

## Use of Narrow Implants for Narrow Ridges for Immediate Loading

Dr. Schneider Gadi - D.M.D, Specialist in Periodontics



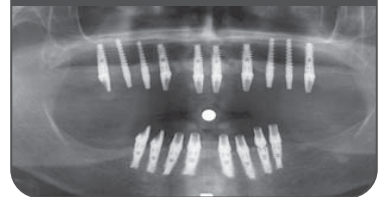
Before surgery



Temporary immediate rehabilitation



Panoramic X-ray at the day of implantation



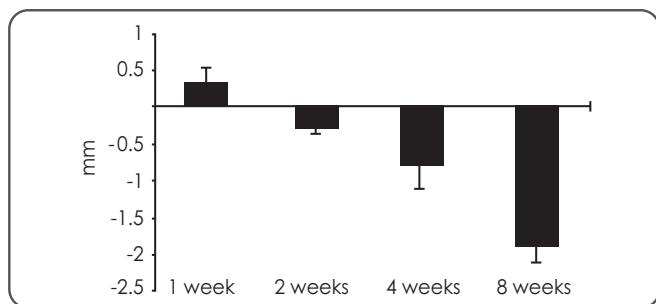
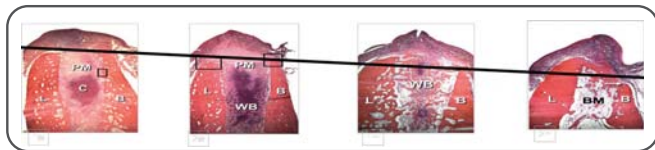
# Use of Narrow Implants for Narrow Ridges for Immediate Loading



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## Narrow ridges - post-extraction ridge resorption:

- The highest resorption rate is between six months to two years after extraction.
- Loss of 2 mm of bone two months after extraction.
- Loss of an additional 2 mm in the first year - a total of 4 mm in the first year.
- Further slower resorption.
- A third of the buccal plate is resorbed in the first month after extraction.
- Crest resorption starts after a week and causes the buccal plate to thin out considerably after 3 weeks. (Carlson 67)



- The buccal plate resorbs much more (2 mm) than the lingual plate (barely has any resorption) (Aroujo 2005)

## Immediate Loading - Literature Review:

- Bleeding indices, plaque indices, pocket depth, crestal bone resorption and success rates are similar for regular and immediate loading. (Ericsson 00, Ostman 05, Chiapasco 01)
- Edentulous maxilla - 92.2% - 100% survival rates. (Ostman 05, Ibanez 05, Jaffin 05, Van Steenberghe 04, 05)
- Edentulous mandible - 96.6% - 100% survival rates. (Chiapasco 03, Degidi 05, Testori 04, Van Steenberghe 04)
- Short-term histological evaluation for immediate loading:
  - BIC (Bone Implant Contact) - direct, quality bone - implant contact at a 93% level.
  - No BIC difference between regular and immediate loading.
  - The bone around the implant is mature and shows signs of remodeling.
- Long-term histological evaluation for immediate loading:
  - No BIC difference between regularly and immediately loaded implants.
  - In the case of immediately loaded implants, there are fewer bone marrow spaces and more compact bone.
  - After 9 months, the BIC for immediately loaded implants is greater compared to regular loading.
  - After 15 months, the BIC for immediately loaded implants is double compared to regular loading.(Piatelli 93, 97, 98, Randow 99, Ledermann 98)

## Potential risk factors for immediate loading:

- Reduced bone volume - smaller and less implants.
- Poor bone quality - surgical technique for implanting must be adapted: do not perform tapping, do not countersink, small osteotome, use longer, wider implants to achieve cortical stabilization.
- Bruxism - contraindication.
- Existing pathology (untreated gingival disease, active infection)- contraindication.
- Irradiated bone areas - contraindication.
- Patient with problematic cooperation - relative contraindication.
- Areas requiring bone augmentation with implantation - a significant risk factor for immediate loading.

## Immediate loading and bone augmentation - is it possible?

- Guided bone regeneration requires use of a membrane for achieving best results. (Zitzmann 97, 01, Hurzeler 98, Hockers 99)
- Guided bone regeneration and immediate loading may be performed - 86%-94% defect filling by augmentation around transmucosal implants (Hammerle 98, 01), complete filling in 20 of 21 defects treated by augmentation around transmucosal implants (Lang 94).
- Although it is possible to perform immediate loading together with augmentation, literature proves that the most predictable way of performing guided bone regeneration is by correct, ideal use of soft tissue and absolute initial closure of the tissue. Otherwise, immediate loading combined with augmentation is a very complex procedure that significantly increases the risk for complications.
- Thus, it is better to use narrow implants in certain cases in which immediate loading is desirable and achievable using these implants, sparing the need for bone augmentation.

## In summary:

Use of one piece narrow implants currently allows us to find easy, predictable solutions for implants in narrow ridges without any need for bone augmentation.

Although immediate loading together with bone augmentation is possible, it is very difficult to perform, impeding results that are both ideal and predictable.

Whenever bone augmentation is required to perform immediate loading in narrow ridges (when using standard implants), the use of narrow implants is an ideal solution.

Data on file.

### Case 1 - Immediate Loading of a Single Tooth in the 12 Area

Dr. Schneider Gadi and Dr. Brukmayer Yoram

Placing the implant



fig. 2



fig. 3

Position from bird view



fig. 4

Position M.D.



fig. 5

X-ray at the day of implantation



fig. 6

Suturing



fig. 7

### Case 2 - Immediate Implantation and Immediate Loading in the 32-42 Area

Dr. Schneider Gadi and Dr. Brukmayer Yoram

Before



fig. 8

After extraction



fig. 9

Parallel Guide



fig. 10

Placing the implants



fig. 11

X-ray



fig. 15

The implants - Top view



fig. 12

Suturing



fig. 13

Temporary immediate restoration

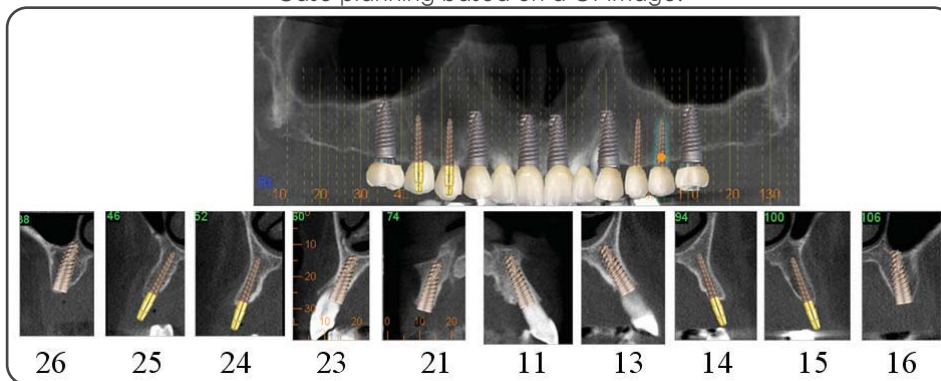


fig. 14

### Case 3 - Combination of Narrow Implants with Regular Implants for Immediate Implantation and Immediate Loading on a Complete Maxilla

Dr. Schneider Gadi and Dr. Brukmayer Yoram

Case planning based on a CT image:



Before surgery



fig. 16

Temporary immediate rehabilitation



fig. 17

Panoramic X-ray at the day of implantation

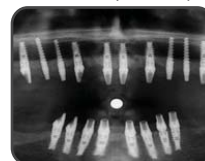


fig. 18



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