

Report Date: 01/12/2023
Ref. Doctor: Dr. Smile
Practice: Smile design

Patient: Jane Doe
Date of Birth: 01/01/2000
Gender: Female
Study Date: 01/01/2025

History: Pain the joints
Indications: TMJ pain

STUDY INTERPRETATION:

Large field of view CBCT (open and closed mouth) extending from the level of the frontal bone to the level of C6. The volume was oriented using the middle ear ossicles and hard palate. CBCT Viewer: InVivo (Osteoid) software program.

GENERAL REPORT

All viewed structures determined to have no significant findings are not reported unless specifically asked.

Region of Interest - Temporomandibular Joint (TMJ):

- The open mouth condylar position is at 41.24mm incisal separation.
- Severe superior condylar volume loss noted bilaterally; articulating surface is flat. The cortical outline is continuous.
- Closed: The condyle is centered in the mandibular fossa. Articulating joint space is reduced.
- Open: Symmetrical anterior translation slightly past articular eminence (the normal presentation for an open mouth position).
- Glenoid fossa has a broad shape on both sides; posterior slope of articular eminence is flattened.

Dental Findings:

- Missing teeth: All third molars.
- No apical pathology noted.

Paranasal Sinuses:

- All paranasal sinuses are well aerated. The cortices of the maxillary sinuses are intact and normally contoured. There is no evidence of sinus pathosis.
- The patency of ostiomeatal complexes may be compromised due to multiple large anterior ethmoid air cells and presence of conchae bullosae.

Nasal cavity:

- Large conchae bullosae (a variation of normal anatomy) are present in both middle turbinates.

Airway:

- The minimum oropharyngeal airway area is 194.8mm² at the tip of the uvula.
- The cross-sectional area is sufficient. No abnormalities are detected in the visualized portion; adenoids and palatine tonsils are unremarkable, and the pharyngeal recesses are detected and relatively symmetrical.

Cervical Spine:

- Multiple small, irregularly shaped, corticated low (air)-density areas noted in the antero-superior region of the vertebral body of C5. Presentation is consistent with cervical intraosseous pneumatocyst (variation of normal).
- Irregular cortication in the posterior cortical border of C2-C6 (more pronounced on C5) is consistent with vertebral foramina for basivertebral vein.

Other Findings:

- Cerumen is noted in both ear canals.

IMPRESSIONS AND RECOMMENDATIONS:

- **Region of interest - Temporomandibular Joint (TMJ):**
 - Degenerative joint disease in both joints. At the time of scan acquisition, the condition is likely stable. Reduced joint space suggests thinning or displacement of the discs.
 - Recommendations: Correlation with clinical presentation.

- *Comment:* Please note, CBCT is not considered a valid imaging modality for visualization of the articular disc due to inherent poor soft tissue contrast.
- **Airways:**
 - A minimum cross-sectional area of 194.8mm² is considered normal range.
 - *Recommendations:* If the patient has symptoms of sleep-disordered breathing, further evaluation and correlation with clinical signs and symptoms are advised.
 - *Comment:* Airway measurements are subject to threshold settings in DICOM viewing software and positioning of moveable anatomic structures including the tongue, soft palate, and cervical spine. Airway CBCT analysis can neither confirm nor exclude sleep-disordered breathing but may aid in identifying at-risk patients.
 - No additional osseous and/or soft tissue abnormalities are noted.

Thank you for considering Insight Dental Radiology for your patient's care. Please feel free to contact me if you have any questions.

Sincerely,

Anna Liakh, D.M.D.

