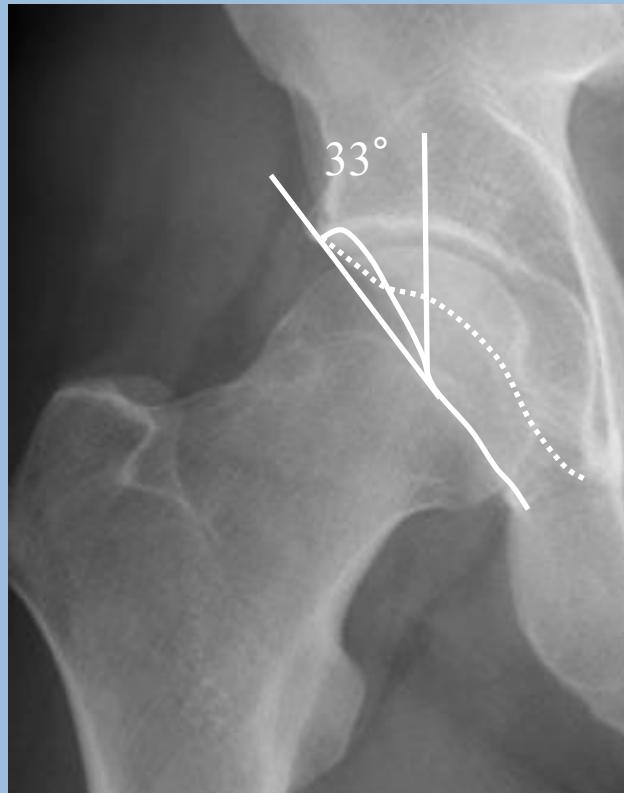
# Acetabular over-coverage



## Combined FAI - 32 year old man



## Combined FAI - 32 year old man



# Guideline for resections

Correction:

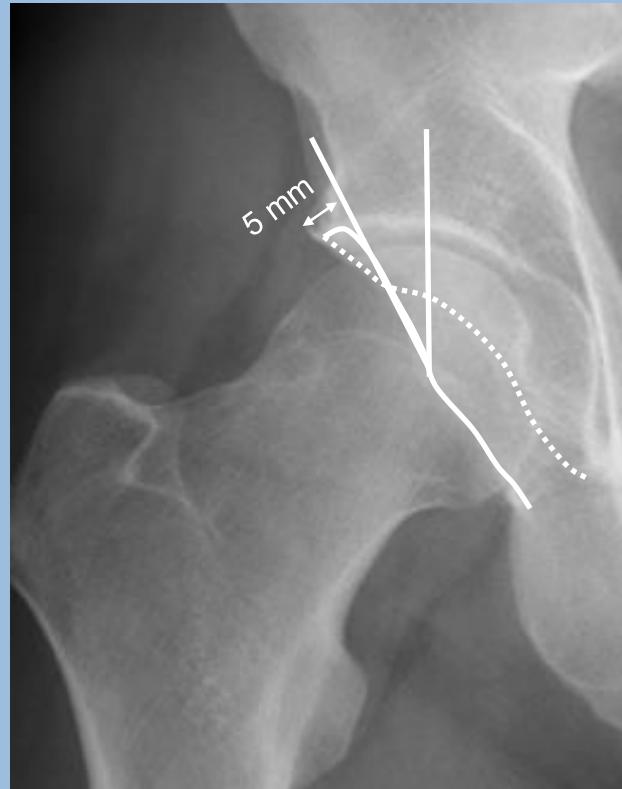
On LCE Angle 28

5 mm = 5°

(first mm = 2.4° )



average = 3.4 mm

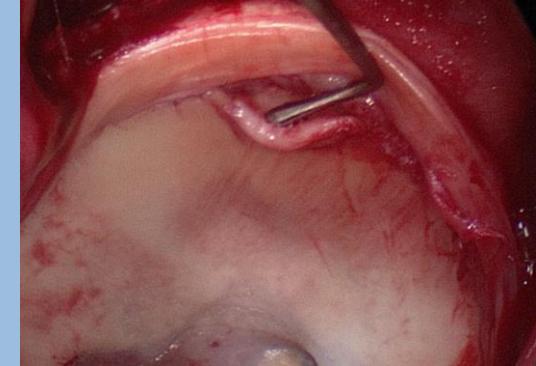


# Order

- > Offset improvement first!

