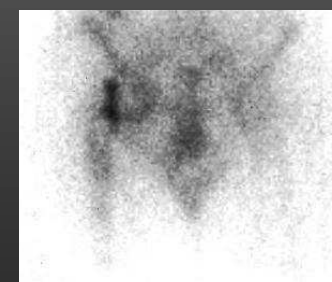
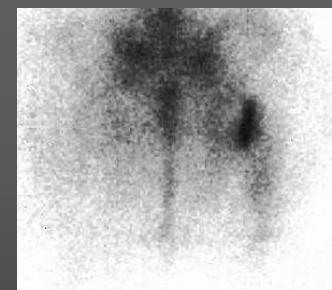
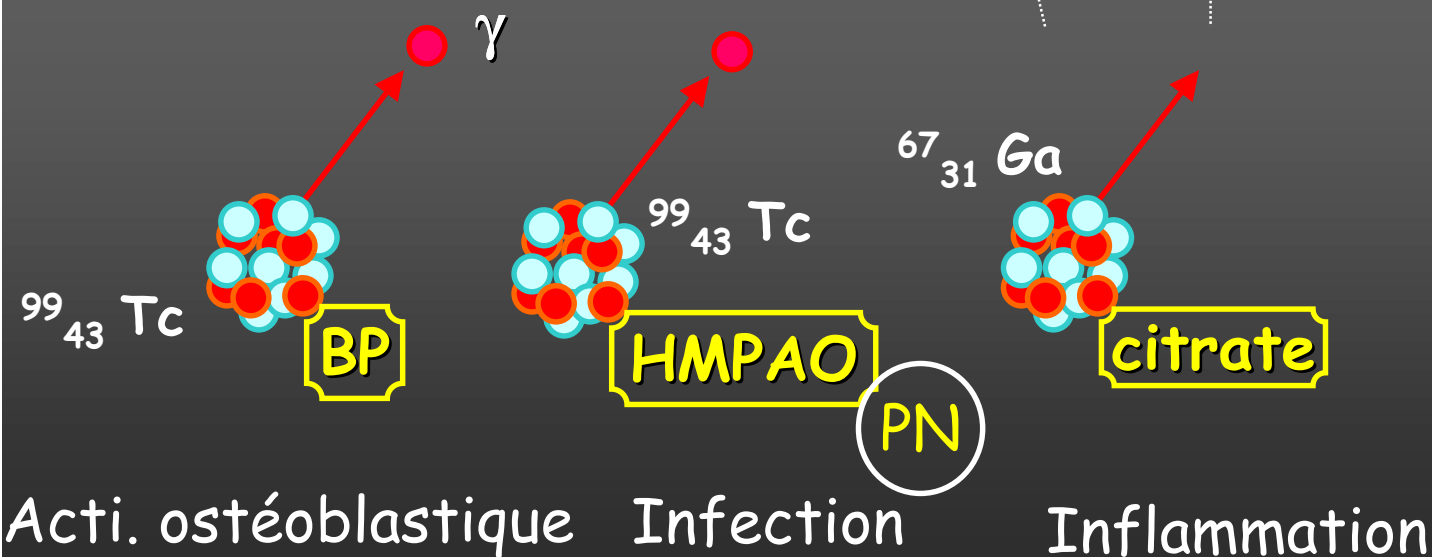
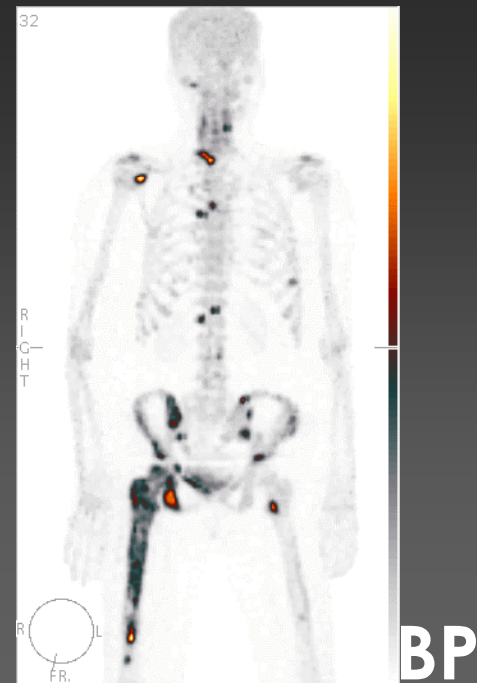
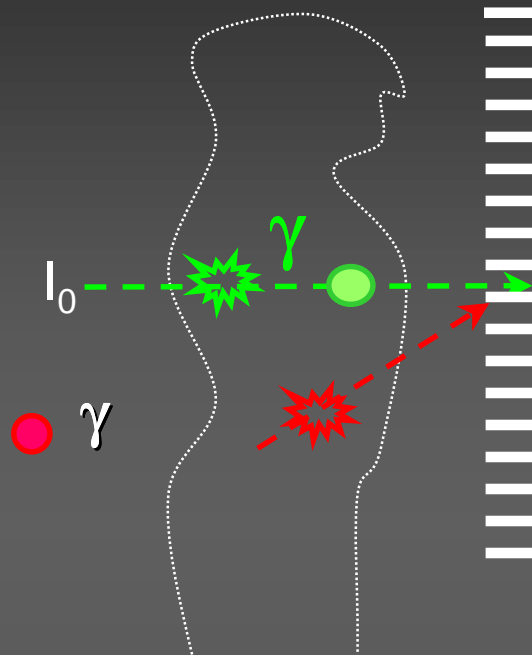


IMAGERIE SCINTIGRAPHIQUE

OSTEO-ARTICULAIRE

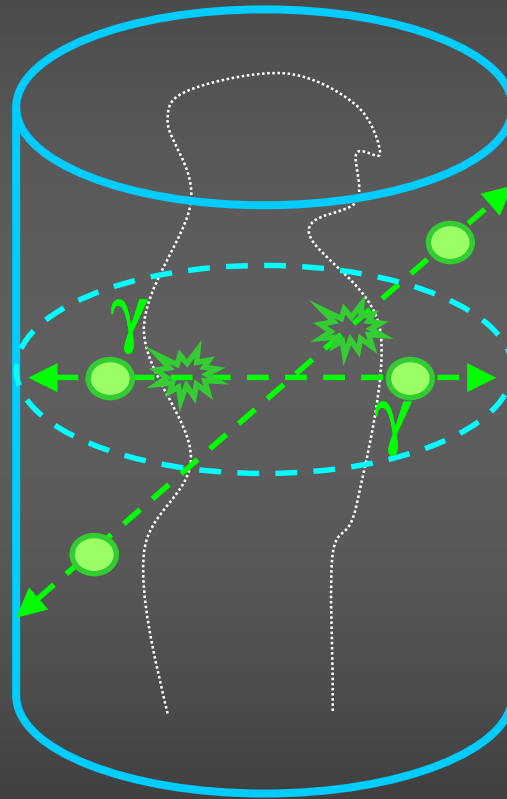
Service de médecine nucléaire
CHRU de Montpellier

RAPPELS : SPECT (γ)

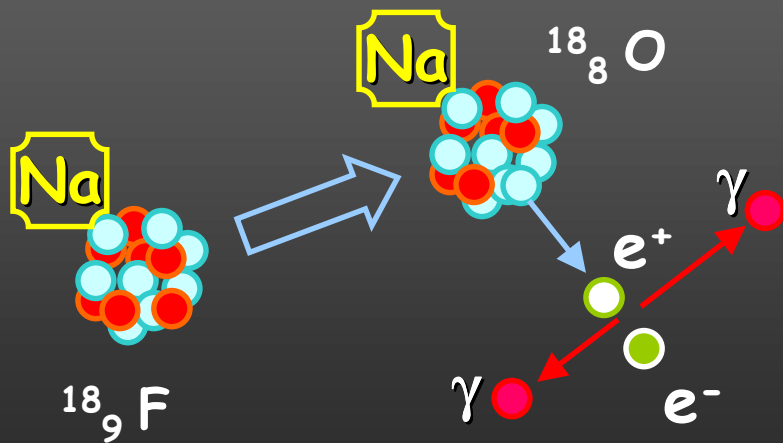


Ga

RAPPELS : PET (β^+)



18-FNa



Activité ostéoblastique

RAPPELS : SPECT-CT & PET-CT

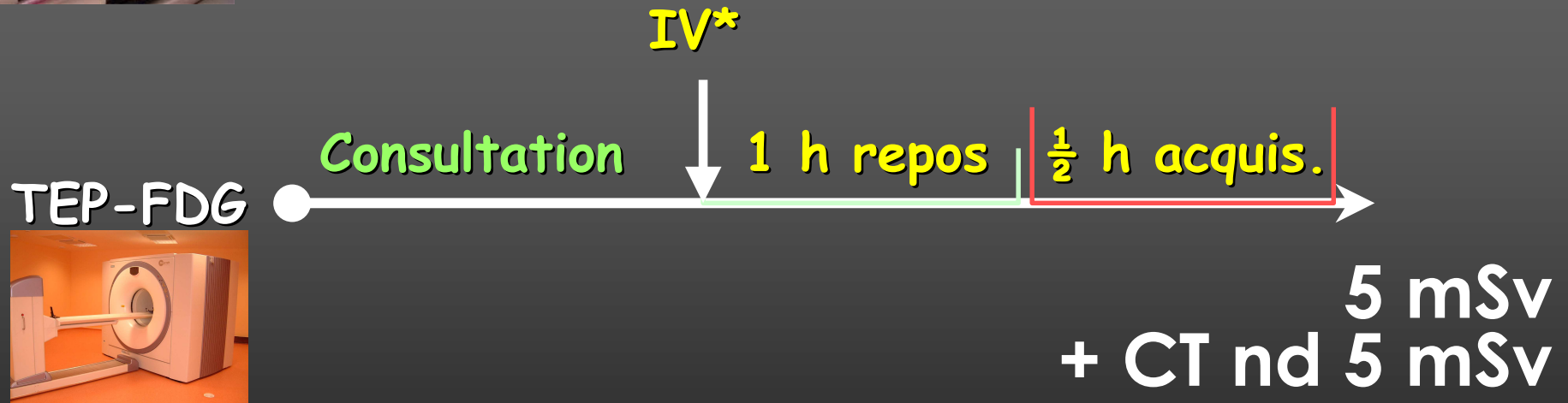
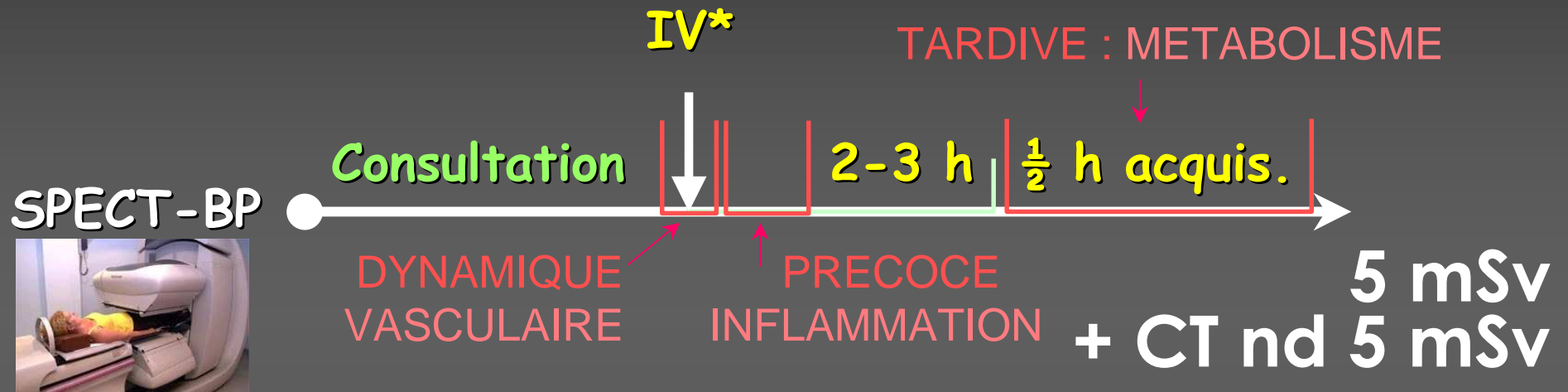


SPECT(BP)-CT



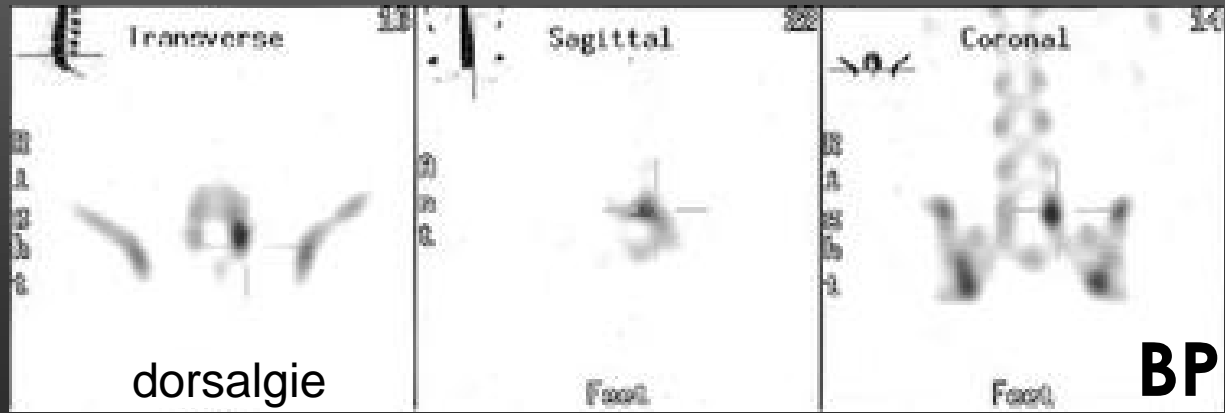
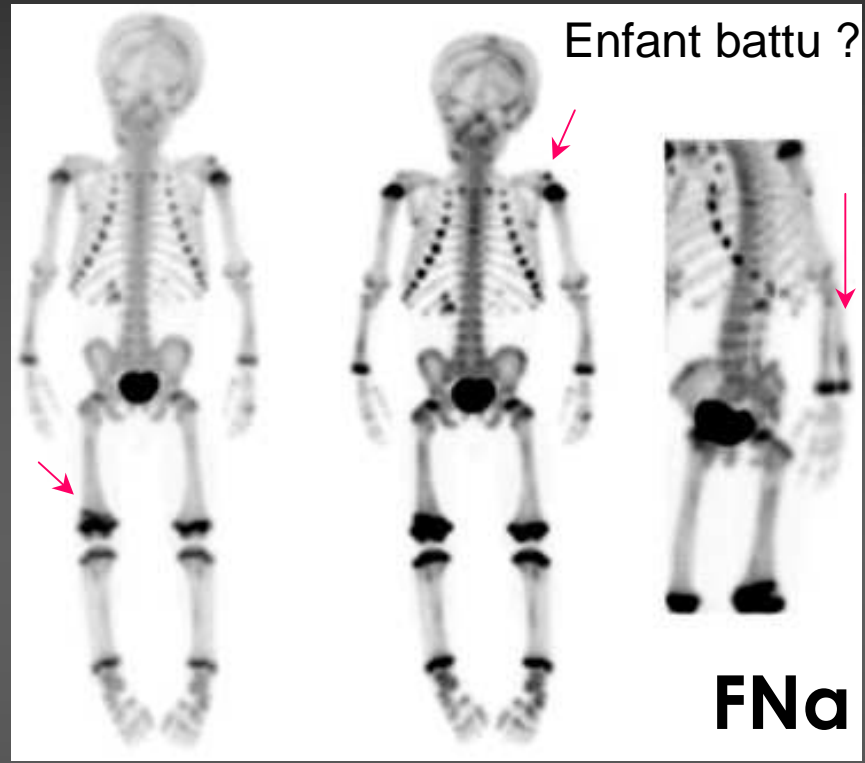
PET(FDG)-CT

