



## 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: 31):

```
[
{'point_2d': [602, 459], 'tooth_id': '16', 'score': 0.96},
{'point_2d': [1172, 703], 'tooth_id': '36', 'score': 0.95},
{'point_2d': [718, 704], 'tooth_id': '45', 'score': 0.95},
{'point_2d': [547, 654], 'tooth_id': '47', 'score': 0.95},
{'point_2d': [642, 690], 'tooth_id': '46', 'score': 0.94},
{'point_2d': [1256, 678], 'tooth_id': '37', 'score': 0.93},
{'point_2d': [1105, 715], 'tooth_id': '35', 'score': 0.92},
{'point_2d': [1272, 468], 'tooth_id': '27', 'score': 0.92},
{'point_2d': [673, 466], 'tooth_id': '15', 'score': 0.92},
{'point_2d': [729, 470], 'tooth_id': '14', 'score': 0.91},
{'point_2d': [513, 447], 'tooth_id': '17', 'score': 0.91},
{'point_2d': [832, 716], 'tooth_id': '43', 'score': 0.91},
{'point_2d': [778, 714], 'tooth_id': '44', 'score': 0.91},
{'point_2d': [1038, 494], 'tooth_id': '23', 'score': 0.9},
{'point_2d': [1196, 478], 'tooth_id': '26', 'score': 0.9},
{'point_2d': [1054, 722], 'tooth_id': '34', 'score': 0.9},
{'point_2d': [994, 506], 'tooth_id': '22', 'score': 0.9},
{'point_2d': [772, 476], 'tooth_id': '13', 'score': 0.9},
{'point_2d': [939, 514], 'tooth_id': '21', 'score': 0.89},
{'point_2d': [1078, 496], 'tooth_id': '24', 'score': 0.89},
{'point_2d': [836, 481], 'tooth_id': '12', 'score': 0.88},
{'point_2d': [1128, 490], 'tooth_id': '25', 'score': 0.88},
{'point_2d': [974, 713], 'tooth_id': '32', 'score': 0.87},
{'point_2d': [461, 612], 'tooth_id': '48', 'score': 0.86},
{'point_2d': [914, 705], 'tooth_id': '41', 'score': 0.86},
{'point_2d': [1012, 723], 'tooth_id': '33', 'score': 0.86},
{'point_2d': [944, 709], 'tooth_id': '31', 'score': 0.85},
{'point_2d': [883, 501], 'tooth_id': '11', 'score': 0.84},
{'point_2d': [880, 712], 'tooth_id': '42', 'score': 0.84},
{'point_2d': [1322, 644], 'tooth_id': '38', 'score': 0.8},
{'point_2d': [1333, 460], 'tooth_id': '28', 'score': 0.73}
]
```

Wisdom teeth detection (total: 3):

```
[
{'box_2d': [404, 540, 518, 684], 'tooth_id': '48', 'is_impacted': false, 'score': 0.86},
{'box_2d': [1282, 579, 1361, 709], 'tooth_id': '38', 'is_impacted': false, 'score': 0.8},
{'box_2d': [1300, 391, 1366, 529], 'tooth_id': '28', 'is_impacted': false, 'score': 0.73}
]
```

Dental Pathological Findings (total: 3):

```
[
{'box_2d': [571, 394, 668, 570], 'tooth_id': '16', 'label': 'caries', 'score': 0.23},
{'box_2d': [1234, 620, 1260, 643], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.66, 'near_tooth': '37'},
{'box_2d': [411, 348, 507, 462], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.42, 'near_tooth': '17'}
]
```

Historical Treatments (total: 0):

```
[
]
```

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# Medical Report

## Teeth-Specific Observations

### 1. General Condition

A total of 31 teeth are visualized. All three identified wisdom teeth (#28, #38, #48) are present and not impacted. The overall dental arch alignment appears unremarkable.

### 2. Pathological Findings

- #16 (upper right first molar): Suspicious for caries.
- Near #37 (lower left first molar): An area suspicious for caries is observed.
- Near #17 (upper right second molar): A suspicious region suggestive of an impacted tooth or structural anomaly is noted.

### 3. Historical Interventions

No prior restorations, crowns, root canal treatments, or implants are observed.

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## Clinical Summary & Recommendations

### Priority Concerns

- Suspected caries on #16 (upper right first molar) and near #37 (lower left first molar).
- Anomalous area near #17 (upper right second molar) warrants evaluation to clarify the nature of the suspicious finding.

### Preventive Measures

- Reinforce oral hygiene practices, emphasizing interdental cleaning for caries-prone areas.
- Monitor questionable regions for progression, particularly near #37 and #17.

### Follow-up Protocol

- Schedule a clinical examination within 2 weeks to confirm caries on #16 and near #37.
- Referral to an oral surgeon is recommended for further assessment of the suspicious area near #17.
- 6-month recall for radiographic reassessment and preventive care reinforcement.