



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: 24):

```
[
  {'point_2d': [400, 426], 'tooth_id': '47', 'score': 0.94},
  {'point_2d': [846, 480], 'tooth_id': '33', 'score': 0.94},
  {'point_2d': [388, 264], 'tooth_id': '17', 'score': 0.94},
  {'point_2d': [1117, 426], 'tooth_id': '38', 'score': 0.93},
  {'point_2d': [705, 305], 'tooth_id': '11', 'score': 0.93},
  {'point_2d': [513, 276], 'tooth_id': '15', 'score': 0.93},
  {'point_2d': [757, 471], 'tooth_id': '31', 'score': 0.92},
  {'point_2d': [930, 483], 'tooth_id': '35', 'score': 0.92},
  {'point_2d': [453, 275], 'tooth_id': '16', 'score': 0.92},
  {'point_2d': [603, 282], 'tooth_id': '13', 'score': 0.92},
  {'point_2d': [327, 261], 'tooth_id': '18', 'score': 0.92},
  {'point_2d': [644, 467], 'tooth_id': '43', 'score': 0.91},
  {'point_2d': [807, 308], 'tooth_id': '22', 'score': 0.9},
  {'point_2d': [1061, 288], 'tooth_id': '27', 'score': 0.9},
  {'point_2d': [758, 301], 'tooth_id': '21', 'score': 0.9},
  {'point_2d': [1002, 296], 'tooth_id': '26', 'score': 0.9},
  {'point_2d': [946, 303], 'tooth_id': '25', 'score': 0.89},
  {'point_2d': [794, 477], 'tooth_id': '32', 'score': 0.88},
  {'point_2d': [861, 295], 'tooth_id': '23', 'score': 0.87},
  {'point_2d': [909, 297], 'tooth_id': '24', 'score': 0.87},
  {'point_2d': [655, 305], 'tooth_id': '12', 'score': 0.87},
  {'point_2d': [560, 286], 'tooth_id': '14', 'score': 0.86},
  {'point_2d': [693, 470], 'tooth_id': '42', 'score': 0.85},
  {'point_2d': [727, 472], 'tooth_id': '41', 'score': 0.81}
]
```

Wisdom teeth detection (total: 2):

```
[
  {'box_2d': [1071, 357, 1164, 494], 'tooth_id': '38', 'is_impacted': false, 'score': 0.93},
  {'box_2d': [297, 187, 358, 336], 'tooth_id': '18', 'is_impacted': false, 'score': 0.92}
]
```

Dental Pathological Findings (total: 10):

```
[
  {'box_2d': [296, 278, 332, 321], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.8, 'near_tooth': '18'},
  {'box_2d': [1085, 217, 1129, 342], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.79, 'near_tooth': '27'},
  {'box_2d': [358, 282, 379, 323], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.6, 'near_tooth': '17'},
  {'box_2d': [1016, 392, 1066, 450], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.59, 'near_tooth': '38'},
  {'box_2d': [396, 367, 423, 388], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.58, 'near_tooth': '47'},
  {'box_2d': [1110, 374, 1131, 399], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.56, 'near_tooth': '38'},
  {'box_2d': [1091, 301, 1122, 341], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.41, 'near_tooth': '27'},
  {'box_2d': [413, 375, 442, 404], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.4, 'near_tooth': '47'},
  {'box_2d': [537, 305, 566, 361], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.38, 'near_tooth': '14'},
  {'box_2d': [1085, 374, 1130, 417], 'tooth_id': 'unknown', 'label': 'caries', 'score': 0.36, 'near_tooth': '38'}
]
```

Historical Treatments (total: 7):

```
[
  {'box_2d': [941, 386, 1038, 543], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.92, 'near_tooth': '35'},
  {'box_2d': [429, 365, 535, 523], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.91, 'near_tooth': '47'},
  {'box_2d': [523, 382, 590, 540], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.89, 'near_tooth': '43'},
]
```

```
{'box_2d': [446, 364, 535, 426], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.88, 'near_tooth': '47'},
{'box_2d': [1017, 386, 1096, 525], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.87, 'near_tooth': '38'},
{'box_2d': [941, 386, 1014, 449], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.87, 'near_tooth': '35'},
{'box_2d': [527, 382, 589, 433], 'tooth_id': 'unknown', 'label': 'crown', 'score': 0.85, 'near_tooth': '43'}
]
```

Medical Report

Oral Panoramic X-ray Examination Report

****Teeth-Specific Observations****

1. General Condition

A total of 24 teeth are visualized within the panoramic field. Both upper left (FDI #18) and lower right (FDI #38) wisdom teeth are present and unimpacted. The remaining dentition demonstrates normal anatomy with no evidence of fractures or luxation.

2. Pathological Findings

- **Sign of caries** near **#18** (upper left wisdom tooth).
 - **Suspicious for caries** near **#27** (lower right second molar); additional findings near **#17** (#17) and **#47** (#47) are noted but require confirmation due to low confidence.
 - **Suspicious for root stump** near **#27**; radiographic lucency suggests prior extraction or resorption.
 - **Areas of concern for caries** near **#14** (upper left first molar) and **#38** (lower right wisdom tooth).
-

3. Historical Interventions

- **Root canal-treated** teeth identified near **#35** (lower right second premolar), **#38** (lower right wisdom tooth), **#43** (upper left first molar), and **#47** (upper left third molar).
 - **Crowns** present on **#35** (lower right second premolar), **#38** (lower right wisdom tooth), and **#43** (upper left first molar).
-

****Clinical Summary & Recommendations****

Priority Concerns

1. **Caries near #18** (upper left wisdom tooth) and **#27** (lower right second molar) require immediate evaluation for restoration or extraction.
2. **Root stump near #27** may necessitate surgical removal to prevent infection or bony resorption.
3. **Unconfirmed caries near #17, #47, #14, and #38** warrant clinical correlation with tactile examination.

Preventive Measures

- Reinforce biofilm control near #18 and #27 with interdental brushing.
- Monitor suspicious caries near #17, #47, #14, and #38 during recalls.
- Advise dietary counseling to reduce cariogenic risk.

Follow-up Protocol

- **6-month recall** for radiographic reassessment of carious lesions.
- **Referral to endodontist** for evaluation of #38 root canal-treated tooth.
- **Dental surgery consultation** for root stump (#27) and impacted wisdom teeth if mobility or symptoms develop.

Generated by AI-assisted oral radiology system. Final interpretation requires clinician verification.