

Important Numbers in Implant Dentistry

4.0x10.0mm

Statistical visualization and frequency of MegaGen implants after 7 years of clinical practice

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Objective

The purpose of this study is to point out the most frequently used dimension of MegaGen Implants, used in day by day practice in our clinic, for a period of seven years.

Analyzing the data that was collected from the statistic study of the total amount of fixtures used, we came up with results regarding the diameter and length variations, the particular dimensions prevailing in every system and comparison between the three systems regarding the different surgical approach through the years that passed.

The results make perfectly clear that with the use of AnyRidge implants and especially after the introduction of Xspeed surface, the use of narrower and shorter implants in similar cases has become possible and the surgical

Materials and Methods

The implant systems used in our clinic are the following:

1. Megagen Rescue® system since 2007.
2. Megagen EZ-Plus® system since 2008.
3. Megagen AnyRidge® system since 2011.

The total number of implants placed in this period of 7 years was 2252. 141 were Rescue, 1721 EZ-Plus and 390 AnyRidge fixtures.

After a statistic analysis of all implants placed, the most frequently used diameter (Chart 1.) is the 4,0mm with a percentage of 37,26% (839 fixtures) and the most frequently used length (Chart 2.) is the 10,0mm with a percentage of 28,29% (637 fixtures) of all cases (2252 fixtures).

Regarding the particular implant sizes used in each system the analysis showed that in the Rescue system (Table 2.) the most frequently used is the 6,0x6,0mm with a percentage of 13,48% (19 out of 141 fixtures), in the EZ-Plus system (Table 1) the 4,0x10,0mm with a percentage of 13,54% (233 out of 1721 fixtures) and in the AnyRidge system (Table 3.) the 4,0x10,0mm with a percentage of 17,95% (70 out of 390 fixtures). The only statistically significant variation was found regarding the EZ-Plus implants placed in the maxilla, where the prevailing size is the 4,0x13,0mm (118 over 92 4,0x10,0mm fixtures).

Another fact that points out with a first glance at the charts (Chart 3. and 4.) is that the spreading between EZ-Plus fixtures is more gradient than between the AnyRidge fixtures, where the 4,0x10,0mm size is the dominant one by far. Comparing the EZ-Plus and Rescue results with the AnyRidge results we come up with another useful fact, that the longer (15,0mm) and the wider (7,5 and 8,0mm) tend to stay unused in the AnyRidge practice and other more convenient sizes are placed in similar cases where these were the sizes of choice.

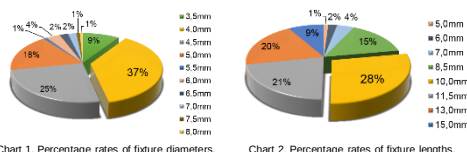


Chart 1. Percentage rates of fixture diameters.

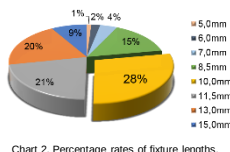


Chart 2. Percentage rates of fixture lengths.

Discussion

Throughout all these years the Rescue system has been mainly used in specific cases that the bone quality or the available length and density were not sufficient to let us treat them with any of the other two systems. Although, in the past 3 years, in many of these cases the system of choice has become the AnyRidge system, due to its ease of use and the great initial stability it can produce.

Lately, the EZ-Plus system which had been the system of choice for 6 years, has given it's place for a great percentage of the cases to AnyRidge as well, due to its ability to fulfill the needs of the treatments with a use of shorter and narrower fixtures in any case.

