Arthroplasty - HTO
criteriae for the good choice

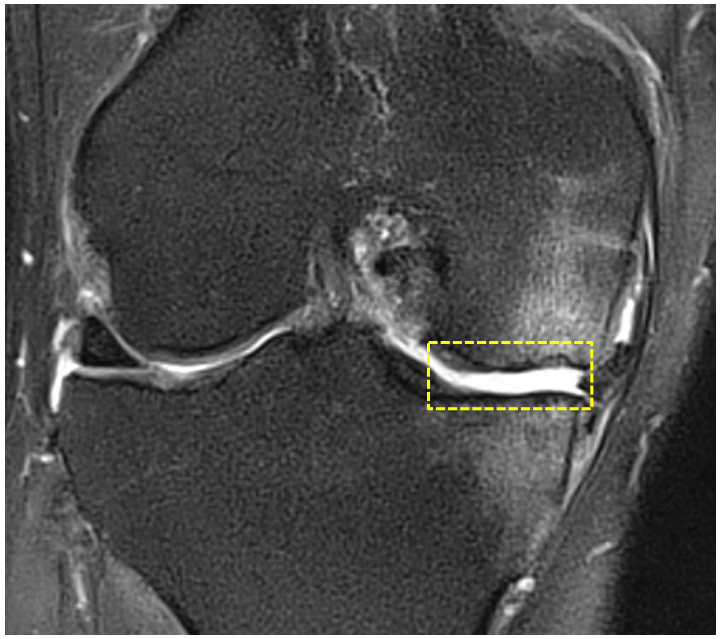
Michel Bonnin MD, PhD
Centre Orthopédique Santy Lyon France

1

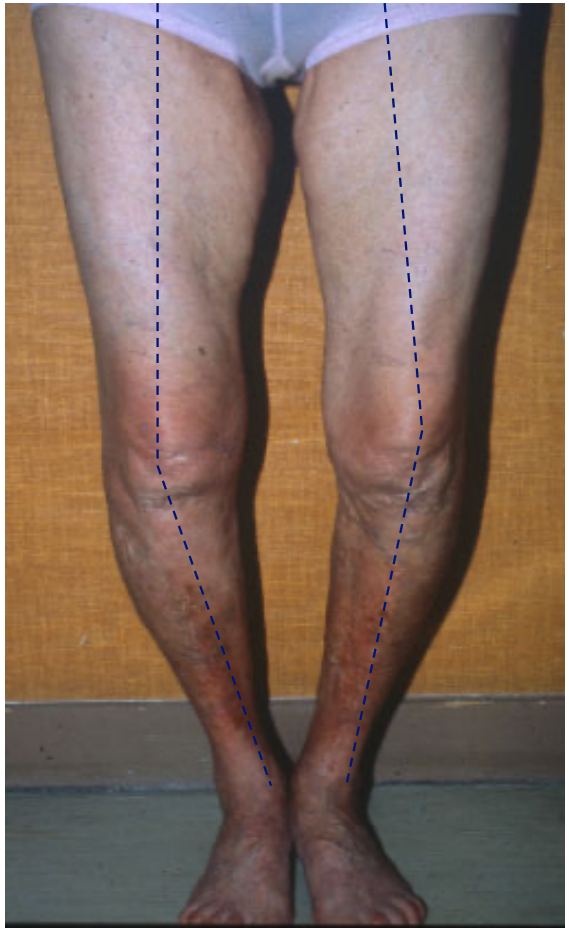
anatomic criteriae

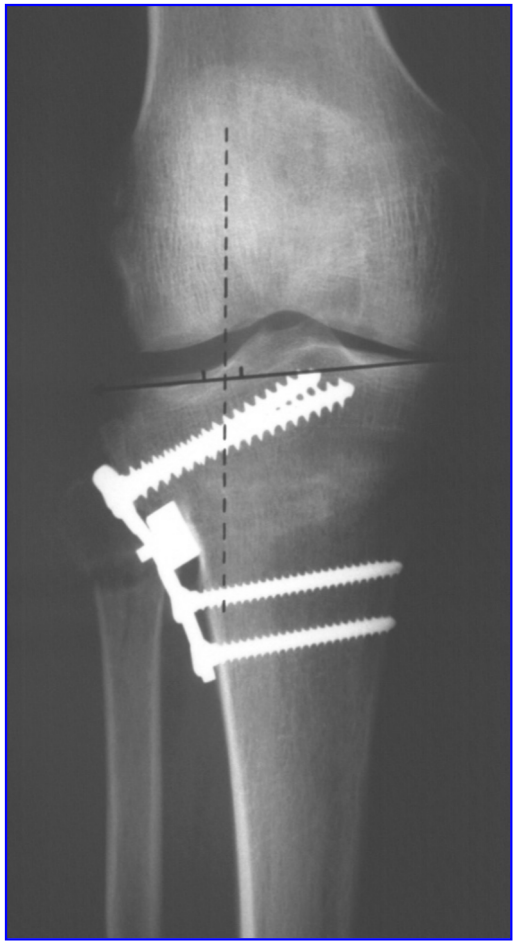
UKA: corrects exclusively the **intra@ defect**