Déroulement d'un examen

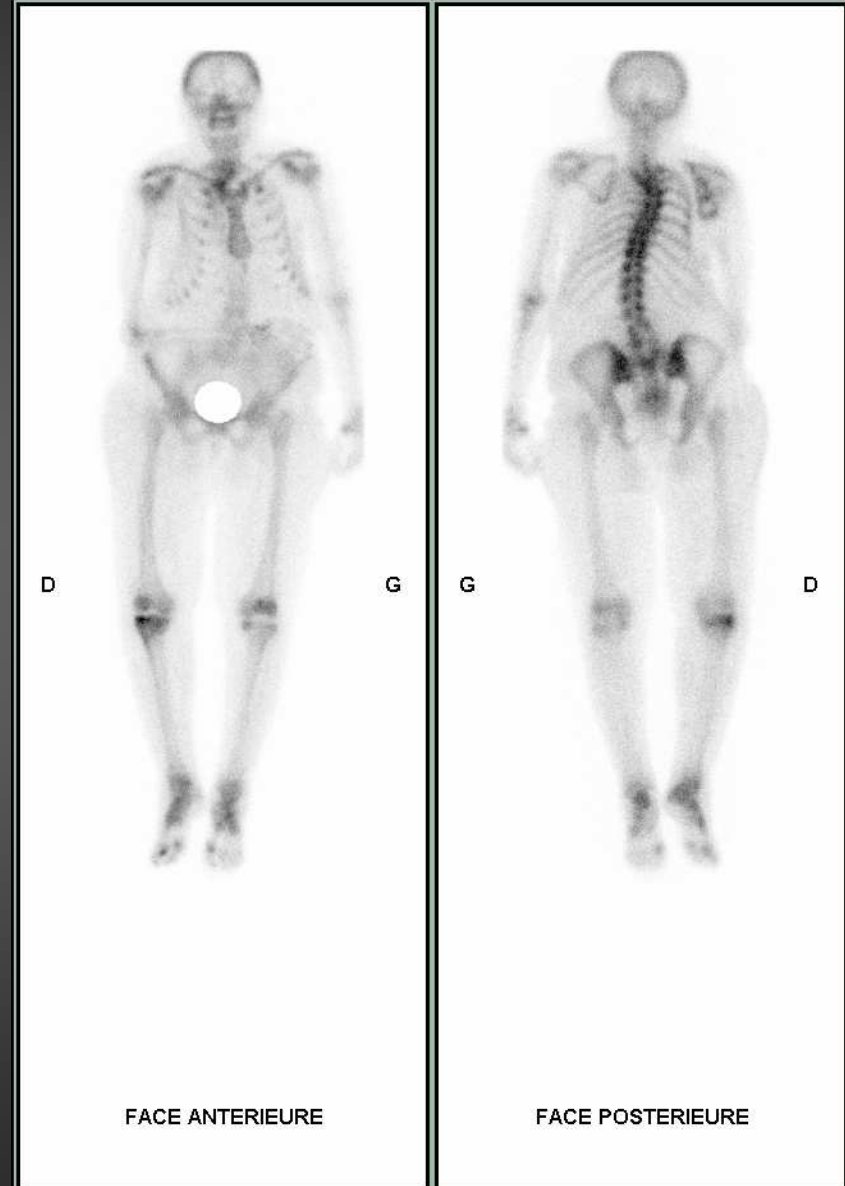
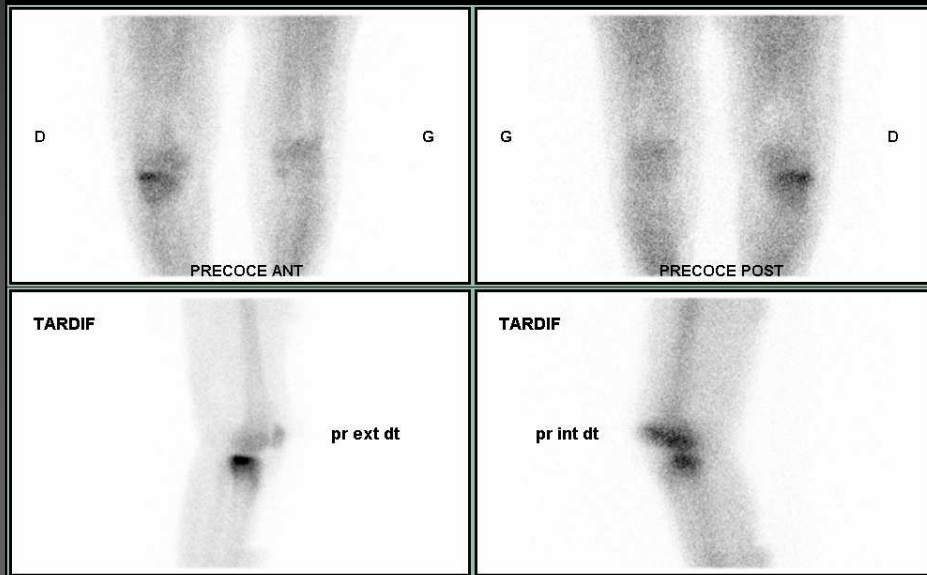


Pour comparaison, CT diagnostique : 10-20 mSv / acquisition

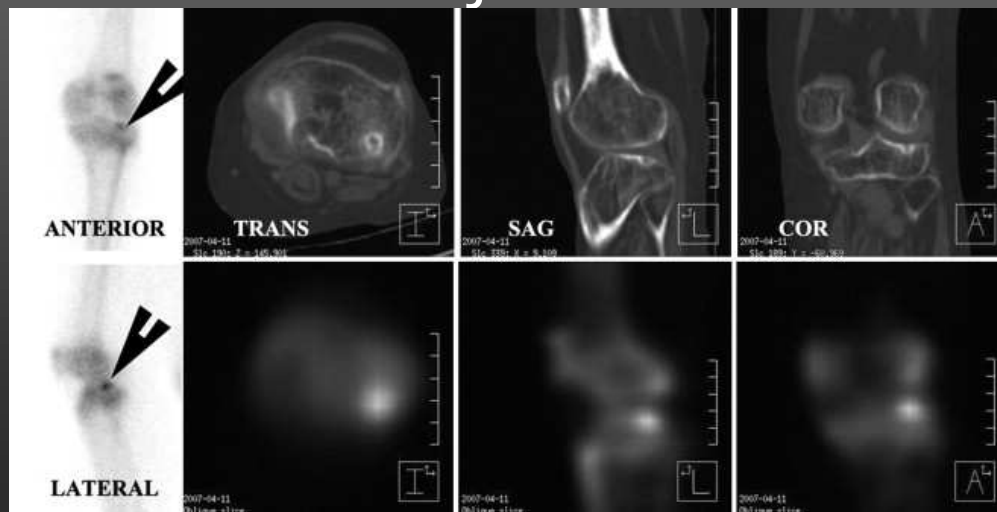
FRACTURES



FRACTURE DU PLATEAU TIBIAL EXT



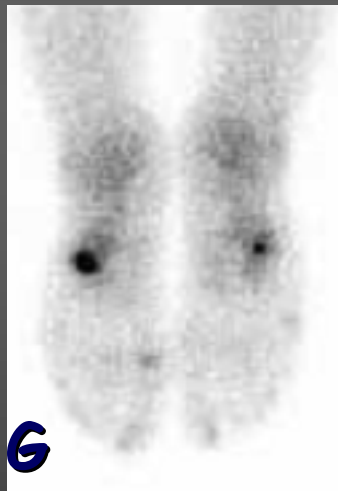
65 ans, chute : # omoplate D
Douleur jambe droite



FRACTURE DE STRESS DU CUBOÏDE

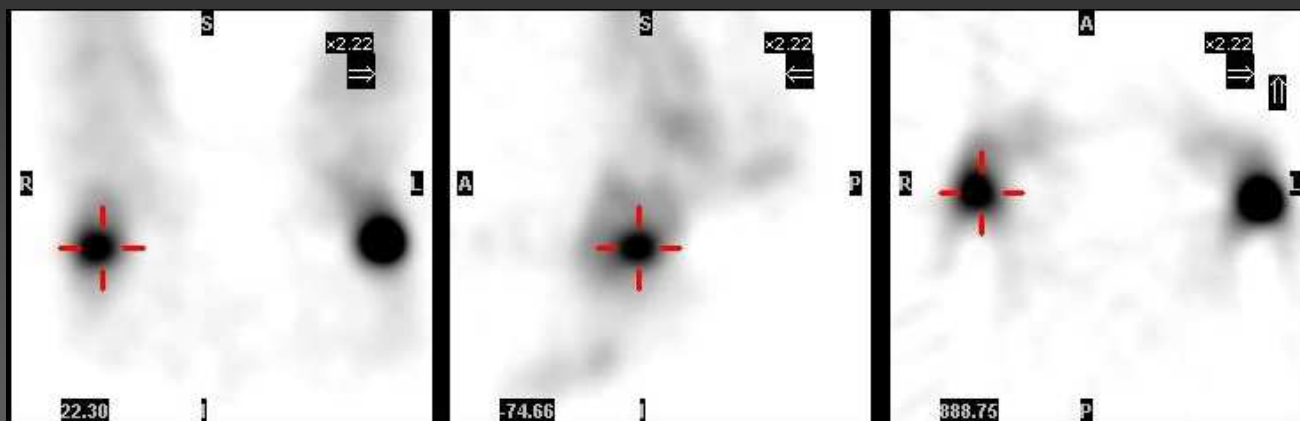


Précoces



Tardifs

Douleur pied G
chez un marcheur



NM Coronals

NM Sagittals

NM Transaxials



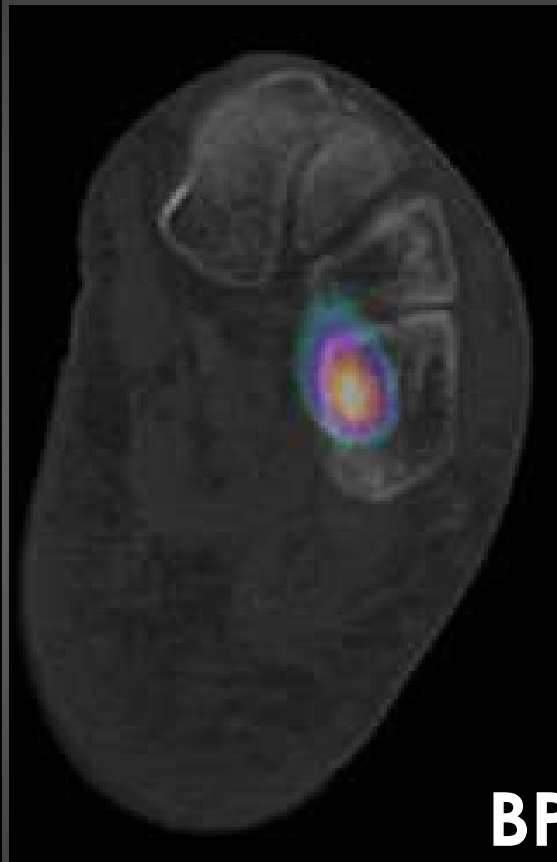
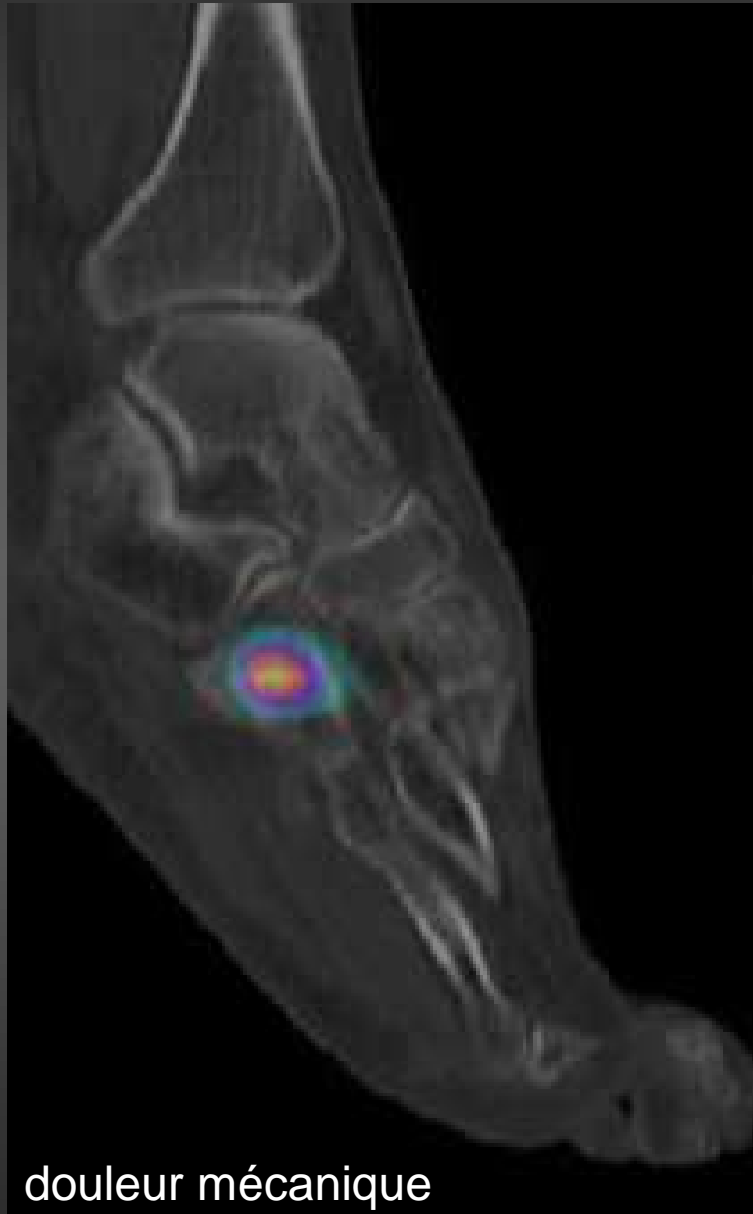
Fused Coronals

