

# Kraakbeenletsels van de enkel.

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ORTHOPAEDIC  
SURGERY AND  
TRAUMATOLOGY

# Introduction

## ▶ Definition

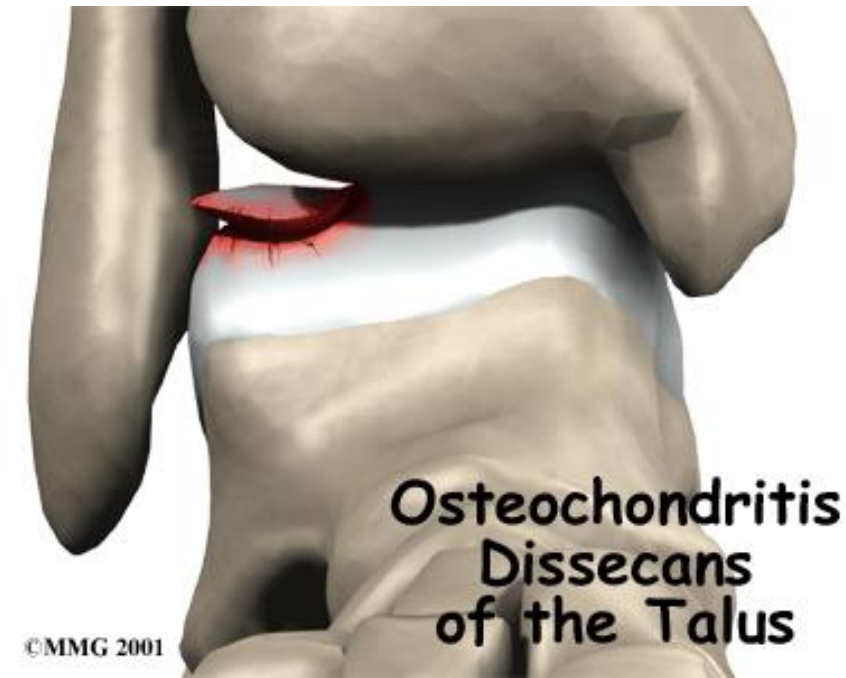
- ▶ OCD: any defect both involving the articular and subchondral bone of the talus or tibia.

## ▶ Epidemiology

- ▶ No good data
- ▶ 1,5 greater risk Females
- ▶ 4.2/100.000 (0-19 Y)
  - ▶ 12-19 Y (6.8/100.000)
- ▶ Consensus: 20-40 Y most common age group (no studies!!)

## ▶ Pathophysiology

- ▶ Genetic predisposition
- ▶ Joint malalignment
- ▶ AVN
- ▶ Endocrine/metabolic abnormalities
- ▶ Peripheral vascular disease
- ▶ TRAUMA



# Diagnosis

- ▶ Anamnesis
  - ▶ Frequent sportsmen
    - ▶ Soccer > football > basketball
  - ▶ Ankle injury last year
    - ▶ 75%
  - ▶ Non-specific (deep) ankle pain
    - ▶ May or may not correspond to the location
  - ▶ Swelling
  - ▶ Instability sensation
  - ▶ Clicking and/or locking (not often)



- ▶ Clinical examination

- ▶ Often subtle changes
- ▶ Different walking pattern
- ▶ ROM
- ▶ Stability testing
- ▶ Palpation joint space
  - ▶ Foot in plantar flexion

