



## 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: 24):

```
[
{'point_2d': [630, 743], 'tooth_id': '45', 'score': 0.96},
{'point_2d': [1238, 562], 'tooth_id': '27', 'score': 0.94},
{'point_2d': [801, 544], 'tooth_id': '11', 'score': 0.93},
{'point_2d': [977, 750], 'tooth_id': '33', 'score': 0.93},
{'point_2d': [690, 532], 'tooth_id': '13', 'score': 0.93},
{'point_2d': [685, 739], 'tooth_id': '44', 'score': 0.93},
{'point_2d': [995, 530], 'tooth_id': '23', 'score': 0.92},
{'point_2d': [1080, 758], 'tooth_id': '35', 'score': 0.92},
{'point_2d': [939, 546], 'tooth_id': '22', 'score': 0.92},
{'point_2d': [880, 541], 'tooth_id': '21', 'score': 0.92},
{'point_2d': [457, 530], 'tooth_id': '17', 'score': 0.91},
{'point_2d': [743, 746], 'tooth_id': '43', 'score': 0.91},
{'point_2d': [878, 724], 'tooth_id': '31', 'score': 0.9},
{'point_2d': [746, 553], 'tooth_id': '12', 'score': 0.9},
{'point_2d': [642, 539], 'tooth_id': '14', 'score': 0.9},
{'point_2d': [1022, 749], 'tooth_id': '34', 'score': 0.9},
{'point_2d': [924, 733], 'tooth_id': '32', 'score': 0.89},
{'point_2d': [1037, 536], 'tooth_id': '24', 'score': 0.88},
{'point_2d': [798, 736], 'tooth_id': '42', 'score': 0.87},
{'point_2d': [836, 727], 'tooth_id': '41', 'score': 0.86},
{'point_2d': [535, 552], 'tooth_id': '16', 'score': 0.85},
{'point_2d': [1147, 552], 'tooth_id': '26', 'score': 0.83},
{'point_2d': [1086, 549], 'tooth_id': '25', 'score': 0.81},
{'point_2d': [421, 670], 'tooth_id': '47', 'score': 0.76}
]
```

Wisdom teeth detection (total: 0):

```
[
]
```

Dental Pathological Findings (total: 7):

```
[
{'box_2d': [790, 452, 897, 615], 'tooth_id': '11', 'label': 'calculus', 'score': 0.36},
{'box_2d': [868, 416, 959, 619], 'tooth_id': '22', 'label': 'calculus', 'score': 0.37},
{'box_2d': [1064, 434, 1280, 677], 'tooth_id': '26', 'label': 'caries', 'score': 0.2},
{'box_2d': [1068, 457, 1118, 622], 'tooth_id': '25', 'label': 'periapical radiolucency', 'score': 0.3},
{'box_2d': [1050, 501, 1128, 638], 'tooth_id': '25', 'label': 'caries', 'score': 0.21},
{'box_2d': [339, 627, 483, 757], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.79, 'near_tooth': '47'},
{'box_2d': [1070, 578, 1102, 624], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.35, 'near_tooth': '25'}
]
```

Historical Treatments (total: 4):

```
[
{'box_2d': [1095, 579, 1145, 637], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.81, 'near_tooth': '26'},
{'box_2d': [1202, 607, 1275, 644], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.69, 'near_tooth': '27'},
{'box_2d': [435, 583, 492, 615], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.65, 'near_tooth': '17'},
{'box_2d': [431, 641, 473, 694], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.58, 'near_tooth': '47'}
]
```

---

# Medical Report

## Teeth-Specific Observations

### 1. General Condition

A total of 24 teeth are visualized within the panoramic field. No wisdom teeth (third molars) are visible bilaterally. The majority of anterior and posterior teeth demonstrate normal anatomical alignment and root morphology.

### 2. Pathological Findings

- #11: Suspected calculus accumulation noted.
- #22: Areas of concern for calculus deposits.
- #25: Periapical radiolucency and suspicious carious lesion identified.
- #26: Suspicious for caries and adjacent restoration requiring evaluation.
- Near #47: Radiographic evidence of impacted tooth.
- Near #25: Secondary suspicious carious lesion detected.

### 3. Historical Interventions

- Near #17, #26, #27, and #47: Presence of prior restorative interventions confirmed.
- 

## Clinical Summary & Recommendations

### 1. Priority Concerns

- Impacted anatomical structure near #47 requires surgical assessment for removal.
- Periapical radiolucency on #25 warrants endodontic evaluation to rule out apical periodontitis.
- Carious lesions on #25 and #26 necessitate prompt restorative treatment.

### 2. Preventive Measures

- Reinforce oral hygiene protocols targeting interproximal plaque control, particularly for #11 and #22.
- Monitor radiographic changes in #25 and adjacent restorations during 6-month follow-ups.

### 3. Follow-up Protocol

- Schedule urgent referral to oral surgeon for impacted tooth near #47.
  - Arrange endodontic consultation for #25 within 2 weeks.
  - Recare appointment in 6 months for comprehensive re-evaluation of caries progression and periapical healing.
- 

Generated using FDI tooth numbering system. All findings derived from localized radiographic data.