

# Puros<sup>®</sup> Allograft Block

Surgical Technique Guide



# Puros Allograft Block Surgical Technique

1



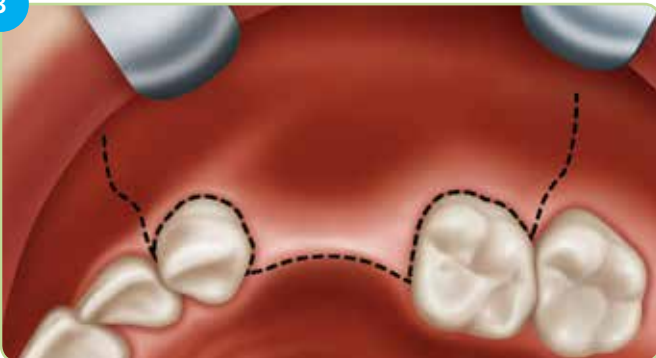
**PATIENT SELECTION:** Ensure that patient receiving the block graft is healthy and will be compliant with the proper hygiene and follow-up requirements. In addition, ensure that you have adequate access to perform all surgical steps, such as stabilizing the block by screw fixation.

2



**SYRINGE BLOCK GRAFT REHYDRATION:** Place the graft into an appropriately sized, sterile, disposable syringe. Draw sterile saline solution (or Ringer's solution) into the syringe until the graft is completely covered with the solution. Expel all of the air from the syringe. Thread cap onto syringe tip and apply negative pressure to the syringe by pulling on the plunger. Hold the plunger in the open position to expel any air and to rehydrate the graft. Continue this process until all air bubbles are removed. When correctly rehydrated, the graft will descend to the bottom of the syringe. Store the graft in the rehydration solution until ready for implantation.

3



**DESIGN INCISION:** Make a full-thickness incision that extends at least one tooth mesial and distal to block implantation site. If necessary, make a releasing incision to allow sufficient tissue and ensure tension-free closure. Make sure the vertical incision will not end up on top of the joint between the host bone and block graft.

4



**PREPARE RECEPTOR SITE:** Prepare a definitive inlay site for block graft placement using a straight bur. Rectangular inlay site should have flat sides and base, with a minimum depth of 0.5 mm. Avoid adjacent teeth.

5



**SHAPE BLOCK GRAFT:** Trim block to fit sequentially until the graft lays flat and intimately approximates the bony receptor site. Flatten the cancellous side of the block graft and do not remove the cortical layer. Carefully round any sharp edges to minimize soft-tissue trauma. Utilize a straight bur with irrigation and grasp the block with adequate pressure.

**Note:** Be careful not to damage or compress the block.

6



**DECORTICATE:** Perforate the receptor site with a  $\varnothing 1.1$  mm drill or round bur, avoiding areas where the fixation screws will be placed. Ensure that bleeding occurs.

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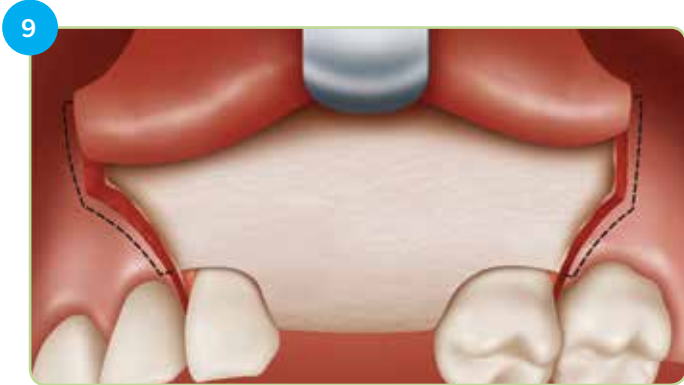


**DRILL AND PLACE FIXATION SCREWS:** Secure block graft with clamp. Use a  $\text{\O}1.5\text{mm}$  bit (lag screw technique), drill oversized hole into block at least  $\geq 1\text{mm}$  from block edge. Next, drill through block into the bony site using a  $\text{\O}1.1\text{mm}$  bit. Place  $\text{\O}1.5\text{mm}$  screw of sufficient length through block into pre-drilled hole in the bone; do not secure completely. Repeat for at least one additional screw. Place 2nd screw hole obliquely to the 1st and at least 3mm from 1st screw hole to minimize potential stress fracture. Tighten 2nd screw securely, then go back and tighten the 1st (avoid over-torque). It is recommended that two screws per block graft be placed to prevent rotation. Assure block is stable and free of any sharp corners or edges.

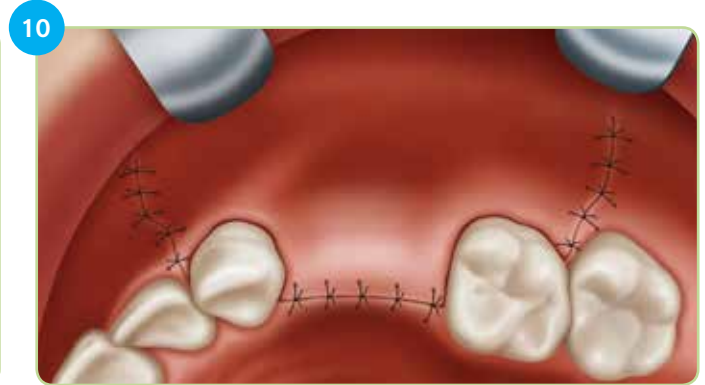
**Note:** Perforate the cortical layer of the block to encourage revascularization.



