

CT Imaging Applications --Cranio Synostosis Project

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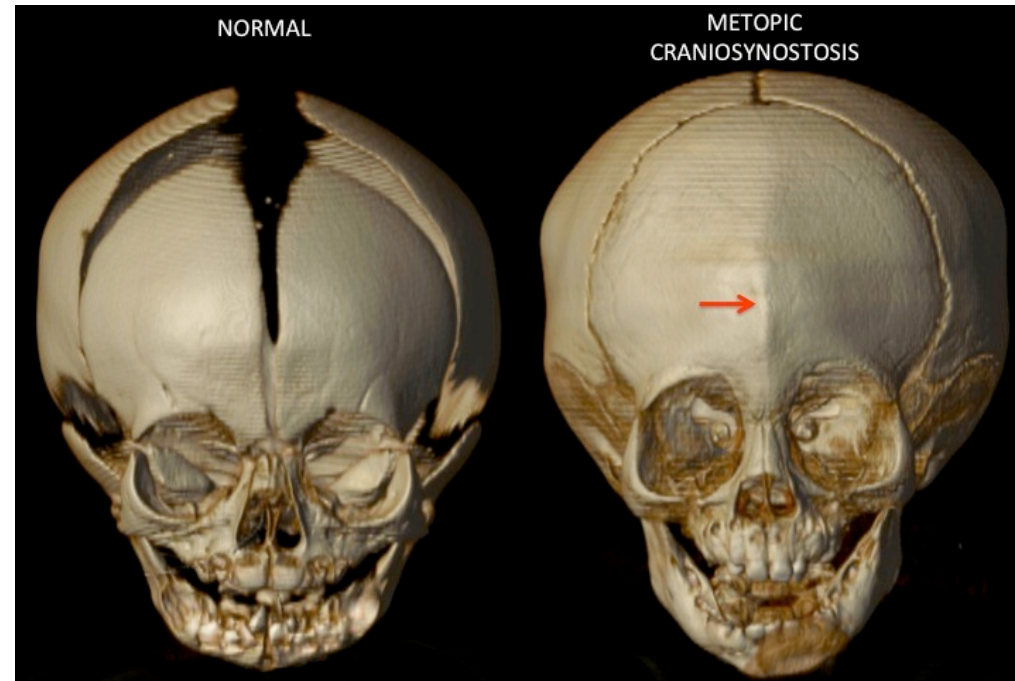
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DICOM

- **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

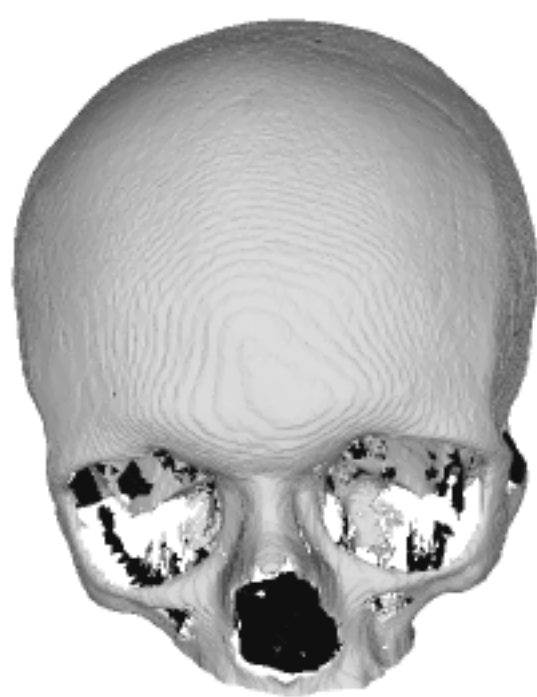
Cranio Synostosis

- **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.



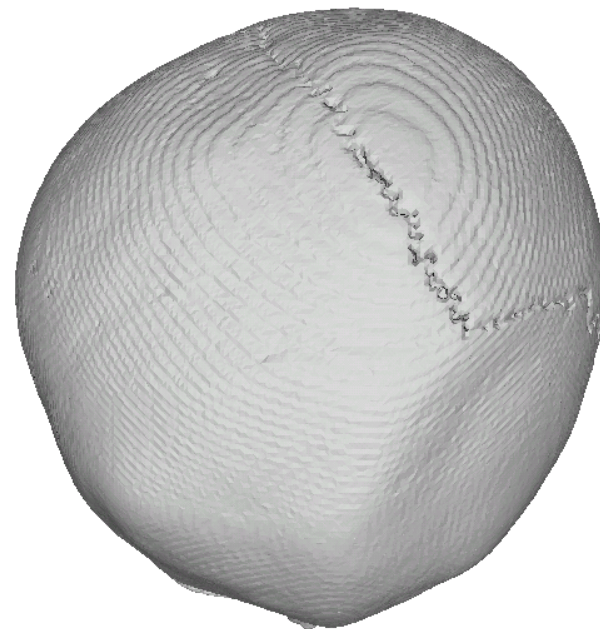
Converting DICOM to 3D meshes using Osirix

