

## Superior imaging which can make a difference to diagnosis and patient management.

Dual Source CT scanning with the SOMATOM Definition Flash CT opens the door to a whole new world of diagnostic potential which is simply not possible on a single source scanner.

### Gout Detection

The Dual Energy Gout application visualises deposits of uric acid crystals which are characteristic of gout tophi. Additionally, the application colour codes iodine enhancement so tophi with active inflammatory changes can be differentiated from stable ones. This way, both the molecular cause and the activity of the disease can be shown in a single scan. (Uric Acid = Green).



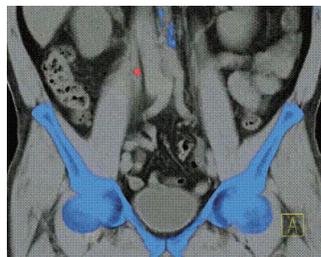
### Characterisation of Renal Calculi

Dual Energy CT can identify urinary calculi and is able to reliably demonstrate their chemical composition, in particular separating uric acid (colour coded red) from other predominantly calcified stones (colour coded blue).

For the first time this unique application can identify those patients who may benefit from non invasive medical treatment of their stone disease.



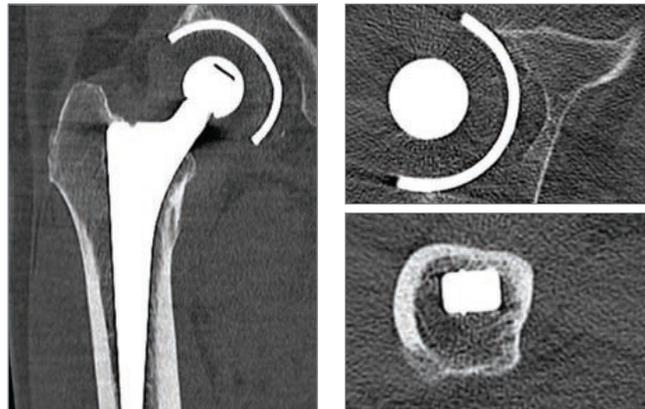
Using Conventional CT imaging the kidney stones can clearly be visualised; however, its composition cannot be characterised.



The kidney stone can be characterised as a uric acid stone and colour coded red.

### Metal artefact reduction

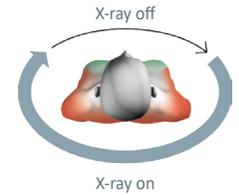
Definition Flash CT using Dual Energy allows the use of monoenergetic high energy images in which metal artefacts are significantly reduced. Metal artefacts pose a significant problem in clinical CT. After implantation of any metallic prostheses or other hardware, visualisation of the implant itself, the interface between implant and bone, and the surrounding tissue may be vital. Clear visualisation is required to exclude a fracture of the hardware, loosening, infection or haematoma. However, metal artefacts severely impair image quality, often rendering it impossible to answer these and relevant diagnostic questions.



DE monoenergetic images show area of osteolysis adjacent acetabular cup of THR with minimal artefact.

### X-Care low dose CT

Unique to the Definition Flash X-Care provides organ sensitive dose protection. In the case of chest scans, X-Care results in 40% less dose to breast tissue by turning off the X-ray beam during anterior portion of the tube rotation, sparing sensitive breast tissue exposure to the primary beam.



Exposure is automatically adjusted at other projections to maintain image quality. The same technique is used in other body parts to protect the thyroid and eye lenses.

### Tissue differentiation and characterisation not possible with single source CT

Two X-ray sources running simultaneously at different energies acquire two data sets showing different attenuation levels. Result: easy classification of the chemical composition of the scanned tissue.



### Information or Bookings:

**Calvary Wakefield Hospital clinic** 8306 5612  
**St Andrew's Hospital clinic** 8402 4401