EZ-Plus	Maxilla	Mandible	Total	AnyRidge	Maxilla	Mandible	Total
3.3x8.5mm	4	1	5	3.5x7.0mm	1	2	3
3.3x10.0mm	4	6	10	3.5x8.0mm	1	3	4
3.3x11.5mm	12	21	33	3.5x10.0mm	7	4	11
3.3x13.0mm	54	39	93	3.5x11.0mm	6	5	11
3.3x15.0mm	20	15	35	3.5x13.0mm	5	1	6
4.0x7.0mm	2	2	4	4.0x7.0mm	2	2	4
4.0x8.5mm	11	22	33	4.0x8.5mm	10	6	16
4.0x10.0mm	92	141	233	4.0x10.0mm	42	28	70
4.0x11.5mm	75	76	151	4.0x11.5mm	24	13	37
4.0x13.0mm	118	61	179	4.0x13.0mm	7	11	18
4.0x15.0mm	47	49	96	4.5x8.5mm	5	3	8
4.5x8.5mm	53	51	104	4.5x10.0mm	4	12	16
4.5x10.0mm	76	75	151	4.5x11.5mm	14	7	21
4.5x11.5mm	84	52	136	4.5x13.0mm	3	3	6
4.5x13.0mm	63	27	90	5.0x7.0mm	4	3	7
4.5x15.0mm	20	14	34	5.0x8.5mm	3	5	8
5.0x8.5mm	59	44	103	5.0x10.0mm	21	8	29
5.0x10.0mm	61	35	96	5.0x11.5mm	8	12	20
5.0x11.5mm	42	22	64	5.0x13.0mm	1	1	2
5.0x13.0mm	41	8	49	5.5x7.0mm	4	2	6
5.0x15.0mm	17	7	24	5.5x8.5mm	3	1	4
				5.5x10.0mm	6	6	12
				5.5x11.5mm	3	3	6
				5.5x13.0mm	2	2	4

Table 1. Amount of EZ-Plus fixtures placed in the maxilla, the mandible and both.

Rescue	Maxilla	Mandible	Total
6.0x5.0mm	5	4	9
6.0x6.0mm	15	4	19
6.0x7.0mm	9	9	18
6.0x8.5mm	5	3	8
6.5x5.0mm	3	3	6
6.5x6.0mm	8	1	9
6.5x7.0mm	11	2	13
6.5x8.5mm	8	8	16
7.0x5.0mm	4	4	8
7.0x6.0mm	13	2	15
7.0x7.0mm	9	9	18
7.0x8.5mm	3	2	5
7.5x5.0mm	2	2	4
7.5x6.0mm	3	3	6
7.5x7.0mm	7	1	8
7.5x8.5mm	2	2	4
7.5x10.0mm	1	1	2
8.0x5.0mm	2	2	4
8.0x6.0mm	1	1	2
8.0x7.0mm	2	2	4
8.0x8.5mm	2	2	4

Table 2. Amount of Rescue fixtures placed in the maxilla, the mandible and both.

Table 3. Amount of AnyRidge fixtures placed in the maxilla, the mandible and both.

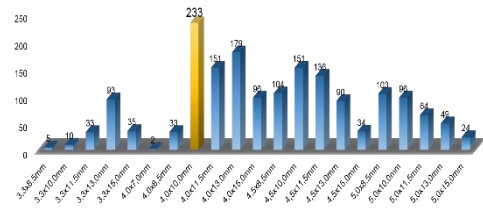


Chart 3. EZ-Plus® fixture's size spreading.

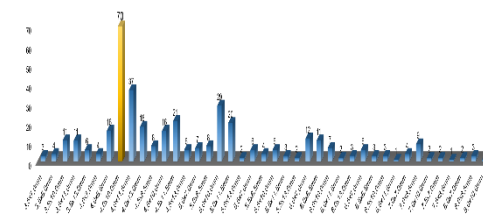


Chart 4. AnyRidge® fixture's size spreading.

Conclusions

After a statistic analysis on 2252 fixtures placed in a period of 7 years, the most frequently used implant size tends to be the 4,0x10,0mm with a total percentage of 13,45%. If we exclude the Rescue implants, thus they do not contain this particular size, the percentage rises to 14,35%. This number gets even more significant if we take notice of the vast variety of sizes in hand.

Furthermore, the most useful conclusion we can make is that with the introduction of AnyRidge Xspeed® in our daily practice, the use of such average sizes of fixtures has become easier, safer and in some cases even more imperative than ever before.

References

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