Fused Sagittals

Fused Transaxials

Fracture de stress du cuboïde G
arthropathie cuboïde-cunéiforme latéral D

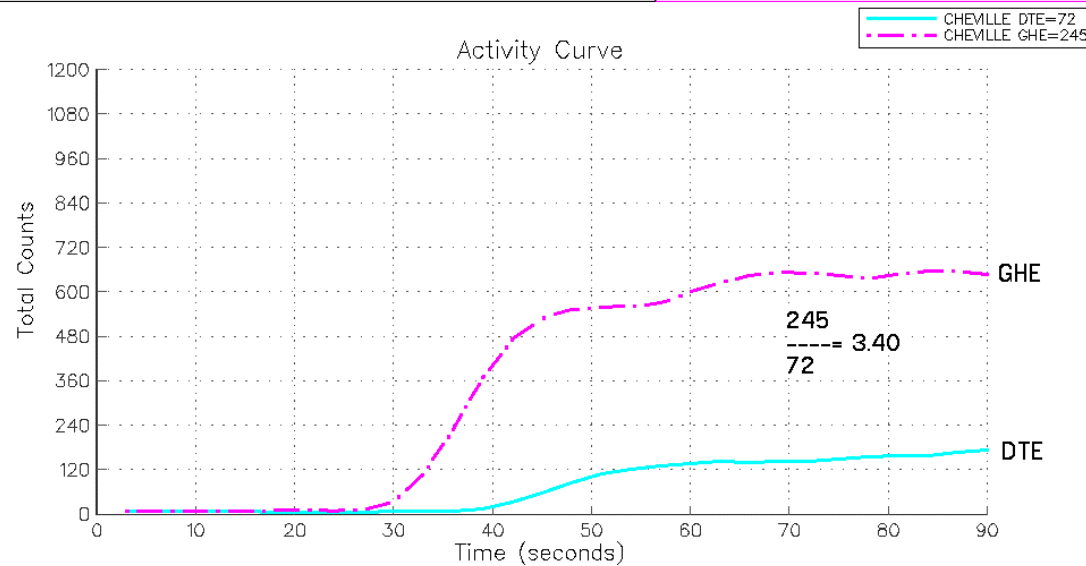
FRACTURE DE STRESS DU CUNEIFORME MEDIAL



SYNTHESE SUR LES FRACTURES

- Sensibilité = 100 %
- Spécificité > 80 % (ostéonécroses)
 - Améliorée par la SPECT-CT
- Devant toute suspicion clinique à Rx normale.
 - Fracture de stress : 80 % de radio normales
 - Silvermann : + 25 à 50 % de fractures versus la radiologie
 - Pour éviter douleur chronique et algodystrophie

ALGODYSTROPHIE



Se = 96 %
Sp = 98 %

œdème, douleur jambe gauche **BP**

OSTEONECROSE

Tête ou condyle fémoral interne
Plateau tibial interne
Talus, calcaneus
Semi-lunaire
Extrémité interne de la clavicule



douleur hanche gauche,
sous corticothérapie.



BP



T1



T2

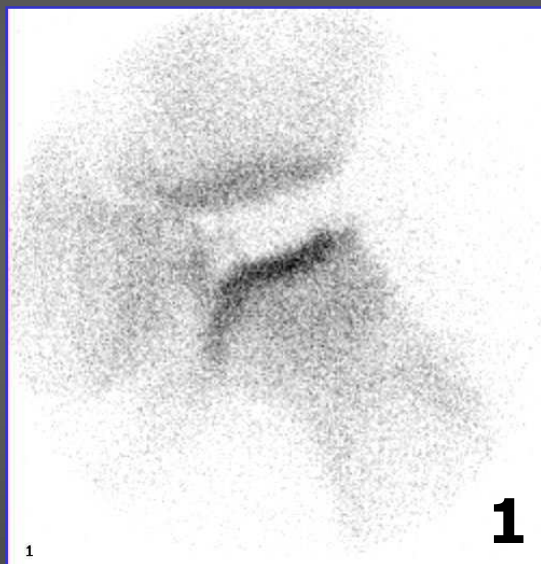
douleur genou, contexte OH

Se = 87 ± 3 % \approx IRM
Sp = 90 ± 10 % = IRM

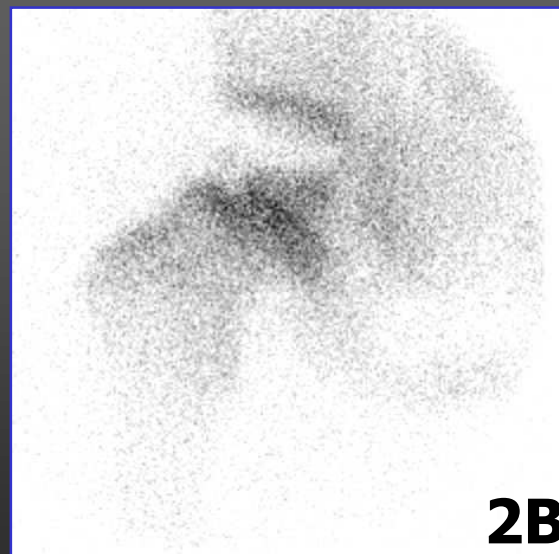
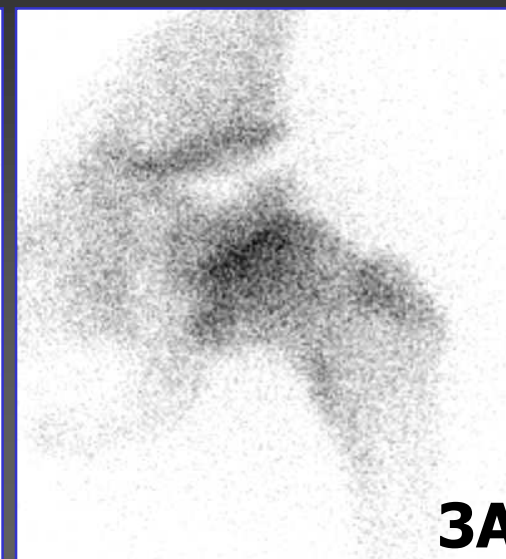
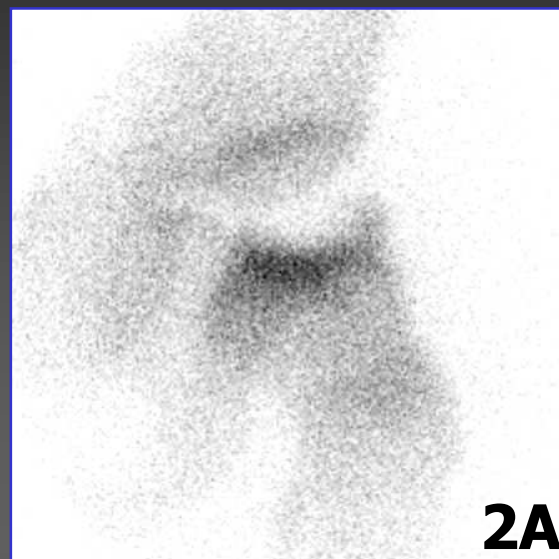
BP

OSTEOCHONDRITE PRIMITIVE

Enfant 7 ans, boiterie



Se = Sp = 95 %
Pronostic
(J Nucl Med 2003; 44)

