Ground Truth | Ensemble Prediction

Grounding Caption

This localization caption provides multi-dimensional spatial analysis of anatomical structures and pathological findings for this panoramic dental X-ray image, including:

Teeth visibility with center points (total: 22):
[
{'point_2d': [622, 481], 'tooth_id': '45', 'score': 0.95},
{'point_2d': [475, 317], 'tooth_id': '17', 'score': 0.94},
{'point_2d': [1025, 340], 'tooth_id': '27', 'score': 0.93},
{'point_2d': [879, 323], 'tooth_id': '24', 'score': 0.92},
{'point_2d': [544, 321], 'tooth_id': '16', 'score': 0.92},
{'point_2d': [852, 316], 'tooth_id': '23', 'score': 0.91},
{'point_2d': [668, 481], 'tooth_id': '44', 'score': 0.89},
{'point_2d': [703, 482], 'tooth_id': '43', 'score': 0.89},
{'point_2d': [964, 343], 'tooth_id': '26', 'score': 0.89},
{'point_2d': [829, 496], 'tooth_id': '33', 'score': 0.88},
{'point_2d': [673, 309], 'tooth_id': '13', 'score': 0.87},
{'point_2d': [811, 319], 'tooth_id': '22', 'score': 0.87},
{'point_2d': [921, 331], 'tooth_id': '25', 'score': 0.87},
{'point_2d': [868, 494], 'tooth_id': '35', 'score': 0.86},
{'point_2d': [734, 479], 'tooth_id': '42', 'score': 0.83},
{'point_2d': [709, 313], 'tooth_id': '12', 'score': 0.82},
{'point_2d': [756, 477], 'tooth_id': '41', 'score': 0.81},
{'point_2d': [772, 318], 'tooth_id': '21', 'score': 0.8},
{'point_2d': [777, 477], 'tooth_id': '31', 'score': 0.76},
{'point_2d': [644, 307], 'tooth_id': '14', 'score': 0.75},
{'point_2d': [739, 315], 'tooth_id': '11', 'score': 0.75},
{'point_2d': [797, 481], 'tooth_id': '32', 'score': 0.74}
]

Wisdom teeth detection (total: 0):
[
]

Dental Pathological Findings (total: 5):
[
{'box_2d': [851, 260, 932, 403], 'tooth_id': '24', 'label': 'caries', 'score': 0.19},
{'box_2d': [498, 288, 569, 417], 'tooth_id': '16', 'label': 'caries', 'score': 0.19},
{'box_2d': [889, 286, 960, 424], 'tooth_id': '25', 'label': 'caries', 'score': 0.27},
{'box_2d': [557, 265, 642, 409], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.29, 'near_tooth': '14'},
{'box_2d': [941, 356, 957, 377], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.25, 'near_tooth': '26'}
]

Historical Treatments (total: 2):
[
{'box_2d': [568, 241, 640, 375], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.85, 'near_tooth': '14'},
{'box_2d': [572, 332, 617, 375], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.66, 'near_tooth': '16'}
]

Medical Report

Oral Panoramic X-ray Examination Report

Teeth-Specific Observations

General Condition

- **Visualized Teeth**: 22 teeth identified using FDI numbering system (e.g., #11, #14, #16, #17, #21, #22, #24–#27, #31–#35, #41–#45).

- **Wisdom Teeth**: No visible wisdom teeth detected bilaterally.

Pathological Findings

- **#24 (right first molar)**: Suspicious for carious lesion in the occlusal surface.

- **#16 (left first molar)**: Areas of concern noted for potential caries in the mesial aspect.

- **#25 (right second molar)**: Suspected carious involvement in the distal region.

- **Near tooth #14 (left first premolar)**: Lesion consistent with carious activity in adjacent interproximal area.

- **Near tooth #26 (right first molar)**: Small radiolucent focus suspicious for early carious involvement.

Historical Interventions

- **Near tooth #14 (left first premolar)**: Evidence of previous root canal treatment.

- **Near tooth #16 (left first molar)**: Presence of a crown restoration.

Clinical Summary & Recommendations

Priority Concerns

1. **Deep carious lesions**: Suspected on #24, #16, and #25; requires immediate evaluation for restorative intervention.

2. **Proximal caries near #14**: Adjacent lesion in interproximal region of root canal-treated tooth necessitates radiographic correlation and treatment planning.

3. **Early carious focus near #26**: Small radiolucency adjacent to restored crown demands close monitoring for progression.

Preventive Measures

- Reinforce biofilm control strategies, emphasizing interdental cleaning for high-risk areas (#14, #16, #24–#26).

- Advise dietary counseling to minimize cariogenic exposure in posterior segments.

- Apply fluoride varnish to susceptible surfaces (#14, #24, #25).

Follow-up Protocol

- **6-month recall** for serial comparison of carious lesions in #14, #24–#25.

- **Referral to endodontist** for comprehensive assessment of root canal-treated #14 and adjacent caries.

- **Restorative planning** within 2 weeks for #24, #25, and monitoring of #16 crown integrity.

Generated by AI-assisted dental imaging analysis.