

BONE SCAN

Nuclear medicine imaging detects distribution of injected radiolabelled tracer in bone.

- ① Inject radiolabelled tracer
- ② Gamma camera recording of photoemission

Radiolabelled tracers

→ Explains why myeloma may not light up

Technetium 99m affinity for osteoblasts

Gallium 67 " inflammation proteins

Indium 111 autologous leukocytes obtained and labelled

Gamma camera

Flow phase = demonstrates arterial flow & hyperperfusion
1-2 min immediately after injection

Blood pool = 5 min, inflammation results in pooling of blood (soft tissue & bone)

Static phase = 3 hrs, demonstrates bone activity
② - up to 1 hr after arthroplasty

PET

Fluoro deoxy glucose

Positron emission tomography

Cyclotron produces isotope (positron emitting)

Tagged to glucose (FDG), water, amino acids

Camera Gamma ray detector (positron annihilation event)

Computer collects data reconstructs to form image

As bone formation A/w unencumbered THA

PET-CT & PET-MRI

Chrost neuropathy vs CM