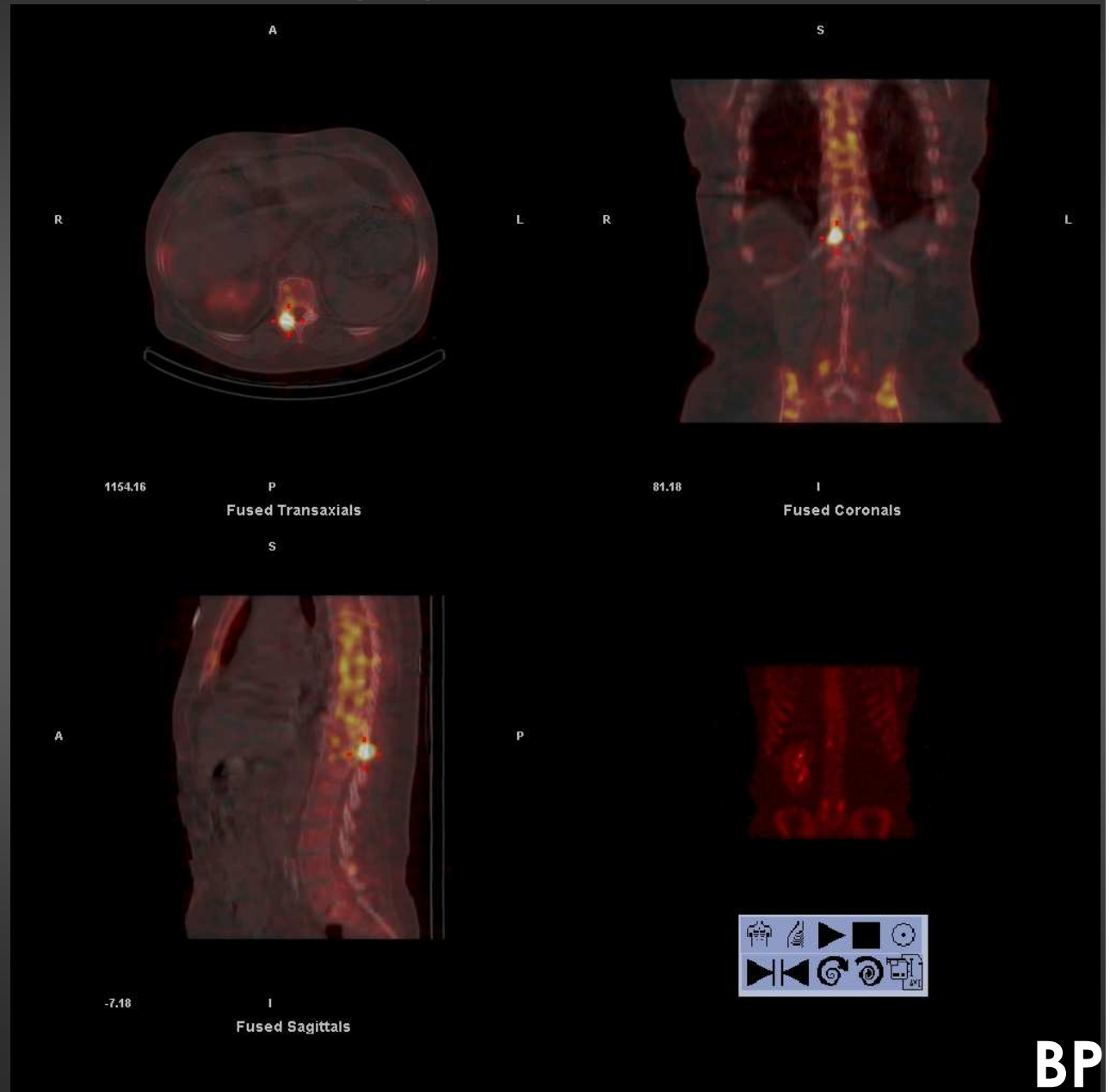


BP

ARTHROSE

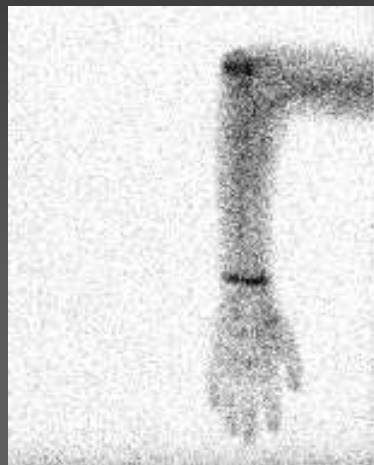


67 ans, dorsalgie
Acromégalie
Atcd: Spondylodiscite
L5-S1



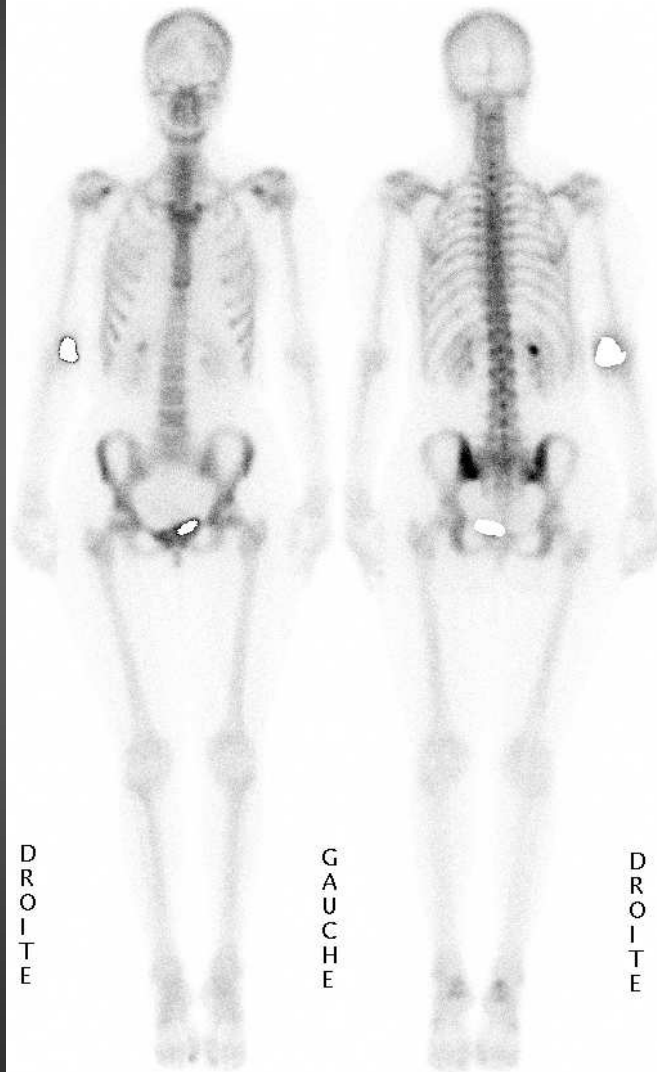
OSTEO-ARTHRITES

Douleur coude



ostéo-arthrite infectieuse

SCINTIGRAPHIE OSSEUSE
Douleurs diffuses



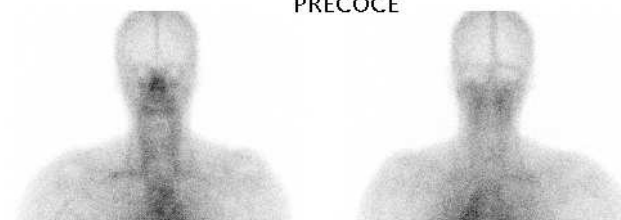
Maladie de Crohn



FA 5MN

FP 5MN

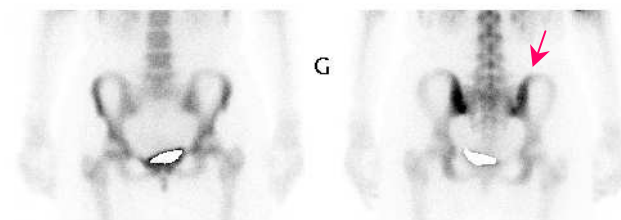
PRECOCE



FA 5MN

FP 5MN

TARDIFS



G

FA

FP

TARDIFS



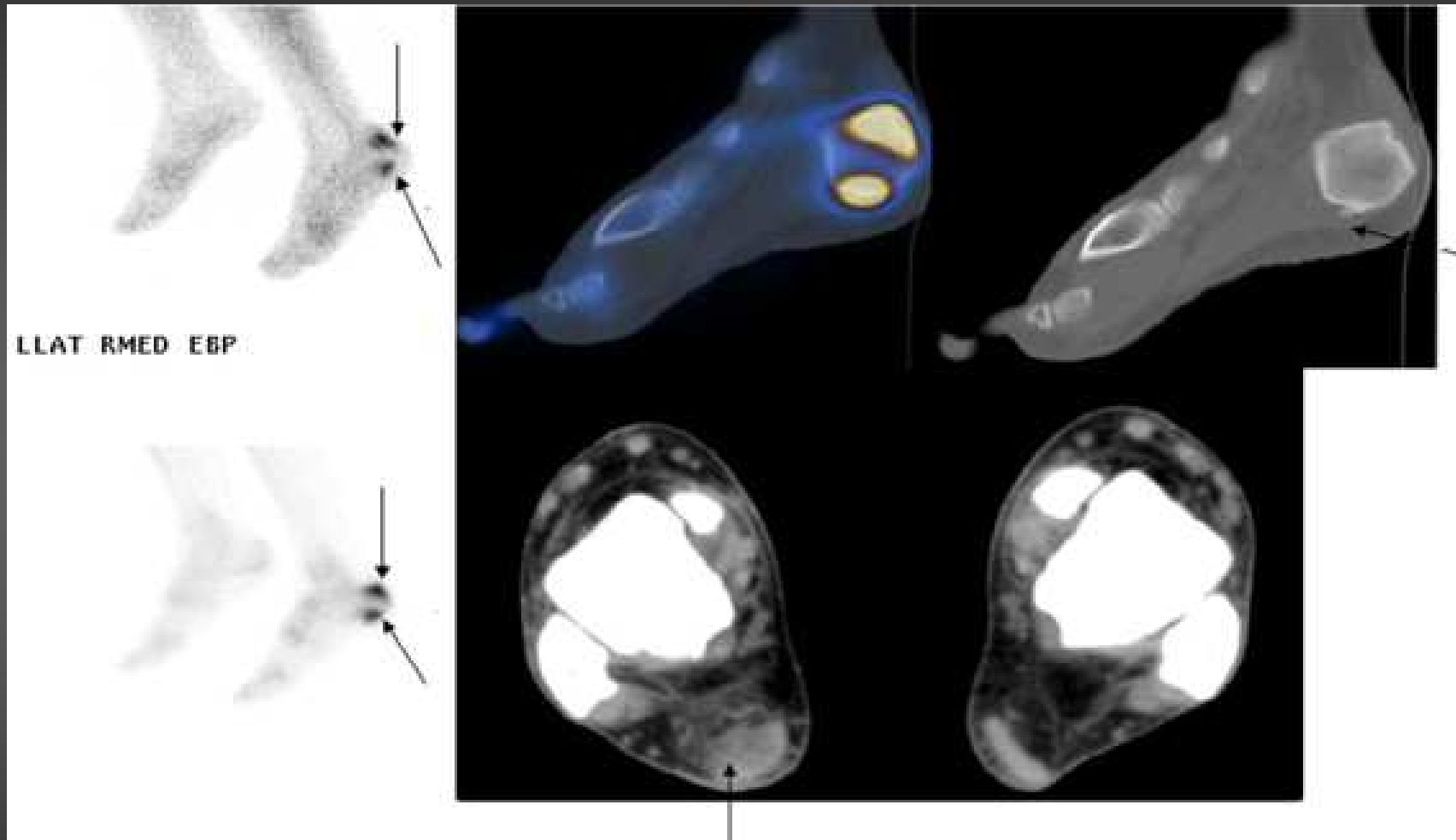
DT



GCHE

BP

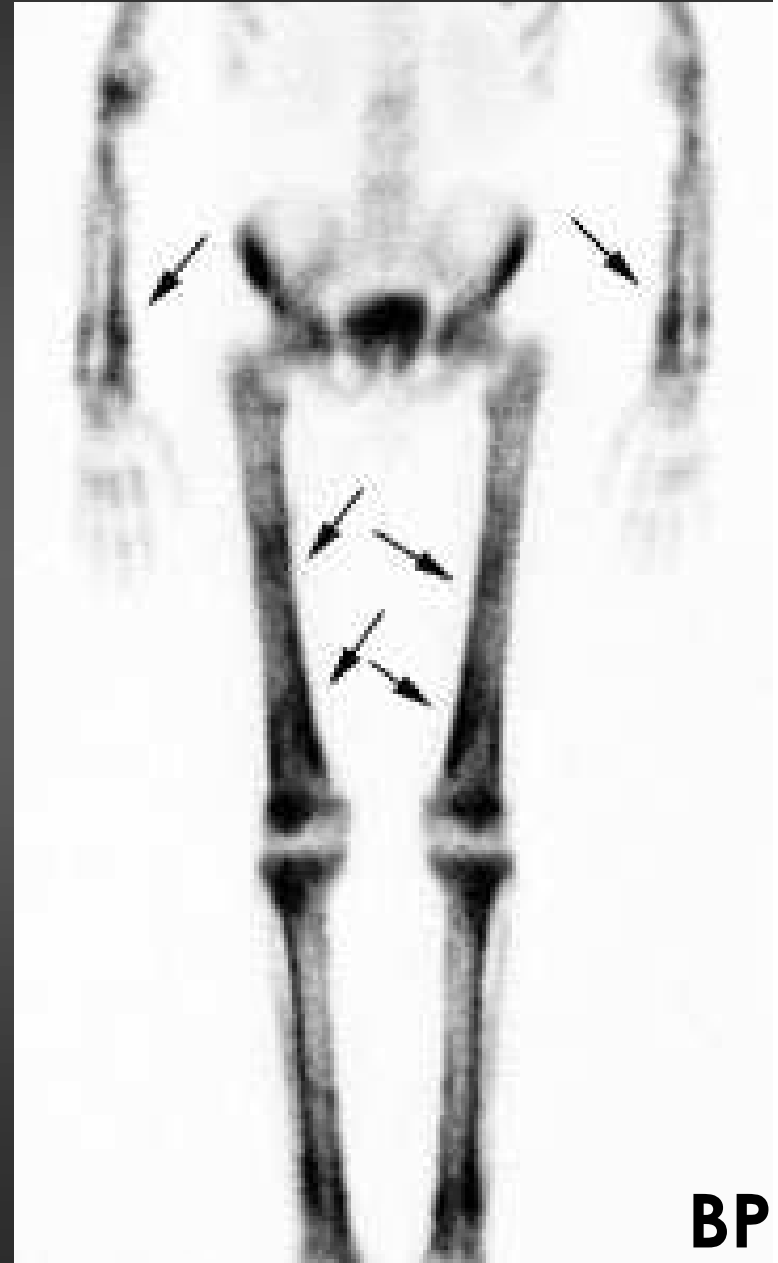
ENTHESOPATHIES



Fasciite plantaire
Boursite rétro-calcaneéenne, tendinite du tendon d'Achille

OSTEOARTHROPATHIE HYPERTROPHIANTE

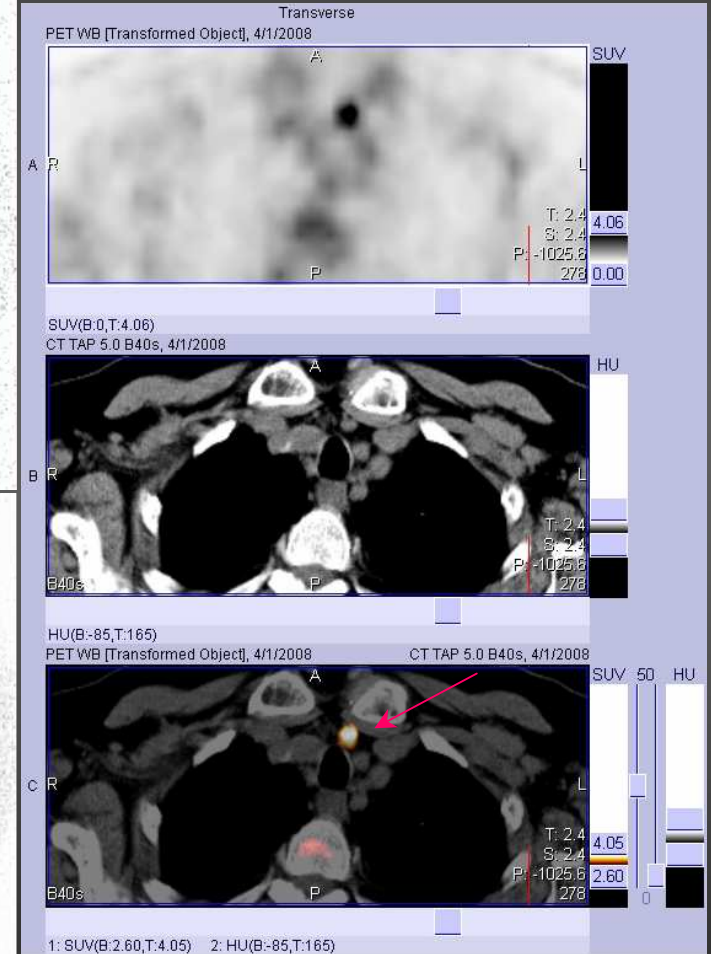
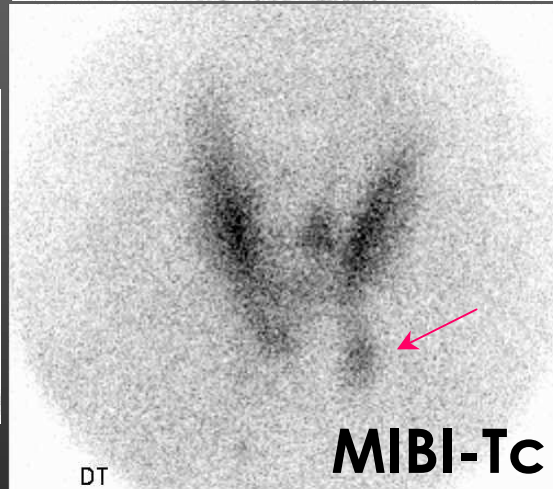
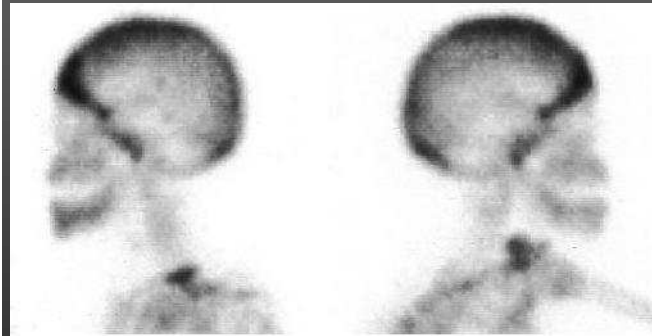
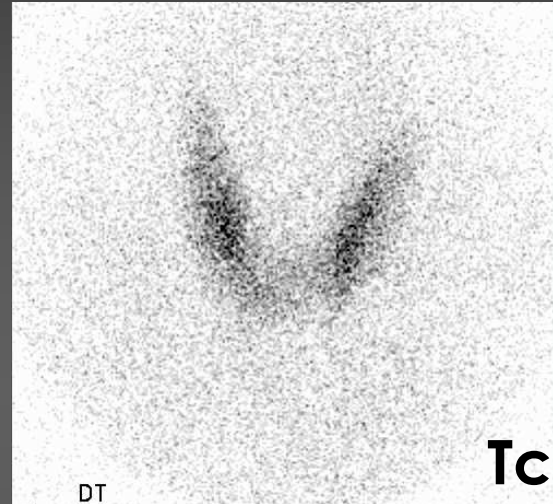
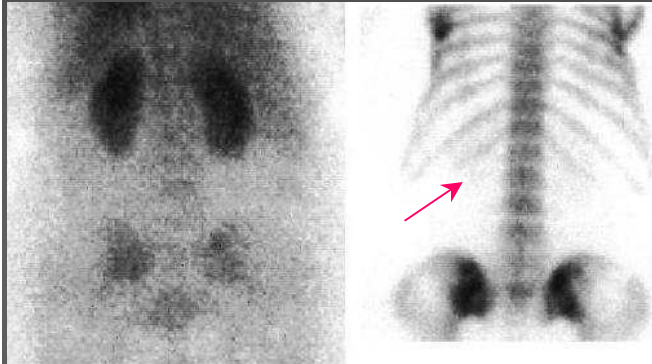
Fumeur...



