

THE NEW RULES FOR HANDLING

BioXclude®

BioXclude® amnion chorion allograft membrane provides the benefits of an occlusive barrier and a growth factor. It is thin and adaptable, does not need to be trimmed, self adheres upon placement, may be folded onto itself and can touch adjacent root surfaces. Over 250 biological factors have been identified to date. These include extra cellular matrix proteins, such as laminin and laminin-5, that hasten cellular adhesion and migration and a wide array of soluble growth factors, such as PDGF, VEGF and TGF β , to aid healing.



Folds Onto Itself

Adapted over interproximal defect



Left Exposed

Multi-site socket preservation




Airtight Seal

Repaired sinus perforation

To understand and take advantage of BioXclude's unique properties requires a change in mindset. The rules for using traditional collagen and alloplastic barrier membranes **DO NOT APPLY**. By following these New Rules, BioXclude can simplify and shorten procedures.



LESS INVASIVE • BETTER HEALING • FAST & EASY


SNOASIS
MEDICAL
-BORN TO SMILE-

Highlights

- More BioXclude = More Growth Factors
- No need to trim BioXclude unless cutting for multiple sites or to stack
- Orientation does not matter
- Use dry instruments when BioXclude is dry and wetted instruments once it is wet
- Prior to placing BioXclude, control bleeding
- With direct access to the site, BioXclude can be placed dry or after “flash hydration”
- No sutures or tacks are required; BioXclude tightly adapts to underlying surfaces once hydrated
- Use damp gauze to absorb excess fluid and help adapt BioXclude to the grafted site
- Excess material can fold onto itself and touch adjacent root surfaces
- BioXclude does not have to be perfectly spread out, it just needs to cover the grafted site
- BioXclude may be left exposed in situations similar to socket grafting
- Avoid chlorhexidine-based oral rinses when leaving BioXclude exposed

General Guidelines

Orientation Does Not Matter: BioXclude may be placed UP or DOWN during placement.

Place Dry/Place Last: BioXclude should be placed dry, directly onto the bone graft material just before site closure. Due to a lack of rigidity once hydrated, BioXclude can be technique sensitive if placed before bone graft material.

Control Bleeding: Excessive bleeding can cause BioXclude to slide and prevent intimate contact with the underlying defect.

Prevent Sticking: Use dry instruments when BioXclude is dry and wetted instruments once it is wet.

Prevent Sliding: If BioXclude slides after placement, apply damp gauze. This will absorb the excess fluid and help adapt BioXclude to the underlying bone and adjacent surfaces.

Hasten Hydration: Drops of sterile water or patient blood may be used to speed up hydration. As the clinician becomes more familiar with BioXclude, “flash hydration” may be used. This involves quickly swiping both sides of the allograft through a small amount of irrigant prior to placement onto the grafted defect.

Cracks During Placement: If BioXclude cracks, simply overlap the cracked portions. As it hydrates, the cracked portions should adapt together.

Graft Coverage: BioXclude does not have to be perfectly spread out, it just needs to cover the grafted site.

Reapplying: If BioXclude bunches up during placement, it can be removed from the site and placed in irrigant to unfold before reapplying.

Site Closure: No sutures or tacks are required to stabilize BioXclude. Once in final position, use resorbable or non-resorbable sutures to close the site. To help avoid nicking BioXclude during closure, suture from the underside out and use Corn pliers to reflect the flap away from the graft when placing the first few sutures.

Sizing & Placement Considerations

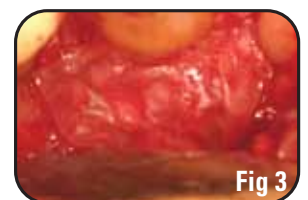
Trimming Not Required: For most procedures, BioXclude does not need to be trimmed; bigger is better. Using a larger size enables the clinician to more easily cover the grafted site as excess material can be folded onto itself and/or lay over exposed root surfaces or grafted dental implants (see Fig 1).



Untrimmed BioXclude folded onto itself and touching adjacent roots¹



Inserted vertically over interproximal defect



Trimmed to tooth morphology and extended mesial/distal of defect

Positioning: Once BioXclude has been placed, a blunt instrument can be used to tuck and position the allograft. To help steady BioXclude, the surgical assistant can apply a second blunt instrument to the center of the allograft to hold it in place while the clinician tucks and positions BioXclude over the grafted site. Once in position and fully hydrated, damp gauze or a wetted instrument is applied to BioXclude so the assistant's holding instrument can be retracted. This prevents BioXclude from sticking to the holding instrument and ensures the allograft is in contact with the underlying grafted site.

Not Big Enough: If the site requires more than one piece of BioXclude, use a second piece and overlap the two pieces to cover the site (see Fig 4).

Tooth/Crown Morphology: When trimming one side of BioXclude to the morphology of the tooth or crown, it should be in a less precise manner (see Fig 3).

Extend Mesial/Distal: BioXclude may be extended mesial and/or distal of the defect to cover all exposed bone, matching the size of the raised flap (see Fig 3).

Interproximal Spaces: BioXclude should be placed dry or flash hydrated into the interproximal space. As it hydrates, it will fold onto itself, covering the crestal aspects and "fan out" apically over the proximal walls. In the event of very small embrasure spaces, place one piece of BioXclude from the facial side and the other piece from the lingual side to cover the crest of the grafted defect (see Fig 2).

Circumferential Defects: Cut BioXclude into several pieces based on the size of the defect. Place and overlap pieces to cover all aspects of the grafted defect (see Fig 4).

Defect Space Maintenance: On its own, BioXclude cannot provide space maintenance and should be used in conjunction with graft material. Depending on the anatomical location, consideration should be given for the type of graft material used to ensure graft stability during healing.

