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The skull consists of two main parts: calvarium and facial skeleton. The calvarium is the part, which encloses the brain, while the facial skeleton consists of the bones of the face including the mandible. There has been a rising incidence of maxillofacial injuries during the past decades as a result of increasing number of assaults and motor vehicle accidents. The maxillofacial area is one of the most complex areas of the body that the conventional radiographic images give little information beyond bone fractures **(Laine et al., 1993)**.

The radiographic evaluation of patient with maxillofacial trauma represents a diagnostic challenge for both the clinician and the experienced radiologist. This is due to a number of factors, which include the complex nature of normal facial radiographs, the often limited ability of the patient to cooperate fully owing to the severity of facial and other injuries and the failure to correlate clinical and radiographic findings **(Olaf E.Langland, 2000)**.

The limitation of all plain radiographic techniques is their two-dimensional representation of three-dimensional structures: The linear attenuation coefficients of all tissues in the pathway of X-ray beam **(Weir & Murry, 1998)**.

Computerized tomography has become the most important diagnostic tool for evaluation of oral and maxillofacial regions due to its

ability to demonstrate normal and abnormal tissues of various densities **(Lee et al., 1987)**.

The spiral CT differs from conventional CT in that a region of the body can be rapidly imaged via continuous scanning, this is accompanied by simultaneous advancement of the patient, allowing volumetric data acquisition of up to 60 cm in less than one minute, thus motion is minimized and slice mis-registrations are minimized when multiplanar and three dimensional reconstructions are performed **(Tello et al., 2002)**.

The recent advent of three-dimensional computer assisted tomography has led to a refinement in preoperative planing for many surgical procedures. Precise anatomic data unobtainable by other means can be acquired from 3D radiological images **(Freeario et al., 1996)**.

3D imaging for trauma of facial skeleton is a complimentary procedure to standard CT images and contributes to the diagnosis by outlining the extent of fractures and revealing differences of the mechanism of the injury between the maxilla and the mandible **(Ray et al., 1993)**.

Three-dimensional CT scan technique offers the opportunity to evaluate some points on the skeleton in greater details with more precision than the two dimensional method. Because 3D imaging shows each side separately and because surface details are rendered in fine detail, additional knowledge of the skeleton can be gained **(Girod et al., 1996)**.