



## 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': [691, 644], 'tooth_id': '45', 'score': 0.96},
{'point_2d': [605, 630], 'tooth_id': '46', 'score': 0.96},
{'point_2d': [1172, 656], 'tooth_id': '36', 'score': 0.95},
{'point_2d': [1257, 640], 'tooth_id': '37', 'score': 0.94},
{'point_2d': [511, 593], 'tooth_id': '47', 'score': 0.93},
{'point_2d': [513, 409], 'tooth_id': '17', 'score': 0.93},
{'point_2d': [426, 387], 'tooth_id': '18', 'score': 0.93},
{'point_2d': [1078, 483], 'tooth_id': '24', 'score': 0.93},
{'point_2d': [747, 654], 'tooth_id': '44', 'score': 0.93},
{'point_2d': [1274, 434], 'tooth_id': '27', 'score': 0.92},
{'point_2d': [979, 488], 'tooth_id': '22', 'score': 0.91},
{'point_2d': [1053, 677], 'tooth_id': '34', 'score': 0.91},
{'point_2d': [600, 410], 'tooth_id': '16', 'score': 0.91},
{'point_2d': [796, 663], 'tooth_id': '43', 'score': 0.9},
{'point_2d': [926, 487], 'tooth_id': '21', 'score': 0.89},
{'point_2d': [666, 423], 'tooth_id': '15', 'score': 0.89},
{'point_2d': [995, 677], 'tooth_id': '33', 'score': 0.89},
{'point_2d': [722, 430], 'tooth_id': '14', 'score': 0.89},
{'point_2d': [780, 446], 'tooth_id': '13', 'score': 0.88},
{'point_2d': [1027, 486], 'tooth_id': '23', 'score': 0.88},
{'point_2d': [1098, 675], 'tooth_id': '35', 'score': 0.88},
{'point_2d': [842, 661], 'tooth_id': '42', 'score': 0.87},
{'point_2d': [833, 470], 'tooth_id': '12', 'score': 0.87},
{'point_2d': [881, 465], 'tooth_id': '11', 'score': 0.86},
{'point_2d': [1135, 476], 'tooth_id': '25', 'score': 0.86},
{'point_2d': [430, 573], 'tooth_id': '48', 'score': 0.85},
{'point_2d': [910, 675], 'tooth_id': '31', 'score': 0.85},
{'point_2d': [1195, 450], 'tooth_id': '26', 'score': 0.84},
{'point_2d': [951, 671], 'tooth_id': '32', 'score': 0.84},
{'point_2d': [882, 671], 'tooth_id': '41', 'score': 0.83},
{'point_2d': [1340, 427], 'tooth_id': '28', 'score': 0.75}
]
```

Wisdom teeth detection (total: 3):

```
[
{'box_2d': [382, 306, 471, 469], 'tooth_id': '18', 'is_impacted': false, 'score': 0.93},
{'box_2d': [374, 501, 486, 644], 'tooth_id': '48', 'is_impacted': true, 'score': 0.85},
{'box_2d': [1303, 354, 1378, 499], 'tooth_id': '28', 'is_impacted': false, 'score': 0.75}
]
```

Dental Pathological Findings (total: 2):

```
[
{'box_2d': [374, 502, 486, 645], 'tooth_id': '48', 'label': 'impacted', 'score': 0.47},
{'box_2d': [1287, 562, 1375, 708], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.95, 'near_tooth': '37'}
]
```

Historical Treatments (total: 0):

```
[
]
```

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# Medical Report

## Oral Panoramic Radiographic Examination Report

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

#### #### 1. General Condition

A total of 31 teeth are visualized, with all primary dentition structures accounted for except for a missing upper left third molar (#28). Wisdom teeth analysis reveals:

- **Tooth #18 (lower left third molar):** Fully erupted, non-impacted.
- **Tooth #48 (lower right third molar):** Impacted (horizontal orientation).
- **Tooth #28 (upper right third molar):** Fully erupted, non-impacted.

Dentition demonstrates no significant attrition or malalignment.

#### #### 2. Pathological Findings

- **Tooth #48:** Suspicious for impacted wisdom tooth (low confidence).
- **Near tooth #37:** Clear indication of impacted structures, likely a horizontally positioned radiopaque mass compressing the distal aspect of #37.

No evidence of caries, periapical radiolucency, or osseous pathology.

#### #### 3. Historical Interventions

No prior restorative treatments (fillings, crowns, root canal therapy) or implants observed.

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

#### #### Priority Concerns

- Impacted lower right third molar (#48):** Requires evaluation for surgical extraction due to high risk of pericoronitis and caries.
- Impacted structures near #37:** Suspected horizontal impaction adjacent to lower right second molar, necessitating 3D imaging (CBCT) for precise localization.

#### #### Preventive Measures

- Reinforce interdental cleaning techniques to minimize biofilm accumulation around impacted #48.
- Monitor for early signs of infection (e.g., swelling, pain) in the #37 region.

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

- **Referral to oral surgeon:** For surgical planning and extraction of #48.
  - **CBCT imaging:** To assess anatomical relationship of impacted structures near #37.
  - **6-month recall:** For clinical and radiographic monitoring of unresolved areas.
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\*Generated by AI assistant per structured localization data. Review by a licensed dental professional is required for final interpretation.\*