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: 28):
[
{'point_2d': [1189, 632], 'tooth_id': '36', 'score': 0.96},
{'point_2d': [747, 632], 'tooth_id': '45', 'score': 0.95},
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{'point_2d': [590, 607], 'tooth_id': '47', 'score': 0.95},
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{'point_2d': [662, 628], 'tooth_id': '46', 'score': 0.92},
{'point_2d': [650, 409], 'tooth_id': '16', 'score': 0.92},
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{'point_2d': [1109, 631], 'tooth_id': '35', 'score': 0.91},
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{'point_2d': [719, 417], 'tooth_id': '15', 'score': 0.9},
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{'point_2d': [1060, 633], 'tooth_id': '34', 'score': 0.9},
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{'point_2d': [877, 422], 'tooth_id': '12', 'score': 0.86},
{'point_2d': [920, 419], 'tooth_id': '11', 'score': 0.86},
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]

Wisdom teeth detection (total: 0):
[
]

Dental Pathological Findings (total: 6):
[
{'box_2d': [880, 324, 993, 496], 'tooth_id': '21', 'label': 'calculus', 'score': 0.44},
{'box_2d': [1293, 521, 1382, 650], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.9, 'near_tooth': '37'},
{'box_2d': [471, 509, 563, 652], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.59, 'near_tooth': '47'},
{'box_2d': [695, 453, 708, 473], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.32, 'near_tooth': '15'},
{'box_2d': [618, 437, 630, 457], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.29, 'near_tooth': '16'},
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]

Historical Treatments (total: 0):
[
]

Medical Report

Teeth-Specific Observations

General Condition

A total of 28 teeth are visualized in the panoramic radiograph. All four wisdom teeth (#18, #28, #38, #48) are absent or anatomically absent. The dentition demonstrates no significant radiographic abnormalities in alignment or eruption.

Pathological Findings

1. **Sign of impacted tooth** near #37 (FDI 37) with a radiographic shadow consistent with unerupted or partially erupted morphology.

2. **Suspicious radiolucency** near #47 (FDI 47) raises concern for impacted tooth, though further diagnostic imaging may be required to confirm.

3. **Suspicious for carious lesions** near #15 (FDI 15) and #16 (FDI 16), with overlapping radiolucent areas suggestive of early decay.

4. **Suspicious for calculus deposition** on #21 (FDI 21), indicated by localized radiopaque stippling along the interproximal surface.

Historical Interventions

No prior restorative, endodontic, or implant-related interventions are evident.

Clinical Summary & Recommendations

Priority Concerns

1. **Impacted tooth near #37**: Immediate clinical evaluation is required to assess eruption potential and rule out adjacent root resorption.

2. **Suspicious caries near #15 and #16**: Monitor for progression to irreversible damage; consider exploratory treatment if clinical signs emerge.

Preventive Measures

1. **Calculus management**: Reinforce biofilm control and professional scaling for #21 to prevent periodontal complications.

2. **Oral hygiene reinforcement**: Emphasize interproximal cleaning techniques for #15 and #16 to mitigate caries risk.

Follow-up Protocol

1. **Referral to oral surgeon**: For impacted tooth near #37 to determine surgical intervention necessity.

2. **6-month recall**: To reassess carious lesions and calculus status.

3. **Radiographic monitoring**: Annual panoramic imaging to track impacted tooth progression and caries stability.