Immediate Loading of Cylinder Screw Implants with Overdentures in the Mandibular Symphysis: A Revisited Technique

Historically, a strict surgical implant protocol required a stress free healing period of 3 months for the mandible and 6 months for the maxilla between placement and functional loading of endosseous implants. An initial 2-week period without any removable prosthesis was recommended in edentulous patients. This inconvenient prospect of a long treatment period may preclude some patients from seeking implant treatment. However, such recommendations are a result of evaluating randomly chosen healing times during the initial phase of implant development. The level of predictability and high success of implant therapy in recent years have provided cause to reevaluate both the surgical and prosthetic protocol. In 1979 P.D. Ledermann described a technique of loading 4 rigidly bar-splinted implants in the edentulous mandible. The poster will revisit the approach of immediately loaded cylinder implants by a u-shaped bar in the edentulous mandible. Four grit-blasted and acid-etched screw implants (FRIALOC®, FRIADENT GmbH, Mannheim) are placed in the interforaminal area of the mental symphysis. Immediately after implant placement, an impression is made for the fabrication of a mesio-bar superstructure. The implants are loaded as early as one day after surgery with an implant-retained overdenture. It will be demonstrated that osseointegration can be achieved with a high level of predictability if the technique is properly applied. The approach of bar-prosthetic immediate loading will be presented and discussed on the basis of clinical and statistical data. The surgical and prosthetic management of mandibular implant-supported overdenture cases may be greatly simplified with the use of this technique in a selected group of patients. Dental rehabilitation time is shortened with relevant satisfaction for patients and improved function immediately after implant placement.

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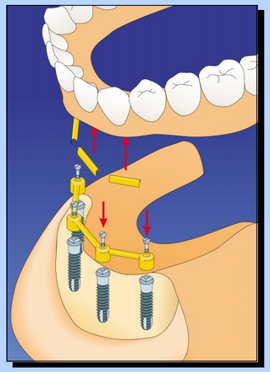
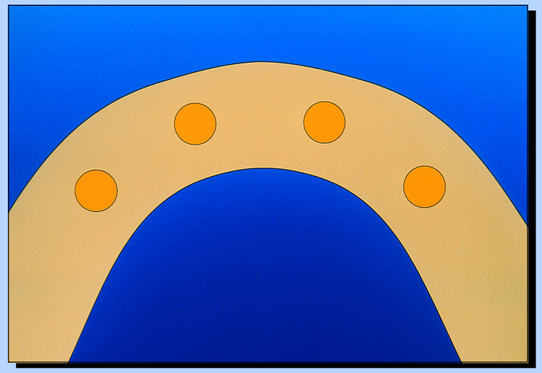
CONCEPT



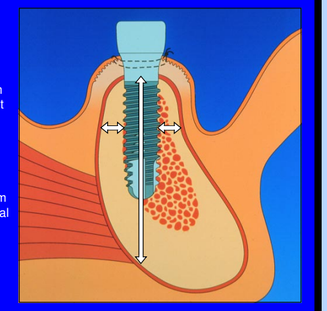
- Minimum 4 implants
- Minimum 10 mm implant length
- Absolute primary stability of implants must be achieved at time of insertion.
  ⇨ If not, the case should be treated in two stages
- Rigid splinting of the implants to avoid macro-movement
- Triangular distribution of the implants ("Cross-arch" stabilization)
- A -P implant spread as wide as possible to avoid rotation



Requirements on bone volume

Vertical:
Minimum of 12 mm vertical bone height in symphysis anterior to mental foramen

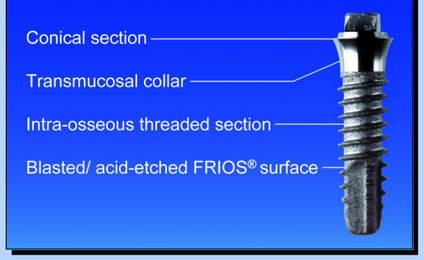
Horizontal:
Minimum of 1.5 mm of buccal and lingual bone plate

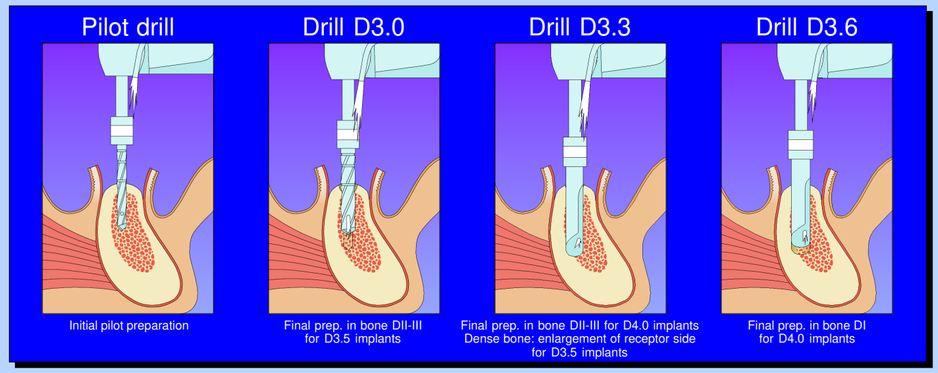


ARMAMEN-TARIUM

FRIALOC® Implant System

Transgingival implant for immediate loading





	1986 Babbush et al.	1996 Ledermann	1997 Chiapasco et al.
Implants	1739	1523	904
Patients	484	411	226
Average follow-up (Years)	2.86	7.23	6.4
Implant success rate	94%	93%	97%

CLINIC

Conclusion:

- Rapid implant-prosthetic rehabilitation
- Cost & time effective treatment
- Minimal surgery
- High patient acceptance
- Proven protocol

Conventional staged approach

2 weeks		1 week	16 weeks		1 week	=	at least 20 weeks
pre-surgical implant planning	implant placement	wound healing	osseointegration	implant uncovery	prosthetic treatment		

Immediate loading of 4 rigidly bar-splinted FRIALOC® Implants

2 weeks		1 week	= 3 weeks
pre-surgical implant planning	implant placement prosthetic treatment within 24-48 h & implant loading	wound healing	

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Literature:

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5. **Chiapasco M et al:** Implant-retained mandibular overdentures with immediate loading. A retrospective multicenter st study on 226 consecutive cases. Clin Oral Implants Res 1997; 8(1):48-57