Cannot modify any extra@deformity



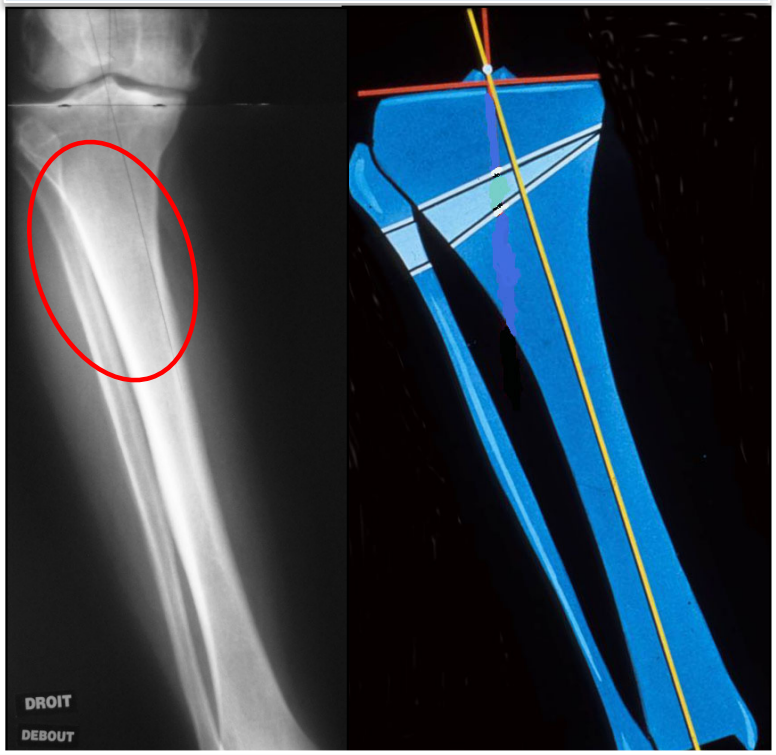
HTO: corrects exclusively the **extra@ deformity**





Key: analyze the etiology of the varus deformity

Bone deformity (tibia varus)

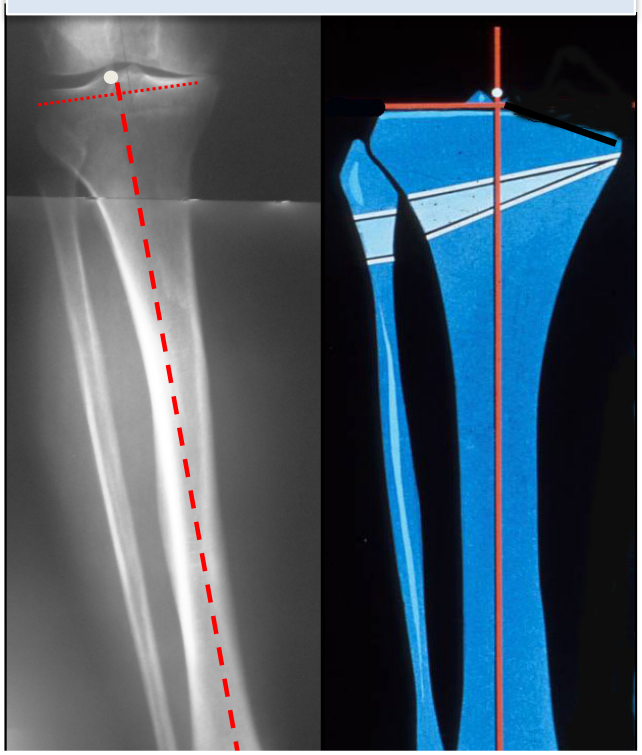


Corrective HTO

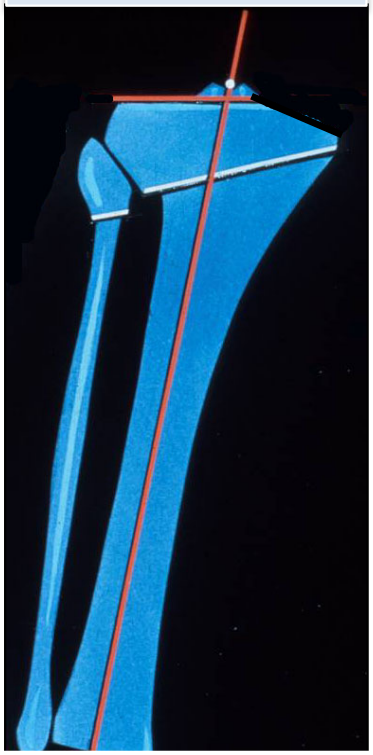
HTO: Good Result

Key: analyze the etiology of the varus deformity

Joint deformity (tibial wear)



