Osteomesh®

for Septal Extension Graft

Osteopore®

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The incorporation of Osteomesh® strengthens the patient's septal extension graft.
This bioresorbable scaffold provides good structural support to achieve long-term aesthetically pleasing nasal reconstruction outcome.

1 TISSUE ENGINEERING-BASED APPROACH

- Osteomesh® is an integrating implant for rhinoplasty, a viable alternative option for functional regeneration of tissues.
- It serves as additional support for weak or insufficient harvested graft, thus reducing the need for secondary cartilage harvesting surgery.[1]

2 BIODEGRABILITY AND BIOCOMPATIBLITY

- Polycaprolactone (PCL) is a biodegradable polymer that degrades in vivo by hydrolysis with a gradual resorption profile of approximately 18 – 24 months.
- It possesses optimal resorption rate that maintains mechanical integrity during healing process, providing sufficient support for maintaining nose tip projection.
- It is a biocompatible material that minimizes adverse host implant reaction.

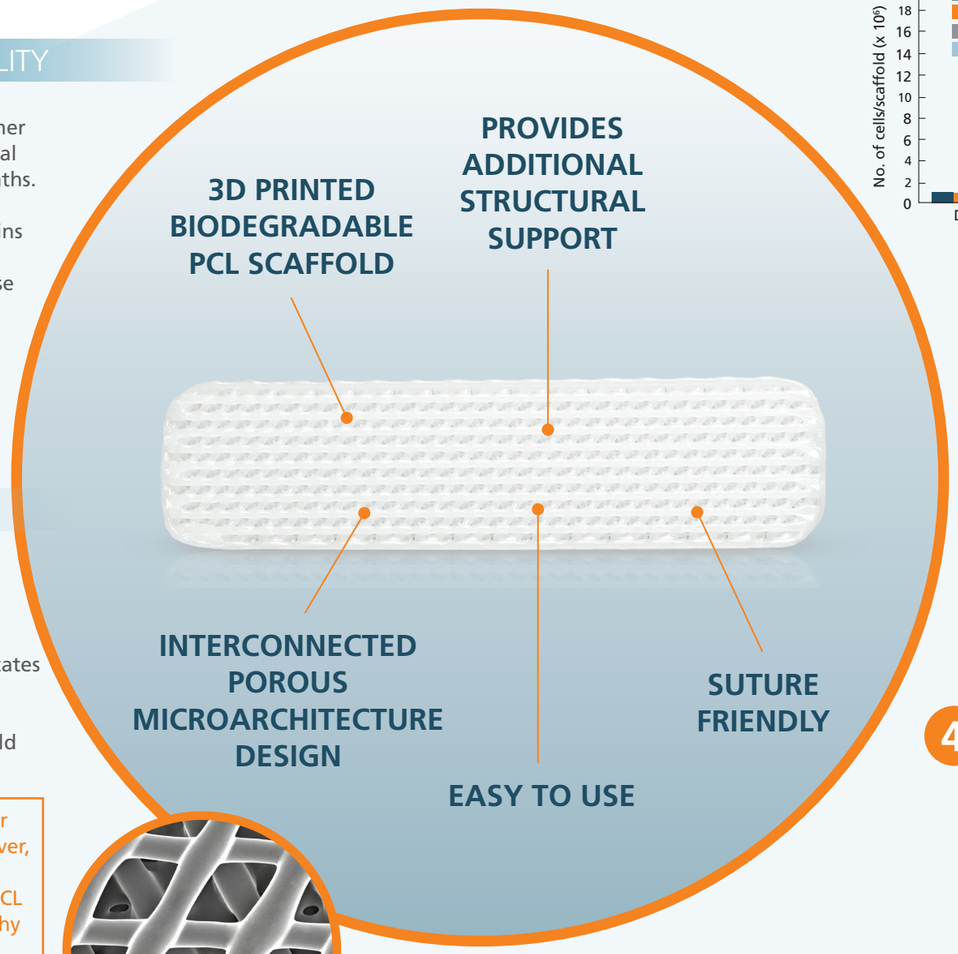
3 DESIGN

1. POROUS MICRO-ARCHITECTURE

- Osteomesh® is designed with a porous interconnected micro-architecture that facilitates tissue ingrowth.
- It is effective as a long, strong support scaffold for maintaining the shape of the nose.[2]

There is no known autologous cartilage other than rib cartilage that is long enough. However, rib cartilage tends to warp over time and contains issues of donor site morbidity. The PCL mesh plays a critical role in providing a lengthy stanchion to stabilize the harvested graft.[2]

- The porous micro-architecture also provides ease of securement to harvested or native cartilages with sutures.



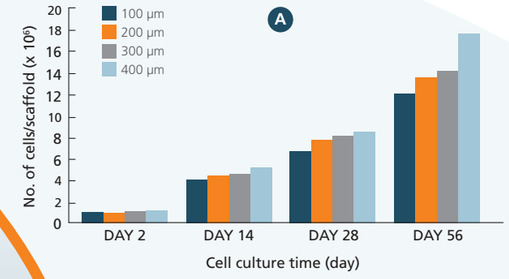
Porosity of Osteomesh®

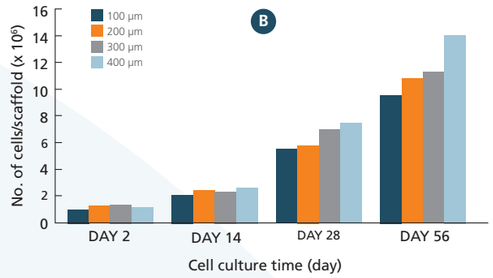
3 DESIGN *(cont'd)*

2. OPTIMAL SCAFFOLD PORE SIZE

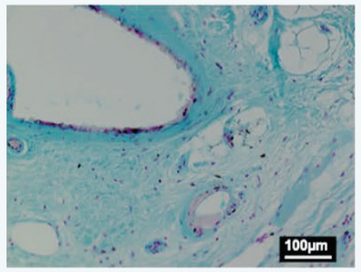
- 400µm is a suitable pore size for the chondrocytes (A) and fibroblasts (B) growth.[3]

