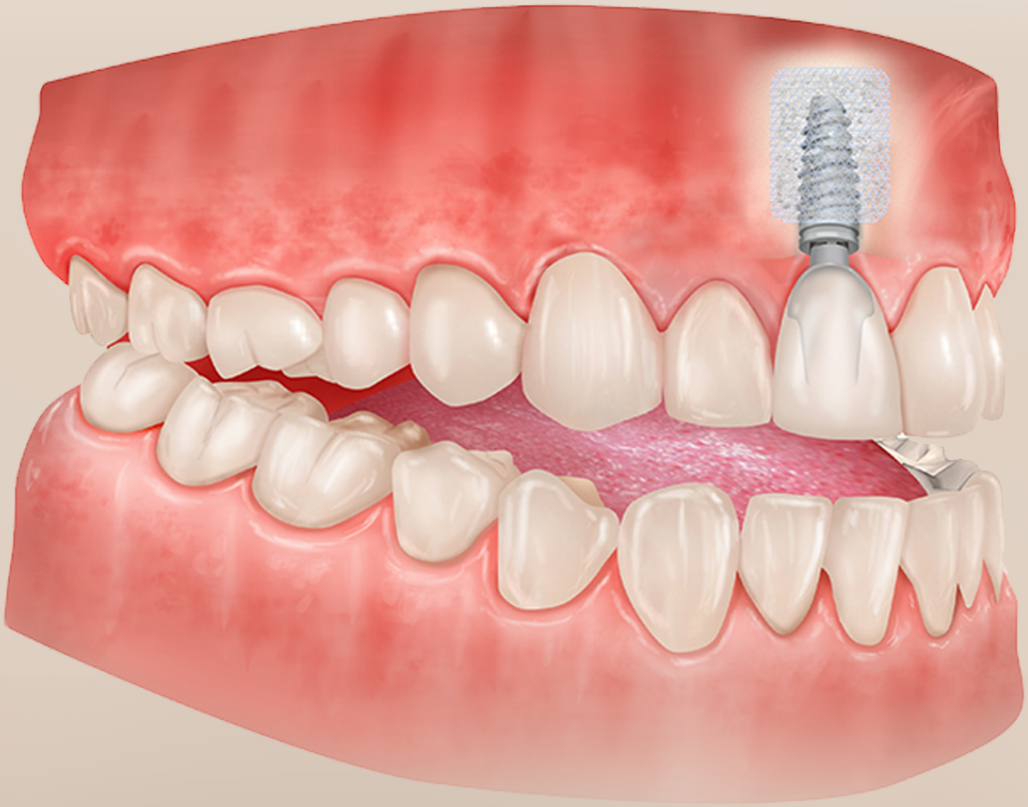
Osteopore®

DENTAL

Osteomesh®

Buccal Alveolar Wall Defects in Immediate Implant Loading



Osteomesh® - Buccal Alveolar Wall Defects in Immediate Implant Loading

1 BIOMIMETIC

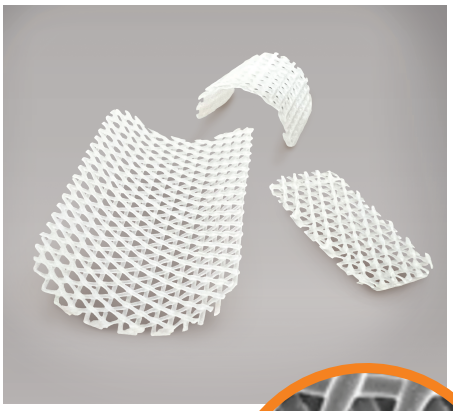
Advances in dental implant technology and the expertise of the dental surgeon has resulted in high success rates for immediate implant placement procedures[1], with good clinical outcomes. Clinicians can now initiate replacement of extracted teeth with dental implants on the same visit without waiting for complete mineralization of bone at the extraction sites.

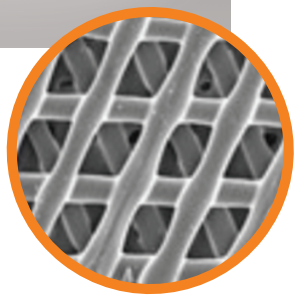
However, not all extraction sites are ideal for immediate implant placement, particularly sockets with buccal bone defects or alveolar ridge resorption. A combination of bone grafting/bone regenerative procedures with barrier materials can help overcome these challenges and improve the possibility of successful immediate implant placement such as superior soft tissue stability and preserved horizontal ridge dimension and buccal plate thickness[2].