BP

OSTEOPATHIES METABOLIQUES

Lithiases rénales \Rightarrow hypercalcémie

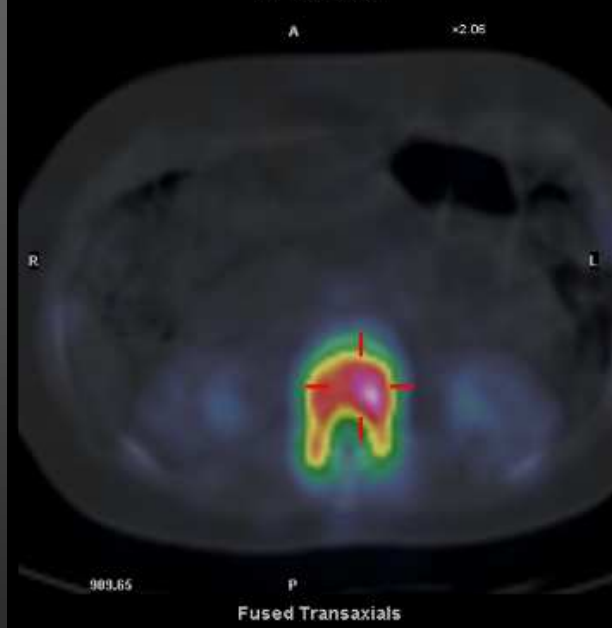
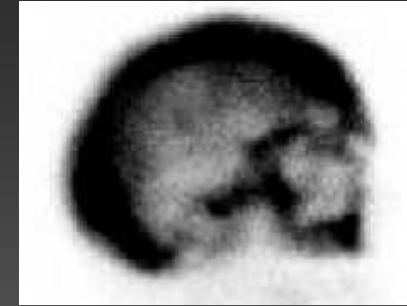
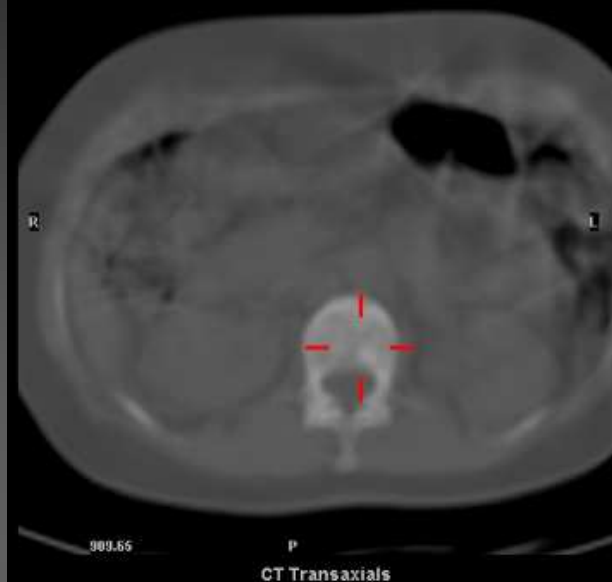
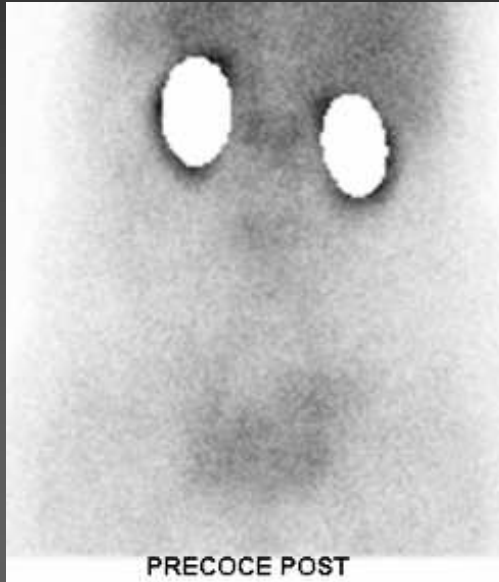