Palliative HTO

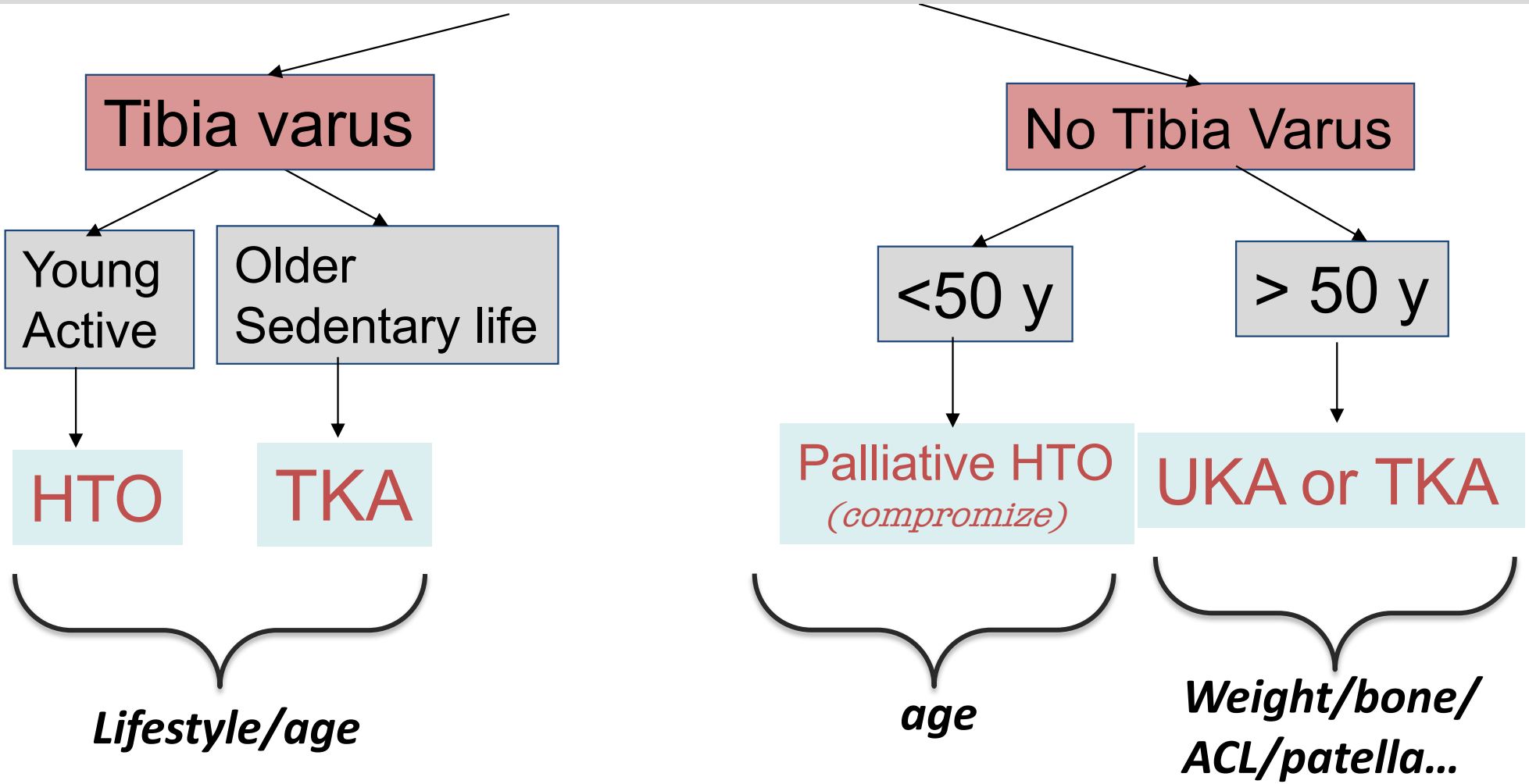


HTO: Bad Result

2

Strategy in medial OA

Medial OA


Tibia varus
Young Active
Older Sedentary life
HTO
TKA
Lifestyle/age
No Tibia Varus
<50 y
> 50 y
Palliative HTO
(compromize)
UKA or TKA
age
Weight/bone/ ACL/patella…

How can we know the native alignment??

- ☐ History of the patient
- ☐ Contro-lateral limb
- ☐ Alignment in decubitus
- ☐ Long leg-XR
- ☐ Stress-XR