Anna Liakh, DMD

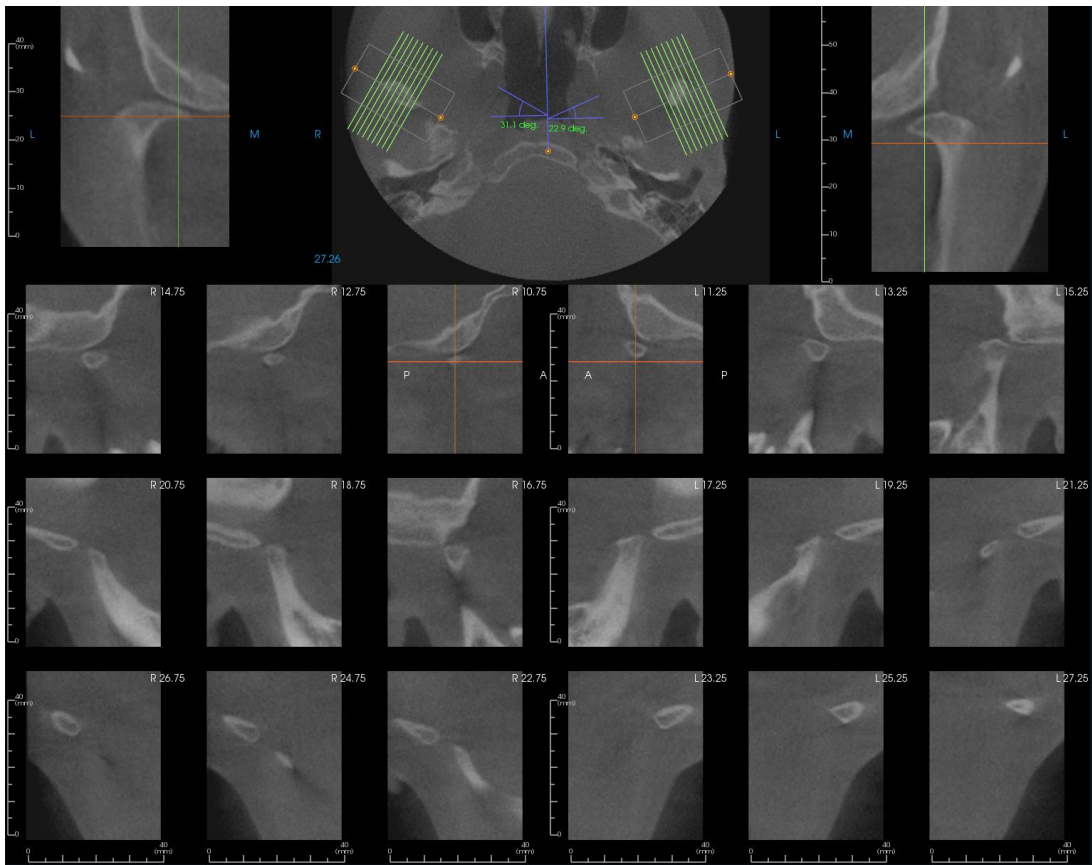
Oral and Maxillofacial Radiologist

Disclaimer: This report is a consultation only. No measurements should be made from the attached images. These images are only representative slices. For implant cases, please reconstruct images in the desired plane based on local occlusion and angle of entry of the implant before making measurements. Airway measurements are limited by the positioning of the patient's movable anatomical structures, imaging artifacts, and threshold values of viewing software. The measurements must not be used as the sole metric for diagnosis of obstructive sleep disorder. This report is based on the materials provided to the radiologist at the time of the report. If new evidence is made available to the author, he reserves the right to amend or change this report in whole or in part.