BP

FDG

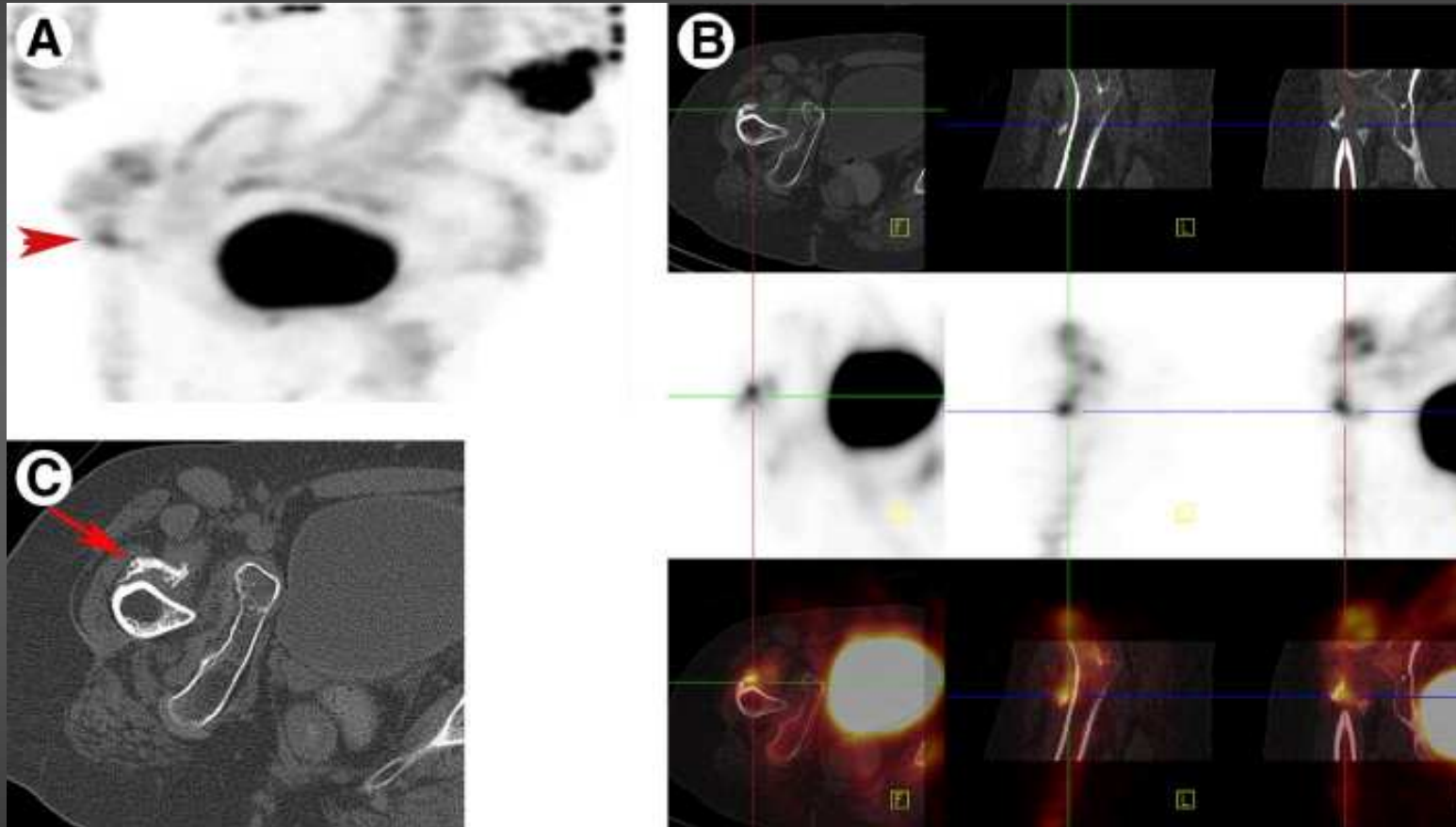
Douleurs osseuses, hypoacusie

PAGET



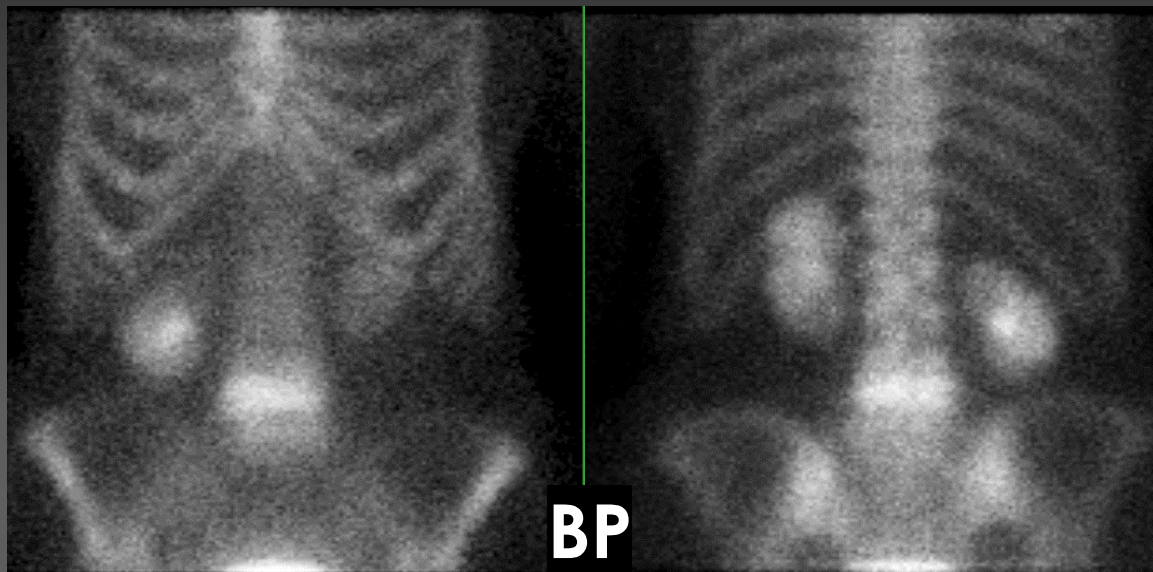
OSSIFICATIONS HETEROTOPIQUES

Douleurs (pelvienne ?) d'un enfant infirme moteur cérébral



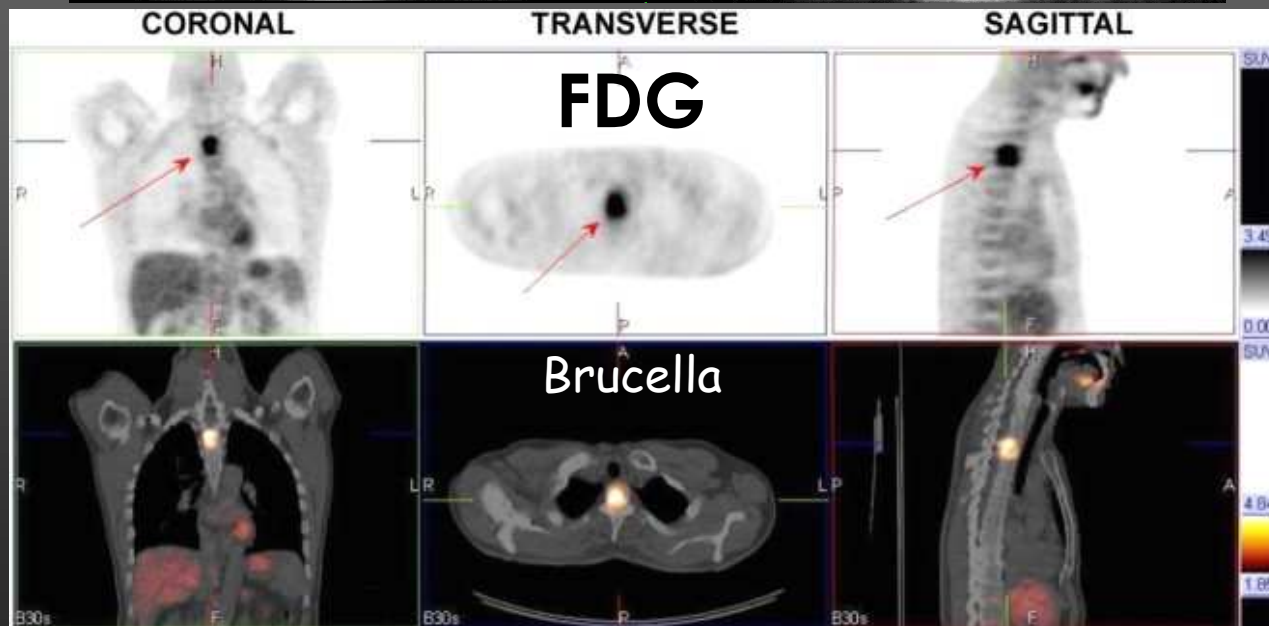
Myosite ossifiante

SPONDYLODISCITE ET SPONDYLITE



Syndrome infectieux

Pas d'indication de PN
car
Se \approx 50 %
MO + encapsulation



Se = 100 %
Sp = 75 % (Sdiscite)
Sp = 90 % (Site)
FDG > SPECT (Ga, BP)
FDG > IRM

INFECTIONS DE PROTHESES

SPECT-CT: PN+Colloïdes

Se = 100%

Sp = 96 ± 4 %

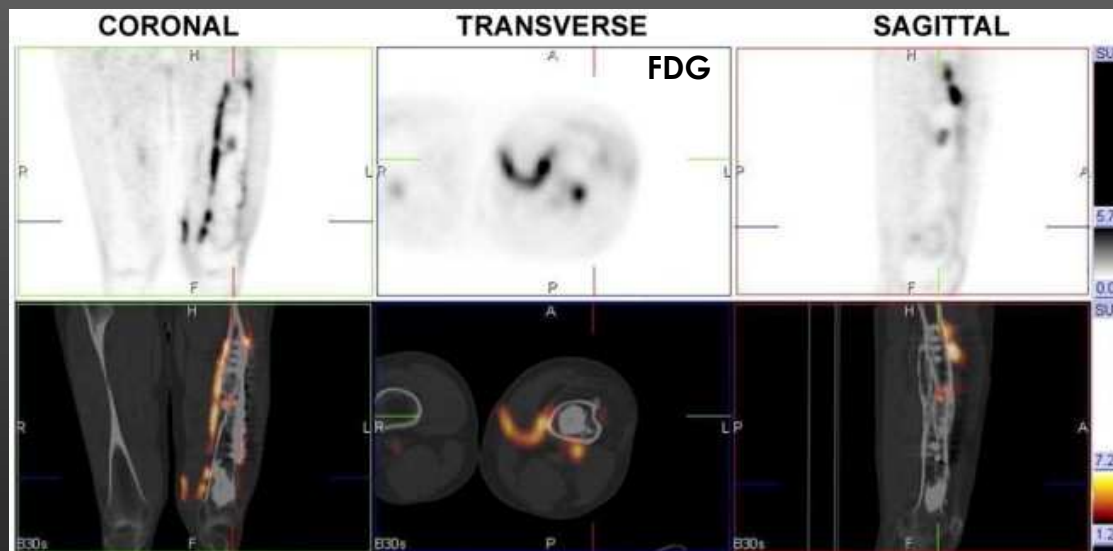
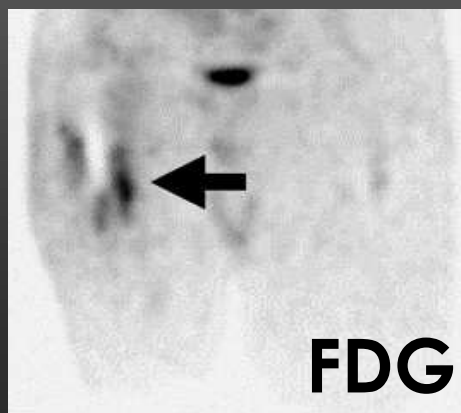
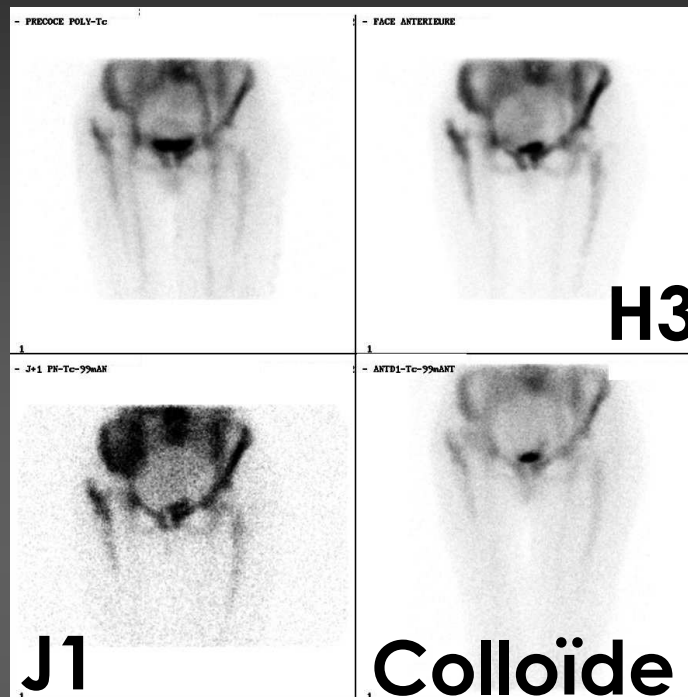
PET-CT FDG: critères ?

Se = 90%

Sp = 89 % (PTH)

Sp = 72 % (PTG)

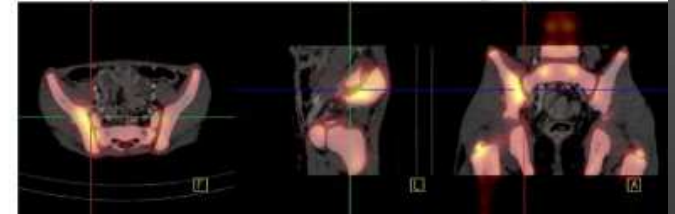
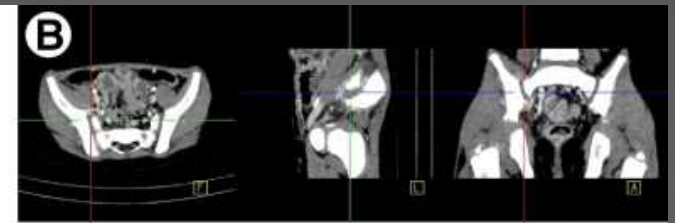
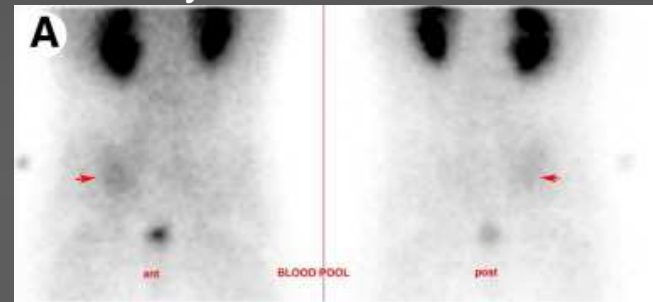
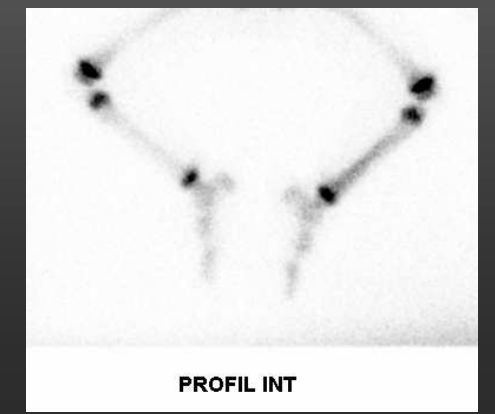
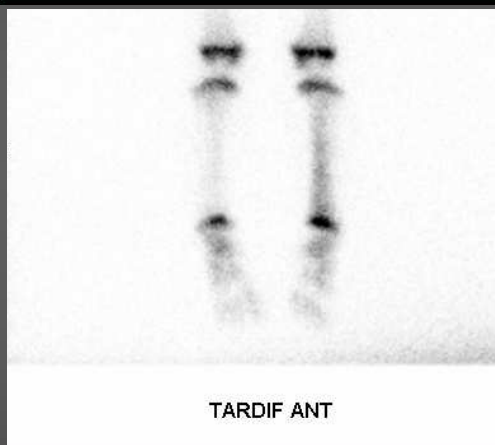
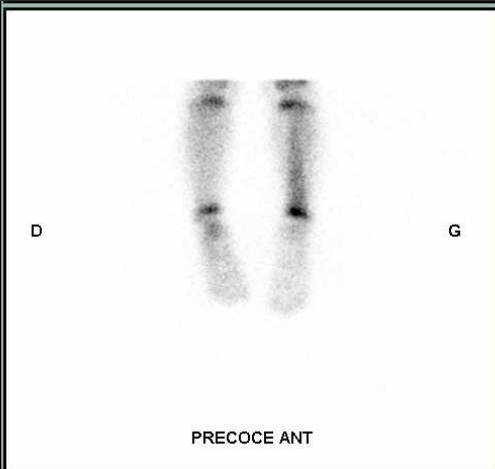
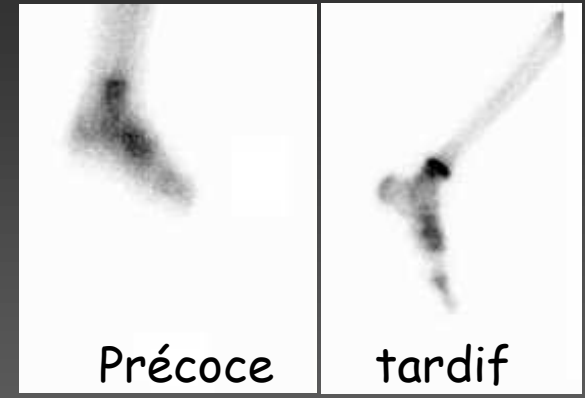
Prothèse
douloureuse



OSTEOMYELITE

Se = $91 \pm 4 \%$
 Sp = 86 % avec CT
 Sp = 99 % avec PN
 Radio normale < M1

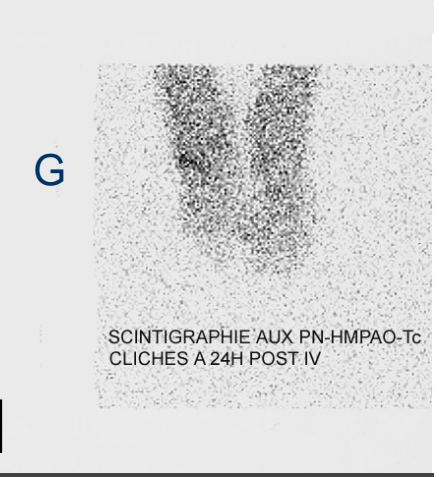
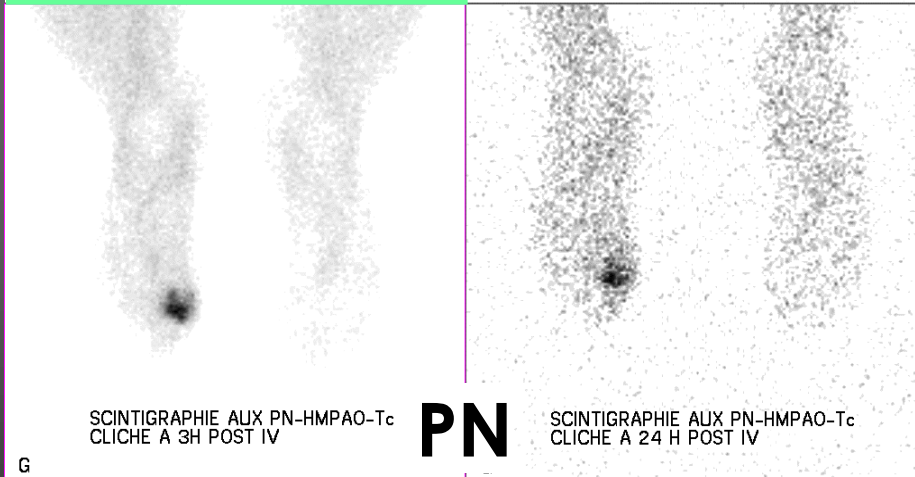
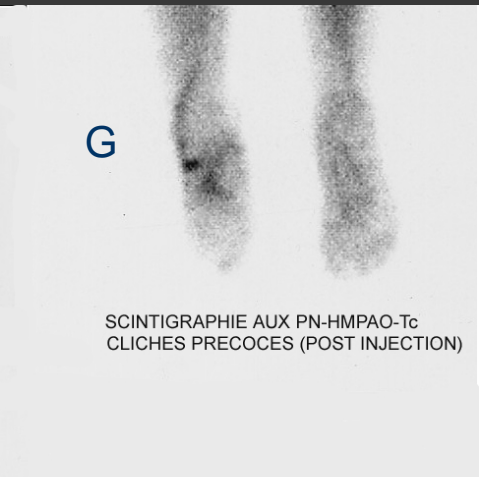
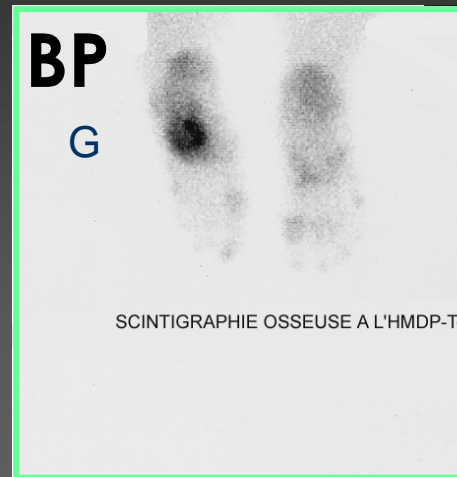
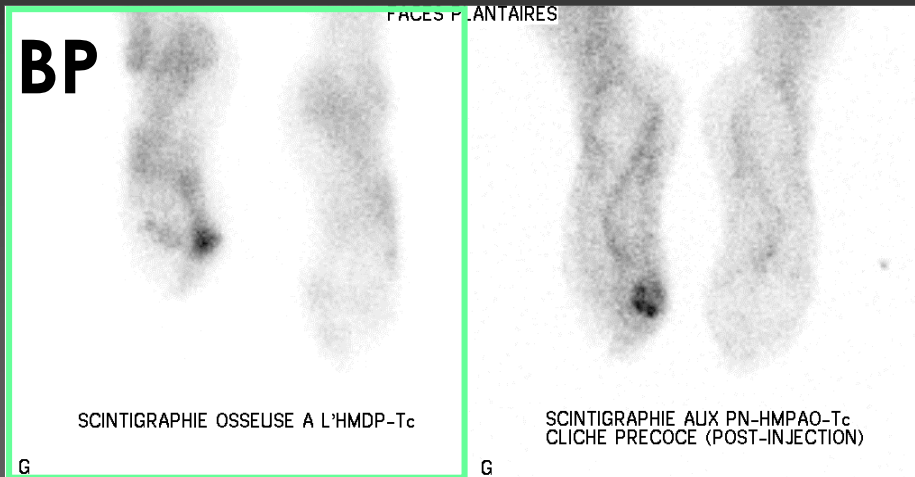
Syndrome infectieux



FDG-PET : { Se = $97 \pm 3 \%$
 Sp = $93 \pm 7 \%$

BP

OSTEOMYELITE DU PIED DIABETIQUE



Ostéite de l'hallux gauche.

