



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': [1215, 721], 'tooth_id': '36', 'score': 0.96},
{'point_2d': [756, 743], 'tooth_id': '45', 'score': 0.96},
{'point_2d': [673, 737], 'tooth_id': '46', 'score': 0.95},
{'point_2d': [1300, 687], 'tooth_id': '37', 'score': 0.94},
{'point_2d': [585, 707], 'tooth_id': '47', 'score': 0.94},
{'point_2d': [1079, 724], 'tooth_id': '34', 'score': 0.93},
{'point_2d': [548, 491], 'tooth_id': '17', 'score': 0.93},
{'point_2d': [623, 503], 'tooth_id': '16', 'score': 0.93},
{'point_2d': [1134, 722], 'tooth_id': '35', 'score': 0.93},
{'point_2d': [1316, 472], 'tooth_id': '27', 'score': 0.93},
{'point_2d': [912, 512], 'tooth_id': '11', 'score': 0.92},
{'point_2d': [809, 749], 'tooth_id': '44', 'score': 0.91},
{'point_2d': [1243, 482], 'tooth_id': '26', 'score': 0.91},
{'point_2d': [870, 736], 'tooth_id': '43', 'score': 0.91},
{'point_2d': [1029, 507], 'tooth_id': '22', 'score': 0.91},
{'point_2d': [688, 515], 'tooth_id': '15', 'score': 0.9},
{'point_2d': [1178, 499], 'tooth_id': '25', 'score': 0.89},
{'point_2d': [1120, 497], 'tooth_id': '24', 'score': 0.89},
{'point_2d': [1031, 719], 'tooth_id': '33', 'score': 0.89},
{'point_2d': [814, 499], 'tooth_id': '13', 'score': 0.88},
{'point_2d': [762, 523], 'tooth_id': '14', 'score': 0.87},
{'point_2d': [967, 509], 'tooth_id': '21', 'score': 0.87},
{'point_2d': [482, 470], 'tooth_id': '18', 'score': 0.85},
{'point_2d': [916, 714], 'tooth_id': '42', 'score': 0.85},
{'point_2d': [935, 700], 'tooth_id': '41', 'score': 0.76},
{'point_2d': [990, 701], 'tooth_id': '32', 'score': 0.71},
{'point_2d': [1071, 453], 'tooth_id': '23', 'score': 0.7},
{'point_2d': [961, 697], 'tooth_id': '31', 'score': 0.66}
]
```

Wisdom teeth detection (total: 1):

```
[
{'box_2d': [437, 393, 528, 547], 'tooth_id': '18', 'is_impacted': false, 'score': 0.85}
]
```

Dental Pathological Findings (total: 7):

```
[
{'box_2d': [1219, 367, 1314, 562], 'tooth_id': '26', 'label': 'periapical radiolucency', 'score': 0.26},
{'box_2d': [802, 419, 876, 608], 'tooth_id': '13', 'label': 'calculus', 'score': 0.38},
{'box_2d': [1323, 598, 1431, 699], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.94, 'near_tooth': '37'},
{'box_2d': [427, 610, 552, 709], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.94, 'near_tooth': '47'},
{'box_2d': [1334, 370, 1415, 508], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.92, 'near_tooth': '27'},
{'box_2d': [1304, 633, 1322, 661], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.26, 'near_tooth': '37'},
{'box_2d': [663, 545, 675, 566], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.24, 'near_tooth': '15'}
]
```

Historical Treatments (total: 0):

```
[
]
```

Medical Report

Teeth-Specific Observations

1. General Condition

A total of 28 teeth are visualized with clear localization. The fully erupted wisdom teeth (#18) are present and not impacted. No evidence of congenital absence or supernumerary teeth is observed.

2. Pathological Findings

- **#26**: Suspicious for periapical radiolucency.
- **#13**: Areas of concern noted for calculus.
- **Near #37**: Presence of impacted tooth.
- **Near #47**: Presence of impacted tooth.
- **Near #27**: Presence of impacted tooth.
- **Near #37**: Suspicious for carious lesion.
- **Near #15**: Suspicious for carious lesion.

3. Historical Interventions

No prior restorative, endodontic, or implant treatments observed.

Clinical Summary & Recommendations

1. Priority Concerns

- Impacted tooth near #37, #47, and #27 requires evaluation for surgical intervention or orthodontic planning.
- Suspected caries near #37 and #15 warrant further diagnostic assessment (e.g., clinical exam, IOPA).
- Periapical radiolucency near #26 suggests possible endodontic pathology requiring endodontic referral.

2. Preventive Measures

- Reinforce oral hygiene protocols to mitigate calculus progression on #13.
- Monitor suspicious carious areas near #37 and #15 for early intervention.

3. Follow-up Protocol

- Referral to oral surgeon for impacted tooth assessment near #37, #47, and #27.
- Endodontic consultation for #26 to evaluate periapical radiolucency.
- 6-month recall for clinical correlation and radiographic follow-up on identified concerns.