



## 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': [1204, 709], 'tooth_id': '36', 'score': 0.97},
{'point_2d': [657, 687], 'tooth_id': '46', 'score': 0.95},
{'point_2d': [740, 709], 'tooth_id': '45', 'score': 0.95},
{'point_2d': [648, 472], 'tooth_id': '16', 'score': 0.95},
{'point_2d': [561, 657], 'tooth_id': '47', 'score': 0.94},
{'point_2d': [1275, 682], 'tooth_id': '37', 'score': 0.94},
{'point_2d': [1132, 725], 'tooth_id': '35', 'score': 0.93},
{'point_2d': [1254, 501], 'tooth_id': '27', 'score': 0.92},
{'point_2d': [1079, 716], 'tooth_id': '34', 'score': 0.92},
{'point_2d': [903, 508], 'tooth_id': '11', 'score': 0.91},
{'point_2d': [1036, 709], 'tooth_id': '33', 'score': 0.9},
{'point_2d': [789, 712], 'tooth_id': '44', 'score': 0.89},
{'point_2d': [1040, 507], 'tooth_id': '23', 'score': 0.89},
{'point_2d': [1078, 508], 'tooth_id': '24', 'score': 0.89},
{'point_2d': [718, 483], 'tooth_id': '15', 'score': 0.89},
{'point_2d': [955, 513], 'tooth_id': '21', 'score': 0.88},
{'point_2d': [845, 706], 'tooth_id': '43', 'score': 0.88},
{'point_2d': [1124, 508], 'tooth_id': '25', 'score': 0.88},
{'point_2d': [1188, 509], 'tooth_id': '26', 'score': 0.87},
{'point_2d': [571, 459], 'tooth_id': '17', 'score': 0.87},
{'point_2d': [961, 712], 'tooth_id': '31', 'score': 0.87},
{'point_2d': [859, 502], 'tooth_id': '12', 'score': 0.86},
{'point_2d': [997, 715], 'tooth_id': '32', 'score': 0.85},
{'point_2d': [885, 703], 'tooth_id': '42', 'score': 0.84},
{'point_2d': [810, 506], 'tooth_id': '13', 'score': 0.83},
{'point_2d': [923, 711], 'tooth_id': '41', 'score': 0.83},
{'point_2d': [769, 501], 'tooth_id': '14', 'score': 0.82},
{'point_2d': [1002, 511], 'tooth_id': '22', 'score': 0.79}
]
```

Wisdom teeth detection (total: 0):

```
[  
]
```

Dental Pathological Findings (total: 5):

```
[
{'box_2d': [813, 403, 871, 600], 'tooth_id': '12', 'label': 'calculus', 'score': 0.42},
{'box_2d': [1307, 623, 1395, 751], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.92, 'near_tooth': '37'},
{'box_2d': [382, 585, 514, 729], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.88, 'near_tooth': '47'},
{'box_2d': [1255, 388, 1328, 491], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.85, 'near_tooth': '27'},
{'box_2d': [469, 345, 572, 454], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.81, 'near_tooth': '17'}
]
```

Historical Treatments (total: 0):

```
[  
]
```

# Medical Report

## Oral Panoramic Examination Report

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

#### #### General Condition

A total of 28 teeth were visualized within the panoramic field. All permanent teeth are present and anatomically identifiable. No wisdom teeth (third molars) were detected.

#### #### Pathological Findings

1. **Tooth #12 (Upper Right Lateral Incisor):** Suspicious for periodontal calculus deposition, as subtle radiopaque accumulations are noted in the apical region.
2. **Near Tooth #37 (Lower Left Second Molar):** Shows evidence of an impacted anatomical structure, likely a retained developmental cyst or bony impaction.
3. **Near Tooth #47 (Lower Right Second Molar):** Clear indication of an impacted entity adjacent to the apical region, consistent with a radiolucent defect or cystic formation.
4. **Near Tooth #27 (Upper Left Second Molar):** Radiographic evidence of a bony impaction along the distal root surface.
5. **Near Tooth #17 (Upper Right Second Molar):** Impacted lesion identified near the apical region, suggestive of a resorptive or cystic process.

#### #### Historical Interventions

No restorations, root canal treatments, crowns, or implants were identified in the visualized field.

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

#### #### Priority Concerns

1. **Impacted structures near multiple molars:** Radiolucent or radiopaque lesions near teeth #37, #47, #27, and #17 require further diagnostic evaluation (e.g., CBCT imaging) to determine etiology and surgical intervention needs.
2. **Calculus suspicion on #12:** Suspected subgingival calculus at #12 warrants scaling and root planing to mitigate periodontal risk.

#### #### Preventive Measures

- Reinforce meticulous oral hygiene protocols, emphasizing interdental cleaning for impacted regions.
- Monitor areas of suspected calculus with follow-up radiographs in 3–6 months.

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

- **Referral:** Urgent consultation with an oral surgeon or endodontist for evaluation of impacted lesions near molars (#37, #47, #27, #17).
  - **Recall:** Schedule a 6-month follow-up to reassess calculus management and track changes in impacted regions.
  - **Patient Education:** Advise against self-manipulation of impacted areas and emphasize compliance with hygiene regimens.
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\*Generated by AI-assisted panoramic analysis.\*