

# Total Ankle Replacement at Guy's and St Thomas' NHS Foundation Trust

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# Ankle Arthritis

- Ankle arthritis is about 10 times less common than knee arthritis
- Most often secondary:
  - Trauma
  - Neurological disease
  - Rheumatoid arthritis



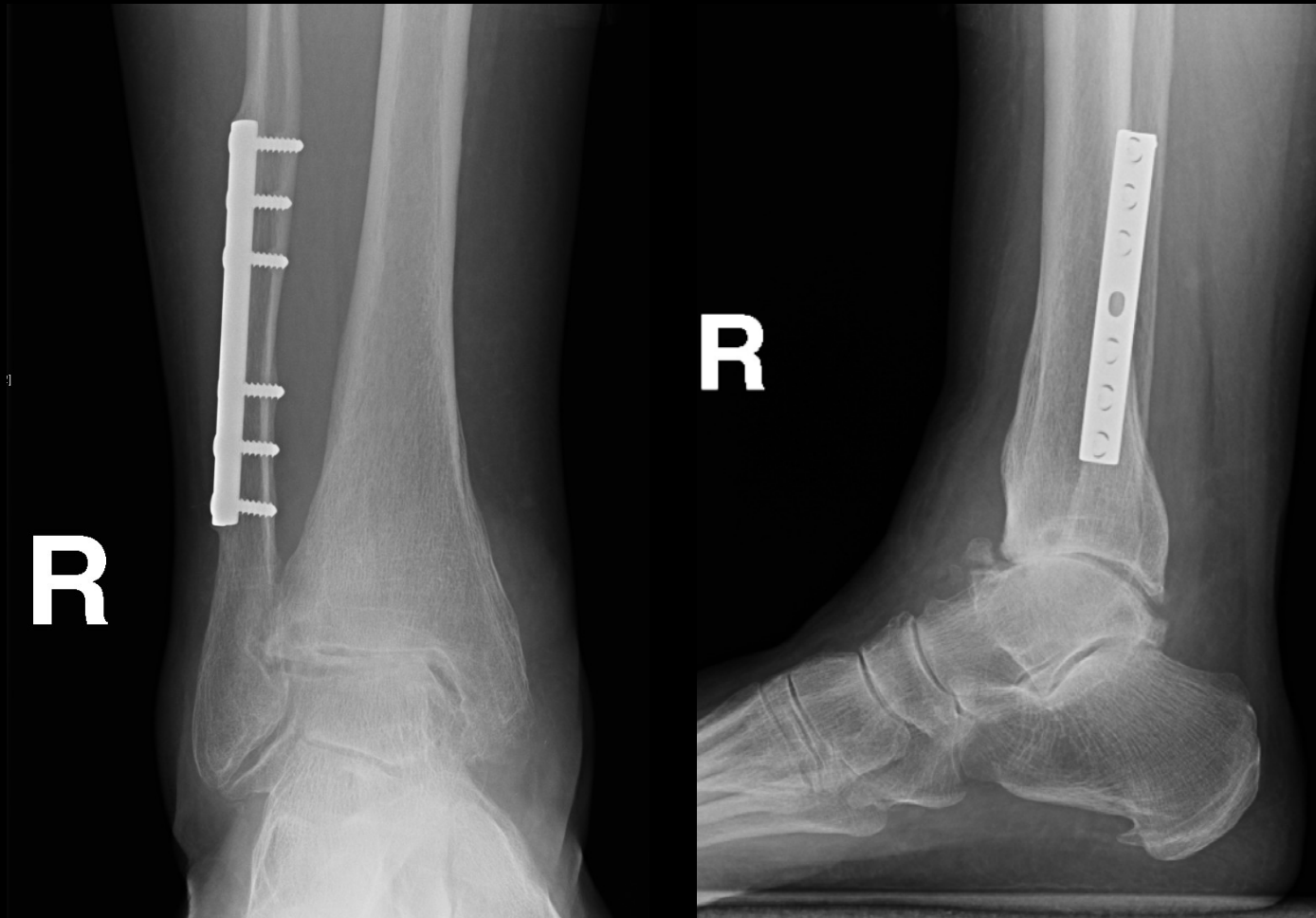
# Normal Ankle vs Arthritic Ankle



# Case 1

- 60 year old lady
- Very fit and active
- Suffered an open ankle fracture dislocation 20 years ago
- Now has daily ankle pain limiting walking distance and eroding quality of life

