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: 29):
[
{'point_2d': [607, 624], 'tooth_id': '46', 'score': 0.96},
{'point_2d': [685, 641], 'tooth_id': '45', 'score': 0.95},
{'point_2d': [521, 611], 'tooth_id': '47', 'score': 0.94},
{'point_2d': [1027, 638], 'tooth_id': '35', 'score': 0.93},
{'point_2d': [522, 427], 'tooth_id': '17', 'score': 0.93},
{'point_2d': [595, 434], 'tooth_id': '16', 'score': 0.92},
{'point_2d': [447, 565], 'tooth_id': '48', 'score': 0.92},
{'point_2d': [742, 439], 'tooth_id': '13', 'score': 0.92},
{'point_2d': [983, 448], 'tooth_id': '23', 'score': 0.91},
{'point_2d': [1186, 613], 'tooth_id': '37', 'score': 0.9},
{'point_2d': [759, 652], 'tooth_id': '43', 'score': 0.9},
{'point_2d': [980, 652], 'tooth_id': '34', 'score': 0.9},
{'point_2d': [1267, 578], 'tooth_id': '38', 'score': 0.9},
{'point_2d': [932, 651], 'tooth_id': '33', 'score': 0.89},
{'point_2d': [661, 443], 'tooth_id': '15', 'score': 0.89},
{'point_2d': [892, 455], 'tooth_id': '21', 'score': 0.89},
{'point_2d': [936, 454], 'tooth_id': '22', 'score': 0.88},
{'point_2d': [795, 450], 'tooth_id': '12', 'score': 0.88},
{'point_2d': [700, 444], 'tooth_id': '14', 'score': 0.87},
{'point_2d': [1193, 421], 'tooth_id': '27', 'score': 0.87},
{'point_2d': [799, 663], 'tooth_id': '42', 'score': 0.84},
{'point_2d': [1124, 420], 'tooth_id': '26', 'score': 0.82},
{'point_2d': [890, 651], 'tooth_id': '32', 'score': 0.82},
{'point_2d': [843, 454], 'tooth_id': '11', 'score': 0.82},
{'point_2d': [831, 645], 'tooth_id': '41', 'score': 0.81},
{'point_2d': [861, 649], 'tooth_id': '31', 'score': 0.8},
{'point_2d': [709, 653], 'tooth_id': '44', 'score': 0.79},
{'point_2d': [1029, 436], 'tooth_id': '24', 'score': 0.67},
{'point_2d': [1249, 398], 'tooth_id': '28', 'score': 0.62}
]

Wisdom teeth detection (total: 3):
[
{'box_2d': [391, 483, 502, 647], 'tooth_id': '48', 'is_impacted': false, 'score': 0.92},
{'box_2d': [1200, 495, 1333, 660], 'tooth_id': '38', 'is_impacted': false, 'score': 0.9},
{'box_2d': [1205, 321, 1293, 476], 'tooth_id': '28', 'is_impacted': false, 'score': 0.62}
]

Dental Pathological Findings (total: 13):
[
{'box_2d': [640, 351, 702, 536], 'tooth_id': '15', 'label': 'periapical radiolucency', 'score': 0.28},
{'box_2d': [756, 359, 868, 541], 'tooth_id': '12', 'label': 'calculus', 'score': 0.36},
{'box_2d': [1007, 358, 1053, 516], 'tooth_id': '24', 'label': 'root-stump', 'score': 0.82},
{'box_2d': [1055, 587, 1139, 698], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.9, 'near_tooth': '35'},
{'box_2d': [450, 507, 497, 568], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.82, 'near_tooth': '48'},
{'box_2d': [441, 338, 495, 432], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.78, 'near_tooth': '17'},
{'box_2d': [602, 462, 628, 504], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.66, 'near_tooth': '16'},
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{'box_2d': [1049, 449, 1088, 497], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.55, 'near_tooth': '24'},
{'box_2d': [1049, 358, 1089, 509], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.53, 'near_tooth': '24'},

{'box_2d': [634, 469, 654, 507], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.28, 'near_tooth': '15'},
{'box_2d': [695, 587, 736, 627], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.27, 'near_tooth': '45'},
{'box_2d': [638, 464, 653, 489], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.2, 'near_tooth': '15'}
]

Historical Treatments (total: 0):
[
]

Medical Report

Oral Panoramic X-ray Examination Report

Teeth-Specific Observations

General Condition

A total of 29 teeth are visualized within the field of view. All three identified wisdom teeth (#48, #38, #28) are present and unimpacted. No evidence of recent eruptive or positional pathology is observed in the mandibular or maxillary arches.

Pathological Findings

1. **#15**: Suspicious for periapical radiolucency noted at the apical region.

2. **#12**: Suspicious for supragingival calculus on the buccal aspect.

3. **#24**: Sign of root-stump with incomplete resorption in the apical third.

4. **Near #35**: Sign of root-stump in the interdental space lingual to #35.

5. **Near #48**: Sign of carious lesion in the mesial aspect of the distal root fragment.

6. **Near #16**: Suspected carious lesion in the proximal contact area.

7. **Near #24**: Areas of concern for multiple carious lesions in the mesial and distal interproximal surfaces.

8. **Near #15**: Suspicious for small carious lesion in the apical aspect of the root fragment.

9. **Near #45**: Areas of concern for carious lesions in the apical region.

Historical Interventions

No prior restorative, endodontic, or implant interventions are observed in the panoramic field.

Clinical Summary & Recommendations

Priority Concerns

1. Root-stump in the apical region of **#24** may require surgical evaluation for complete removal.

2. Carious lesions near **#48** and **#24** necessitate early intervention to prevent pulp involvement.

3. Periapical radiolucency on **#15** warrants endodontic assessment due to potential apical pathology.

Preventive Measures

- Reinforce oral hygiene protocols to manage calculus accumulation on **#12**.

- Monitor areas of suspected caries near **#16**, **#45**, and **#15** for progression.

- Educate on dietary modifications and fluoride use to mitigate caries risk in high-risk zones.

Follow-up Protocol

- Schedule a **6-month recall** for radiographic reassessment of carious and periapical lesions.

- Referral to an **endodontist** is recommended for definitive diagnosis of **#15** periapical radiolucency.

- Surgical consultation for **#24** root-stump to evaluate resorption timeline and surgical candidacy.

End of Report