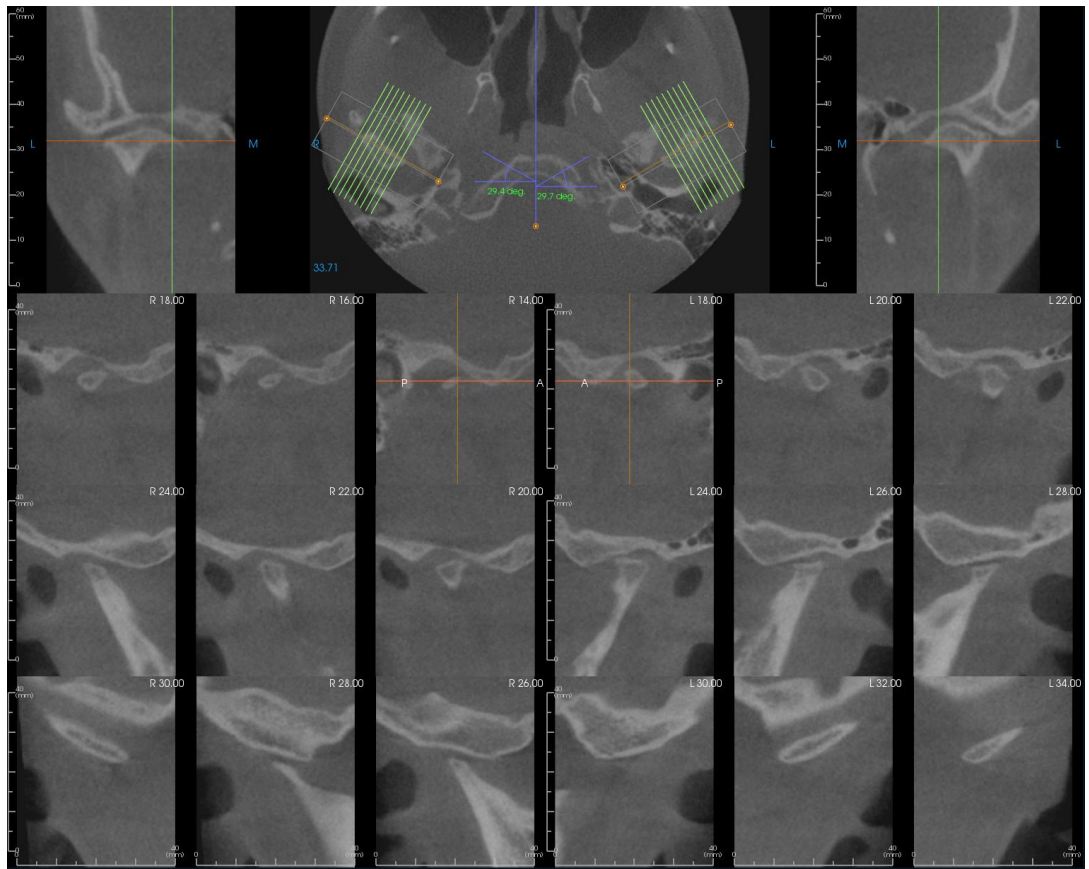
IMAGES



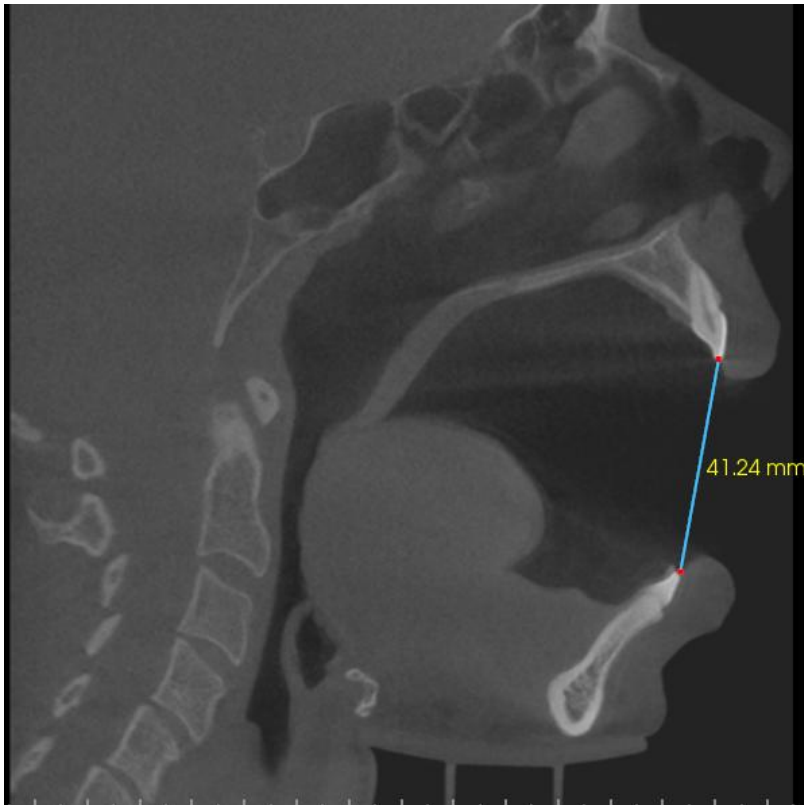
Reconstructed panoramic image



