

**96.7%**

## Long-term survival rate up to 10 years of loading using Rescue® MegaGen short wide diameter implants.

Mitsias ME (1), Gasparatos S (1), Trikka D (1), Kontsiotou-Siormpa E (2), Kotsakis G (3), Siormpas K (2)

1. Private practice, Athens, Greece, [www.dental-center.eu](http://www.dental-center.eu)

2. Private Dental Clinic, Larissa, Greece, [www.siormpasdco.gr](http://www.siormpasdco.gr)

3. Assistant Professor, University of Washington, Dental School, Department of Periodontology, USA

### Object

Implant placement often becomes a very difficult task, due to the lack of bone in height and width respectively. Regionally this occurs more at the posterior maxilla and mandible too (1). In order to achieve successful and adequate osseointegration, various techniques have been introduced. More specifically sinus elevation (open and close technique), vertical augmentation, distraction osteogenesis and lateral transposition of the inferior alveolar nerve. Nevertheless these techniques for various reasons, many times are not applicable or successful (2). Short implants are defined as the fixtures with equal or less of 8 mm (3). Recently the first results have been brought up to surface regarding the survival rates and the performance of them. This study presents. The up to 10 year results of two private clinics in Greece.

### Materials and Methods

Ninety-two fixtures (Rescue® MegaGen Co, Ltd, 377-2, Kyochon-Ri, Jain-Myun, Gyeongsan, Gyeongbuk, Korea) with a length between 5.0 to 8.0 mm, and a diameter of 6.0 to 8.0 were placed from 2006-2010 (4). Seventy seven patients (34 males, 43 females aged between 26-67 years of age with an average age of 52,7 years were treated) participated in this private survey. From the 92 implants, seventy three were placed in maxilla and the rest nineteen were placed in mandible; 40 of these were restored with single crowns and 52 served as abutments of fixed partial dentures. Osseointegration period was standardized as 6 months for the upper arch and 3 for the lower arch. Regarding the restoration, all implants were restored using the same laboratory and technician. The superstructure design of choice was cemented porcelain fused to metal crown.

#### 1. Male 63 years old Rescue ext. 2 fixtures (7.0x6.0 mm)

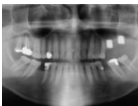


Fig 1. Panorax showing implants placement



Fig 2. Peri-apical x-ray after 7 years of function



Fig 3. Final abutments in post.



Fig 4. Clinical view of the final restorations

#### 2. Female 49 years old Rescue ext. 2 fixtures (7.0x6.0 mm)



Fig 1. Panorax showing implants placement

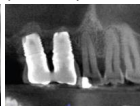


Fig 2. CAT-SCAN 8 years after post loading.



Fig 3. Clinical view of the final abutments.



Fig 4. Clinical aspect of the final restorations

### Results

From the ninety-two fixtures three implants have been lost after a period of follow up, up to 10 years after implants post loading indicated an acceptability survival rate of 96.7%.

ARCH	MAX.	MAND.	TOTAL	SUCCESS RATE
MAXILLA	33	40	73	95.9%
MANDIBLE	6	13	19	100%
TOTAL	39	53	92	96.7%

### Discussion

Short wide diameter implants appear as an alternative to augmentation techniques. Their advantages are: decreased cost, decreased operation time, no sophisticated surgical interventions and less complications. Their increased diameter results in an improved emergence profile which is a typical issue with standard diameter fixtures when used at a molar location. Last the increased diameter outreaches the difference in length because of the increased osseointegration surface.

### Conclusions

Short wide diameter implants are a valid treatment particularly in compromised cases where an augmentative technique cannot be used, in order to have a longer implant placed. This study indicated some results as trends for the value of short implants. More studies are necessary in order these trends to become solid.

### References

- Renouard F, Nisand D. Impact of implant length and diameter on survival rates. Clin Oral Implants Res 2006;17 (Suppl 2): 35-5
- Ferrigno N, Lauretti M, Fanali S. Inferior alveolar nerve transposition in conjunction with implant placement. Int J Oral Maxillofac Implants 2005; 20:610-620.
- Fugazzotto PA. Shorter implant in clinical practice rationale and treatment results. Int J Oral Maxillofac Implants 2008; 23:487-496.
- The Short Implant (from 5 to 7 mm in Length), Park KB, Roo KH, Jeong CW and Siormpas K, pp 267-291. Narae Publishing INC.