Skull Mesh



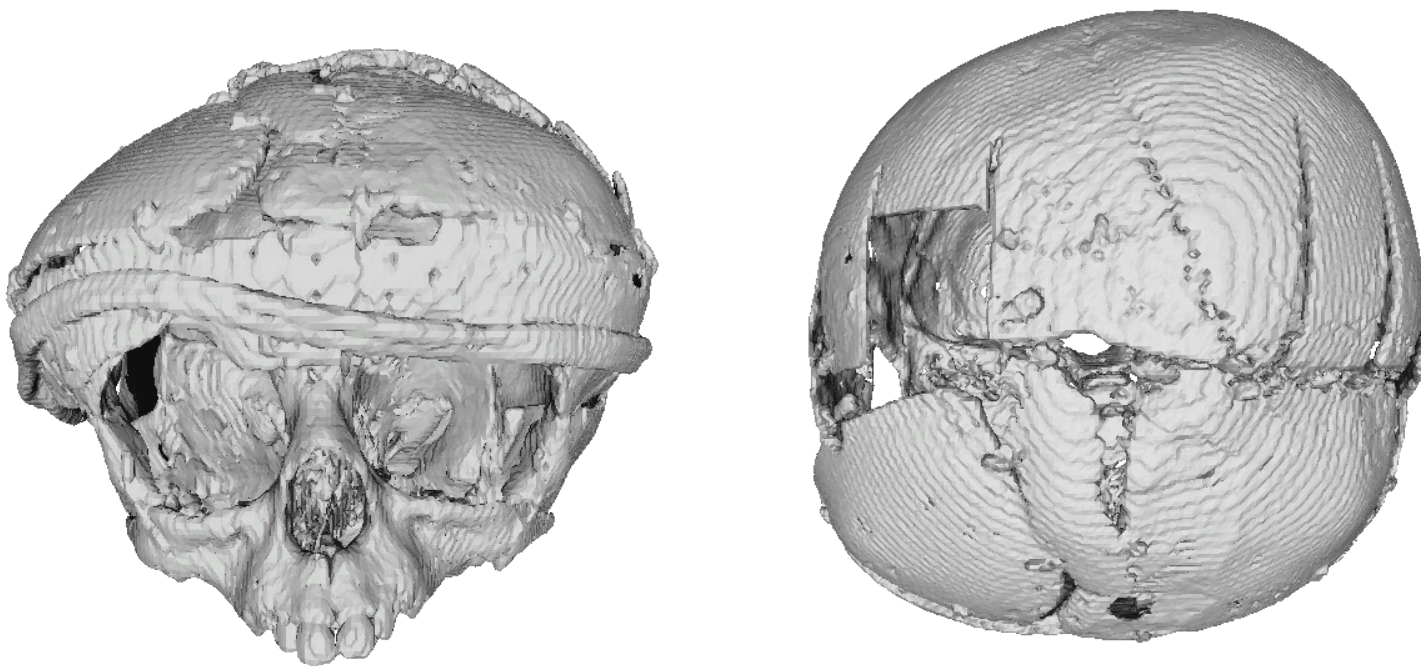
Normal Skull

Skull Mesh



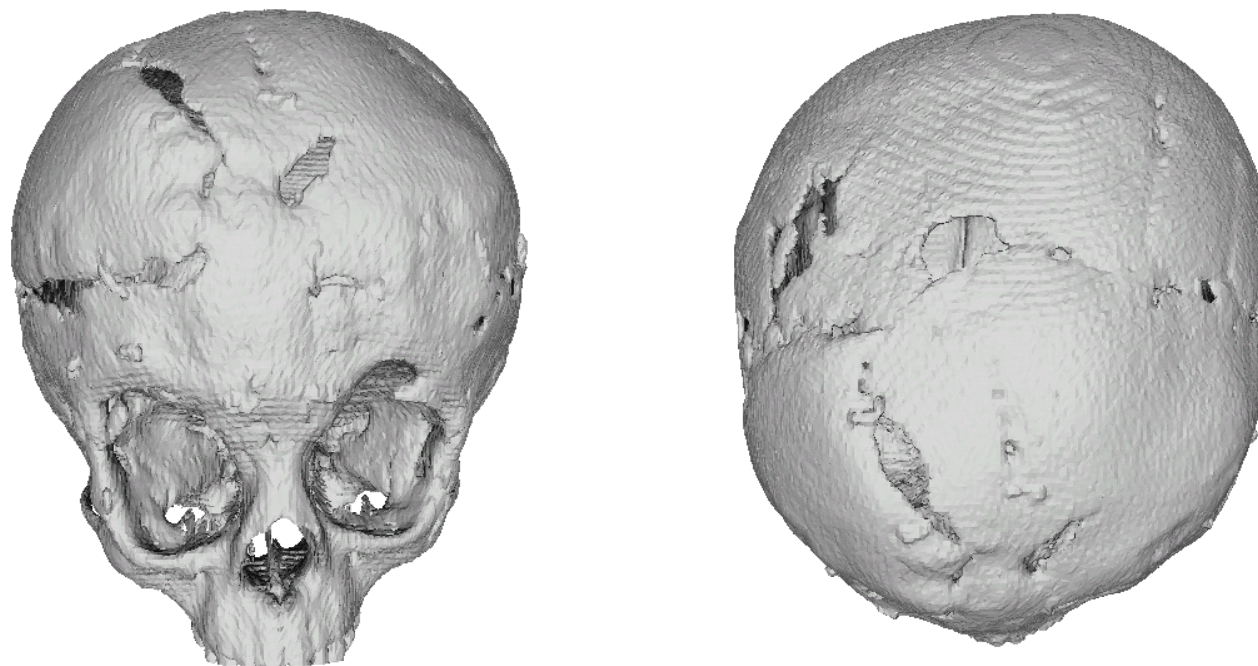
Before Surgery

Skull Mesh



Right After Surgery

Skull Mesh



1-2 years After Surgery