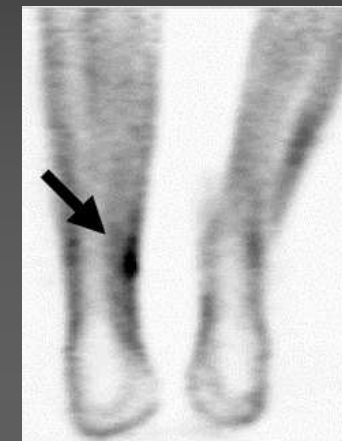
Neuroarthropathie

Se = 80 ± 8 %
Sp = 80 ± 11 %

OSTEOMYELITE DU PIED DIABETIQUE



Ostéomyélite



Cellulite

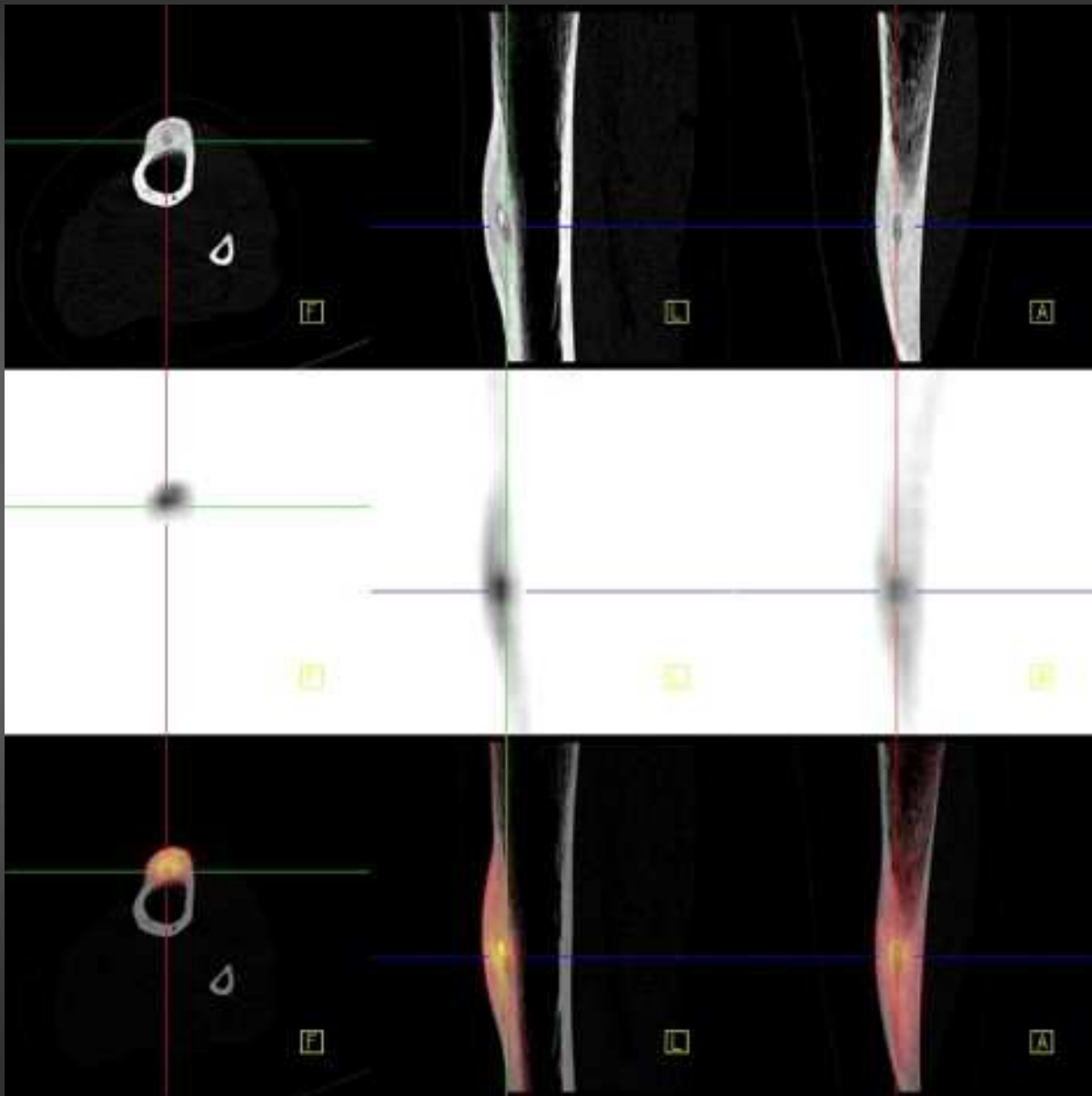
Se = 100 %
Sp = 86 %

- ✓ Moins sensible à l'activation médullaire: FDG > DP+PN*
- ✓ Moins longtemps fixant sur fractures
- ✓ Meilleure résolution

SYNTHESE SUR LES INFECTIONS OSSEUSES

	Tc-HDP	Tc-PN	Tc-Colloïdes	Ga-Citrate	F-DG
SPONDYLITES	+	- -	-	+/-	++
SPONDYLODISCITES	++				+
INFECTION DE PROTHESE	++	++	++	-	+
OSTEOMYELITE	++	++	++	+/-	++
PIED DIABETIQUE	+/-	+	+/-	-	++
SACRO-ILEITE	++	-	-	-	+/-

OSTEOME OSTEOIDE



Jeune adulte,
douleurs nocturnes
calmées par l'aspirine

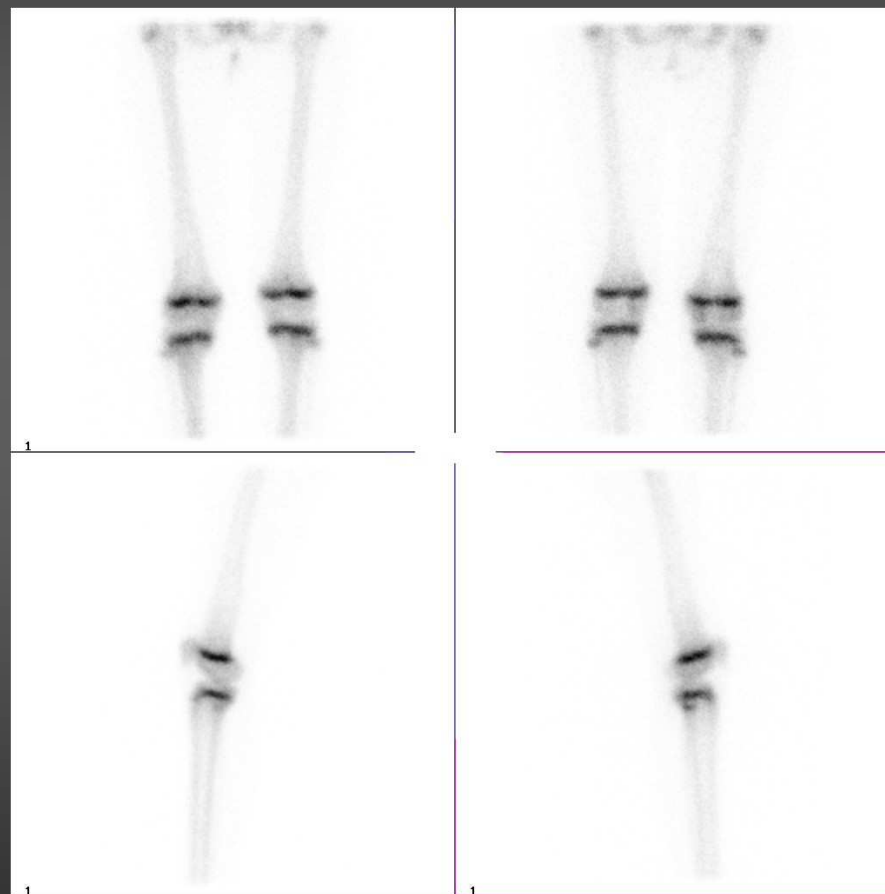
Se = 100 %
Sonde per-opératoire
Idem ostéoblastome

KYSTE OSSEUX

Fillette de 10 ans
douleurs du genou



IRM



BP

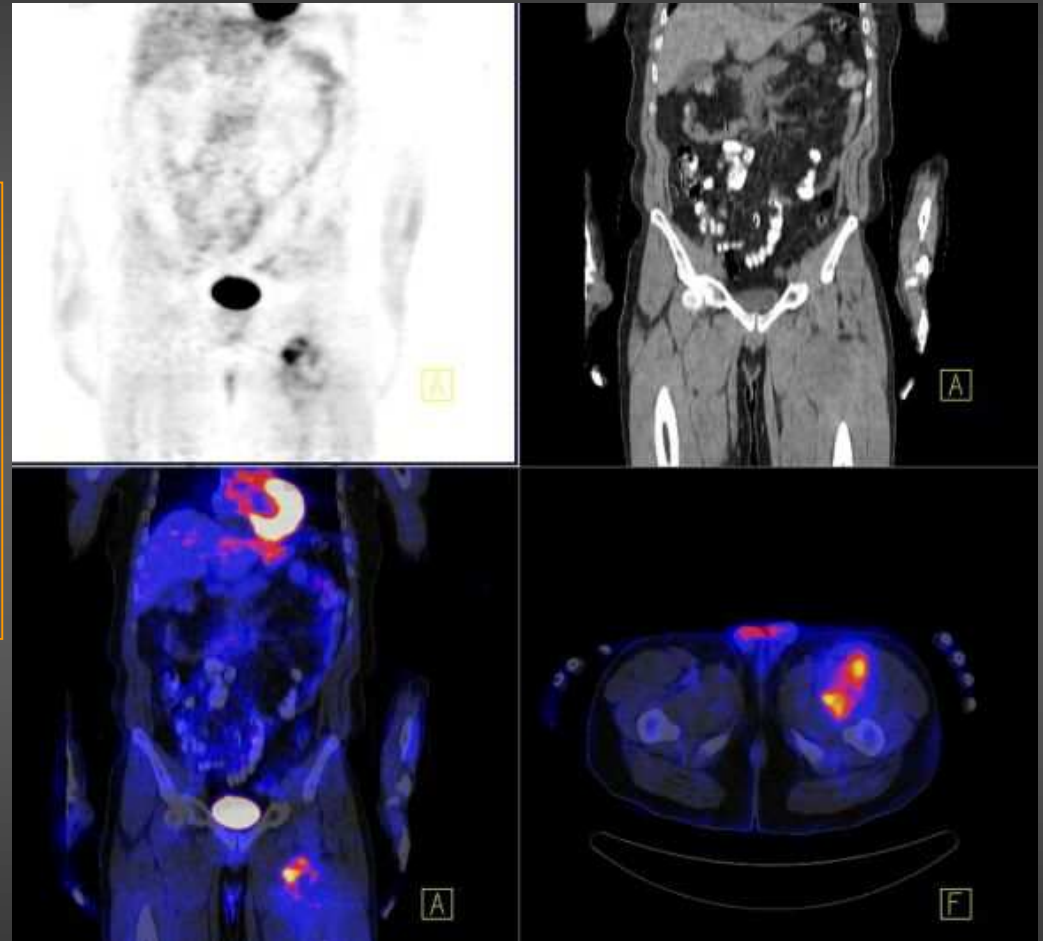
SARCOMES DES TISSUS MOUS

PET-CT au 18-FDG pour :

- Guidage de biopsies (B2)
- Recherche de récurrence locale (B2)

Se = 90 %

Sp = 80 %



liposarcome

SARCOMES OSSEUX

Diagnostic : clinique, radio, biopsie

FDG pronostique ?

Bilan d'extension métastatique :

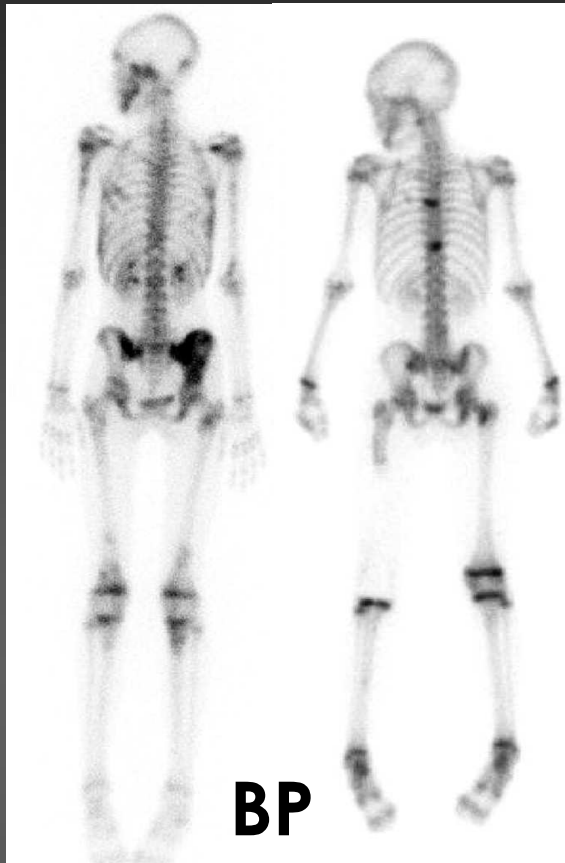
métastase pulmonaire: $Se(FDG) \leq CT$ (résolution)

Ewing : $Sp(FDG) > BP$

Ostéosarcome : $Se(BP) > FDG ?$

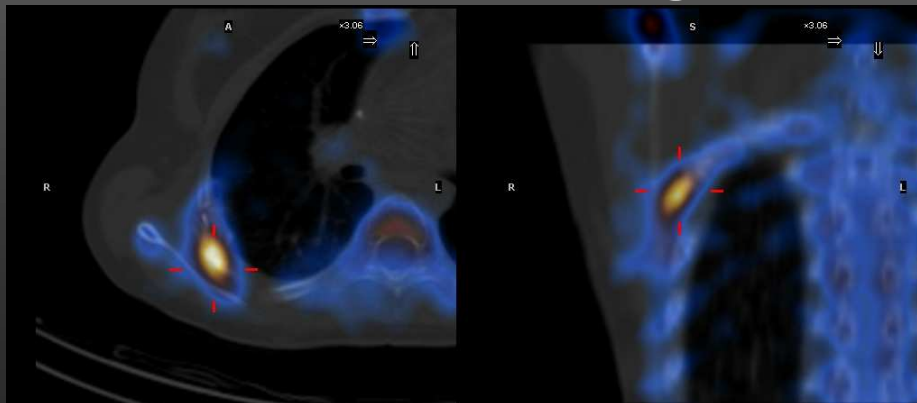
Efficacité thérapeutique :