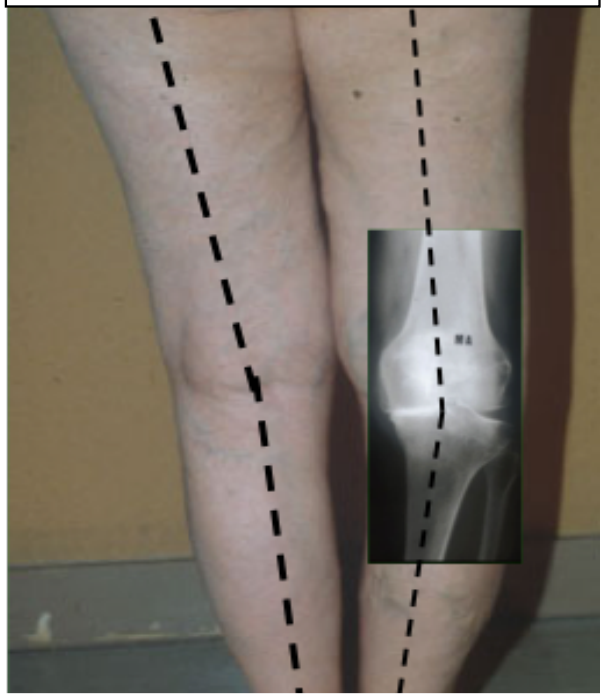
☑ CLINICAL EXAM

Varus
= Tibial deformity

HTO: Good Result

UKA: Bad Result

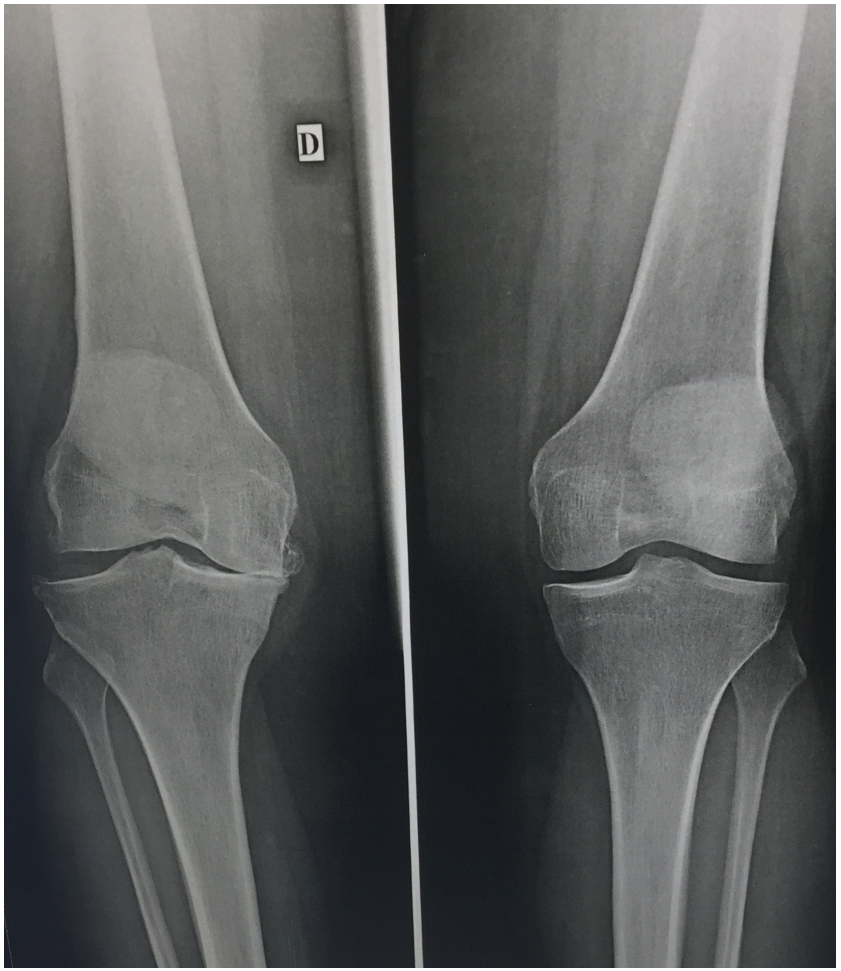
Varus = Wear

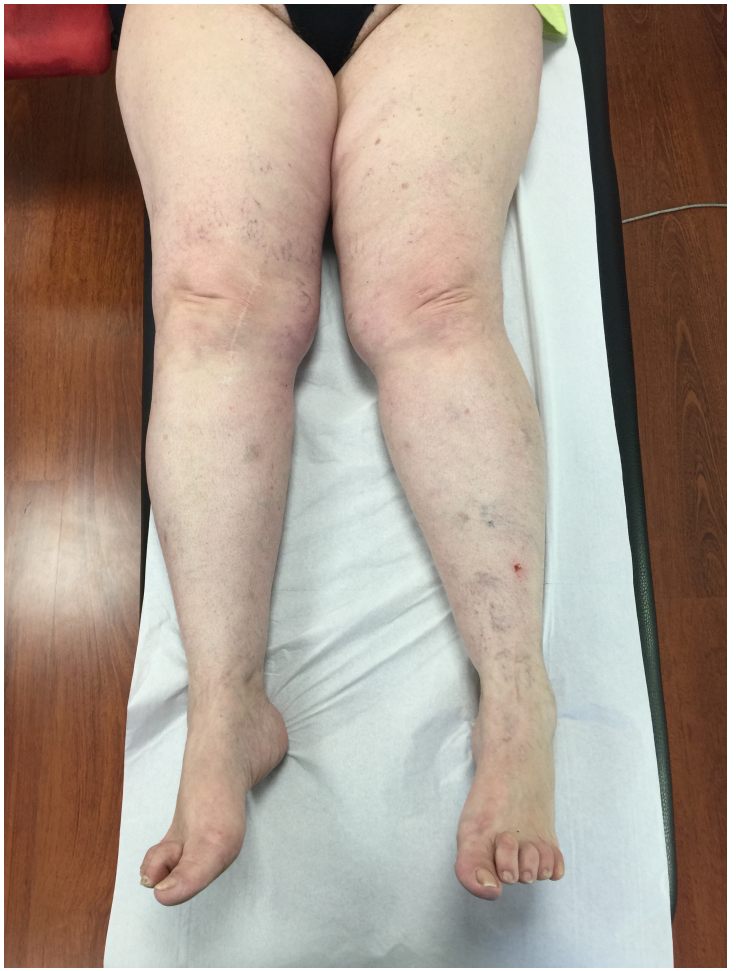


HTO: Bad Result

