

Appendix 4

NUCLEAR MEDICINE BREAK-THROUGH SCAN

- Purpose:** To assess arterial perfusion of the liver and the fraction of radiopharmaceutical tracer that will pass through the liver and lodge in the lungs.
- Agent:** Technitium-99 labelled MAA (Macro-aggregated Albumin)
- Dose:** 150MBq (2–6 mCi [74–222 MBq])
- Equipment:** Any large FOV gamma camera
- Administration:** The patient needs to have a trans-femoral catheter placed in the hepatic artery. The Technitium-99 labelled MAA is injected through the catheter into the hepatic artery by a qualified physician.
- Imaging:** The patient is positioned supine under the gamma camera and the images recorded.
Analogue:
- Anterior and posterior images of abdomen and thorax. Measure 700k -1000k cts for abdomen and equivalent time for thorax.
 - Right lateral Abdo - same time acquisition as for Anterior.
- Digital:
- 4 frames; 300"/ frame. 64 x 64 matrix Word mode.
 - Image anterior and posterior abdomen
 - Image anterior and posterior thorax
- Analysis:** Draw ROI around whole of liver and whole of lung fields. Calculate G mean for liver region and lung region.
Calculate Lung/liver ratio
- Interpretation:** If lung/liver ratio is >10% then there is need for dose reduction of SIR-Spheres®.