- ▶ X-rays

- ▶ Acute setting: O
- ▶ **!! Weight Bearing**
- ▶ Face/Lateral an

!!!→ 50% of OCD



- ▶ CT

- ▶ Evaluation of bone

- ▶ MRI

- ▶ Chronic lesions

- ▶ Early stage lesions

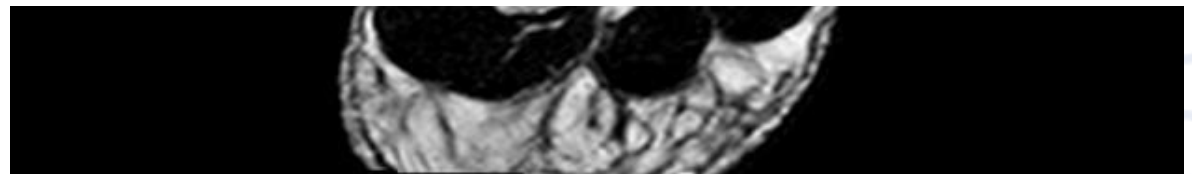
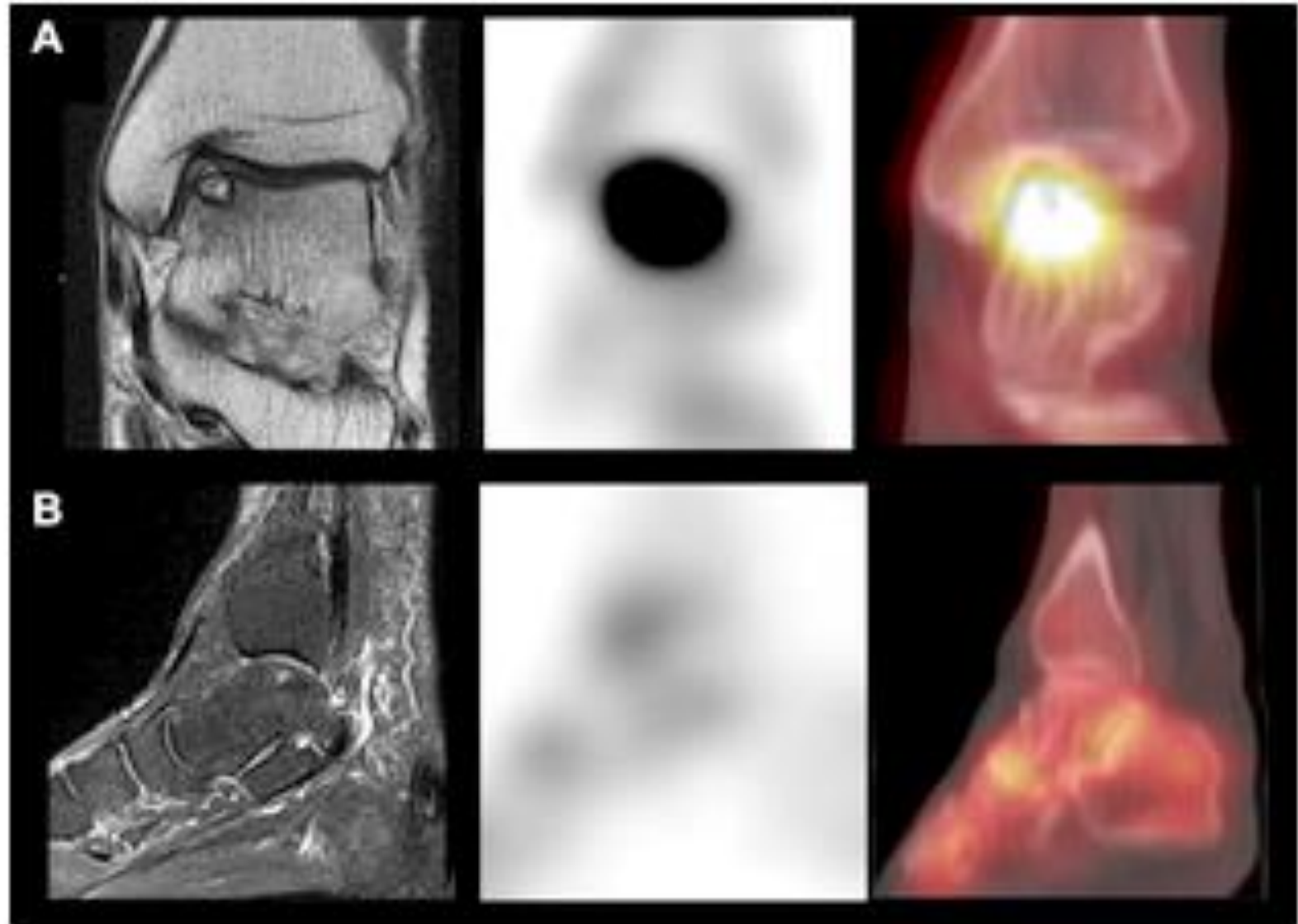
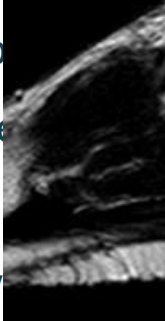
- ▶ Bone bruises

- ▶ Correlates with

- ▶ SPECT-CT

- ▶ Asymptomatic lesions

- ▶ Multiple lesions on MRI





## ▶ Classification

### ▶ Lateral talar dome

- ▶ 98% due to trauma
- ▶ Shallower but higher grade (higher risk displacement)
- ▶ More anterior

### ▶ Medial talar dome (4x more often)

- ▶ Less traumatic origin (70 % after trauma)
- ▶ Lager and deeper
- ▶ More posterior



# Treatment

- ▶ Conservative
  - ▶ 4-6 weeks PWB cast
  - ▶ Pediatric > adult outcomes
  - ▶ 40-50% succesfull
    - ▶ Non displaced
    - ▶ Infiltration ankle (chronic):
      - ▶ Depo-Medrol
      - ▶ Hyaluronic acid
- ▶ Operative
  - ▶ Chronic painfull OCD
  - ▶ Acute displaced OCD

