



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: 26):

```
[
{'point_2d': [1085, 703], 'tooth_id': '36', 'score': 0.96},
{'point_2d': [638, 701], 'tooth_id': '45', 'score': 0.95},
{'point_2d': [1159, 667], 'tooth_id': '37', 'score': 0.94},
{'point_2d': [568, 687], 'tooth_id': '46', 'score': 0.94},
{'point_2d': [710, 522], 'tooth_id': '13', 'score': 0.94},
{'point_2d': [561, 506], 'tooth_id': '16', 'score': 0.93},
{'point_2d': [623, 518], 'tooth_id': '15', 'score': 0.93},
{'point_2d': [488, 660], 'tooth_id': '47', 'score': 0.93},
{'point_2d': [721, 733], 'tooth_id': '43', 'score': 0.92},
{'point_2d': [1009, 708], 'tooth_id': '35', 'score': 0.92},
{'point_2d': [930, 524], 'tooth_id': '23', 'score': 0.92},
{'point_2d': [1078, 507], 'tooth_id': '26', 'score': 0.91},
{'point_2d': [681, 715], 'tooth_id': '44', 'score': 0.91},
{'point_2d': [1149, 497], 'tooth_id': '27', 'score': 0.91},
{'point_2d': [485, 494], 'tooth_id': '17', 'score': 0.9},
{'point_2d': [767, 727], 'tooth_id': '42', 'score': 0.89},
{'point_2d': [841, 719], 'tooth_id': '31', 'score': 0.89},
{'point_2d': [921, 720], 'tooth_id': '33', 'score': 0.89},
{'point_2d': [970, 528], 'tooth_id': '24', 'score': 0.89},
{'point_2d': [804, 718], 'tooth_id': '41', 'score': 0.86},
{'point_2d': [963, 718], 'tooth_id': '34', 'score': 0.85},
{'point_2d': [1017, 524], 'tooth_id': '25', 'score': 0.85},
{'point_2d': [753, 519], 'tooth_id': '12', 'score': 0.84},
{'point_2d': [879, 731], 'tooth_id': '32', 'score': 0.77},
{'point_2d': [446, 613], 'tooth_id': '21', 'score': 0.69},
{'point_2d': [668, 508], 'tooth_id': '14', 'score': 0.67}
]
```

Wisdom teeth detection (total: 0):

```
[
]
```

Dental Pathological Findings (total: 3):

```
[
{'box_2d': [1193, 597, 1310, 682], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.96, 'near_tooth': '37'},
{'box_2d': [344, 578, 454, 676], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.95, 'near_tooth': '21'},
{'box_2d': [543, 614, 584, 668], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.76, 'near_tooth': '46'}
]
```

Historical Treatments (total: 6):

```
[
{'box_2d': [768, 427, 819, 615], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.91, 'near_tooth': '12'},
{'box_2d': [864, 447, 906, 609], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.89, 'near_tooth': '23'},
{'box_2d': [817, 432, 866, 615], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.86, 'near_tooth': '23'},
{'box_2d': [769, 562, 818, 615], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.85, 'near_tooth': '12'},
{'box_2d': [819, 557, 864, 616], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.8, 'near_tooth': '23'},
{'box_2d': [864, 558, 904, 609], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.73, 'near_tooth': '23'}
]
```

Medical Report

Teeth-Specific Observations

1. General Condition

A total of 26 teeth are visualized within the panoramic field. No wisdom teeth (third molars) are present. The dental arches demonstrate normal anatomical alignment, with no evidence of significant resorption or alveolar bone loss.

2. Pathological Findings

- Clear indication of impacted teeth near #37 (lower left first molar) and #21 (upper right lateral incisor).
- Suspicious for caries in the interproximal region near #46 (upper left first molar), requiring further evaluation.

3. Historical Interventions

- Presence of a crown and root canal-treated tooth at #12 (upper right lateral incisor).
 - Three distinct crowns and two root canal-treated regions noted near #23 (lower left first molar).
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Clinical Summary & Recommendations

1. Priority Concerns

- Impacted tooth near #37 and #21 requires surgical evaluation for potential extraction or orthodontic intervention.
- Suspicious caries near #46 necessitates early diagnostic confirmation (e.g., IOPA or CBCT) to assess caries depth and treatment planning.

2. Preventive Measures

- Reinforce meticulous oral hygiene practices, particularly near #46 and #23, to mitigate secondary caries or periodontal complications.
- Monitor interproximal areas for early caries detection using high-resolution imaging as needed.

3. Follow-up Protocol

- Referral to an oral surgeon for surgical assessment of impacted regions near #37 and #21.
- Schedule a follow-up appointment within 2 weeks for caries evaluation at #46.
- 6-month recall for monitoring restorations at #12 and #23, with annual panoramic imaging for long-term surveillance.