Around Healing Caps: Punch a hole, with a biopsy punch, slightly larger than the healing cap, into DRY BioXclude (see Fig 5).

Covering Sinus Perforations: BioXclude should be placed dry on the moist sinus membrane with extension at least 5 mm beyond the perforation. It is important to make sure BioXclude is hydrated with good adhesion to the sinus membrane prior to placement of graft material.

Mild Gingival Recession: Place BioXclude over the exposed root surface and proximal bone. Advance and secure a coronally repositioned flap at the cemento enamel junction in a tension-free manner.



Multiple pieces overlap to cover a circumferential defect



Punched with hole for placement over healing cap²



Socket with buccal defect



Excess folded over the crest



Left exposed at site closure



3 month postop



Preop



3 month postop

Leaving BioXclude Exposed

General Guidelines: BioXclude may be left exposed in situations similar to socket grafting.

Tucking: If the tooth is extracted without flap elevation, BioXclude should be tucked approximately 1 mm underneath gingival margins. When elevating a flap, BioXclude should be tucked at least 3 mm over the bony defect margins to ensure graft coverage.

Multiple Layers: A double layer may be used in cases with large exposures, if faster healing is desired, or if the patient is a smoker or medically compromised. In larger cases, or those involving adjacent sites, multiple pieces can overlap one another (see Figs 4 and 7).

Socket Suture Technique: It is suggested to use three (3) reverse interrupted sutures equally spaced over the socket. A PTFE suture is recommended for closure due to its persistent tensile strength during healing. Do not over suture (see Fig 14).

Leaving BioXclude Exposed (Continued)

Postoperative Rinsing: The patient should gently roll their head side to side while rinsing with tap water and gently spit when done. Aggressive swishing introduces the risk of dislodging BioXclude.

Avoid Chlorhexidine: When BioXclude is left exposed, avoid using Chlorhexidine-based oral rinses until granulation tissue covers the exposed portions of the allograft.

Granulation Tissue: Complete granulation over the exposed portions of BioXclude usually occurs within 2-3 weeks, but may take longer in patients who smoke or have compromised health. At the first postoperative appointment, the exposed portions may look slightly translucent, greenish or opaque in color. In slower healers, white or yellow looking granulation tissue may cover part or all of the exposed portions.

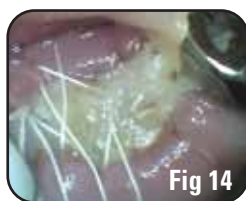
Bone Graft Particles: During normal wound healing, some bone graft particle sequestration may occur.



Fast healer: 10 day postop



Normal healer: 2 week postop



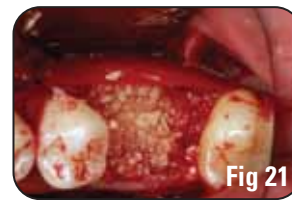
Slow healer: 2 week³



Smoker: 2 week¹



Large buccal defect



Bone and collagen placed



BioXclude placed over site



Site closure



3 month postop



3 month re-entry

In-Combination with Other Materials

Collagen Barriers: When additional stability is desired, BioXclude may be placed on top. This is beneficial when primary closure may not be obtained, or if concerns exist about postoperative dehiscence (see Fig 16). In extraction sockets with large horizontal defects, collagen can be used to re-create the lost bony wall and BioXclude placed perpendicularly over the occlusal aspect (see Fig 21 and 22).

Titanium Mesh: BioXclude may be used on top when there are concerns about dehiscence and/or underneath to help provide a dissection plane at mesh removal. When placed on top of mesh, primary closure is recommended (see Fig 17).

dPTFE: When used in conjunction, BioXclude should be placed underneath when the dPTFE is left exposed. If primary closure is obtained, BioXclude should be placed on top (in particular underneath incision lines) if concerns exist about dehiscence, and/or underneath the dPTFE, to help improve soft tissue healing (see Fig 18).

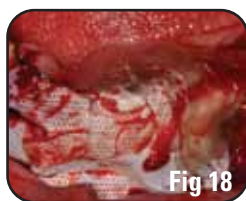
Connective Tissue Graft (CTG): CTG may be placed over BioXclude to increase tissue thickness in guided bone regeneration or to obtain root coverage in guided tissue regeneration (see Fig 19).



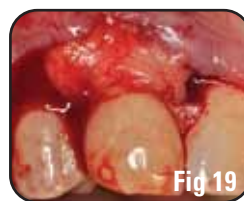
BioXclude over collagen



BioXclude over titanium



BioXclude over dPTFE⁴



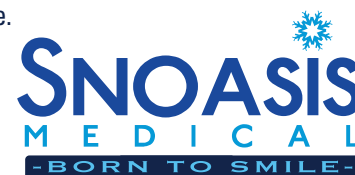
BioXclude under CTG⁵

Customer Service

Snoasis Medical will always provide a replacement graft at no cost in the event a graft becomes unusable.



For more information, or to view BioXclude surgical videos, please visit www.snoasismedical.com



References

All references supporting the features and benefits of BioXclude can be found at www.snoasismedical.com

- 1 Photo courtesy of Muyeenu Hassan, DDS, Detroit, MI
 - 2 Photo courtesy of Walter D Shields, DDS, MS, Christiansburg, VA
 - 3 Photo courtesy of Nicholas N Gadler, DDS, El Cajon, CA
 - 4 Photo courtesy of Paul S Petrunaro, DDS, MS, Chicago, IL
 - 5 Photo courtesy of Paul S Rosen, DMD, MS, Yardley, PA
- All other photos are courtesy of Dan Holtzclaw, DDS, MS, Austin, TX

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