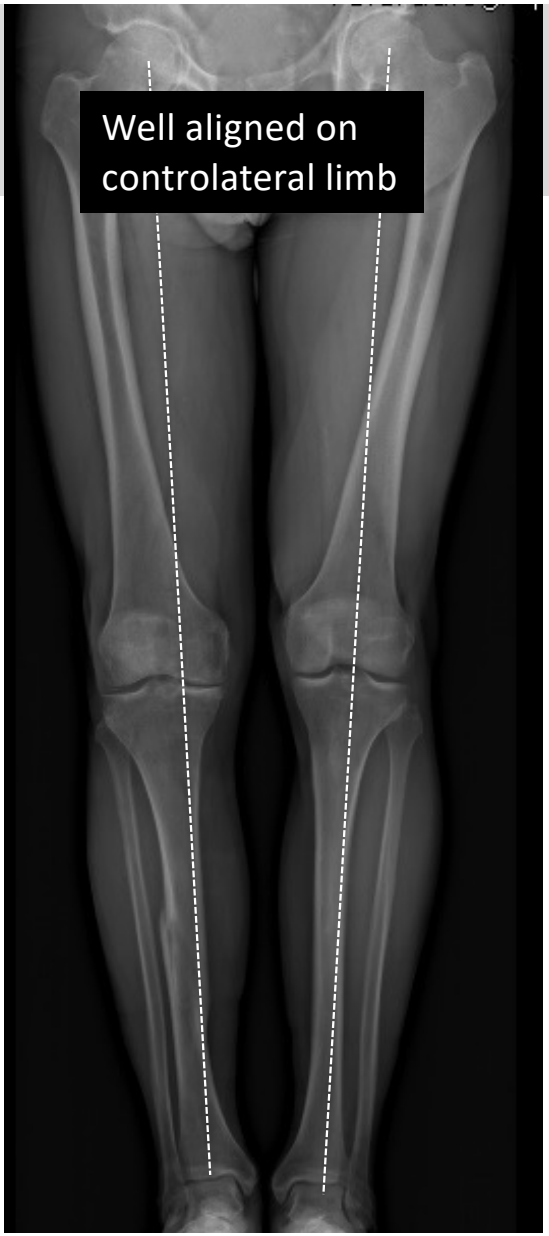
UKA: Good Result

☑ Clinical exam

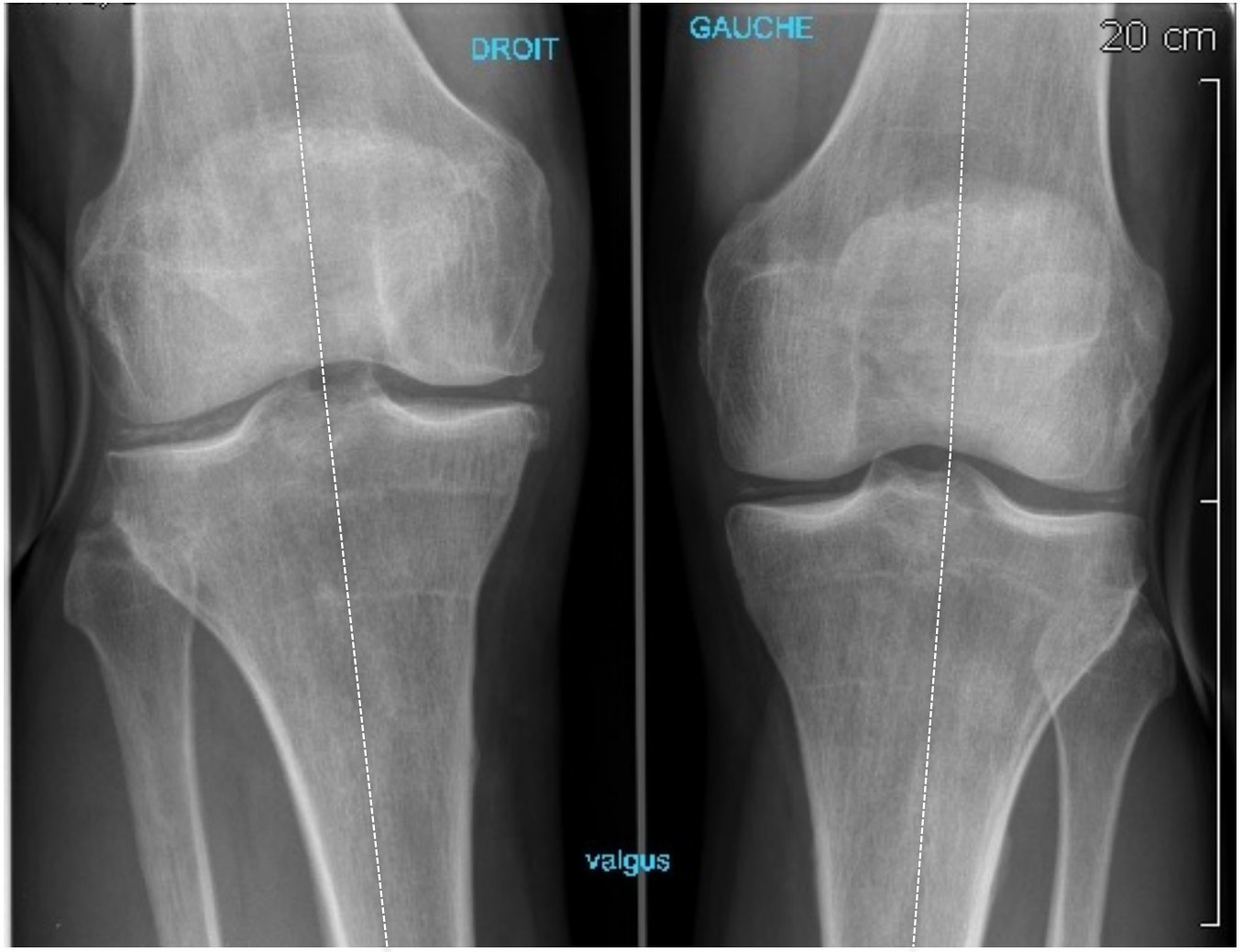




☑ LONG LEG XR



☑ STRESS XR

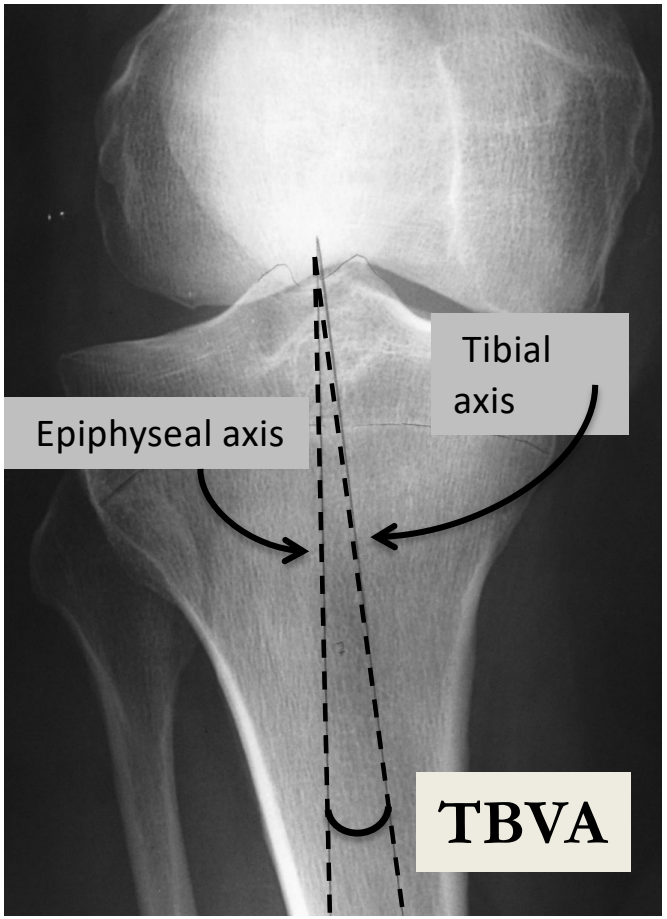


3

Is it true?

Constitutional varus = 2°±2°

Bonnin and Chambat Orthopäde 2001



- 1350 HTO for medial OA
- FU= 10 y to 21 y
- Closing wedge osteotomy

1st prognostic factor: Morphotype

Constitutional varus angle	Good/ Very Good outcome
<0°	36%
0° to 2°	56%
2° to 5°	71%
>5°	83%

