APPLICATIONS OF CT IN DENTISTRY

ORAL DIAGNOSIS

- Assessment of cysts & tumors
  - Axial CT view
  - Coronal view
  - Sphenoid sinus

ORTHODONTICS

ORAL & MAXILLOFACIAL SURGERY

- Cross-sectional dental CT image of the maxilla shows an extra digital arcade (arrows).
  - Axial CT view
  - Coronal view

OTHER USES
1) 3D - CT used for planning for surgery
2) Determination of new bone formation after marsupialization of jaw cysts.
3) Determination of post-surgical displacement of hard tissue structures in TMJ & changes in soft tissue structures such as muscles of mastication & salivary glands

ENDODONTICS

- Axial image with guide pin
- Cross-sectional cut showing root canal

PERIODONTICS

- Conventional dental radiographs with axial and coronal films
- Axial CT image shows bone loss in the mandibular molar region

PROSTHODONTICS

- Illustration of components of a fixed partial denture
- Conventional CT images

Disadvantages
- CT completely eliminates the superimposition of images of structures outside the area of interest
- Differences between tissues that differ in physical density by less than 1% can be distinguished
- Data from a single CT imaging procedure can be viewed in the axial, coronal, sagittal planes
- CT allows reconstruction of cross-sectional images of the entire maxilla or mandible or both from a single imaging procedure
- Reformats the data acquired from axial CT scans into three-dimensional images
- High radiation dose to patient
- Cost factor
- Allergy to contrast medium

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