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: 23):
[
{'point_2d': [842, 468], 'tooth_id': '45', 'score': 0.95},
{'point_2d': [995, 284], 'tooth_id': '17', 'score': 0.93},
{'point_2d': [866, 296], 'tooth_id': '15', 'score': 0.93},
{'point_2d': [798, 477], 'tooth_id': '44', 'score': 0.92},
{'point_2d': [932, 294], 'tooth_id': '16', 'score': 0.92},
{'point_2d': [464, 477], 'tooth_id': '35', 'score': 0.92},
{'point_2d': [607, 471], 'tooth_id': '32', 'score': 0.92},
{'point_2d': [580, 310], 'tooth_id': '22', 'score': 0.92},
{'point_2d': [754, 485], 'tooth_id': '43', 'score': 0.92},
{'point_2d': [558, 486], 'tooth_id': '33', 'score': 0.92},
{'point_2d': [513, 480], 'tooth_id': '34', 'score': 0.91},
{'point_2d': [817, 292], 'tooth_id': '14', 'score': 0.91},
{'point_2d': [638, 471], 'tooth_id': '31', 'score': 0.9},
{'point_2d': [629, 299], 'tooth_id': '21', 'score': 0.89},
{'point_2d': [531, 299], 'tooth_id': '23', 'score': 0.89},
{'point_2d': [486, 297], 'tooth_id': '24', 'score': 0.89},
{'point_2d': [701, 470], 'tooth_id': '42', 'score': 0.88},
{'point_2d': [438, 298], 'tooth_id': '25', 'score': 0.87},
{'point_2d': [776, 295], 'tooth_id': '13', 'score': 0.84},
{'point_2d': [1052, 393], 'tooth_id': '48', 'score': 0.83},
{'point_2d': [728, 306], 'tooth_id': '12', 'score': 0.82},
{'point_2d': [671, 470], 'tooth_id': '41', 'score': 0.82},
{'point_2d': [326, 313], 'tooth_id': '27', 'score': 0.78}
]

Wisdom teeth detection (total: 1):
[
{'box_2d': [982, 328, 1121, 458], 'tooth_id': '48', 'is_impacted': false, 'score': 0.83}
]

Dental Pathological Findings (total: 4):
[
{'box_2d': [290, 264, 377, 416], 'tooth_id': '27', 'label': 'caries', 'score': 0.26},
{'box_2d': [800, 518, 840, 563], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.56, 'near_tooth': '44'},
{'box_2d': [843, 323, 856, 342], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.25, 'near_tooth': '15'},
{'box_2d': [845, 307, 861, 329], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.21, 'near_tooth': '15'}
]

Historical Treatments (total: 6):
[
{'box_2d': [983, 328, 1122, 458], 'tooth_id': '48', 'label': 'rc-treated', 'score': 0.54},
{'box_2d': [557, 321, 749, 389], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.94, 'near_tooth': '21'},
{'box_2d': [786, 331, 1056, 457], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.92, 'near_tooth': '16'},
{'box_2d': [286, 325, 506, 385], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.91, 'near_tooth': '25'},
{'box_2d': [358, 389, 437, 523], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.88, 'near_tooth': '35'},
{'box_2d': [359, 390, 437, 446], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.85, 'near_tooth': '35'}
]

Medical Report

Oral Radiological Examination Report

Teeth-Specific Observations

General Condition

A total of 23 teeth are visualized with acceptable clarity. The lower right wisdom tooth (#48) is fully erupted and non-impacted. No evidence of congenital absence or supernumerary teeth is observed.

Pathological Findings

1. **Tooth #27**: Suspected carious lesion noted.

2. **Near tooth #15**: Areas of concern for carious demineralization at the distal surface.

3. **Near tooth #44**: Periapical radiolucency observed, suggesting possible apical periodontitis or inflammatory changes.

Historical Interventions

1. **Tooth #48**: Root canal-treated tooth with definitive radiographic evidence.

2. **Near tooth #21**: Presence of a composite restoration.

3. **Near tooth #16**: Amalgam restoration detected.

4. **Near tooth #25**: Indirect restoration (inlay/onlay) noted.

5. **Near tooth #35**: Combination of a root canal-treated tooth and a full-coverage crown.

Clinical Summary & Recommendations

Priority Concerns

1. **Suspected caries on #27** requires urgent evaluation for restorative intervention.

2. **Demineralization near #15** necessitates further diagnostic imaging (e.g., bitewing) to confirm extent.

3. **Periapical radiolucency near #44** warrants endodontic assessment to rule out apical pathology.

Preventive Measures

- Reinforce meticulous oral hygiene practices, particularly interproximal cleaning around #15 and #27.

- Monitor suspicious areas for progression of demineralization.

- Advise dietary counseling to minimize cariogenic risks.

Follow-up Protocol

- **6-month recall** for re-evaluation of carious lesions and periapical changes.

- **Referral to endodontist** for #44 and #15 to confirm diagnosis and treatment planning.

- **Referral to restorative specialist** for permanent restoration of #27 if caries is confirmed.

Generated by AI radiology assistant. Final interpretation by a licensed oral radiologist is required.