**FILL RESIDUAL VOID:** Place Puros Cancellous Particulate Allograft, Puros Demineralized Bone Matrix (DBM) Putty or DBM Putty with Chips around the edges of the block to give the augmented site a smooth contour.



**PLACE MEMBRANE:** Cover the entire site and extend 2-3mm from all edges with a conformable resorbable membrane such as CopiOs<sup>®</sup> Pericardium Membrane. Secure the membrane with tacks or sutures on both the buccal and labial surfaces. The membrane should lie flat and be closely adapted to the block site.



**CLOSE AND PROTECT:** Ensure adequate flap release to achieve tension-free closure and re-approximate soft tissue flap; score periosteum to aid in obtaining closure. Suture with 5-0 or 6-0 monofilament, utilizing an atraumatic needle with an interrupted technique and ensure tension-free primary closure. Start directly over the block site and finish with vertical incisions. Avoid premature loading by utilizing an interim prosthesis over the block site. Allow at least five to six months for healing to occur.

## Puros Allograft Block Technique Tips

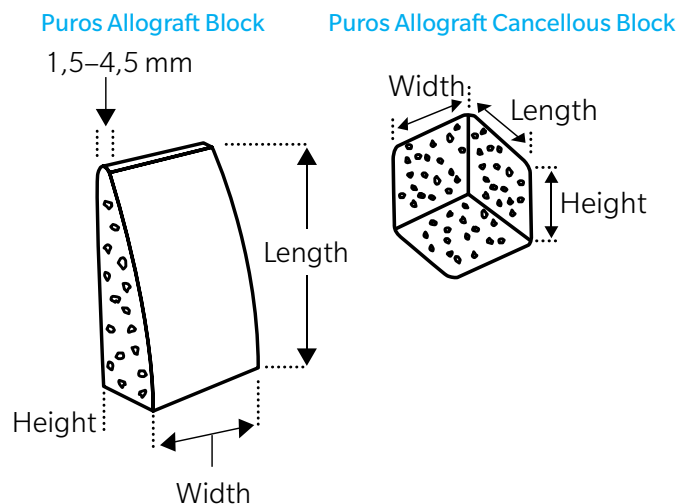
The following points are suggested to help achieve a successful clinical result:

- Careful patient selection and reinforcement of patient compliance, especially in the posterior jaw, are highly recommended. Do not try to overbuild the ridge in relationship to existing ridge diameters.
- Fully hydrate the block graft with 0.9% sterile saline solution.
- A full-thickness flap is needed to assure adequate soft-tissue availability. Extend the full-thickness incision beyond the graft site at least one tooth bilaterally. Releasing incisions should be used to assure adequate visualization and tension-free closure.
- Ensure the source of vascularity from the host bone is adequate to provide vascular access to the block.
- Make sure there are no sharp edges to prevent puncture of the soft tissues.
- Perforate the receptor site to enhance peripheral blood flow to the block graft.
- Ensure intimate contact when mortising the block graft into the receptor site.
- Drill the holes in the block graft the same size as the screw diameter to prevent block fracture. Use of two screws per block graft is recommended.
- Stagger the screws obliquely in the block graft to minimize stress fracture. Allow at least 3 mm spacing between each screw hole and at least 1 mm from the edge of the block graft.
- Tension-free closure is imperative to avoid soft-tissue dehiscence. Atraumatic needle and 5-0 sutures with an interrupted technique are recommended.
- Prevent premature loading by waiting until complete healing has occurred. Allow adequate healing time (typically 5-6 months) before implant placement.



## Ordering Information

Item No.	Description/Dimensions (L x W x H)
67220	Puros Allograft Block, 15 x 10 x 9 mm
67221	Puros Allograft Block, 15 x 15 x 9 mm
67222	Puros Allograft Cancellous Block, 8 x 8 x 8 mm
67223	Puros Allograft Cancellous Block, 20 x 10 x 10 mm
67224	Puros Allograft Cancellous Block, 20 x 10 x 20 mm



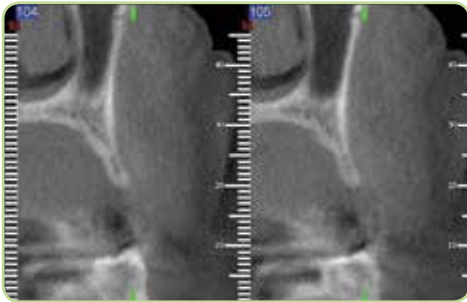
**Note:** Due to the nature of this material, small variability in color and/or dimensions may occur.



**Figure A.** Pre-operative ridge defect.



**Figure E.** Puros Pericardium Membrane\* placed over particulate.



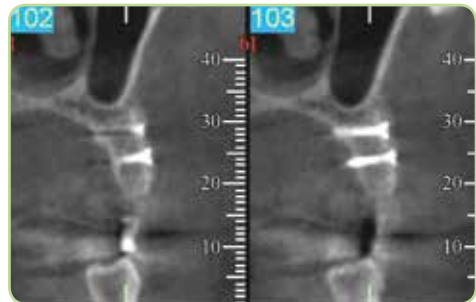
**Figure B.** Pre-operative CT Scan.



**Figure F.** Membrane sutured in place.



**Figure C.** Puros Allograft Block in place.



**Figure G.** Post-operative CT Scan.



**Figure D.** Puros Particulate Allograft placed over block.



**Figure H.** Finalized case.



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