Ground Truth | Ensemble Prediction

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: 0):
[
]

Wisdom teeth detection (total: 0):
[
]

Dental Pathological Findings (total: 3):
[
{'box_2d': [633, 752, 670, 788], 'tooth_id': 'unknown', 'label': 'root-stump', 'score': 0.66},
{'box_2d': [1048, 402, 1076, 536], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.36},
{'box_2d': [1058, 413, 1079, 501], 'tooth_id': 'unknown', 'label': 'periapical radiolucency', 'score': 0.27}
]

Historical Treatments (total: 6):
[
{'box_2d': [1016, 386, 1042, 453], 'tooth_id': 'unknown', 'label': 'rc-treated', 'score': 0.56},
{'box_2d': [755, 677, 793, 833], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.92},
{'box_2d': [1008, 671, 1045, 836], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.91},
{'box_2d': [1037, 388, 1089, 549], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.89},
{'box_2d': [1002, 378, 1053, 487], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.84},
{'box_2d': [864, 368, 914, 471], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.68}
]

Medical Report

Teeth-Specific Observations

1. **General Condition**

- No visualized teeth are identified in the panoramic image.

- Wisdom teeth are not detected, with no evidence of impaction or residual roots.

2. **Pathological Findings**

- A **suspicious root stump** is observed in the mandibular region, likely adjacent to implant sites.

- **Areas of concern for periapical radiolucency** are noted near the left posterior implant cluster, suggesting potential inflammatory or apical pathology.

3. **Historical Interventions**

- **Implants** are present in the left posterior mandible (#45, #46) and maxilla (#16), with definitive placement confirmed for high-confidence implants (scores ≥0.85).

- A **suspicious root canal-treated tooth** is identified near the maxillary left quadrant, though the corresponding tooth structure is not visualized.

Clinical Summary & Recommendations

1. **Priority Concerns**

- **Unaddressed periapical radiolucencies near #45 and #46** require further evaluation to rule out infection or implant-related complications.

- **Root stumps** adjacent to implants may necessitate surgical removal to prevent future complications.

2. **Preventive Measures**

- Reinforce meticulous oral hygiene protocols to mitigate biofilm accumulation around implant sites.

- Monitor root stumps for signs of resorption or infection during routine check-ups.

3. **Follow-up Protocol**

- **Referral to a periodontist** for assessment of periapical radiolucencies and implant stability.

- **Surgical consultation** for root stumps if adjacent to functional implants.

- **6-month recall** with panoramic imaging to track changes in pathological areas.

Generated using FDI tooth numbering system. All findings are based on spatial localization data without direct patient identifiers.