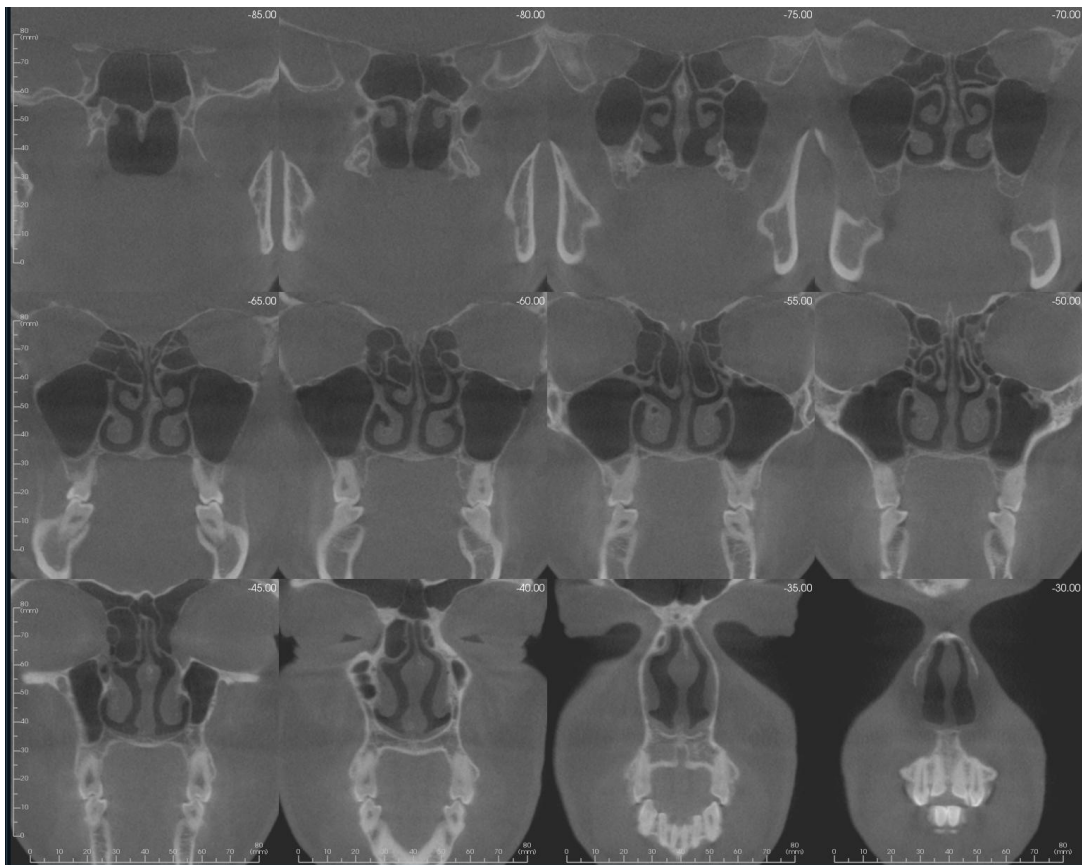
TMJ analysis open mouth (Lateral slices interval 2.00mm)



