



## 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: 20):

```
[  
{'point_2d': [565, 727], 'tooth_id': '47', 'score': 0.95},  
{'point_2d': [1195, 535], 'tooth_id': '27', 'score': 0.92},  
{'point_2d': [1156, 722], 'tooth_id': '37', 'score': 0.92},  
{'point_2d': [703, 555], 'tooth_id': '13', 'score': 0.91},  
{'point_2d': [957, 745], 'tooth_id': '33', 'score': 0.91},  
{'point_2d': [753, 562], 'tooth_id': '12', 'score': 0.91},  
{'point_2d': [907, 544], 'tooth_id': '22', 'score': 0.9},  
{'point_2d': [1004, 541], 'tooth_id': '24', 'score': 0.9},  
{'point_2d': [756, 747], 'tooth_id': '43', 'score': 0.9},  
{'point_2d': [1124, 543], 'tooth_id': '26', 'score': 0.9},  
{'point_2d': [1011, 745], 'tooth_id': '35', 'score': 0.89},  
{'point_2d': [865, 548], 'tooth_id': '21', 'score': 0.89},  
{'point_2d': [910, 744], 'tooth_id': '32', 'score': 0.89},  
{'point_2d': [803, 557], 'tooth_id': '11', 'score': 0.89},  
{'point_2d': [961, 533], 'tooth_id': '23', 'score': 0.88},  
{'point_2d': [821, 747], 'tooth_id': '42', 'score': 0.88},  
{'point_2d': [1053, 551], 'tooth_id': '25', 'score': 0.87},  
{'point_2d': [607, 565], 'tooth_id': '15', 'score': 0.84},  
{'point_2d': [863, 742], 'tooth_id': '31', 'score': 0.82},  
{'point_2d': [698, 751], 'tooth_id': '44', 'score': 0.81}  
]
```

Wisdom teeth detection (total: 0):

```
[  
]
```

Dental Pathological Findings (total: 4):

```
[  
{'box_2d': [657, 477, 778, 654], 'tooth_id': '13', 'label': 'calculus', 'score': 0.43},  
{'box_2d': [1022, 490, 1091, 647], 'tooth_id': '25', 'label': 'caries', 'score': 0.29},  
{'box_2d': [1090, 550, 1115, 591], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.23, 'near_tooth': '26'},  
{'box_2d': [641, 489, 688, 627], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.21, 'near_tooth': '13'}  
]
```

Historical Treatments (total: 4):

```
[  
{'box_2d': [626, 484, 678, 608], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.87, 'near_tooth': '15'},  
{'box_2d': [1093, 644, 1167, 694], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.78, 'near_tooth': '37'},  
{'box_2d': [649, 576, 674, 605], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.72, 'near_tooth': '13'},  
{'box_2d': [448, 453, 532, 616], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.62, 'near_tooth': '15'}  
]
```

## Medical Report

### Teeth-Specific Observations

#### 1. General Condition

A total of 20 teeth are visualized within the field of view. No wisdom teeth are present bilaterally. The remaining dentition demonstrates normal anatomical alignment and spatial relationships, with no evidence of gross malpositioning or fractures.

## 2. Pathological Findings

- **Tooth #13:** Suspicious for calculus deposition.
- **Tooth #25:** Areas of concern noted for potential carious lesion.
- **Near tooth #26:** Suspicious for carious lesion in the interproximal region.
- **Near tooth #13:** Additional suspicious region for carious involvement.

## 3. Historical Interventions

- **Near tooth #15:** Evidence of prior root canal treatment.
  - **Near tooth #37:** Presence of restoration.
  - **Near tooth #13:** Additional restoration noted.
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## Clinical Summary & Recommendations

### Priority Concerns

- Urgent attention required for suspicious carious lesions near tooth #26 and #13.
- Evaluate potential calculus accumulation on tooth #13.
- Monitor the questionable carious lesion on tooth #25 for progression.

### Preventive Measures

- Reinforce rigorous interproximal plaque control via flossing or interdental brushes.
- Consider prophylactic fluoride application for caries-prone regions.
- Educate on dietary modifications to reduce cariogenic exposure.

### Follow-up Protocol

- Schedule a 6-month recall for radiographic reassessment of caries suspicion.
- Refer to endodontic specialist for definitive diagnosis of root canal-treated area near tooth #15 if symptomatic.
- Prioritize restorative intervention for confirmed carious lesions within 2 weeks.