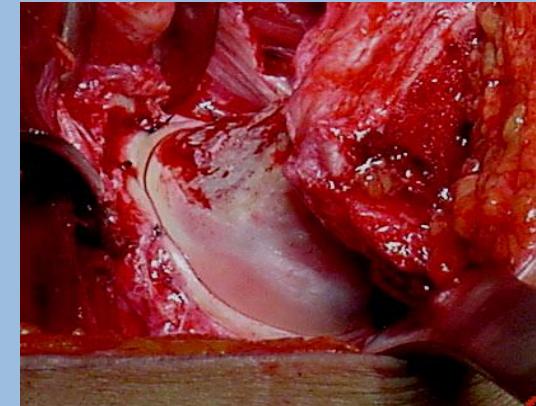
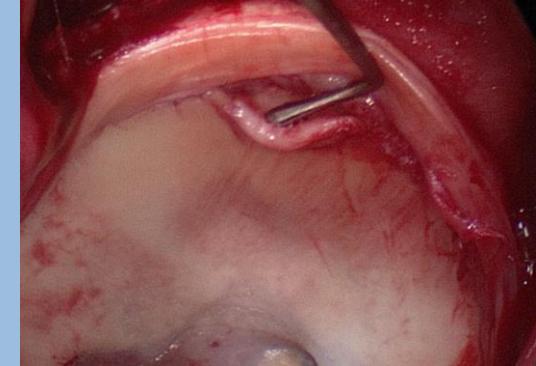
## Order

- > Offset improvement first!
- > Resection of the acetabular rim depending on acetabular cartilage

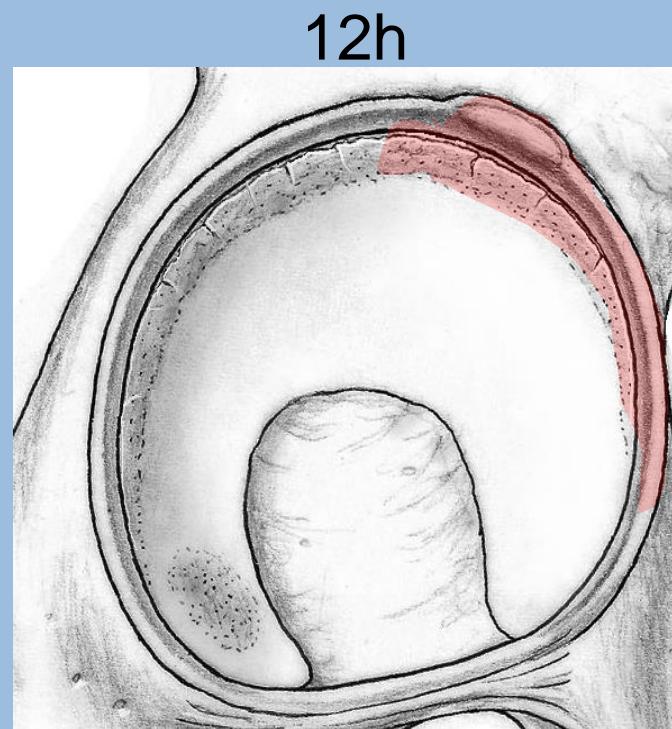
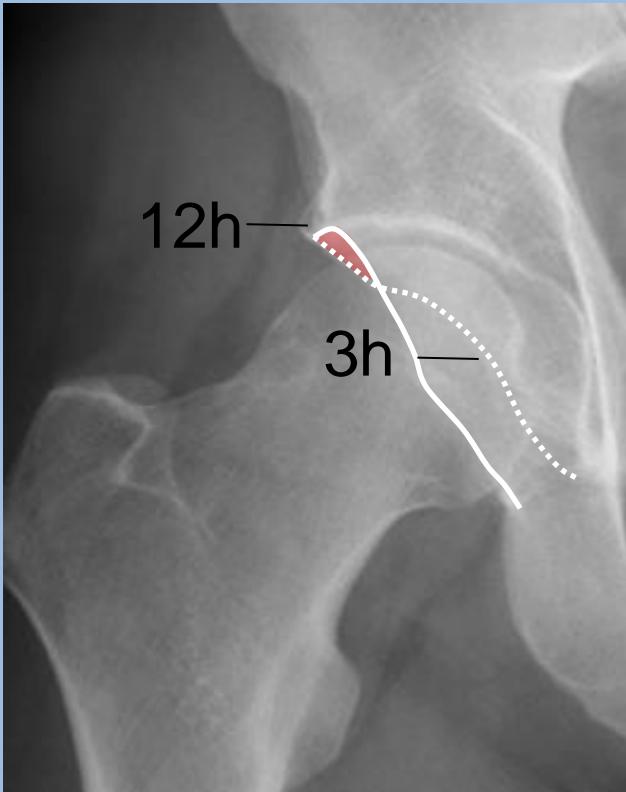


