CT Imaging Applications
--Cranio Synostosis Project

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DICOM

• Digital Imaging and Communications in Medicine (DICOM) is a standard for storing and transmitting medical images enabling the integration of medical imaging devices such as scanners, servers, workstations, printers, network hardware, and picture archiving and communication systems (PACS) from multiple manufacturers. It has been widely adopted by hospitals, and is making inroads into smaller applications like dentists' and doctors' offices.

• DICOM is used worldwide to store, exchange, and transmit medical images. DICOM has been central to the development of modern radiological imaging: DICOM incorporates standards for imaging modalities such as radiography, ultrasonography, computed tomography (CT), magnetic resonance imaging (MRI), and radiation therapy. DICOM includes protocols for image exchange (e.g., via portable media such as DVDs), image compression, 3-D visualization, image presentation, and results reporting.
Cranio Synostosis

- **Craniosynostosis** is a condition in which one or more of the fibrous sutures in an infant (very young) skull prematurely fuses by turning into bone (ossification), thereby changing the growth pattern of the skull.

![正常与颅缝合](NORMAL METOPIC CRANIOSYNOSTOSIS.webp)
Converting DICOM to 3D meshes using Osirix
Skull Mesh

Normal Skull
Skull Mesh

Before Surgery
Skull Mesh

Right After Surgery
Skull Mesh

1-2 years After Surgery