Cell counts for cell culture time

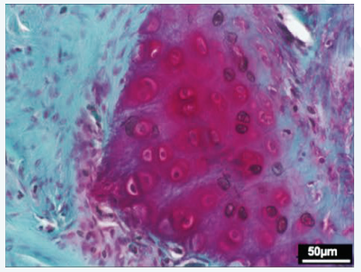




- In a 6-month animal study, histological evidence confirms the presence of cartilaginous-like matrix (bright-red colour) forming around the PCL implant.[4]



Blue stain (Alcian Blue) showing GAG formation



Intense red stain (Safranin-O) showing GAG formation

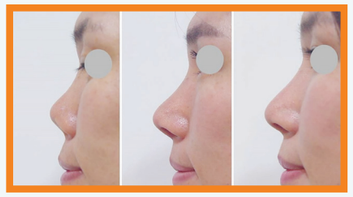
4 CLINICAL ADVANTAGE[1,2]

PATIENT'S PERSPECTIVE

- Low adverse reaction.
- Minimal long-term foreign body reaction.
- Good functional and aesthetic outcome.

CLINICAL OUTCOME

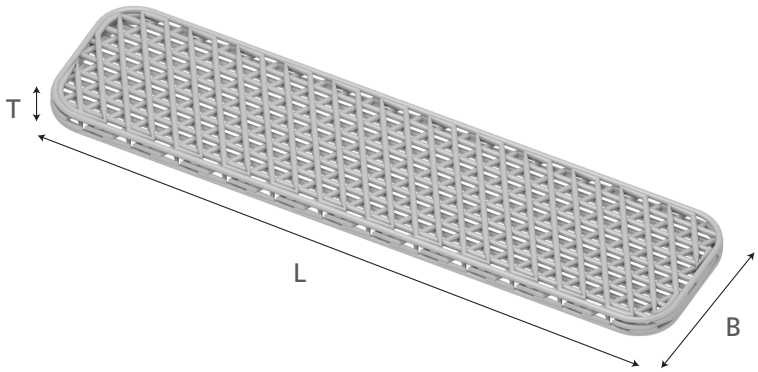
- Excellent patient satisfaction (90.7%[1] , 96.7%[2]).
- Clinical evidence of nasal tip projection maintained at 1 year[1] and 2 years[2].

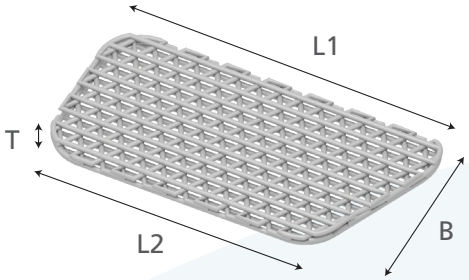


Pre-op nasolabial angle | *Maintenance of nasolabial angle at 3 months* | ***1 year post operation[1]***

Pre-operative | *6-month Post-operative* | ***Long-term Follow up of 26-month[2]***

5 PRODUCT SPECIFICATIONS





PRODUCT CODE	SIZE (L × B × T)/mm
PC12 (40,10,0.8)	40 x 10 x 0.8
PC12 (39,10,1)	39 x 10 x 1
PC12 (39,10,1.25)	39 x 10 x 1.25

PRODUCT CODE	SIZE (L1 × L2 × B × T)/mm
PC56 (25,20,12,1)	25 x 20 x 12 x 1

More sizes may be available. Please approach our sales team at sales@osteopore.com for more information.

Osteomesh® is fabricated in compliance with current Good Manufacturing Practice (cGMP, EN ISO 13485) and provided sterile (gamma irradiation, EN ISO 11137).

Recommended usage:
It serves as an auxiliary graft material. Ensure the nasal cartilages cover the Osteomesh® completely.

Please note:
This product may not be approved yet in your country. Product code and indications may also vary from country to country. Please check with our local representatives for more information.

Reference
1. Kim, S. H. & Choi, J. Y. Surgical outcomes and complications of septal extension graft supported by 3D printed polycaprolactone plate. Laryngoscope 130(7), 1680–1685 (2020). DOI: 10.1002/lary.28436
2. Ahn, T. H., Heo, C. Y. & Ahn, K. C. A compound osteocartilaginous graft with polycaprolactone (PCL) mesh in Asian rhinoplasty. Journal of Plastic, Reconstructive & Aesthetic Surgery 73(9), 1-2 (2020). DOI: 10.1016/j.bjps.2020.05.098
3. Nam, J. H., Lee, S. Y., Khan, G. & Park, E. S. Validation of the optimal scaffold pore size of nasal implants using the 3-dimensional culture technique. Archives of Plastic Surgery **47**, 310-316 (2020). DOI: 10.5999/aps.2020.00213
4. Wiggenhauser, P. S., Balmayor, E. R., Rotter, N. & Schantz, J. T. In vivo evaluation of a regenerative approach to nasal dorsum augmentation with a polycaprolactone-based implant. Eur. J. Med. Res. **24**, 6 (2019). DOI:10.1186/s40001-019-0364-y

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Osteopore®
Empowering Natural Tissue Regeneration

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