# Case 1



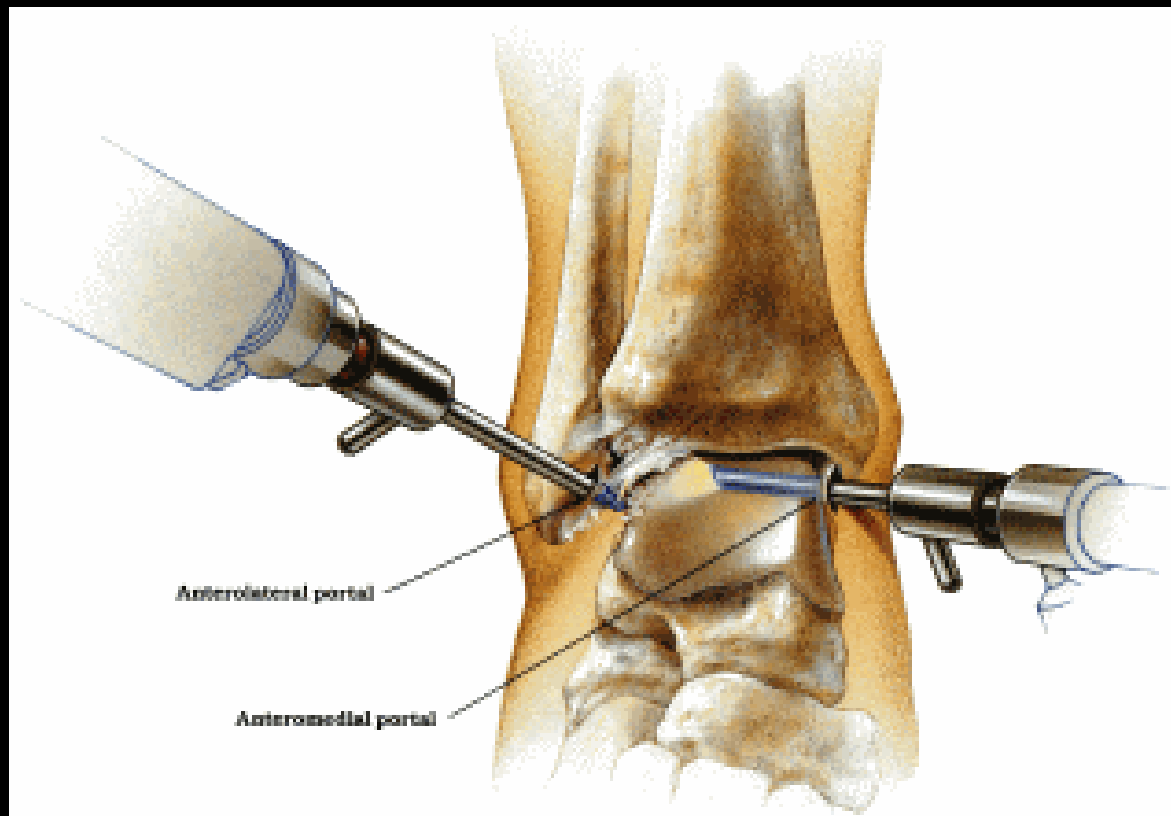
# Case 1

- Options:
  - Pain relief, walking aid, splint
  - Keyhole surgery
  - Ankle fusion or replacement

# Arthrodesis (Fusion)

- Current gold standard for end stage ankle arthritis is arthroscopic ankle arthrodesis ie keyhole surgery to fuse the ankle joint

# Arthrodesis (Fusion)





# Case 1

RW:

“I recommend ankle fusion”

Patient:

“I don’t want to limp”

“I want to keep some movement in my ankle”

“What about ankle replacement?”