p<0.05

2nd prognostic factor: Postop Alignment

HKA: 180° -186°

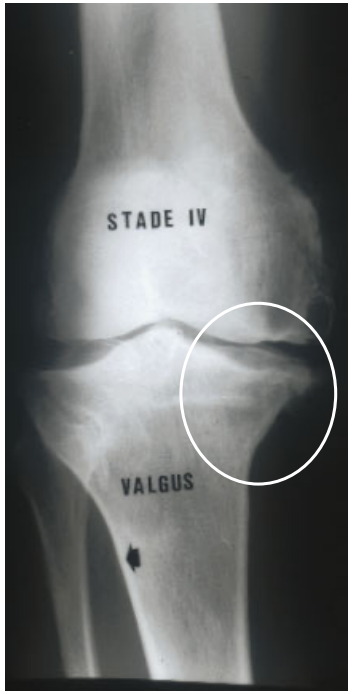
75% Good Very Good

16% Deterioration

2% Revision TKA

8% XR deterioration

3rd prognostic factor: bone loss>3mm



p=0.01

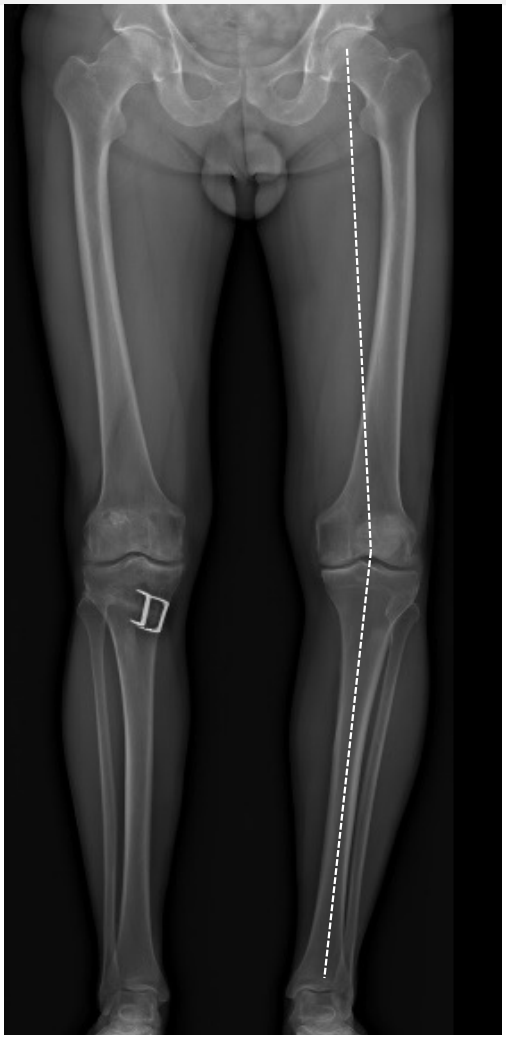
Med. Joint Space	Good / Very Good	Fair/Poor
Bone on bone	67%	33%
Bone loss> 3mm	22%	78%