## Order

- > Offset improvement first!
- > Resection of the acetabular rim depending on acetabular cartilage
- > No edge trim if IR >30°
- > often no edge trim necessary!

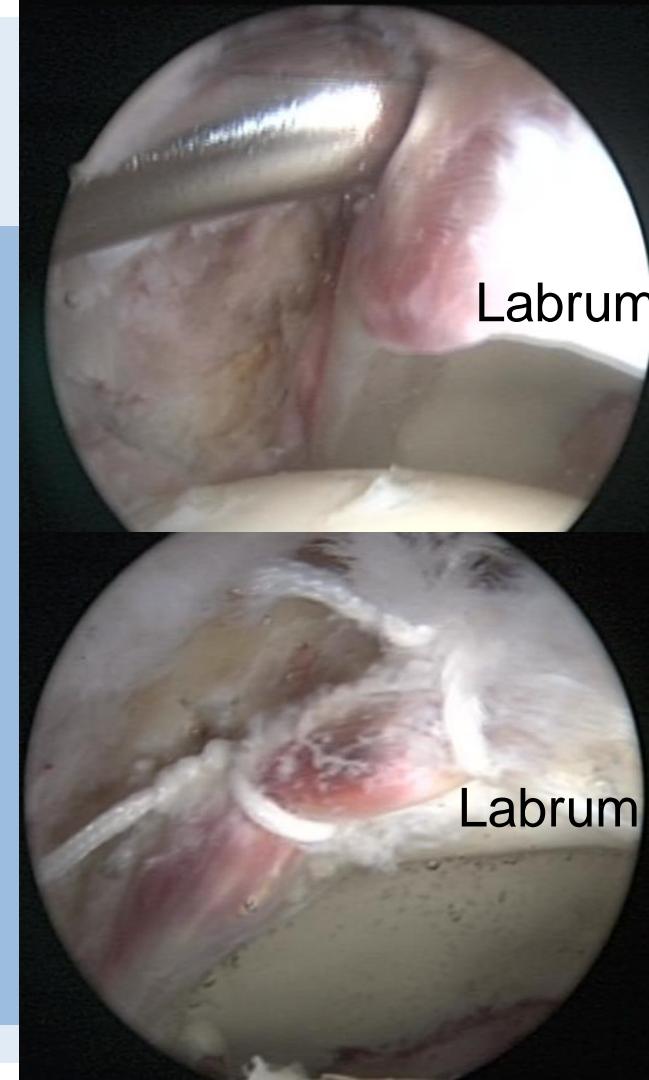


## Acetabular rim resection between 12 - 2h



3h

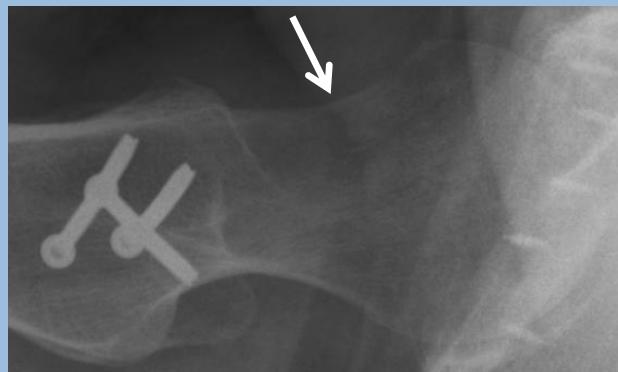
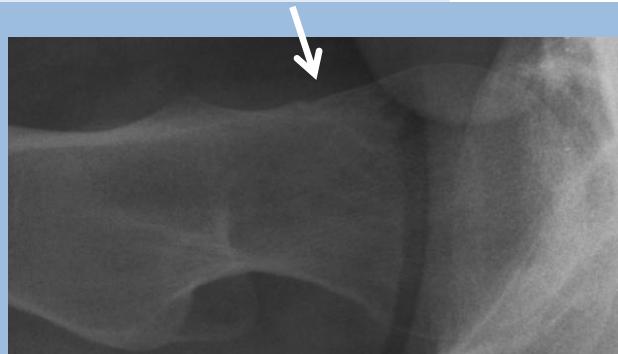
## Arthroscopy or open



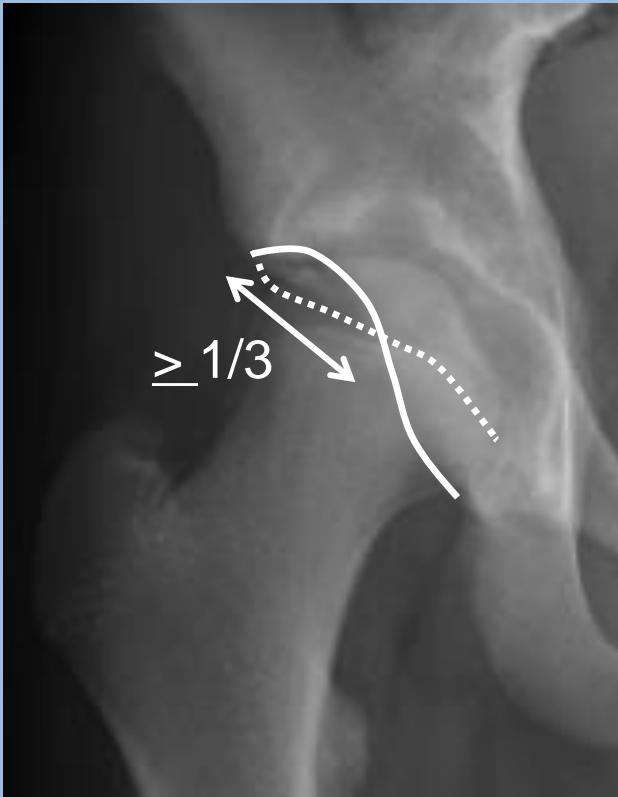
Labrum

Labrum

## Combined offset improvement/edge trim



## Acetabular retroversion - 22 year old



# Acetabular retroversion



# Anteverting periacetabular osteotomy



# Treatment of the over-coverage

## > Remodelling

- antero-superior *open, HAS*
  - *in case of substantial cartilage damage*
  - *despite sufficient offset IR < 30°*
  
- Circumferential *open*

# Treatment of the over-coverage

## > Remodelling

- antero-superior *open, HAS*
  - *in case of substantial cartilage damage*
  - *despite sufficient offset IR < 30°*
  
- Circumferential *open*

## > Reorientation

- Substantial acetabular retroversion *open*



# 15TH CONGRESS OF THE EUROPEAN HIP SOCIETY

12-13 OCT. 2023



BERN, SWITZERLAND

EUROPEAN HIP SOCIETY



**Congress President:**

Professor Klaus Siebenrock, M.D.  
Bern, Switzerland

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