

# **OSTEOPLUG®**

in Burr Hole Restoration



### **OSTEOPLUG® BURR HOLE COVERS**



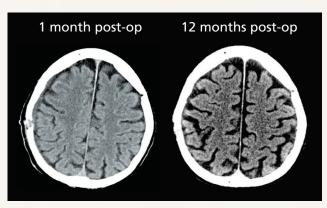






- Osteoplug® is designed and intended for use in repair of neurosurgical burr holes.
- Manufactured using Polycaprolactone (PCL), a biodegradable polymer that degrades and resorbs fully in vivo by hydrolysis which is then fully metabolized without any toxic by-product.
- Osteoplug® is biomimetic. Porous interconnected microarchitecture demonstrates mechanical properties similar to human cancellous bone and provides a regenerative niche suitable for bone formation.
- Designed to perfectly fit into burr holes, allows easy handling.
- Size of plug corresponds to the perforator size.
- Does not require additional fixation.
- Osteoplug®-C with the U slot allows the insertion of a drain. Drains can be easily removed after patient recovery.
- Osteoplug®-C with the round hole allows the insertion of a shunt.

### **EXCELLENT CLINICAL ADVANTAGES**



1-month post-op axial CT showing burr hole. 12-months post-op axial CT showing that the burr hole has been covered with native bone.

Osteoplug® has been implanted since 2004 and has shown excellent functional and aesthetic outcomes. No major complications or adverse reactions have been reported.

Up to 10 years of follow-up data shows excellent tissue compatibility without abnormal inflammatory reactions. Osteoplug® prevents complications due to permanent materials such as implant extrusion and migration.

Osteoplug® is radiologically shown to integrate well into the adjacent calvarial bone.

## 3

### **SURGICAL TECHNIQUE**

#### 1. SITE PREPARATION

Prepare the implantation site using standard surgical techniques. Ensure that haemostasis is achieved prior to implantation. Do not use bone wax for homeostasis. It would impede the regenerative capacity of Osteoplug®.

#### 2. IMPLANT SELECTION

Select the plug diameter that best suit perforator drill bit size. Select the plug shape that best suit catheter of choice

#### 3. IMPLANT PREPARATION

Osteoplug®-C is soaked with patient's blood.

#### 4. INSERTION

Gently lower Osteoplug®-C into the surgically created defect.

For Osteoplug®-C: Insert catheter tube through the hole or pass over the slanted side of the notch and make sure drain is not compressed.

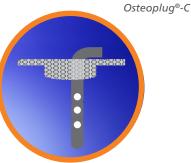
Osteoplug®-C would have a snug fit in the defect site.

No fixation devices or suturing is required.

#### 5. SCALP CLOSURE

Close the scalp using standard surgical techniques.



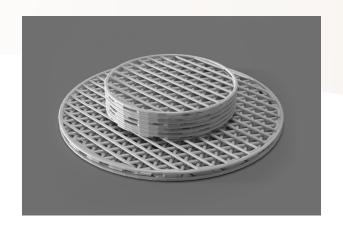


Osteoplug®-C

#### **REFRENCES**

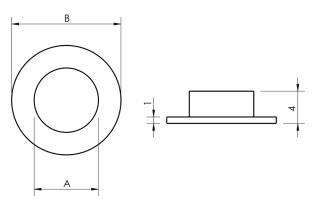
- 1. Schantz, J. T. et al. Cranioplasty after trephination using a novel biodegradable burr hole cover: Technical case report. Neurosurgery 58, 1–4 (2006).
- 2. Yang, M. N., Hannah, J. H., Nga, V. D., Chou, N. & Yeo, T. T. Cranial reconstruction using a polycaprolactone implant after burr hole trephination. J. 3D Print. Med. 4, 9–16 (2020).
- 3. Low, S., Ng, Y., Yeo, T. & Chou, N. Use of Osteoplug™ polycaprolactone implants as novel burr-hole covers. Singapore Med J 50, 777–780 (2009).

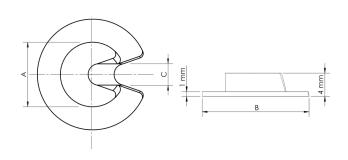
### **OSTEOPLUG®**



### **OSTEOPLUG®-C**



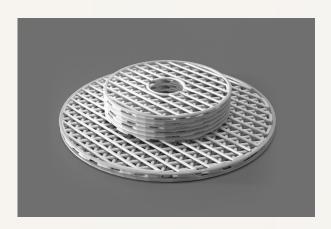


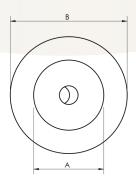


Product Code	A (mm)	B (mm)	Product Code	A (mm)	B (mm)	C (mm)	Maximum Catheter Size (Fr)
PC22(8, 8, 4)	8	14	PC23(8, 8, 4)	8	14	2.7	7
PC22(9, 9, 4)	9	15	PC23(9, 9, 4)	9	15	3	7
PC22(10, 10, 4)	10	17	PC23(10, 10, 4)	10	17	3.3	8
PC22(11, 11, 4)	11	19	PC23(11, 11, 4)	11	19	3.7	8
PC22(12, 12, 4)	12	20	PC23(12, 12, 4)	12	20	4	8
PC22(13, 13, 4)	13	22	PC23(13, 13, 4)	13	22	4.3	9
PC22(14, 14, 4)	14	24	PC23(14, 14, 4)	14	24	4.7	9
PC22(15, 15, 4)	15	25	PC23(15, 15, 4)	15	25	5	9

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

### **OSTEOPLUG®-C**





Product Code	A (mm)	B (mm)	Maximum Catheter Size (Fr)
PC24(10, 10, 4)	10	17	11
PC24(11, 11, 4)	11	19	11
PC24(12, 12, 4)	12	20	11
PC24(13, 13, 4)	13	22	11
PC24(14, 14, 4)	14	24	11
PC24(15, 15, 4)	15	25	11

For professional use.
CAUTION: See instructions for use for full prescribing information, including indications, contraindications, warnings, and precautions.
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