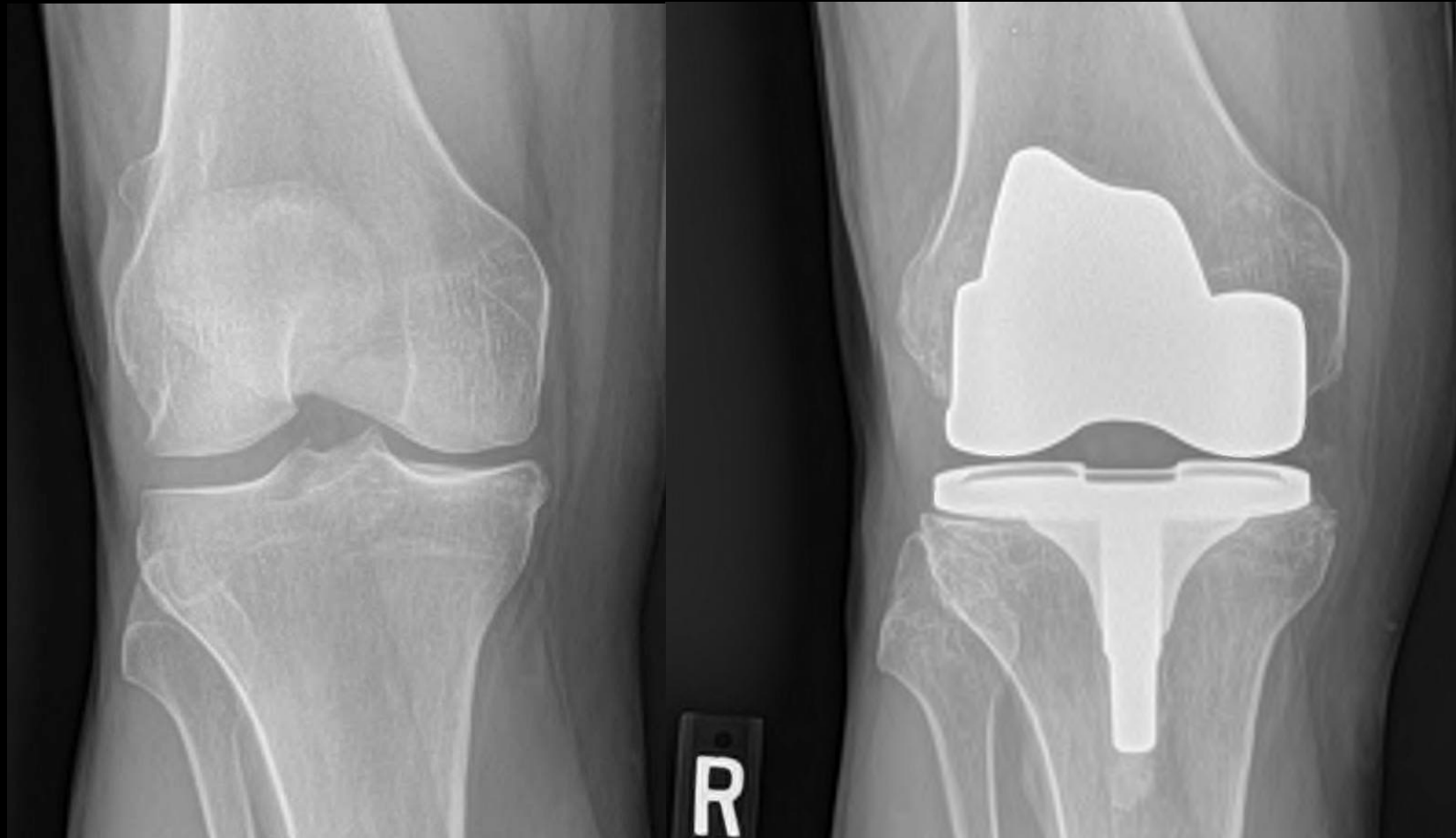
# Knee and Ankle Similarity



# Knee and Ankle Similarity



# Total Knee Replacement



# Total Ankle Replacement (TAR)



# Total Ankle Replacement History

- Total ankle replacement first attempted in 1970 by Lord and Marrotte
- Poor results of early designs with very few surviving more than years