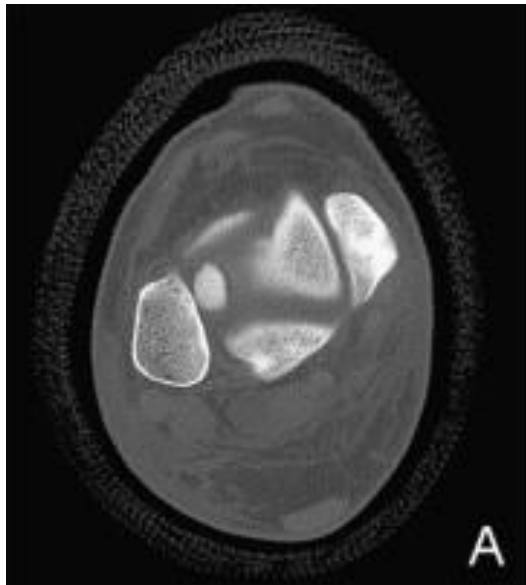






▶ ORIF

- ▶ Completely detached subchondral lesion
- ▶ Size  $> 1.5 \text{ cm}^2$  (?)
- ▶ With/without osteotomy
- ▶ Mini-screws or bioabsorbable pins





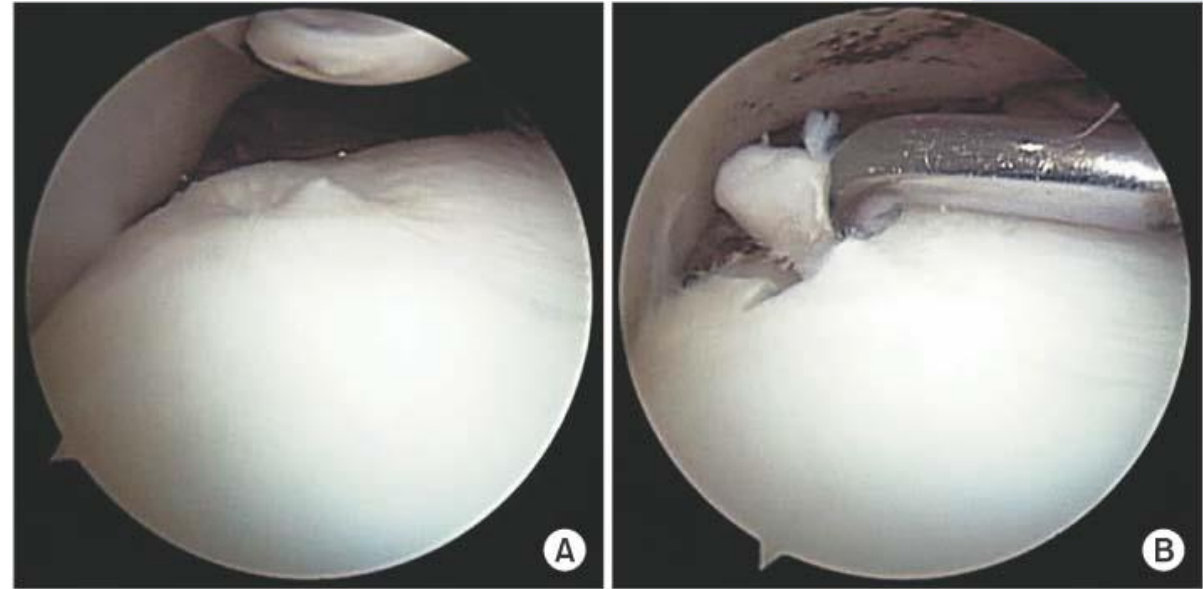


▶ Ice-picking (bone marrow stimulation)

- ▶ Arthroscopic assisted
- ▶ Chondral and osteochondral lesions
  - ▶ Equal results (surprisingly)
- ▶ < 1,5 cm<sup>2</sup>
- Good short-Midterm outcomes (5-8 years)
- 80 % satisfaction rate

▶ Rehab:

- ▶ No cast
- ▶ Immediate ROM
- ▶ NWB 4-6 weeks





## ▶ Mosaicplaty (osteochondral Grafting)

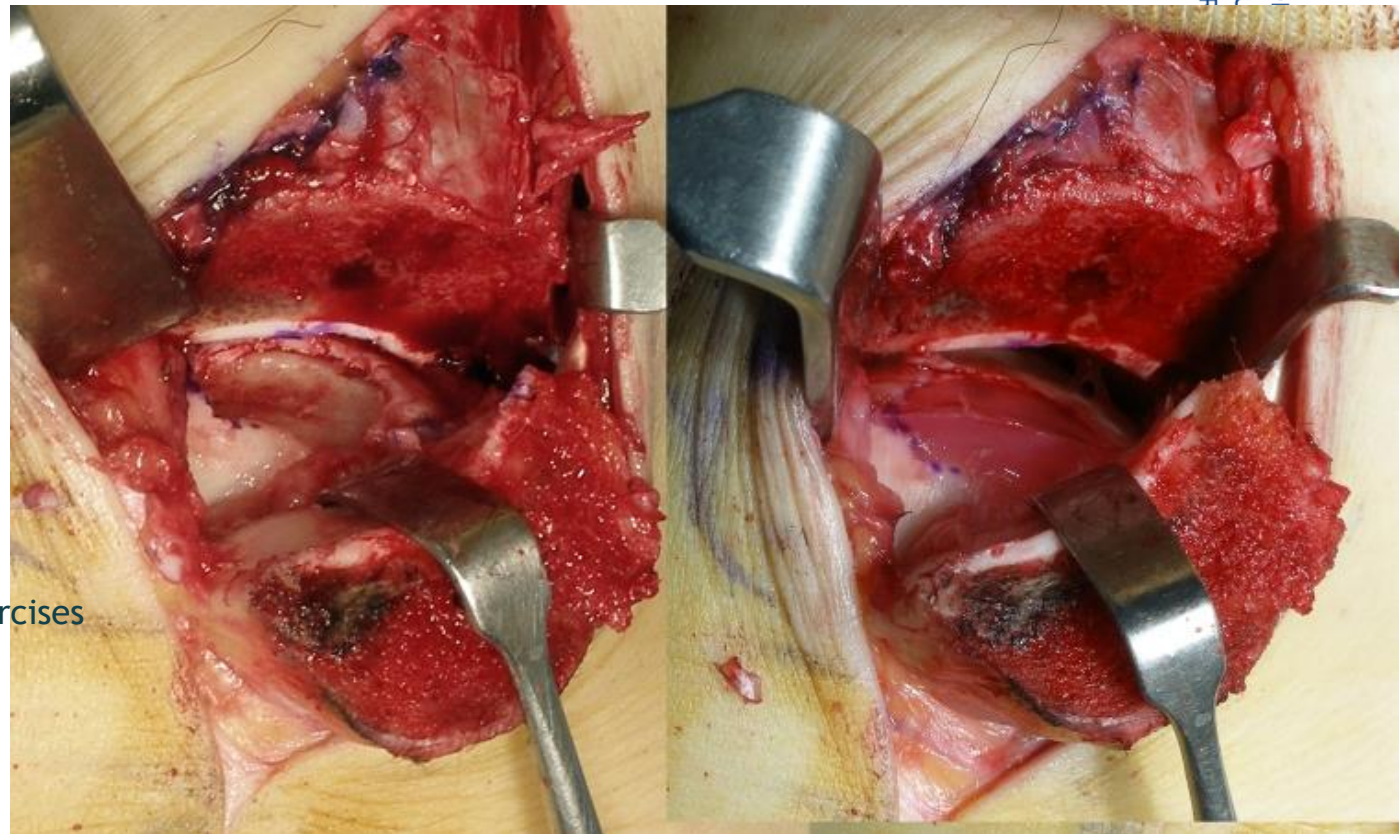
- ▶ Larger defects (< 3 cm<sup>2</sup>)
- ▶ Failed ice-picking
- ▶ Most often ipsi-lateral knee lateral femoral condyle or intercondylar notch
- ▶ Acceptable outcomes (65% good outcome)

### ▶ Rehab:

- ▶ 6 w NWB cast
- ▶ joint mobilisation, strength and balance at 8 weeks
- ▶ 6 w PWB walking boot and physio



- ▶ Autologous matrix induced chondrogenesis
- ▶ 1-step procedure
  - ▶ Debridement
  - ▶ filling of the bone defect with autologous spongiosa
  - ▶ sealing of the graft with a collagen matrix
- ▶ Larger defects, failed ice-pickings
- ▶ Good results (90%) (at 1 year)
- ▶ Expensive
- ▶ Rehab:
  - ▶ 6 w PWB boot
  - ▶ After 6w start proprioception and stabilisation exercises
  - ▶ After 12w start cycling/swimming
  - ▶ After 5-6 months sports





# Take Home message

- ▶ OCD ankle
  - ▶ Osteochondral injury
- ▶ Trauma
  - ▶ Pain etc > 6 weeks after ankle sprain
- ▶ Rx
  - ▶ OTTOWA ankle rules acute setting
- ▶ MRI
  - ▶ Chronic setting
- ▶ Treatment
  - ▶ Conservative
    - ▶ chronic injuries: infiltration
    - ▶ Acute non displaced: Cast
      - ▶ 50% succes
  - ▶ Surgery
    - ▶ Bone marrow stimulation (ice-picking) < 2 cm<sup>2</sup>
    - ▶ AMIC > 2cm<sup>2</sup> or revision



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