



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: 29):

```
[
  {'point_2d': [1161, 684], 'tooth_id': '36', 'score': 0.95},
  {'point_2d': [588, 678], 'tooth_id': '47', 'score': 0.94},
  {'point_2d': [669, 689], 'tooth_id': '46', 'score': 0.93},
  {'point_2d': [1237, 675], 'tooth_id': '37', 'score': 0.93},
  {'point_2d': [641, 493], 'tooth_id': '16', 'score': 0.93},
  {'point_2d': [1257, 484], 'tooth_id': '27', 'score': 0.93},
  {'point_2d': [745, 691], 'tooth_id': '45', 'score': 0.93},
  {'point_2d': [1052, 696], 'tooth_id': '34', 'score': 0.92},
  {'point_2d': [1094, 695], 'tooth_id': '35', 'score': 0.92},
  {'point_2d': [709, 480], 'tooth_id': '15', 'score': 0.91},
  {'point_2d': [502, 487], 'tooth_id': '18', 'score': 0.9},
  {'point_2d': [791, 487], 'tooth_id': '13', 'score': 0.9},
  {'point_2d': [1183, 482], 'tooth_id': '26', 'score': 0.9},
  {'point_2d': [949, 497], 'tooth_id': '21', 'score': 0.89},
  {'point_2d': [1075, 493], 'tooth_id': '24', 'score': 0.89},
  {'point_2d': [1119, 483], 'tooth_id': '25', 'score': 0.88},
  {'point_2d': [966, 683], 'tooth_id': '32', 'score': 0.87},
  {'point_2d': [1005, 691], 'tooth_id': '33', 'score': 0.87},
  {'point_2d': [749, 483], 'tooth_id': '14', 'score': 0.87},
  {'point_2d': [791, 689], 'tooth_id': '44', 'score': 0.85},
  {'point_2d': [1039, 490], 'tooth_id': '23', 'score': 0.85},
  {'point_2d': [875, 687], 'tooth_id': '42', 'score': 0.85},
  {'point_2d': [836, 687], 'tooth_id': '43', 'score': 0.84},
  {'point_2d': [561, 488], 'tooth_id': '17', 'score': 0.84},
  {'point_2d': [1002, 505], 'tooth_id': '22', 'score': 0.83},
  {'point_2d': [929, 677], 'tooth_id': '31', 'score': 0.82},
  {'point_2d': [840, 487], 'tooth_id': '12', 'score': 0.8},
  {'point_2d': [894, 487], 'tooth_id': '11', 'score': 0.77},
  {'point_2d': [902, 680], 'tooth_id': '41', 'score': 0.77}
]
```

Wisdom teeth detection (total: 1):

```
[
  {'box_2d': [451, 402, 553, 572], 'tooth_id': '18', 'is_impacted': false, 'score': 0.9}
]
```

Dental Pathological Findings (total: 4):

```
[
  {'box_2d': [797, 416, 896, 573], 'tooth_id': '12', 'label': 'calculus', 'score': 0.38},
  {'box_2d': [847, 367, 907, 567], 'tooth_id': '11', 'label': 'calculus', 'score': 0.38},
  {'box_2d': [394, 601, 553, 711], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.92, 'near_tooth': '47'},
  {'box_2d': [1271, 587, 1417, 698], 'tooth_id': 'unknown', 'label': 'impacted', 'score': 0.91, 'near_tooth': '37'}
]
```

Historical Treatments (total: 0):

```
[
]
```

Medical Report

Teeth-Specific Observations

1. General Condition

A total of 29 teeth are visualized within the panoramic field. The wisdom teeth (#36, #47, #37, #26) are partially visualized, with #18 (mandibular left wisdom tooth) fully erupted and non-impacted.

2. Pathological Findings

- **#11 and #12:** Areas of concern noted for suspected dental calculus.
- **Near #47 and #37:** Clear indication of impacted bony structures adjacent to the mandibular right first molar (#47) and maxillary right first molar (#37).

3. Historical Interventions

No prior restorations, crowns, root canal treatments, or implants are observed.

Clinical Summary & Recommendations

1. Priority Concerns

- Impacted bony structures near #47 and #37 require evaluation for potential surgical removal or monitoring.
- Suspected calculus on #11 and #12 necessitates professional scaling and polishing.

2. Preventive Measures

- Reinforce oral hygiene protocols to mitigate calculus progression.
- Monitor impacted areas for signs of infection or cystic changes during follow-up.

3. Follow-up Protocol

- Refer to oral surgeon for assessment of impacted bony fragments near #47 and #37.
- Schedule 6-month recall for calculus management and re-evaluation of impacted regions.
- Emphasize daily interdental cleaning (e.g., flossing, water flossing) to prevent recurrence.