# First Generation TAR



# Implant Evolution

- Implants have become much more like modern total knee replacement components
- Now on the 3<sup>rd</sup> generation of implants
- Uncemented fixation into the bone
- Mobile bearing polyethylene inserts



# 3<sup>rd</sup> Generation TAR



# Why Don't Ankles Do As Well As Knees?

- Much smaller joint
- Higher stresses go through the implant
- The talus is small, hard and can have limited blood supply
- Soft tissue cover of the ankle is very thin

# Current Evidence



■ FOOT AND ANKLE

**The outcome of total ankle replacement**

A SYSTEMATIC REVIEW AND META-ANALYSIS

## Intermediate-Term Results of Total Ankle Replacement and Ankle Arthrodesis

A COFAS Multicenter Study

NB: Very few good quality comparative studies using 3<sup>rd</sup> generation implants

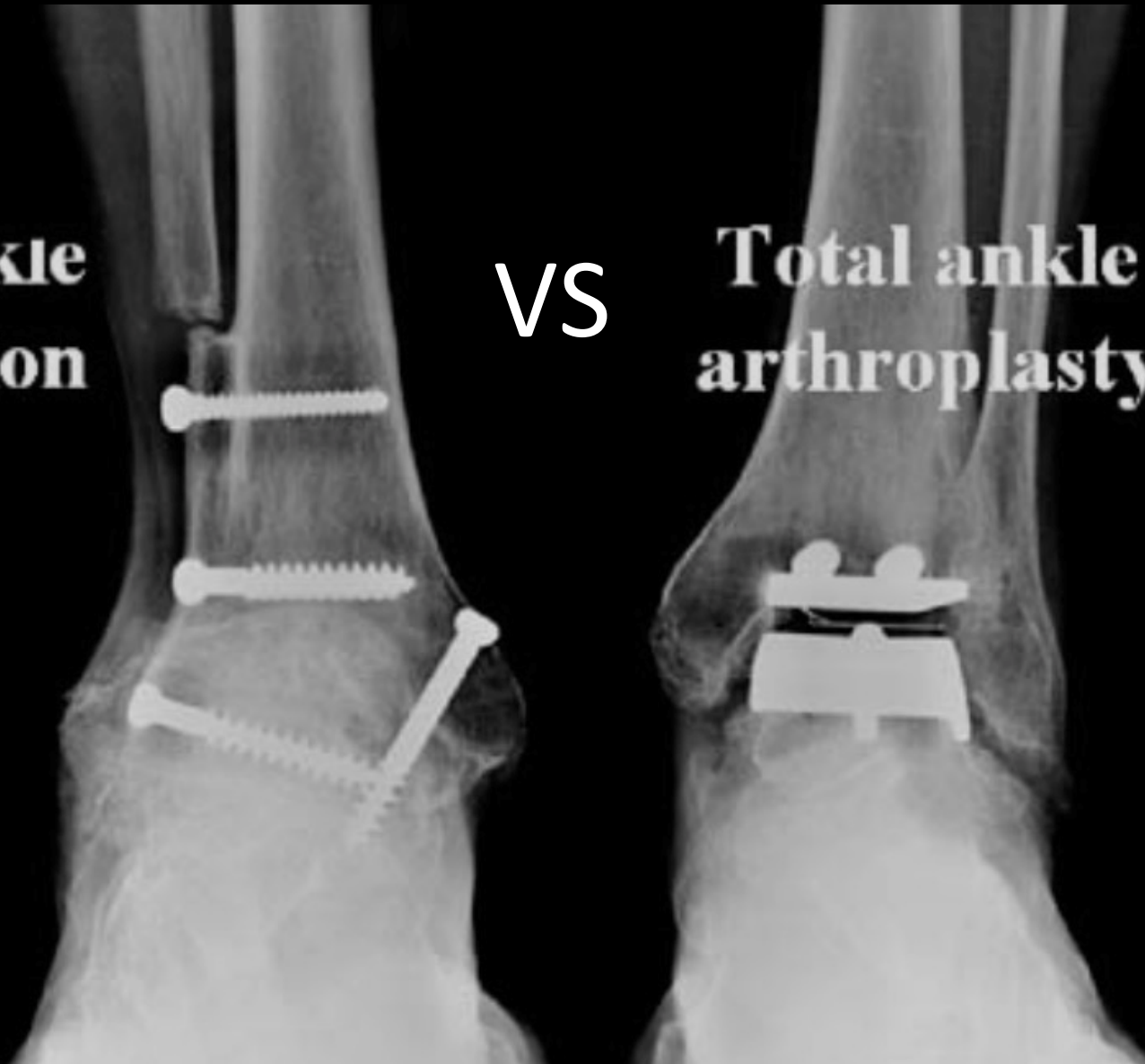
# Current Evidence

- TAR 10 year survival 89%
- AOFAS score improved from 40 to 80/100
- Average range of motion 34 degrees
- Slightly better pain relief and functional outcomes with TAR versus fusion
- More complications with TAR versus fusion

**Ankle  
fusion**

**VS**

**Total ankle  
arthroplasty**



# Fuse or Replace

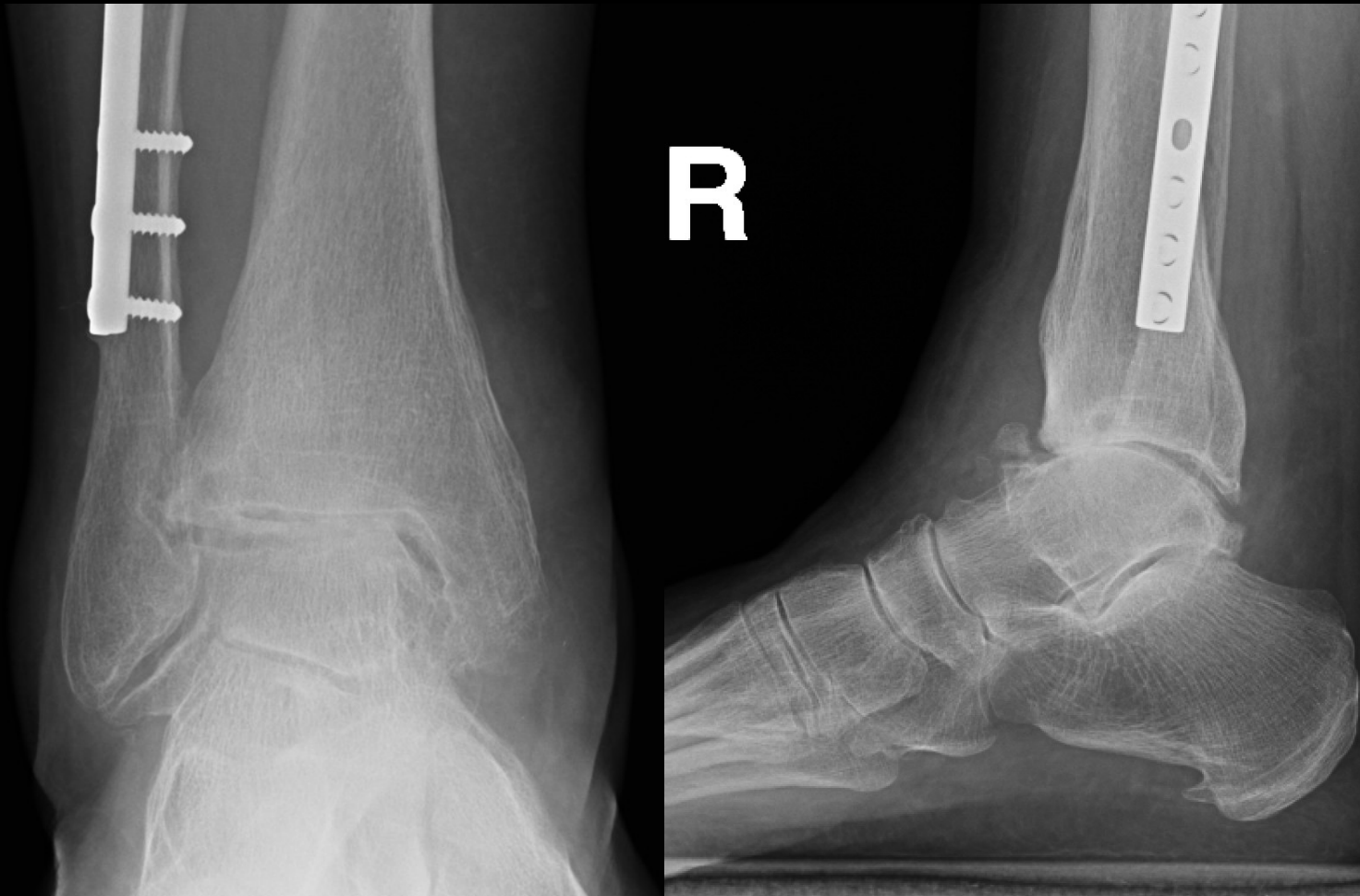
## Fusion:

- More reliable
- Safer
- Good pain relief
- Loose motion
- Other joints become arthritic
- Not all patients are happy with a fusion

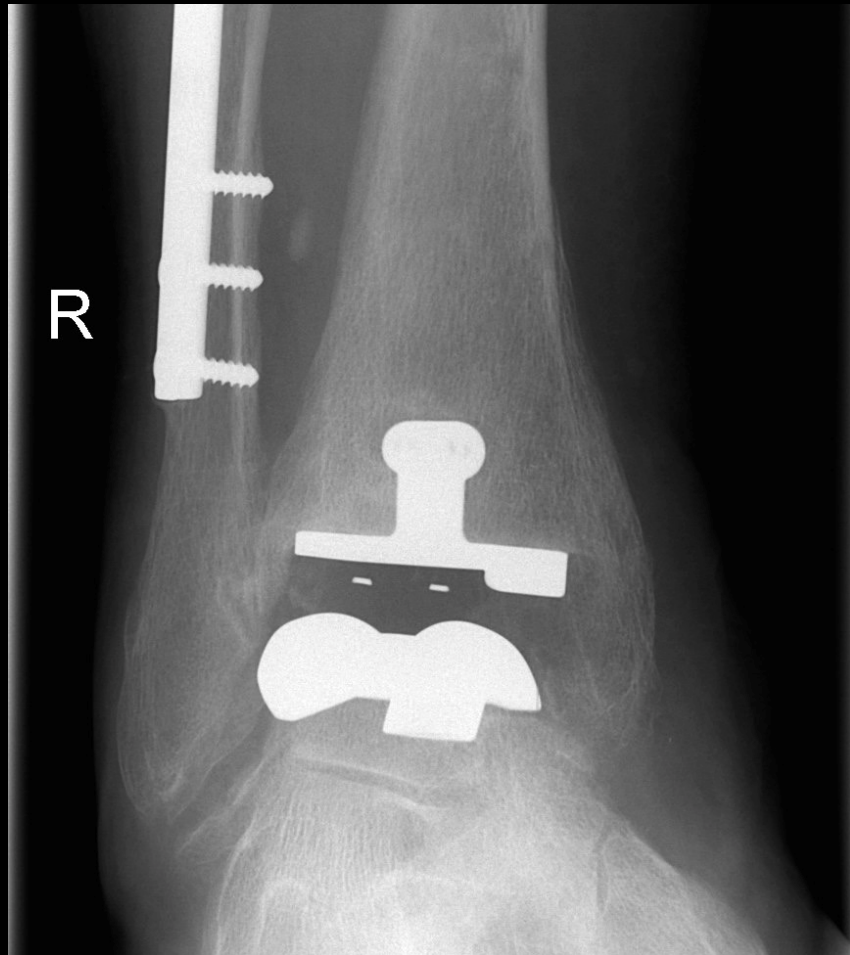
## Replacement:

- More movement
- Potentially better function
- Quicker recovery
- Harder to get right
- More risky for patient
- Harder to revise later

