



## 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': [590, 528], 'tooth_id': '45', 'score': 0.95},
  {'point_2d': [1048, 488], 'tooth_id': '37', 'score': 0.94},
  {'point_2d': [633, 526], 'tooth_id': '44', 'score': 0.94},
  {'point_2d': [449, 486], 'tooth_id': '47', 'score': 0.94},
  {'point_2d': [976, 513], 'tooth_id': '36', 'score': 0.94},
  {'point_2d': [838, 535], 'tooth_id': '33', 'score': 0.94},
  {'point_2d': [915, 526], 'tooth_id': '35', 'score': 0.93},
  {'point_2d': [538, 344], 'tooth_id': '16', 'score': 0.93},
  {'point_2d': [526, 509], 'tooth_id': '46', 'score': 0.93},
  {'point_2d': [594, 345], 'tooth_id': '15', 'score': 0.92},
  {'point_2d': [873, 526], 'tooth_id': '34', 'score': 0.91},
  {'point_2d': [670, 537], 'tooth_id': '43', 'score': 0.91},
  {'point_2d': [422, 328], 'tooth_id': '18', 'score': 0.9},
  {'point_2d': [918, 345], 'tooth_id': '25', 'score': 0.9},
  {'point_2d': [880, 353], 'tooth_id': '24', 'score': 0.9},
  {'point_2d': [845, 347], 'tooth_id': '23', 'score': 0.9},
  {'point_2d': [472, 332], 'tooth_id': '17', 'score': 0.89},
  {'point_2d': [631, 352], 'tooth_id': '14', 'score': 0.89},
  {'point_2d': [810, 352], 'tooth_id': '22', 'score': 0.88},
  {'point_2d': [664, 348], 'tooth_id': '13', 'score': 0.88},
  {'point_2d': [966, 341], 'tooth_id': '26', 'score': 0.88},
  {'point_2d': [1026, 335], 'tooth_id': '27', 'score': 0.86},
  {'point_2d': [718, 529], 'tooth_id': '42', 'score': 0.85},
  {'point_2d': [768, 528], 'tooth_id': '31', 'score': 0.84},
  {'point_2d': [1095, 455], 'tooth_id': '38', 'score': 0.83},
  {'point_2d': [698, 354], 'tooth_id': '12', 'score': 0.83},
  {'point_2d': [728, 351], 'tooth_id': '11', 'score': 0.81},
  {'point_2d': [771, 355], 'tooth_id': '21', 'score': 0.8},
  {'point_2d': [746, 528], 'tooth_id': '41', 'score': 0.79},
  {'point_2d': [794, 528], 'tooth_id': '32', 'score': 0.76}
]
```

Wisdom teeth detection (total: 2):

```
[
  {'box_2d': [386, 258, 458, 397], 'tooth_id': '18', 'is_impacted': false, 'score': 0.9},
  {'box_2d': [1057, 395, 1134, 515], 'tooth_id': '38', 'is_impacted': false, 'score': 0.83}
]
```

Dental Pathological Findings (total: 6):

```
[
  {'box_2d': [896, 238, 955, 425], 'tooth_id': '25', 'label': 'periapical radiolucency', 'score': 0.26},
  {'box_2d': [552, 366, 568, 390], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.7, 'near_tooth': '16'},
  {'box_2d': [1084, 406, 1110, 436], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.56, 'near_tooth': '38'},
  {'box_2d': [574, 369, 590, 399], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.55, 'near_tooth': '15'},
  {'box_2d': [508, 360, 521, 378], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.22, 'near_tooth': '16'},
  {'box_2d': [939, 360, 954, 380], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.22, 'near_tooth': '26'}
]
```

Historical Treatments (total: 2):

```
[
  {'box_2d': [1002, 419, 1043, 447], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.69, 'near_tooth': '37'},
]
```

{'box\_2d': [458, 418, 498, 450], 'tooth\_id': 'unknown', 'label': 'restoration', 'score': 0.61, 'near\_tooth': '47'}

]

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## Medical Report

### Oral Panoramic Radiographic Examination Report

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#### \*\*Teeth-Specific Observations\*\*

##### #### General Condition

- **Total teeth visualized:** 30 teeth identified across the dental arch, with full dentition apparent.
- **Wisdom teeth status:**
- #18 (left mandibular third molar) and #38 (right maxillary third molar) are present and unimpacted.

##### #### Pathological Findings

- **Periapical radiolucency:** An area of concern noted at the apical region of #25 (right mandibular first molar).
- **Suspected caries:**
- Suspicious for carious lesion near #15 (left mandibular lateral incisor).
- Area of concern for caries near #16 (left mandibular canine).
- Suspected carious involvement near #26 (right maxillary first molar).
- Areas of concern for caries near #37 (left mandibular first molar) and #38 (right maxillary third molar).

##### #### Historical Interventions

- **Restorations:**
  - Presence of a restoration adjacent to #37 (left mandibular first molar).
  - Restoration detected near #47 (left maxillary second molar).
- 

#### \*\*Clinical Summary & Recommendations\*\*

##### #### Priority Concerns

1. **Periapical radiolucency at #25** requires endodontic evaluation to rule out apical periodontitis or abscess.
2. **Suspected caries near #15, #16, #26, #37, and #38** demand immediate clinical correlation and preventive intervention.

##### #### Preventive Measures

- Reinforce oral hygiene protocols, emphasizing interproximal cleaning for at-risk areas.
- Monitor suspicious regions for caries progression during routine follow-ups.

##### #### Follow-up Protocol

- **6-month recall** for radiographic reassessment of periapical lesion at #25 and carious lesions.
  - **Referral to endodontist** for #25 if clinical symptoms (e.g., pain, swelling) emerge.
  - **Dental caries management** for high-risk sites via fluoride application or sealants as clinically indicated.
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**Generated by AI-assisted oral radiology analysis.** Clinical judgment and patient-specific factors remain the responsibility of the treating dentist.