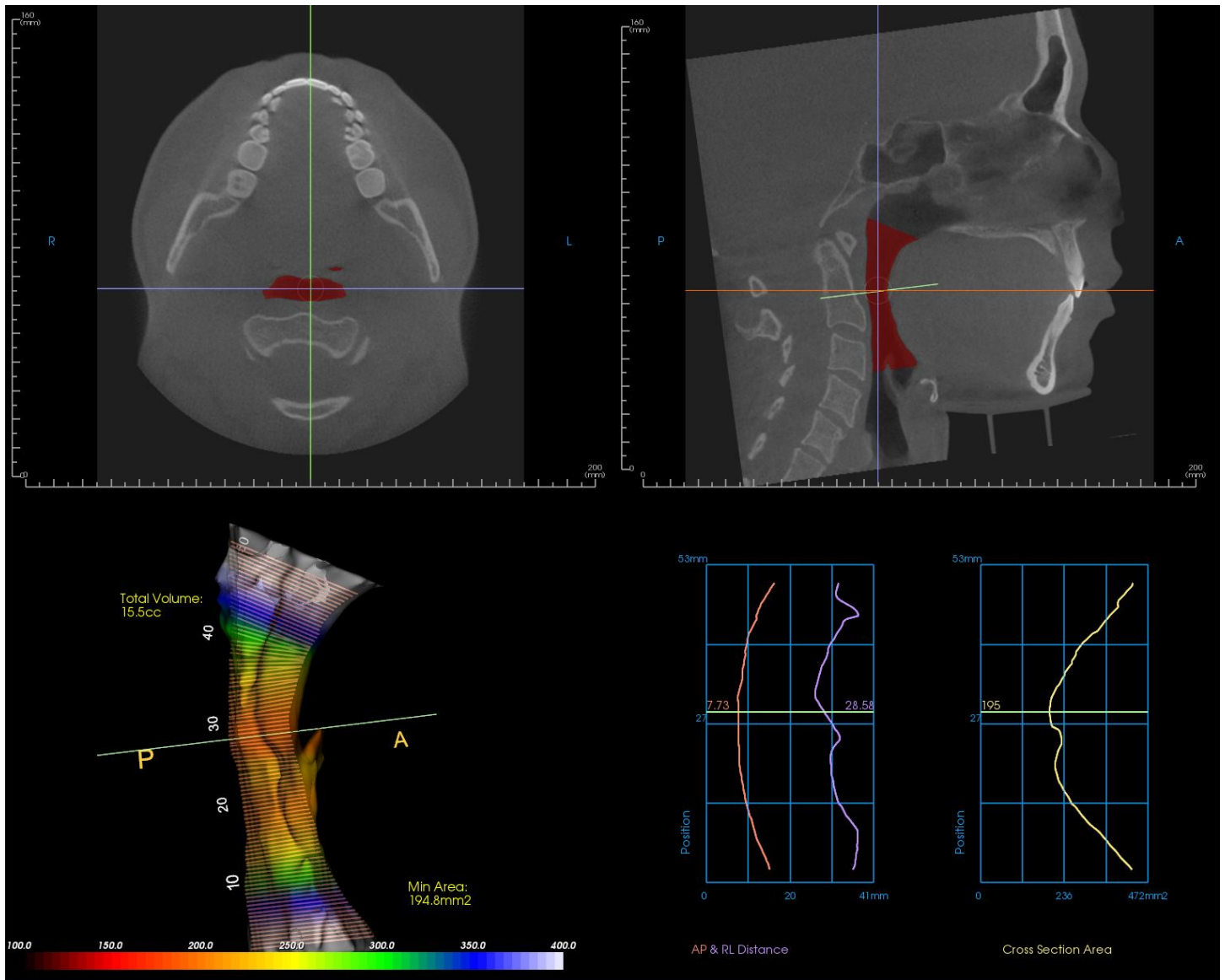
TMJ analysis closed mouth (Lateral slices interval 2.00mm)



