



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': [1346, 562], 'tooth_id': '38', 'score': 0.94},
{'point_2d': [1178, 629], 'tooth_id': '36', 'score': 0.94},
{'point_2d': [605, 439], 'tooth_id': '16', 'score': 0.94},
{'point_2d': [469, 397], 'tooth_id': '18', 'score': 0.93},
{'point_2d': [483, 564], 'tooth_id': '48', 'score': 0.92},
{'point_2d': [936, 635], 'tooth_id': '31', 'score': 0.92},
{'point_2d': [818, 655], 'tooth_id': '43', 'score': 0.91},
{'point_2d': [768, 639], 'tooth_id': '44', 'score': 0.91},
{'point_2d': [534, 416], 'tooth_id': '17', 'score': 0.91},
{'point_2d': [1270, 408], 'tooth_id': '27', 'score': 0.91},
{'point_2d': [714, 420], 'tooth_id': '14', 'score': 0.9},
{'point_2d': [1115, 429], 'tooth_id': '25', 'score': 0.9},
{'point_2d': [856, 433], 'tooth_id': '11', 'score': 0.9},
{'point_2d': [719, 629], 'tooth_id': '45', 'score': 0.89},
{'point_2d': [1020, 649], 'tooth_id': '33', 'score': 0.88},
{'point_2d': [1187, 420], 'tooth_id': '26', 'score': 0.88},
{'point_2d': [752, 420], 'tooth_id': '13', 'score': 0.87},
{'point_2d': [1025, 406], 'tooth_id': '23', 'score': 0.87},
{'point_2d': [806, 441], 'tooth_id': '12', 'score': 0.86},
{'point_2d': [917, 431], 'tooth_id': '21', 'score': 0.86},
{'point_2d': [964, 442], 'tooth_id': '22', 'score': 0.85},
{'point_2d': [974, 637], 'tooth_id': '32', 'score': 0.85},
{'point_2d': [1064, 427], 'tooth_id': '24', 'score': 0.84},
{'point_2d': [872, 635], 'tooth_id': '42', 'score': 0.84},
{'point_2d': [1344, 386], 'tooth_id': '28', 'score': 0.83},
{'point_2d': [904, 633], 'tooth_id': '41', 'score': 0.8},
{'point_2d': [1070, 634], 'tooth_id': '34', 'score': 0.77},
{'point_2d': [560, 604], 'tooth_id': '47', 'score': 0.76}
]
```

Wisdom teeth detection (total: 4):

```
[
{'box_2d': [1288, 479, 1404, 644], 'tooth_id': '38', 'is_impacted': false, 'score': 0.94},
{'box_2d': [436, 323, 502, 470], 'tooth_id': '18', 'is_impacted': false, 'score': 0.93},
{'box_2d': [426, 488, 540, 639], 'tooth_id': '48', 'is_impacted': false, 'score': 0.92},
{'box_2d': [1307, 309, 1381, 462], 'tooth_id': '28', 'is_impacted': false, 'score': 0.83}
]
```

Dental Pathological Findings (total: 2):

```
[
{'box_2d': [1320, 490, 1372, 529], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.61, 'near_tooth': '38'},
{'box_2d': [628, 383, 735, 550], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.22, 'near_tooth': '14'}
]
```

Historical Treatments (total: 6):

```
[
{'box_2d': [495, 531, 623, 676], 'tooth_id': '47', 'label': 'rc-treated', 'score': 0.76},
{'box_2d': [546, 532, 751, 626], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.94, 'near_tooth': '45'},
{'box_2d': [1196, 527, 1330, 670], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.89, 'near_tooth': '36'},
]
```

```
{'box_2d': [629, 341, 700, 517], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.88, 'near_tooth': '14'},  
{'box_2d': [1197, 527, 1288, 580], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.87, 'near_tooth': '36'},  
{'box_2d': [639, 454, 699, 516], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.85, 'near_tooth': '14'}  
]
```

Medical Report

Oral Panoramic Radiographic Examination Report

1. Teeth-Specific Observations

General Condition

A total of 28 teeth are visualized with clear anatomical localization. All four wisdom teeth (#18, #28, #38, #48) are present and non-impacted, demonstrating normal eruption patterns.

Pathological Findings

- Areas of concern noted for **suspicious carious lesions**:
- Near tooth #38 (right mandibular third molar), with radiolucent demarcation.
- Near tooth #14 (left maxillary second premolar), exhibiting low-confidence suspicious radiolucency.

Historical Interventions

- **Restorations**:
- Presence of a restoration near tooth #45 (left mandibular first molar).
- **Root canal-treated teeth**:
- Rc-treated tooth noted near #47 (left mandibular third molar).
- Rc-treated teeth observed near #36 (right mandibular first molar) and #14 (left maxillary second premolar).
- **Crowns**:
- Crowns identified near #36 (right mandibular first molar) and #14 (left maxillary second premolar).

2. Clinical Summary & Recommendations

Priority Concerns

- **Suspicious carious lesions** near #38 and #14 require immediate clinical correlation for definitive diagnosis and intervention.
- **Non-impacted wisdom teeth** (#18, #28, #38, #48) demonstrate normal alignment; no acute complications observed.

Preventive Measures

- Reinforce oral hygiene protocols, emphasizing interproximal cleaning for high-risk areas (#38, #14).
- Monitor suspicious radiolucent regions for progression during subsequent radiographic evaluations.

Follow-up Protocol

- **6-month recall** for radiographic reassessment of carious lesions and restorative integrity.
- Referral to general dentist for clinical evaluation of suspicious caries near #38 and #14.
- Continue regular surveillance of rc-treated teeth (#36, #14, #47) for apical health and restoration longevity.