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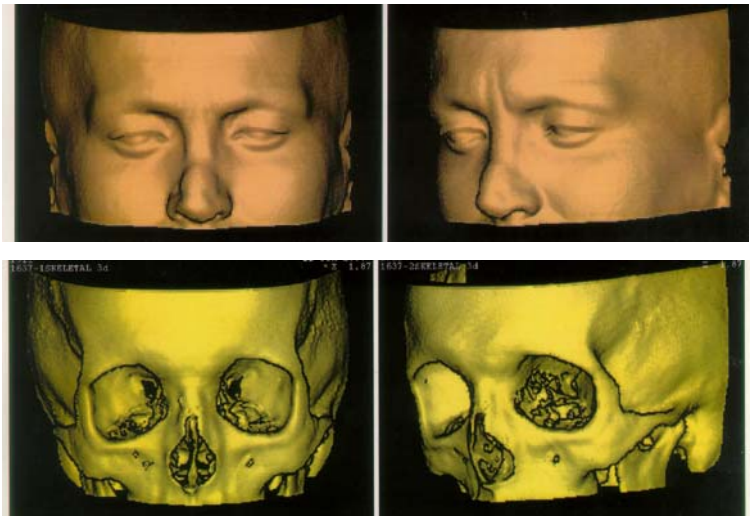
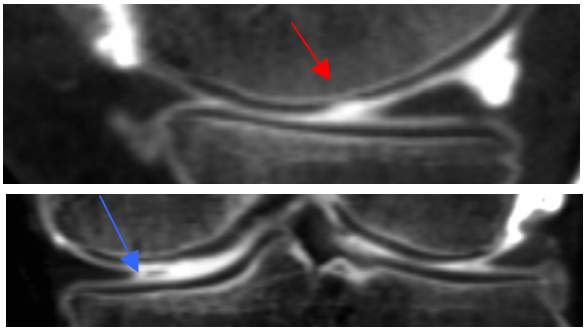
Advanced Ultrafast CT Techniques: State-of-the-Art





Sagittal and coronal reformations from **axial CT Arthrogram** with intra-articular contrast show an apical tear (blue arrow) of the medial meniscus and focal chondromalacia (red arrow).

Q. Can you tell me about the new ultrafast CT scanner at AIC?

It is a new-generation multislice, multi-detector, helical CT scanner capable of full CT imaging including neuro and body imaging with amazing speed and accuracy.

Q. Could you elaborate on the above images?

The images on the left are **3D reconstructions** performed on high-resolution axial images of a **helical CT** sinus series (1 mm resolution). The **top row** images are **3D surface rendering** shown here in two angles (frontal and oblique). The **bottom row** images are at the same angles but showing **3D bone reformations**. The image on the right is a coronal reformation from a **CT Arthrogram** with intra-articular contrast showing an apical tear of the medial meniscus (arrow) in a patient with a pacemaker unable to undergo an MRI study.

Q. How do you obtain these incredible images?

The axial images were obtained on the **fast helical CT scanner** and sent to a **3D Silicon Graphics Workstation**. The 3D and multiplanar reconstructed images were then obtained on the workstation. These reconstructions can sometimes help in surgical planning.

Q. Tell me more about this 3D Workstation.

The **3D Silicon Graphics Workstation** is a powerful computer equipped with state-of-the-art imaging tools that allow for amazing image manipulation, including 3D and multiplanar reconstructions. Other features include **coronary calcium scoring**, **virtual endoscopy** (CT bronchoscopy and colonoscopy), **3D and 4D CT angiography**, and **3D dental scans.** Of course, routine CT scanning with incredible resolution and speed is an inherent part of this ultrafast helical CT scanner.

For more information regarding the above or any other questions, please call me at (661) 255-0060.

Ray Hashemi, MD
Ray H. Hashemi, M.D., Ph.D.
Director