Sagittal cross-sectional view of open mouth position



Coronal cross-sectional view paranasal sinuses with 5.00mm slice interval



Airway analysis

Airway Length: 53.179 (mm)

Max Area: 428.894 (mm²)

Min Area: 194.796 (mm²)

Average Area: 283.775 (mm²)

Max AP Length: 16.5917 (mm)

Min AP Length: 7.63033 (mm)

Average AP Length: 10.2475 (mm)

Max RL Length: 37.0804 (mm)

Min RL Length: 26.4204 (mm)

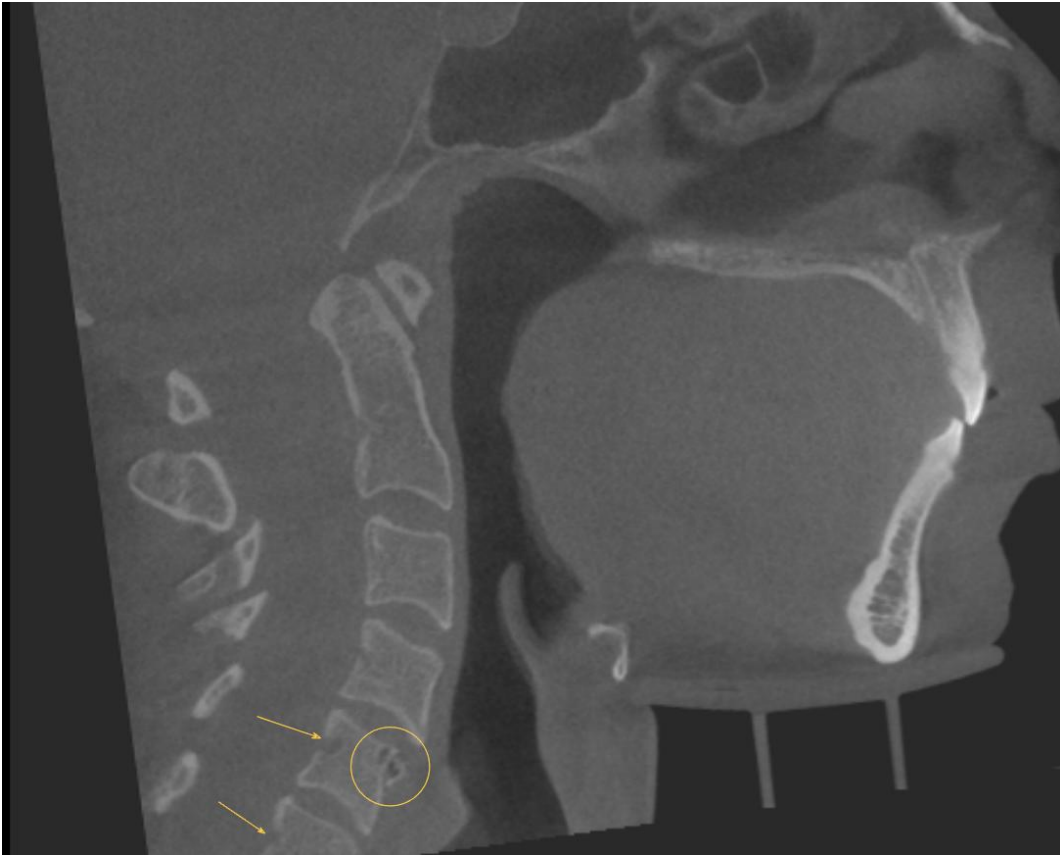
Average RL Length: 31.764 (mm)

Max AP-RL Ratio: 7.08553

Min AP-RL Ratio: 0.239404

Average AP-RL Ratio: 0.780547

Airway data



Cropped sagittal cross-sectional view of cervical spine