

7th Consensus Document on Indications and Treatment Modalities with Corticobasal[®] Implants (2021)

Executive Summary

This consensus paper outlines the indications, contraindications, and treatment modalities associated with Corticobasal[®] implantology. Corticobasal[®] implants differ fundamentally from conventional osseointegration-based systems. They are stabilized through cortical osseofixation and designed for immediate loading. Principles are derived from traumatology and orthopedic surgery rather than from conventional implantology.

Key Consensus Statements:

- Corticobasal[®] implants are intended for immediate functional loading and follow rules adapted from traumatology and orthopedic surgery.
- Corticobasal[®] implantology offers significant advantages over conventional treatment with removable prostheses or augmentation-dependent implant systems.
- General medical contraindications are largely parallel to those for osteosynthesis procedures; case-by-case evaluation is required.
- Corticobasal[®] implants provide safe treatment options even in compromised oral environments where conventional implants may fail, had failed, or were impossible to be placed.
- Comprehensive training in prosthetic-driven planning and execution is mandatory for practitioners.

1. Definition and Concept

Consensus statement: Corticobasal[®] implantology is based on immediate cortical fixation (osseofixation) rather than cancellous bone compression or reliance on delayed osseointegration.

- The bone-implant-prosthetic system (BIPS) is the functional unit, comprising implants, prosthetics, and surrounding bone.
- Stability is achieved by anchorage in the second or third cortical layer.
- Osseointegration may occur secondarily but is not required for primary success.
- Areas for the anchorage of the implants may be far away from the position of the actual tooth which is replaced.

2. Classification of Implants

Consensus statement: Two main categories of implants are today recognized:

1. Osseointegration-based implants (conventional dental implants).
 2. Osseofixation-based implants (Corticobasal® implants).
- Corticobasal® implants align conceptually with traumatology devices such as plates and screws, focusing on cortical stability and immediate function.
 - Zygomatic and glabella-supported implants blur the line between dental and maxillofacial implantology.

3. General Medical Contraindications

Consensus statement: Contraindications for Corticobasal® implants parallel those of osseosynthesis and require careful interdisciplinary evaluation.

- Severe systemic illness or high surgical risk may contraindicate implant therapy.
- Conditions such as cancer in oral tissues, active osteomyelitis, or severe soft tissue compromise are temporary or sometimes absolute contraindications.
- Osteoporosis presents specific biomechanical challenges; adapted insertion techniques (e.g., oblique cortical anchorage, increased implant numbers) are recommended.
- Intravenous bisphosphonate therapy is a strong contraindication due to impaired bone healing and the bone being prone to through and through infections.

Clinical recommendation: Practitioners must obtain specialist input when systemic diseases or complex medical histories are present.

4. Local and Oral Considerations

Consensus statement: Local oral conditions such as severe periodontitis or poor hygiene are not absolute contraindications when debridement and infection control are performed at implant placement.

- Extraction and implant placement are typically combined in a single procedure.
- Acute sinus infections require no postponement; they can be addressed during the surgical intervention; a tight closure of the maxillary sinus (towards the oral cavity is not always mandatory, because it has been observed that maxillary sinuses have a strong tendency for self-healing after the internal problems were solved. Alternatives such as bypass methods (IF® 6, 7a, 7c, 10a and 10b) should be considered.
- High occlusal forces and bruxism may necessitate prosthetic modifications and adjunctive therapies (e.g., botulinum toxin) to reduce overload.

5. Smoking

Consensus statement: Smoking is not a contraindication for Corticobasal® implants.

- In heavy smokers, simultaneous extractions and implant placement may lead to a delayed healing of the soft tissues.
- Smokers particularly benefit from Corticobasal® implants, as they are poor candidates for augmentation and conventional implant approaches.

6. Surgical and Prosthetic Considerations

Consensus statement: Corticobasal® implant therapy is less invasive than extractions and can be safely performed in standard dental settings.

- Flapless procedures with strong local antiseptics (e.g., Betadine®) are favored.
- Immediate splinting with rigid prosthetics is required for load distribution.
- Overload osteolysis is a recognized complication, preventable by proper occlusal adjustment and, if necessary, adjunctive therapies.
- Aesthetic issues can be overcome by bone reduction, rather than by bone augmentation.

7. Failure Modes and Countermeasures

Consensus statement: Failures are rare and differ fundamentally from periimplantitis associated with rough-surface implants.

- Potential complications include overload osteolysis, cortical fracture, or infection in cases of poor planning.
- Early detection and correction (occlusal adjustments, increased implant numbers, temporary force reduction) can preserve the system.

8. Training Requirements

Consensus statement: Corticobasal® implantology requires specialized training distinct from conventional implantology.

- Conventional implant experience does not substitute for training in Corticobasal® methods.
- Practitioners must be trained in both surgical and prosthetic principles.
- Sales and clinical use should be restricted to highly trained professionals.
- Implantologists which are trained only for applying the method of osseointegration must be kept away from osseofixed implants, because their training and their experiences lead typically to wrong results when it comes to evaluate treatment options / necessities.

9. Summary of Consensus

- Corticobasal® implantology follows rules adapted from traumatology and orthopedics, focusing on cortical osseofixation and immediate function.
- Indications are broad, with relatively few absolute contraindications.
- Smoking, periodontitis, and compromised oral environments are not prohibitive.
- Failures are rare and can often be managed if detected early.
- Practitioner training is essential for safe and predictable outcomes.

Overall consensus: Corticobasal® implantology provides a robust and evidence-based modality for immediate functional rehabilitation, especially in cases unsuitable for conventional implantology.

Approved by the expert consensus group, Version 2, March 2021.