# Case 1



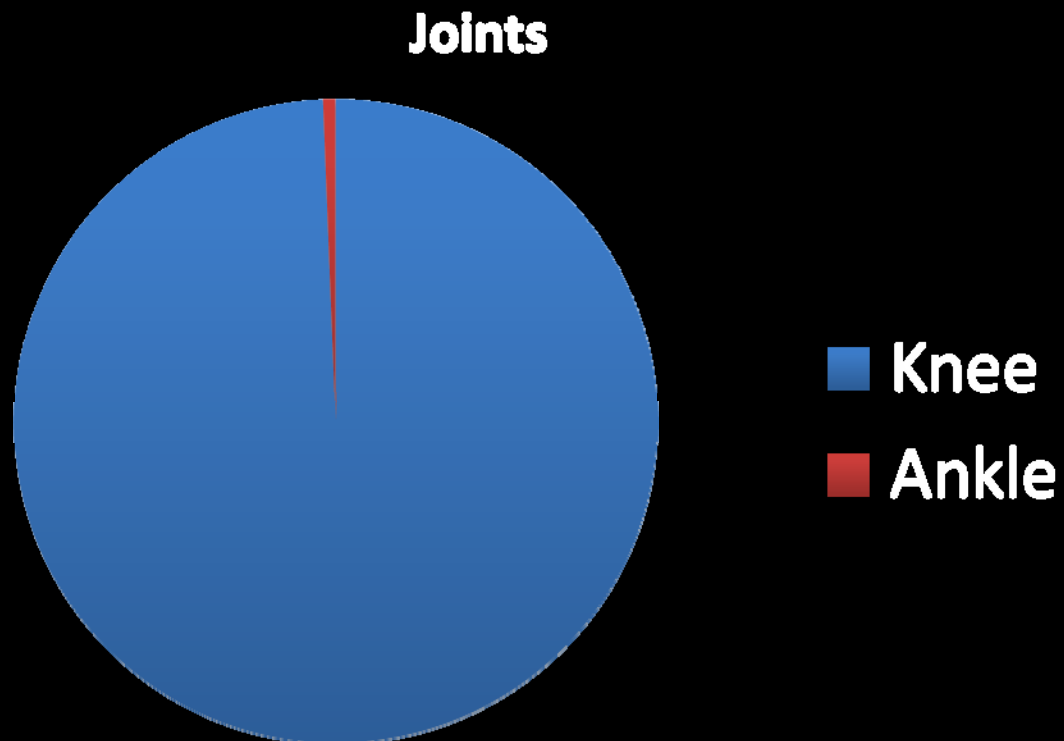
# Case 1





# UK Perspective

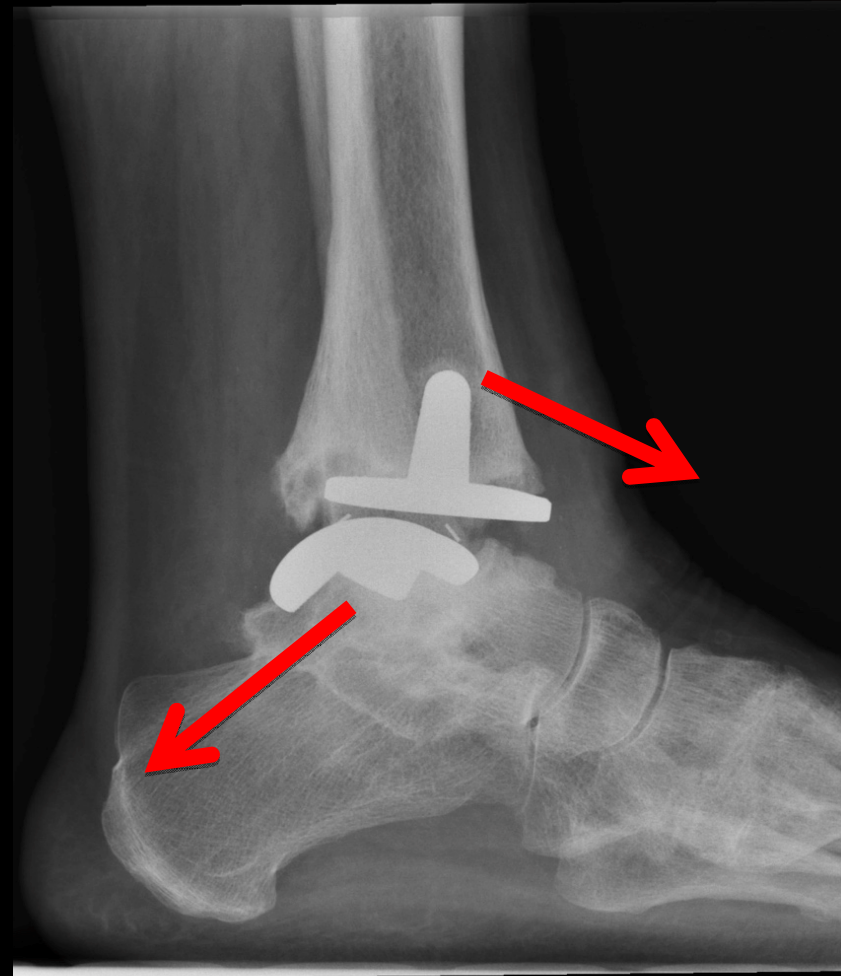
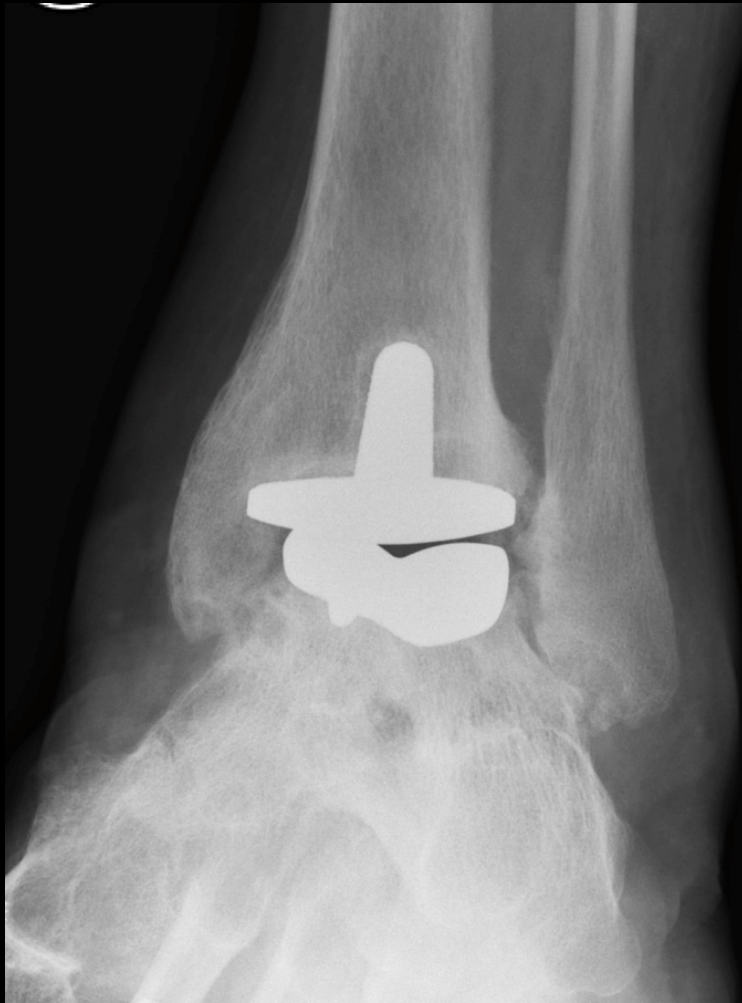
- 626 TARs in the UK last year compared with around 100,000 knee replacements (NJR)



# GSTT Perspective

- 41 primary TARs over last 5 years
  - Average age 67
  - 3 failures
  - Currently 1 case per month
- Significant tertiary revision caseload
  - 19 revision operations

## Case 2



[F]

# Case 2



# Case 2



## Case 2



# The Future at GSTT

- 2 surgeons currently performing TAR and developing GSTT as a centre of excellence
- Following up our cases and presenting our experience at national conferences
- Demand increasing all the time

# Summary

- Total ankle replacement is an evolving procedure, offering potentially excellent function and pain relief in appropriate patients
- Still much to be learned, with developments in technique and implants all the time
- GSTT well placed to offer this treatment for local patients and tertiary referrals