

Oral Implantology

Dental implants

Artificial tooth roots used to support a restoration, that resemble teeth.

Types of jaw implants

Endosseous

within bone; most popular.

Subperiosteal

Rarely used now; custom made metal frame inserted as onlay directly onto surface of cortical bone and attached with screws (when bone atrophic).

Transosseous

Placing implant bionically through bone; small mandibular staple implant and bosker submandibular implant.

Materials

- Pure titanium or hydroxyapatite coated titanium : common.
- Bioceramic gold implants : less common.
- Titanium - aluminium - vanadium alloy : stronger and used with smaller diameter implants.

Titanium : light weight, biocompatible, corrosion resistant, strong, low-priced.

Fixture types

- hydroxyapatite coated
- titanium surface modified
- tap or self tapping
- screw
- press fit

Implant diameter : 4-6mm length : 7-18mm.

Indications

- Severe denture intolerance
- Prevention of severe alveolar bone loss.
- Developmental anomalies (cleft, oligodontia).
- Trauma resulting in loss of teeth and supporting tissues.
- Maxillofacial and cranial defects (ridge deformities).
- Adequate bone quality and quantity.
- Patient's health
- Aesthetics.
- appropriate occlusion and articulation.

Contraindications

- patients younger than 16 (potential for further growth of bone).
- medical history (poorly controlled diabetes, increased risk of infection).
- Parafunctional habits, psychological factors, inadequate ridge , poor OH.

Placement Procedure

Implantation

1. Mucoperiosteal flap raised and alveolar ridge smoothed/reduced.
2. Surgical guide/stent used to indicate the correct position before proceeding to various drills.
3. Holes prepared by incremental drilling, at slow speed to avoid overheating (impair osseointegration), irrigation with saline.
4. Implant pressed/screwed in position. Position is crucial and high degree of parallelism needed.



Implantát

5. Soft tissue flaps closed with sutures.

Exposure

If submerged- 4-6 months after placement. Overlying soft tissue is punched out or a crestal flap is raised and repositioned. Implant cover screw is removed and *gingival former* or healing abutment attached so it projects through gingival tissue which can then heal and mature about the implant.

Post-Operative Care

- Analgesics
- Chlorhexidine mouth rinse
- no smoking
- Suture removal 7-14 days after

Complications

- Hemorrhage (accidental perforation of lingual cortical plate and rupture of sublingual artery),
- Trauma to inferior alveolar nerve
- wound infection
- fracture

Links

Related articles

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Sources

References

Bibliography

Further reading