4

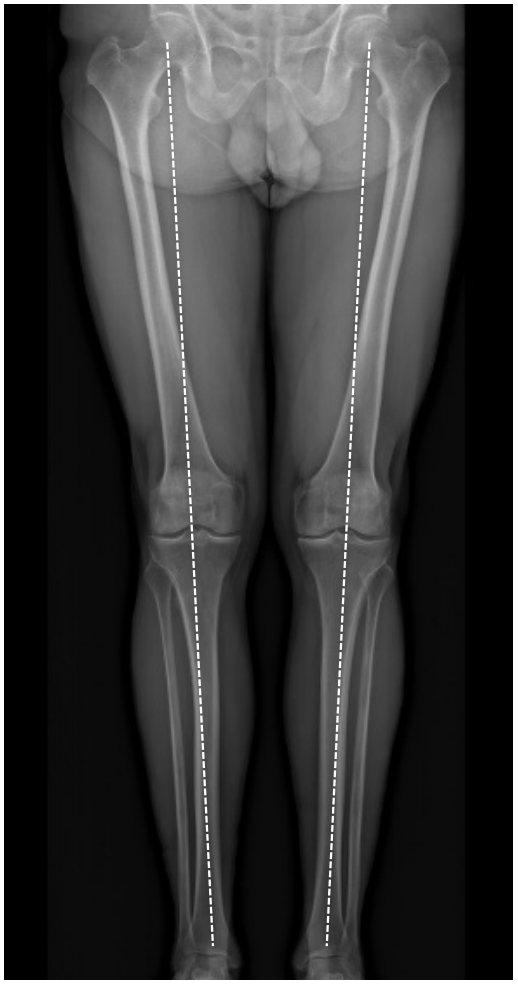
Exemples

Medial OA tibia varus

57y judoka
HTO+ ACL right 20 y ago

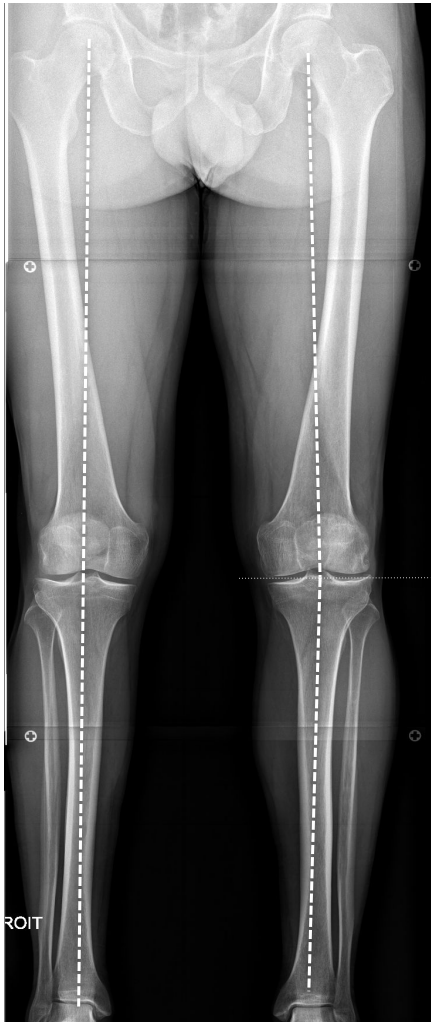


Medial OA no tibia varus *Born 1949 - Rheumatologist - Running.*



Lateral OA well aligned

55 y lateral ME-ectomy
30 years ago

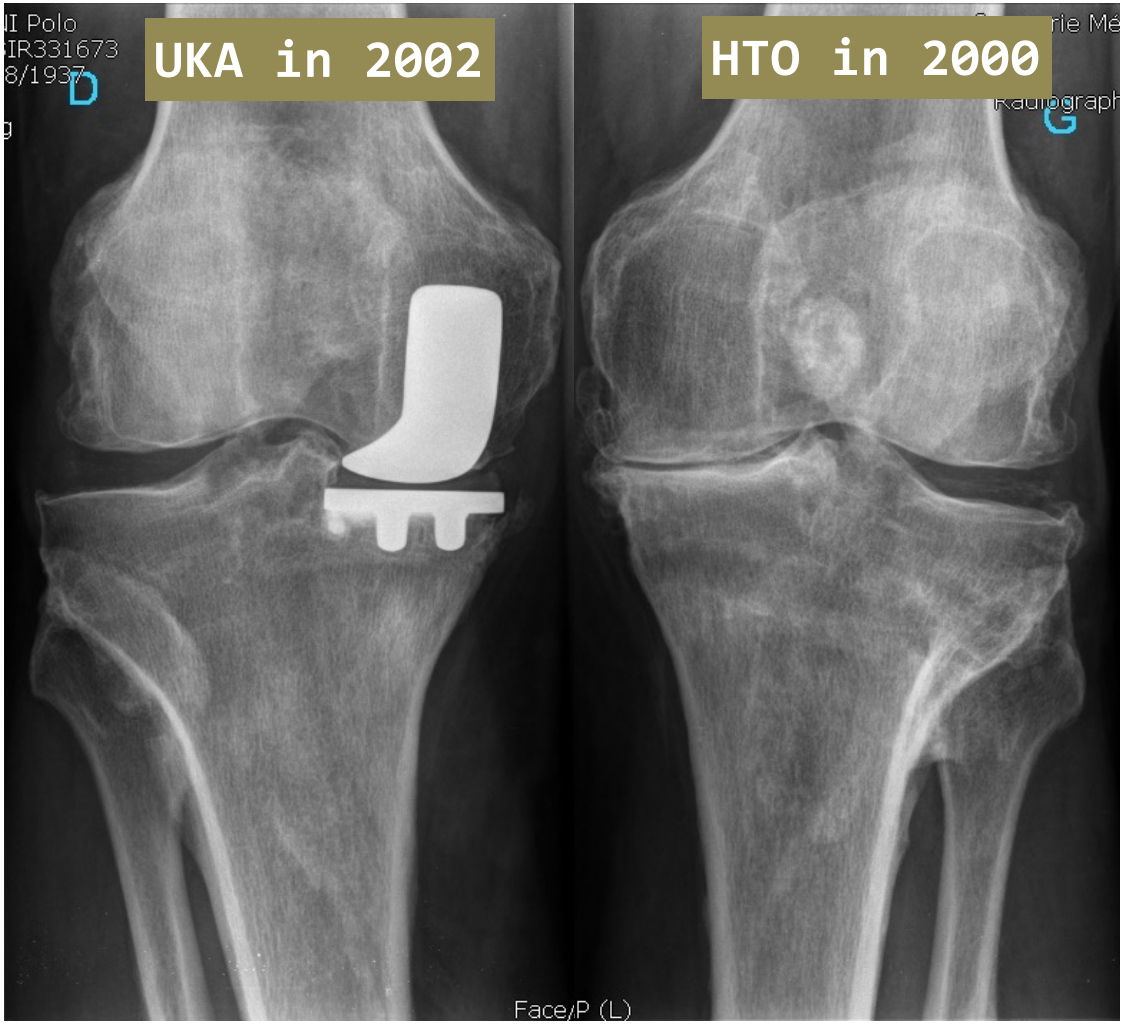


43 years Constitutional Tibia valgus

Take home message:
‘Think anatomy’

- Constitutional bone deformity: Osteotomy or TKA
- No bony deformity: UKA or TKA

UNI and HTO are rarely competitors!


UKA in 2002
HTO in 2000
Face/P (L)


TKAs’ in 2014


Thank you
Toutes les photos de LYON ! http://www.Lyon-Photos.com