$FDG > BP$ (Flare), CT et IRM

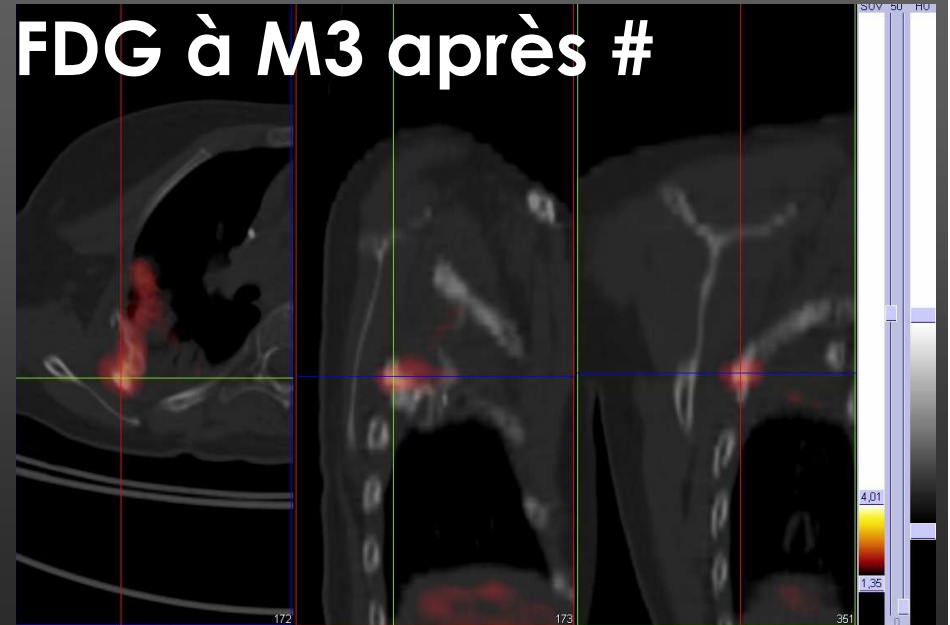


BP

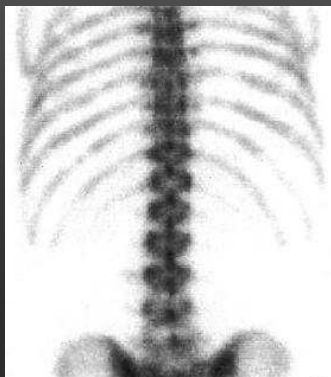
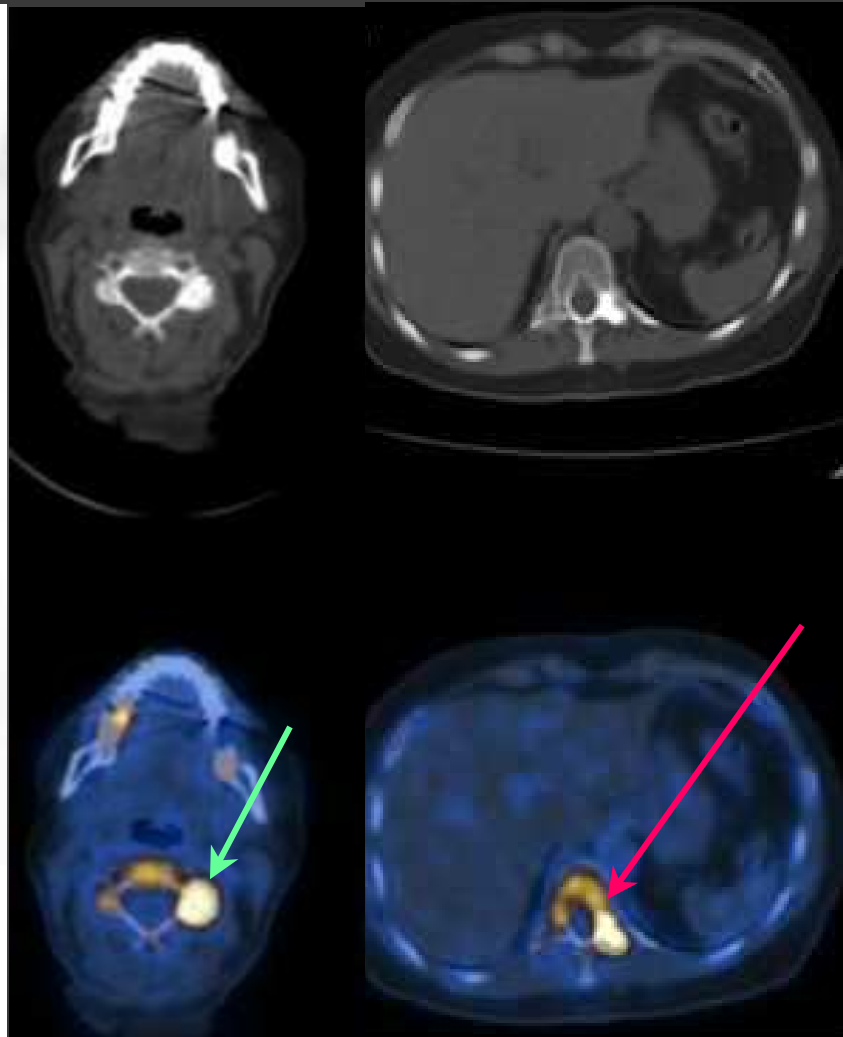
BP fin de ttt d'Ewing : K5



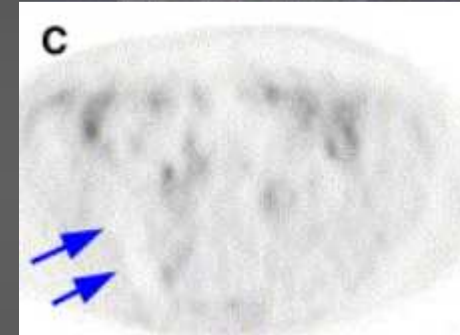
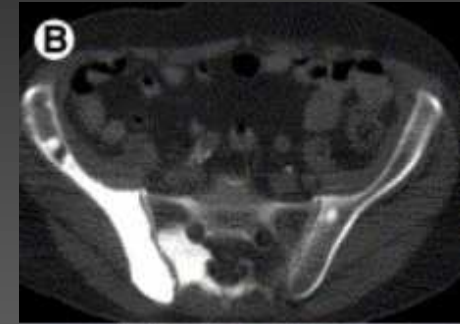
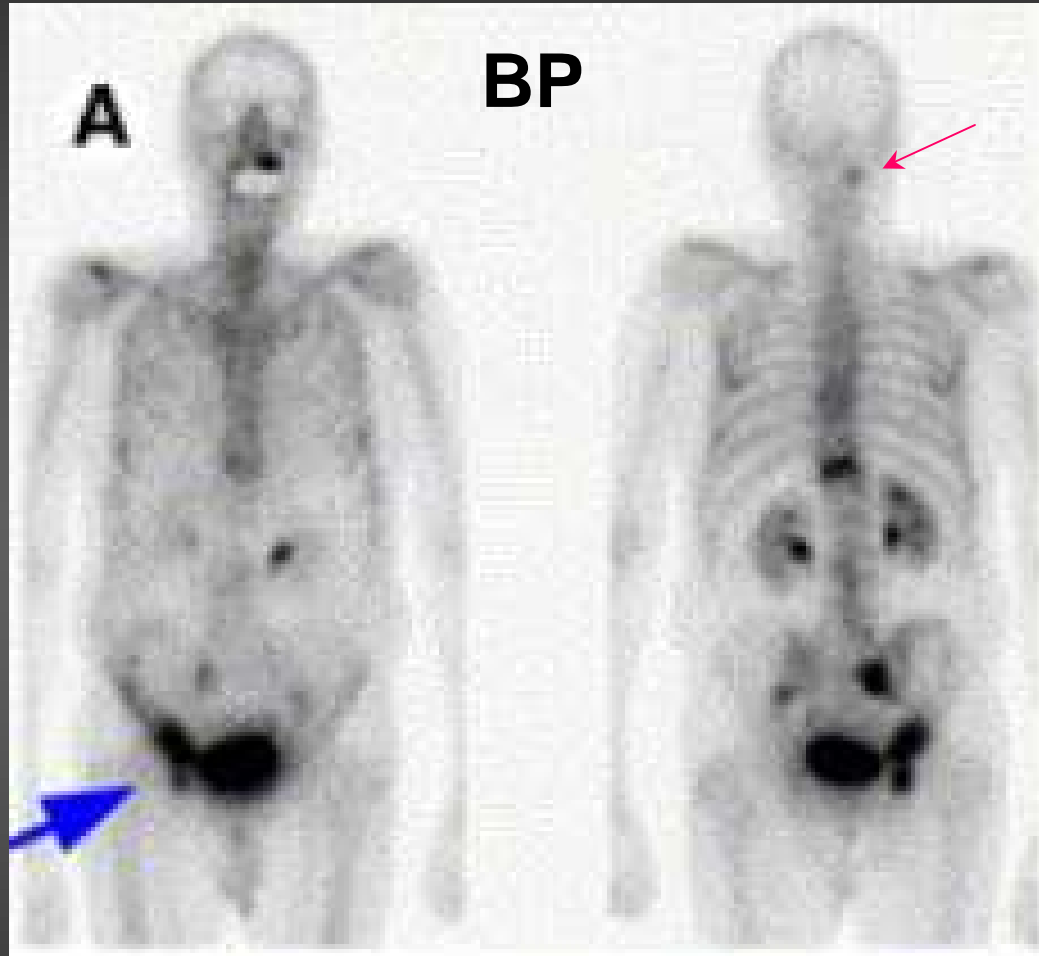
FDG à M3 après #



CANCER DU SEIN



CANCER DE PROSTATE



Se (DP) >> Se(FDG)
18FDG-PET + si méta agressive

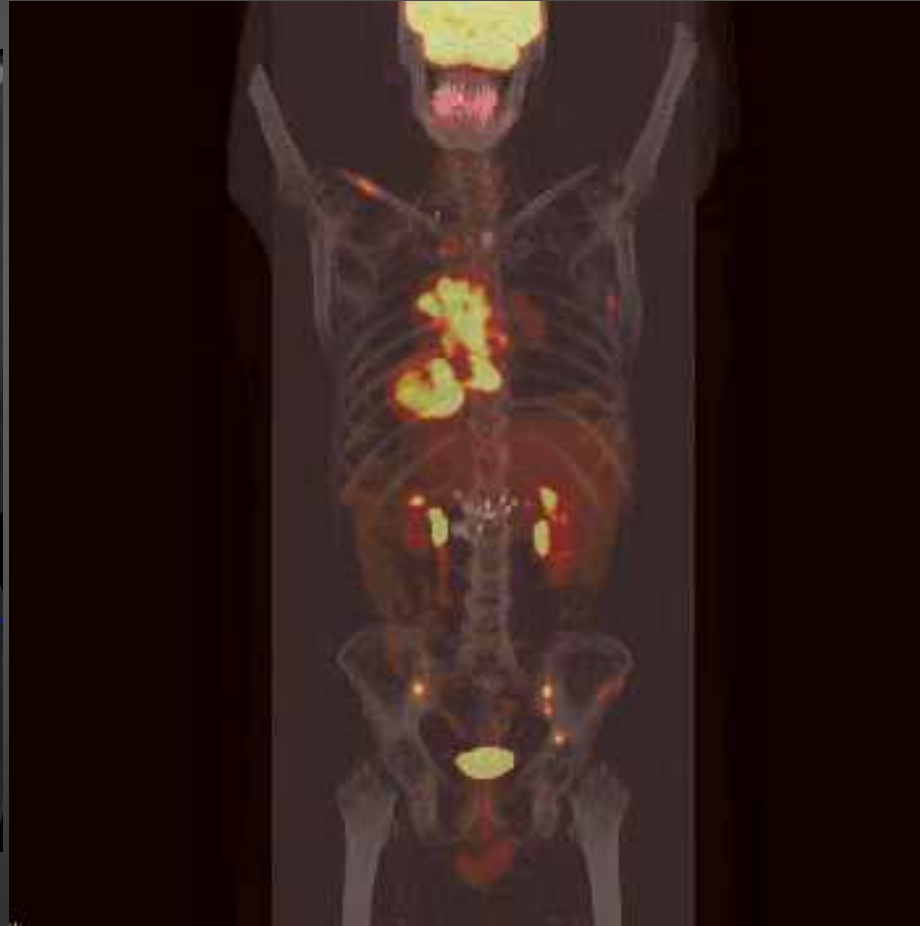
FDG

HODGKIN, MYELOMES, LMNH FOLLICULAIRES OU AGRESSIFS



MYELOME

FDG



HODGKIN



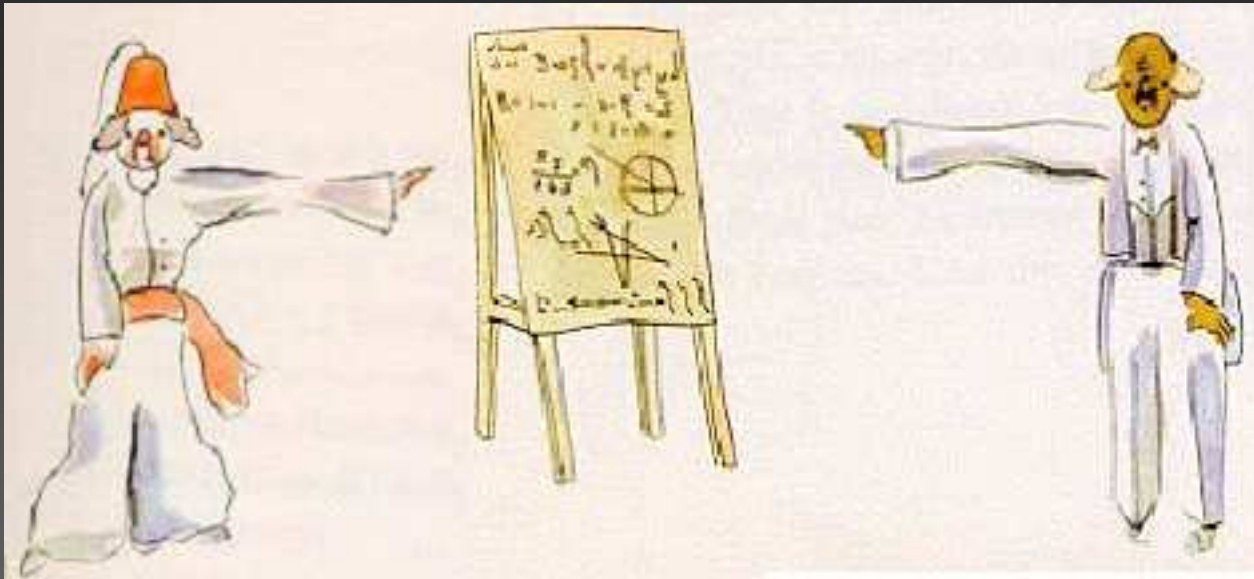
MYELOME Ig D

SYNTHESE SUR LES METASTASES OSSEUSES

	Tc-HDP ou FNa	F-DG
prostate, carcinoïde, CMT (ostéocondensant)	+	FN sauf si agressif
Thyroïde (lytique, sauf rein), MH, LMNH agressif ou folliculaire, myélome		+
Sarcomes (BE, suivi)	+/-	+
poumon, sein, col de l'utérus, ovaire, testicule, digestif	+ (Se sein ?)	+ (Sp ?)
Résolution	1 cm	1/2 cm
Tissus mous	- sauf ossification	+
Flare, fractures	6 mois	3 mois

Bibliographie « didactique »

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Merci de votre attention...