



## 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: 26):

```
[
{'point_2d': [1087, 827], 'tooth_id': '36', 'score': 0.96},
{'point_2d': [630, 839], 'tooth_id': '45', 'score': 0.94},
{'point_2d': [554, 824], 'tooth_id': '46', 'score': 0.93},
{'point_2d': [472, 793], 'tooth_id': '47', 'score': 0.93},
{'point_2d': [545, 630], 'tooth_id': '16', 'score': 0.93},
{'point_2d': [1156, 606], 'tooth_id': '27', 'score': 0.93},
{'point_2d': [1004, 864], 'tooth_id': '35', 'score': 0.93},
{'point_2d': [710, 639], 'tooth_id': '13', 'score': 0.92},
{'point_2d': [615, 638], 'tooth_id': '15', 'score': 0.91},
{'point_2d': [670, 635], 'tooth_id': '14', 'score': 0.91},
{'point_2d': [1160, 798], 'tooth_id': '37', 'score': 0.91},
{'point_2d': [1078, 616], 'tooth_id': '26', 'score': 0.91},
{'point_2d': [942, 840], 'tooth_id': '34', 'score': 0.9},
{'point_2d': [476, 620], 'tooth_id': '17', 'score': 0.89},
{'point_2d': [888, 634], 'tooth_id': '22', 'score': 0.87},
{'point_2d': [688, 845], 'tooth_id': '44', 'score': 0.86},
{'point_2d': [732, 866], 'tooth_id': '43', 'score': 0.85},
{'point_2d': [776, 847], 'tooth_id': '42', 'score': 0.85},
{'point_2d': [1001, 632], 'tooth_id': '25', 'score': 0.85},
{'point_2d': [905, 851], 'tooth_id': '33', 'score': 0.84},
{'point_2d': [860, 847], 'tooth_id': '32', 'score': 0.82},
{'point_2d': [803, 653], 'tooth_id': '11', 'score': 0.82},
{'point_2d': [850, 640], 'tooth_id': '21', 'score': 0.81},
{'point_2d': [759, 651], 'tooth_id': '12', 'score': 0.78},
{'point_2d': [832, 851], 'tooth_id': '31', 'score': 0.77},
{'point_2d': [805, 854], 'tooth_id': '41', 'score': 0.76}
]
```

Wisdom teeth detection (total: 0):

```
[  
]
```

Dental Pathological Findings (total: 5):

```
[
{'box_2d': [1199, 722, 1300, 842], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.88, 'near_tooth': '37'},
{'box_2d': [330, 705, 431, 831], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.83, 'near_tooth': '47'},
{'box_2d': [390, 484, 484, 598], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.65, 'near_tooth': '17'},
{'box_2d': [876, 555, 975, 631], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.48, 'near_tooth': '22'},
{'box_2d': [1146, 491, 1235, 582], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.35, 'near_tooth': '27'}
]
```

Historical Treatments (total: 0):

```
[  
]
```

# Medical Report

## Teeth-Specific Observations

### 1. General Condition

A total of 26 teeth are visualized on the panoramic radiograph. All four wisdom teeth (FDI #18, #28, #38, #48) are absent, indicating no erupted or identifiable impacted wisdom teeth within the field of view.

### 2. Pathological Findings

- **FDI #37 (mandibular right first molar):** Shows evidence of impacted tooth near the distal aspect, with radiographic signs of bony resistance.
- **FDI #47 (mandibular left first molar):** Demonstrates impacted tooth near the distal region, with adjacent cortical expansion observed.
- **FDI #17 (maxillary left first molar):** Suspicious for impacted tooth near the palatal surface, with equivocal radiopacity suggesting potential bony impaction.
- **FDI #22 (maxillary right first premolar):** Areas of concern noted for potential impacted tooth near the mesial aspect; however, low radiographic contrast limits definitive assessment.

### 3. Historical Interventions

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

---

## Clinical Summary & Recommendations

### 1. Priority Concerns

- Impacted tooth near FDI #37 and #47 requires evaluation for surgical extraction due to potential for infection or resorption of adjacent teeth.
- Suspicious radiographic findings near FDI #17 warrant further imaging (e.g., CBCT) to clarify the extent of bony impaction and anatomical relationship.

### 2. Preventive Measures

- Reinforce oral hygiene protocols to mitigate periapical inflammation risks in impacted regions.
- Monitor areas of concern near FDI #22 during routine recalls for progression of radiographic changes.

### 3. Follow-up Protocol

- Immediate referral to an oral surgeon for clinical and radiographic assessment of impacted teeth near FDI #37, #47, and #17.
- Schedule a 6-month recall to reassess impacted regions and ensure no secondary complications (e.g., caries, periodontal compromise) arise.