



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: 30):

```
[
{'point_2d': [595, 763], 'tooth_id': '46', 'score': 0.95},
{'point_2d': [661, 783], 'tooth_id': '45', 'score': 0.94},
{'point_2d': [587, 556], 'tooth_id': '16', 'score': 0.94},
{'point_2d': [522, 727], 'tooth_id': '47', 'score': 0.94},
{'point_2d': [520, 531], 'tooth_id': '17', 'score': 0.92},
{'point_2d': [1118, 586], 'tooth_id': '26', 'score': 0.92},
{'point_2d': [985, 582], 'tooth_id': '23', 'score': 0.91},
{'point_2d': [1036, 816], 'tooth_id': '35', 'score': 0.9},
{'point_2d': [715, 790], 'tooth_id': '44', 'score': 0.9},
{'point_2d': [992, 809], 'tooth_id': '34', 'score': 0.9},
{'point_2d': [764, 797], 'tooth_id': '43', 'score': 0.9},
{'point_2d': [648, 558], 'tooth_id': '15', 'score': 0.9},
{'point_2d': [835, 580], 'tooth_id': '11', 'score': 0.9},
{'point_2d': [1183, 767], 'tooth_id': '37', 'score': 0.9},
{'point_2d': [938, 593], 'tooth_id': '22', 'score': 0.89},
{'point_2d': [906, 796], 'tooth_id': '32', 'score': 0.88},
{'point_2d': [751, 580], 'tooth_id': '13', 'score': 0.88},
{'point_2d': [1185, 573], 'tooth_id': '27', 'score': 0.88},
{'point_2d': [1020, 586], 'tooth_id': '24', 'score': 0.88},
{'point_2d': [1057, 578], 'tooth_id': '25', 'score': 0.87},
{'point_2d': [875, 778], 'tooth_id': '31', 'score': 0.87},
{'point_2d': [812, 784], 'tooth_id': '42', 'score': 0.86},
{'point_2d': [693, 578], 'tooth_id': '14', 'score': 0.86},
{'point_2d': [790, 579], 'tooth_id': '12', 'score': 0.86},
{'point_2d': [944, 813], 'tooth_id': '33', 'score': 0.86},
{'point_2d': [898, 580], 'tooth_id': '21', 'score': 0.85},
{'point_2d': [459, 506], 'tooth_id': '18', 'score': 0.85},
{'point_2d': [842, 779], 'tooth_id': '41', 'score': 0.79},
{'point_2d': [1254, 745], 'tooth_id': '38', 'score': 0.76},
{'point_2d': [449, 700], 'tooth_id': '48', 'score': 0.69}
]
```

Wisdom teeth detection (total: 3):

```
[
{'box_2d': [418, 435, 501, 576], 'tooth_id': '18', 'is_impacted': false, 'score': 0.85},
{'box_2d': [1207, 668, 1302, 822], 'tooth_id': '38', 'is_impacted': false, 'score': 0.76},
{'box_2d': [403, 622, 495, 777], 'tooth_id': '48', 'is_impacted': true, 'score': 0.69}
]
```

Dental Pathological Findings (total: 8):

```
[
{'box_2d': [790, 436, 850, 661], 'tooth_id': '11', 'label': 'calculus', 'score': 0.37},
{'box_2d': [747, 485, 805, 675], 'tooth_id': '13', 'label': 'calculus', 'score': 0.43},
{'box_2d': [1055, 509, 1086, 648], 'tooth_id': '25', 'label': 'periapical radiolucency', 'score': 0.29},
{'box_2d': [403, 623, 496, 776], 'tooth_id': '48', 'label': 'impacted', 'score': 0.31},
{'box_2d': [582, 672, 615, 716], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.41, 'near_tooth': '46'},
{'box_2d': [624, 693, 652, 724], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.33, 'near_tooth': '46'},
{'box_2d': [557, 578, 573, 602], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.27, 'near_tooth': '16'},
{'box_2d': [555, 569, 570, 591], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.26, 'near_tooth': '16'}
]
```

]

Historical Treatments (total: 0):

[

]

Medical Report

Oral Panoramic Radiographic Report

****Teeth-Specific Observations****

General Condition

A total of 30 teeth are visualized. All wisdom teeth are present, with #48 (lower left third molar) identified as impacted. The remaining wisdom teeth (#18, #38) are non-impacted.

Pathological Findings

- Suspicious for heavy calculus deposits on #11 and #13.
- Suspected periapical radiolucency at the apical region of #25.
- Areas of concern for carious lesions near #46 (suspicious for proximal caries) and near #16 (suspicious for proximal caries).

Historical Interventions

No evidence of prior dental treatments (restorations, crowns, root canal therapy, or implants) is observed.

****Clinical Summary & Recommendations****

Priority Concerns

1. Impacted lower left third molar (#48) requiring clinical evaluation for potential surgical removal.
2. Suspicious carious lesions near #46 and #16; definitive diagnosis and intervention required.
3. Periapical radiolucency at #25 (may indicate apical pathology).
4. Calculus deposits on #11 and #13 (suggests need for professional scaling).

Preventive Measures

- Reinforce oral hygiene protocols, emphasizing interproximal cleaning techniques.
- Monitor carious lesions near #46 and #16 during routine recall visits.
- Address suspected calculus deposits to prevent periodontal complications.

Follow-up Protocol

- **Referral:** Consider surgical consultation for impacted #48. Evaluate #25 with endodontic imaging for apical lesion characterization.
 - **Recall:** Schedule 6-month follow-up for monitoring carious lesions and radiolucency.
 - **Immediate Care:** Professional scaling for #11 and #13 to remove calculus.
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Generated by AI-based analysis of panoramic radiographic data.