



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: 11):

```
[  
{'point_2d': [652, 694], 'tooth_id': '45', 'score': 0.95},  
{'point_2d': [813, 534], 'tooth_id': '11', 'score': 0.91},  
{'point_2d': [698, 678], 'tooth_id': '44', 'score': 0.9},  
{'point_2d': [723, 527], 'tooth_id': '13', 'score': 0.9},  
{'point_2d': [873, 519], 'tooth_id': '21', 'score': 0.88},  
{'point_2d': [739, 678], 'tooth_id': '43', 'score': 0.88},  
{'point_2d': [949, 651], 'tooth_id': '33', 'score': 0.87},  
{'point_2d': [920, 519], 'tooth_id': '22', 'score': 0.87},  
{'point_2d': [758, 525], 'tooth_id': '12', 'score': 0.79},  
{'point_2d': [781, 656], 'tooth_id': '42', 'score': 0.77},  
{'point_2d': [896, 649], 'tooth_id': '32', 'score': 0.75}  
]
```

Wisdom teeth detection (total: 0):

```
[  
]
```

Dental Pathological Findings (total: 10):

```
[  
{'box_2d': [903, 479, 980, 723], 'tooth_id': '33', 'label': 'calculus', 'score': 0.37},  
{'box_2d': [899, 442, 941, 597], 'tooth_id': '22', 'label': 'root-stump', 'score': 0.55},  
{'box_2d': [1129, 456, 1224, 530], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.94, 'near_tooth': '22'},  
{'box_2d': [1049, 487, 1129, 540], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.9, 'near_tooth': '22'},  
{'box_2d': [977, 617, 1008, 715], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.85, 'near_tooth': '33'},  
{'box_2d': [674, 535, 693, 577], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.79, 'near_tooth': '13'},  
{'box_2d': [942, 426, 986, 542], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.76, 'near_tooth': '22'},  
{'box_2d': [628, 523, 662, 560], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.7, 'near_tooth': '13'},  
{'box_2d': [551, 527, 583, 597], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.69, 'near_tooth': '45'},  
{'box_2d': [582, 535, 625, 588], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.68, 'near_tooth': '13'}  
]
```

Historical Treatments (total: 0):

```
[  
]
```

Medical Report

Oral Panoramic Radiographic Examination Report

Teeth-Specific Observations

General Condition

A total of 11 teeth were visualized within the field of view. No wisdom teeth (third molars) were identified in either arch. The remaining teeth demonstrate variable visibility based on proximity to anatomical landmarks and angulation.

Pathological Findings

1. **#33:** Suspicious for minimal subgingival calculus noted on the buccal surface.
2. **Near #22:** Definitive signs of residual root stumps in the distal region, consistent with prior endodontic or restorative intervention. Additional root stumps identified in the mesial aspect of #22.
3. **Near #13:** Areas of concern for residual root stumps in adjacent interproximal regions (buccal and lingual).
4. **Near #33:** Evidence of residual root stumps in the distal aspect.
5. **Near #45:** Suggestive of residual root fragments in the mesial region.

Notably, multiple root stumps are clustered around #22 and #13, indicating potential incomplete extraction or residual root fragments.

Historical Interventions

No prior restorative, endodontic, or implant interventions were identified in the visualized field.

Clinical Summary & Recommendations

Priority Concerns

1. **Residual root stumps** (particularly near #22 and #13): Requires clinical correlation to assess for biofilm accumulation or periodontal compromise.
2. **Subgingival calculus on #33:** Indicates localized plaque retention and potential for subgingival biofilm formation.

Preventive Measures

1. Reinforce interdental cleaning techniques (e.g., flossing, interdental brushes) for #33 and adjacent regions.
2. Monitor for progression of residual root stumps near #22 and #13 to rule out apical pathology or periodontal involvement.

Follow-up Protocol

1. **Referral to periodontal specialist:** For evaluation of residual root stumps near #22 and #13 to determine need for surgical removal.
 2. **Recall in 3–6 months:** For re-evaluation of calculus on #33 and monitoring of residual root stumps.
 3. **Clinical examination:** Urgent assessment of #22 and #13 interproximal regions for signs of overhanging restorations or caries.
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Generated by AI radiology assistant for clinical reference. Final interpretation requires clinician validation.