



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': [558, 599], 'tooth_id': '47', 'score': 0.95},
  {'point_2d': [718, 637], 'tooth_id': '45', 'score': 0.95},
  {'point_2d': [1195, 646], 'tooth_id': '36', 'score': 0.94},
  {'point_2d': [514, 419], 'tooth_id': '17', 'score': 0.94},
  {'point_2d': [1012, 486], 'tooth_id': '22', 'score': 0.93},
  {'point_2d': [1307, 437], 'tooth_id': '27', 'score': 0.93},
  {'point_2d': [671, 444], 'tooth_id': '15', 'score': 0.93},
  {'point_2d': [888, 484], 'tooth_id': '11', 'score': 0.93},
  {'point_2d': [639, 623], 'tooth_id': '46', 'score': 0.92},
  {'point_2d': [948, 484], 'tooth_id': '21', 'score': 0.92},
  {'point_2d': [1268, 618], 'tooth_id': '37', 'score': 0.92},
  {'point_2d': [601, 439], 'tooth_id': '16', 'score': 0.92},
  {'point_2d': [1119, 650], 'tooth_id': '35', 'score': 0.91},
  {'point_2d': [725, 450], 'tooth_id': '14', 'score': 0.91},
  {'point_2d': [828, 477], 'tooth_id': '12', 'score': 0.91},
  {'point_2d': [777, 645], 'tooth_id': '44', 'score': 0.9},
  {'point_2d': [1057, 484], 'tooth_id': '23', 'score': 0.89},
  {'point_2d': [769, 464], 'tooth_id': '13', 'score': 0.89},
  {'point_2d': [1099, 467], 'tooth_id': '24', 'score': 0.87},
  {'point_2d': [1074, 668], 'tooth_id': '34', 'score': 0.87},
  {'point_2d': [1013, 663], 'tooth_id': '33', 'score': 0.87},
  {'point_2d': [1155, 461], 'tooth_id': '25', 'score': 0.86},
  {'point_2d': [842, 658], 'tooth_id': '43', 'score': 0.85},
  {'point_2d': [1227, 454], 'tooth_id': '26', 'score': 0.84},
  {'point_2d': [433, 434], 'tooth_id': '18', 'score': 0.84},
  {'point_2d': [955, 654], 'tooth_id': '32', 'score': 0.76},
  {'point_2d': [1381, 446], 'tooth_id': '28', 'score': 0.63},
  {'point_2d': [903, 646], 'tooth_id': '42', 'score': 0.61}
]
```

Wisdom teeth detection (total: 2):

```
[
  {'box_2d': [392, 367, 473, 501], 'tooth_id': '18', 'is_impacted': false, 'score': 0.84},
  {'box_2d': [1341, 367, 1421, 524], 'tooth_id': '28', 'is_impacted': false, 'score': 0.63}
]
```

Dental Pathological Findings (total: 1):

```
[
  {'box_2d': [1307, 598, 1423, 703], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.93, 'near_tooth': '37'}
]
```

Historical Treatments (total: 0):

```
[
]
```

Medical Report

****Teeth-Specific Observations****

General Condition

A total of 28 teeth are visualized within the panoramic field. All wisdom teeth are present, with the upper right third molar (#18) fully erupted and non-impacted. The lower right third molar (#28) is also present but exhibits reduced visibility due to lower detection confidence.

Pathological Findings

A clear indication of **impacted tooth** is observed near tooth #37 (lower left first molar), localized in the posterior mandibular region. This finding is consistent with radiographic signs of bony obstruction or incomplete eruption.

Historical Interventions

No prior restorations, root canal treatments, implants, or crowns are identified in the examined field.

****Clinical Summary & Recommendations****

Priority Concerns

- Impacted tooth near #37:** Requires evaluation for potential surgical extraction or orthodontic intervention.
- Reduced visibility of #28:** Monitor for progressive impaction or resorption risks.

Preventive Measures

- Reinforce oral hygiene protocols to mitigate caries and periodontal risks in the posterior mandibular region.
- Schedule regular follow-ups to assess the developmental trajectory of #28.

Follow-up Protocol

- Referral to oral surgeon:** For assessment of impacted tooth near #37 and #28.
 - 6-month recall:** To evaluate stability of #28 and monitor for pathological changes.
 - Radiographic re-evaluation in 12 months:** To track eruptive progress of #28 and ensure no compromise to adjacent structures.
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Generated by AI-assisted radiological analysis.