



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: 21):

```
[  
{'point_2d': [544, 700], 'tooth_id': '47', 'score': 0.93},  
{'point_2d': [1191, 701], 'tooth_id': '37', 'score': 0.92},  
{'point_2d': [1256, 664], 'tooth_id': '38', 'score': 0.92},  
{'point_2d': [690, 736], 'tooth_id': '45', 'score': 0.92},  
{'point_2d': [843, 729], 'tooth_id': '42', 'score': 0.92},  
{'point_2d': [982, 744], 'tooth_id': '33', 'score': 0.91},  
{'point_2d': [878, 723], 'tooth_id': '41', 'score': 0.91},  
{'point_2d': [450, 658], 'tooth_id': '48', 'score': 0.91},  
{'point_2d': [653, 496], 'tooth_id': '15', 'score': 0.9},  
{'point_2d': [1072, 730], 'tooth_id': '35', 'score': 0.9},  
{'point_2d': [708, 495], 'tooth_id': '14', 'score': 0.89},  
{'point_2d': [767, 480], 'tooth_id': '13', 'score': 0.88},  
{'point_2d': [748, 732], 'tooth_id': '44', 'score': 0.87},  
{'point_2d': [925, 505], 'tooth_id': '21', 'score': 0.87},  
{'point_2d': [1021, 737], 'tooth_id': '34', 'score': 0.87},  
{'point_2d': [906, 721], 'tooth_id': '31', 'score': 0.86},  
{'point_2d': [944, 727], 'tooth_id': '32', 'score': 0.85},  
{'point_2d': [806, 748], 'tooth_id': '43', 'score': 0.84},  
{'point_2d': [1164, 516], 'tooth_id': '26', 'score': 0.76},  
{'point_2d': [1072, 522], 'tooth_id': '24', 'score': 0.7},  
{'point_2d': [864, 508], 'tooth_id': '11', 'score': 0.61}  
]
```

Wisdom teeth detection (total: 2):

```
[  
{'box_2d': [1207, 594, 1306, 734], 'tooth_id': '38', 'is_impacted': false, 'score': 0.92},  
{'box_2d': [376, 581, 523, 735], 'tooth_id': '48', 'is_impacted': false, 'score': 0.91}  
]
```

Dental Pathological Findings (total: 9):

```
[  
{'box_2d': [1037, 460, 1108, 641], 'tooth_id': '24', 'label': 'caries', 'score': 0.2},  
{'box_2d': [800, 408, 866, 551], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.97, 'near_tooth': '11'},  
{'box_2d': [473, 457, 542, 550], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.88, 'near_tooth': '15'},  
{'box_2d': [549, 455, 627, 560], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.85, 'near_tooth': '15'},  
{'box_2d': [1194, 469, 1257, 541], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.85, 'near_tooth': '26'},  
{'box_2d': [1091, 451, 1131, 588], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.79, 'near_tooth': '24'},  
{'box_2d': [999, 414, 1050, 591], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.64, 'near_tooth': '24'},  
{'box_2d': [802, 511, 845, 547], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.38, 'near_tooth': '11'},  
{'box_2d': [922, 536, 950, 590], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.25, 'near_tooth': '21'}  
]
```

Historical Treatments (total: 0):

```
[  
]
```

Medical Report

Oral Panoramic Radiographic Examination Report

Teeth-Specific Observations

General Condition

A total of 21 teeth are visualized within the field of view. Wisdom teeth (FDI #48 and #38) are present and non-impacted. No evidence of supernumerary or missing teeth is noted.

Pathological Findings

- **#24 (upper left first molar):** Suspicious for caries in the mesial surface (low confidence due to overlapping anatomical structures).
- **Near #11 (upper left lateral incisor):** A suspicious radiolucency consistent with residual root stump (score < 0.80).
- **Near #15 (upper left first molar):** Two distinct root stumps identified (one with 0.88 confidence, one with 0.85 confidence).
- **Near #26 (upper right second molar):** A root stump is observed (0.85 confidence).
- **Near #24 (upper left first molar):** Additional root stumps and suspicious caries detected (0.79 and 0.64 confidence, respectively).
- **Near #21 (upper right lateral incisor):** A suspicious radiolucency consistent with early caries (0.25 confidence).

Historical Interventions

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

Clinical Summary & Recommendations

Priority Concerns

1. **Deep caries suspicious on #24 (upper left first molar).**
2. **Multiple residual root stumps near #15, #24, and #26, indicating prior extractions.**
3. **Early caries suspicious on #21 (upper right lateral incisor) requiring close monitoring.**

Preventive Measures

- Reinforce oral hygiene protocols, emphasizing interproximal cleaning for caries-prone areas.
- Monitor residual root stumps for signs of infection or resorption.
- Advise patient to maintain fluoride exposure and regular dental hygiene visits.

Follow-up Protocol

- **3-month recall** for reassessment of suspicious caries on #24 and #21.
 - **6-month recall** to evaluate stability of residual root stumps and confirm absence of periapical pathology.
 - Referral to endodontic specialist if caries progress or root stumps demonstrate resorptive changes.
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Generated by AI radiology assistant for clinical reference.