



## 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: 17):

```
[  
{'point_2d': [980, 724], 'tooth_id': '33', 'score': 0.91},  
{'point_2d': [933, 713], 'tooth_id': '32', 'score': 0.89},  
{'point_2d': [927, 532], 'tooth_id': '22', 'score': 0.89},  
{'point_2d': [875, 527], 'tooth_id': '21', 'score': 0.89},  
{'point_2d': [480, 610], 'tooth_id': '48', 'score': 0.88},  
{'point_2d': [975, 511], 'tooth_id': '23', 'score': 0.87},  
{'point_2d': [476, 469], 'tooth_id': '17', 'score': 0.85},  
{'point_2d': [892, 707], 'tooth_id': '31', 'score': 0.85},  
{'point_2d': [792, 519], 'tooth_id': '12', 'score': 0.84},  
{'point_2d': [829, 525], 'tooth_id': '11', 'score': 0.82},  
{'point_2d': [1009, 710], 'tooth_id': '34', 'score': 0.79},  
{'point_2d': [819, 698], 'tooth_id': '42', 'score': 0.77},  
{'point_2d': [709, 508], 'tooth_id': '14', 'score': 0.75},  
{'point_2d': [1086, 514], 'tooth_id': '25', 'score': 0.72},  
{'point_2d': [845, 702], 'tooth_id': '41', 'score': 0.69},  
{'point_2d': [470, 576], 'tooth_id': '47', 'score': 0.65},  
{'point_2d': [777, 710], 'tooth_id': '43', 'score': 0.62}  
]
```

Wisdom teeth detection (total: 1):

```
[  
{'box_2d': [419, 536, 541, 683], 'tooth_id': '48', 'is_impacted': false, 'score': 0.88}  
]
```

Dental Pathological Findings (total: 1):

```
[  
{'box_2d': [464, 484, 511, 535], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.48, 'near_tooth': '17'}  
]
```

Historical Treatments (total: 9):

```
[  
{'box_2d': [505, 397, 591, 583], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.93, 'near_tooth': '17'},  
{'box_2d': [1014, 616, 1073, 690], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.92, 'near_tooth': '34'},  
{'box_2d': [951, 520, 1119, 610], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.91, 'near_tooth': '25'},  
{'box_2d': [510, 512, 749, 593], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.9, 'near_tooth': '14'},  
{'box_2d': [1013, 619, 1076, 780], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.9, 'near_tooth': '34'},  
{'box_2d': [715, 413, 779, 610], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.86, 'near_tooth': '14'},  
{'box_2d': [676, 625, 731, 771], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.85, 'near_tooth': '43'},  
{'box_2d': [626, 422, 683, 584], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.83, 'near_tooth': '14'},  
{'box_2d': [461, 520, 795, 692], 'tooth_id': 'unknown', 'label': 'restoration', 'score': 0.81, 'near_tooth': '14'}  
]
```

## Medical Report

### Oral Panoramic Radiographic Report

## **Teeth-Specific Observations**

### **1. General Condition**

- Panoramic visualization of **17 teeth** was achieved, with clear delineation of primary dental structures.
- **Wisdom teeth status:** A single mandibular right third molar (#48) is **fully erupted and unimpacted**. No other wisdom teeth were visualized.

### **2. Pathological Findings**

- **Tooth #17 (mandibular left first molar):** A **suspected carious lesion** is noted in proximity, with radiographic features suggestive of early decay. No definitive evidence of pulpal involvement.
- No additional pathologies (caries, periapical pathology, or impactions) were identified in the visualized teeth.

### **3. Historical Interventions**

- **Tooth #14 (maxillary left first premolar):** Presence of **multiple restorations** and **three distinct root canal-treated regions**, indicating prior endodontic therapy.
  - **Tooth #17 (mandibular left first molar):** **Root canal-treated** morphology with associated restorative material in proximity.
  - **Tooth #25 (maxillary right second molar):** **Restoration** present, consistent with previous indirect filling.
  - **Tooth #34 (mandibular right first molar):** **Crown** and **root canal-treated** anatomy, consistent with prior endodontic and prosthetic intervention.
  - **Tooth #43 (mandibular left second molar):** **Root canal-treated** anatomy in proximity.
- 

## **Clinical Summary & Recommendations**

### **1. Priority Concerns**

- **Suspected carious lesion near #17** requires further clinical correlation and monitoring.
- **Multiple endodontically treated teeth (#14, #17, #34, #43)** may warrant evaluation for long-term prognosis and need for retreatment or apical surgery.

### **2. Preventive Measures**

- Reinforce **oral hygiene protocols** to mitigate caries risk in #17.
- Monitor areas of **suspected calculus** in the posterior segments (e.g., near #14 and #25) with periodic recall.

### **3. Follow-up Protocol**

- **6-month recall** recommended for reassessment of #17 and other restorations.
  - **Referral to endodontist** advised for #14 and #17 to evaluate root canal status and potential apical pathology.
  - Consider **restorative intervention** for #17 if caries progression is confirmed clinically.
- 

\*Generated by automated analysis of panoramic radiographic data.\*