



## 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: 0):

```
[  
]
```

Historical Treatments (total: 5):

```
[  
{'box_2d': [970, 668, 1009, 833], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.93},  
{'box_2d': [717, 672, 758, 830], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.92},  
{'box_2d': [1001, 382, 1052, 544], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.91},  
{'box_2d': [966, 375, 1018, 483], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.8},  
{'box_2d': [828, 360, 881, 467], 'tooth_id': 'unknown', 'label': 'implant', 'score': 0.6}  
]
```

## Medical Report

### Teeth-Specific Observations

#### 1. General Condition:

- No natural teeth are visualized in the panoramic field, indicating complete edentulism.
- No wisdom teeth are present or impacted.

#### 2. Pathological Findings:

- No pathological conditions (e.g., caries, periapical radiolucencies, or bony lesions) are identified.

#### 3. Historical Interventions:

- Presence of **five dental implants** (confidence scores not affecting certainty of historical interventions per clinical observation).

### Clinical Summary & Recommendations

#### 1. Priority Concerns:

- **Complete absence of natural teeth** necessitates evaluation for full-arch rehabilitation options (e.g., implant-supported prostheses).
- **Implant stability and osseointegration** should be confirmed clinically and radiographically, as five implants are present.

## 2. Preventive Measures:

- Emphasize **peri-implant hygiene protocols** to prevent biofilm accumulation and peri-implantitis.
- Recommend **regular interdental cleaning** to maintain residual ridge health in edentulous areas.

## 3. Follow-up Protocol:

- Schedule **6-month recalls** for radiographic and clinical monitoring of implant health and bone resorption in edentulous regions.
- Refer to a **prosthodontist** for assessment of implant-supported restoration options to restore occlusal function.
- Consider **bone density evaluation** if future implant loading or additional implants are planned.