The Osteomesh® is a biocompatible 3D printed regenerative implant that is made from Polycaprolactone (PCL). It is a specially designed and engineered product to mimic the microarchitecture of natural bone[3], providing protection of the graft material, maintenance of the hard and soft tissue architecture and importantly regenerates into patient bone. Osteomesh® can be use in immediate implant placement even in compromised extraction sites and opens possibilities for more complex implant surgery.

2 FEATURES & BENEFITS

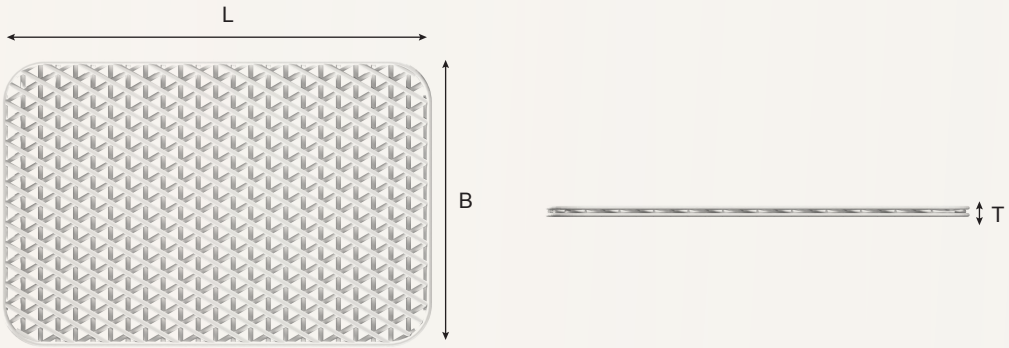
FEATURES	BENEFITS
Manufactured from PCL	• Bioresorbable, biocompatible, proven technology, and non-toxic.
100% synthetic	• No animal tissue concerns such as disease transmission or cross reaction.
Predictable resorption profile	• Protects against soft tissue collapse and predictably maintains both shape and volume of the desired bone tissue. Bone remodeling takes place before complete degradation at 18 - 24 months.[4]
User friendly	• Semi-flexible, easy to handle and provided in a range of sizes which can be trimmed with scissors.
3D Printed	• Can be customised to specific patient anatomical needs as required to achieved optimal outcomes.





Porosity of Osteomesh®

3 PRODUCT SPECIFICATIONS



	PRODUCT CODE	SIZE (L X B X T)/MM
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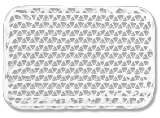
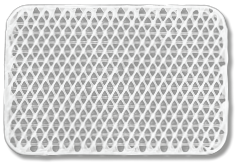
	PC12(20,15,0.75)	20 x 15 x 0.75
	PC12(30,20,0.75)	30 x 20 x 0.75

Pictures of the product in actual size

References

1. Schuckert KH, Jopp S, Teoh SH. Mandibular defect reconstruction using three-dimensional polycaprolactone scaffold in combination with platelet-rich plasma and recombinant human bone morphogenetic protein-2: de novo synthesis of bone in a single case. Tissue Eng Part A. 2009 Mar;15(3):493-9. doi: 10.1089/ten.tea.2008.0033. PMID: 18767969.

2. Goh BT, Teh LY, Tan DB, Zhang Z, Teoh SH. Novel 3D polycaprolactone scaffold for ridge preservation--a pilot randomised controlled clinical trial. Clin Oral Implants Res. 2015 Mar;26(3):271-7. doi: 10.1111/clr.12486. Epub 2014 Sep 27. PMID: 25263527.

3. Hutmacher DW, Schantz T, Zein I, Ng KW, Teoh SH, Tan KC. Mechanical properties andcell cultural response of polycaprolactone scaffolds designed and fabricated via fused deposition modeling. J Biomed Mater Res. 2001 May;55(2):203-16. doi: 10.1002/1097-4636(200105)55:2<203::aid-jbm1007>3.0.co;2-7. PMID: 11255172.

4. Lam CX, Savalani MM, Teoh SH, Hutmacher DW. Dynamics of in vitro polymer degradation of polycaprolactone-based scaffolds: accelerated versus simulated physiological conditions. Biomed Mater. 2008 Sep;3(3):034108. doi: 10.1088/1748-6041/3/3/034108. Epub 2008 Aug 8. PMID: 18689929.

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Osteopore International | SINGAPORE
2 Tukang Innovation Grove #09-06, JTC MedTech Hub, Singapore 618305