AMNIOGRAFT® & AMNIOGUARD®

Promote Regenerative Healing.
Advance Surgical Outcomes.

AmnioGraft® and AmnioGuard® are the only ocular transplantation grafts offering CryoTek® cryopreserved amniotic membrane tissue to help speed post-op recovery, prevent disease recurrence, and optimize long-term patient outcomes[3,4,6-8]

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Support
Regenerative Healing.

AmnioGraft, an amniotic membrane graft, helps rapidly restore the healthy ocular surface when used during ocular surface reconstruction surgery, especially with pterygium and conjunctivochalasis (CCh) procedures. Delivering the unique therapeutic advantage of cryopreserved amniotic membrane tissue, AmnioGraft can help your patients achieve superior cosmetic outcomes and maximize long-term results.[3,4,6,7]

SUPPORT ACCELERATED POST-OP RECOVERY[1]

- Promotes fast, regenerative healing—typically in 2-3 weeks[1-7]
- Reduces inflammation[5,9-11]

HELP PREVENT DISEASE RECURRENCE[1,2,6-8]

- As demonstrated in a study of 535 patients, AmnioGraft creates a durable recurrence barrier proven to support sustained healing with ≤5.8%* recurrence after 1 year[1]

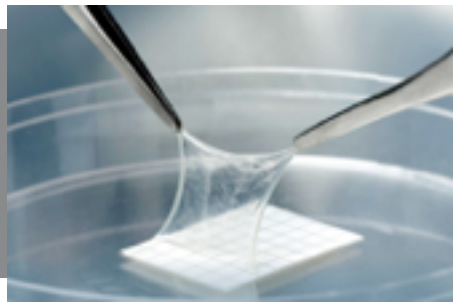
ENHANCE EACH PROCEDURE

The only amniotic membrane tissue with high tensile strength that:

- Retains intraoperative resilience and workability[8]
- Ensures reproducible surgical outcomes
- Offers multiple sizes to accommodate any sized ocular defect—large or small

BIOLOGIC AND STRUCTURAL INTEGRITY, EQUIVALENT TO FRESH TISSUE[2,12]

Proprietary CryoTek preservation method retains the biologic properties of the key effector protein complex HC-HA/PTX3[2,12]



AMNIOGRAFT®

Super Strength. **Powerful Proof.**

AmnioGuard is an ideal solution when a thicker and more durable tensile strength graft is required during ocular surface surgery. This cryopreserved amniotic membrane and umbilical cord tissue suppresses inflammation and promotes ocular surface healing.[15-17]

ACHIEVE OPTIMAL OUTCOMES

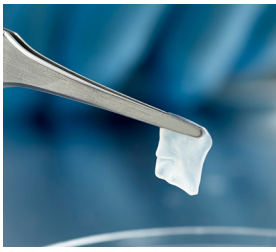
As demonstrated in the STEPS study, AmnioGuard was shown to be a superior alternative to pericardium as a solution for safe and stable tube shunt coverage. Results included[15]:

- Better host-tissue integration
- Significantly less graft thinning
- Superior graft translucency
- Superior cosmetic appearance

EXPEDITE HEALING

In studies evaluating AmnioGuard as an alternative to other homologous tissue grafts for ocular surface reconstruction[16] and management of anophthalmic socket contracture[17], the following results were achieved:

- 100% epithelialization[16]
- No wound dehiscence[16]
- Excellent prosthesis fit at final follow up[17]
- No clinically significant complications[17]



AMNIOGRAFT AND AMNIOGUARD ARE ADJUNCT THERAPIES FOR:

- AmnioGraft
- AmnioGuard
- Both

Corneal Indications

- Persistent Epithelial Defects
- Ulcers
- Descemetocele or Perforation
- Neurotrophic
- Bullous Keratopathy
- Band Keratopathy

Conjunctival Indications

- Primary & Recurrent Pterygia
- Pinguecula
- Removal of Tumors or Lesions
- Conjunctivochalasis
- Superior Limbic Keratoconjunctivitis
- Symblepharon
- Leaking Blebs
- Shunt Tube Exposure Prevention
- Limbal Stem Cell Deficiency

Other Ocular Surface/ Oculoplastics Indications

- Chemical and Thermal Burns
- Stevens-Johnson Syndrome / Toxic Epidermal Necrosis
- Pemphigoid
- Marginal Entropian Repair
- Scleral Melt/Ischemia
- Fornix & Socket Reconstruction
- Strabismus Repair
- Medial Cantal Reconstruction

Pterygium:
The TissueTuck™ Technique

LOWER RECURRENCE, OPTIMAL HEALING

- AmnioGraft easily tucks into position to recreate the semi-lunar fold, “sealing the gap” between the conjunctiva and Tenon to help prevent reinvasion of residual fibrovascular tissue
- Creates only 1 wound

OPTIMIZES SURGICAL OUTCOMES:

Long-term recurrence of

≤5.8%[1*]

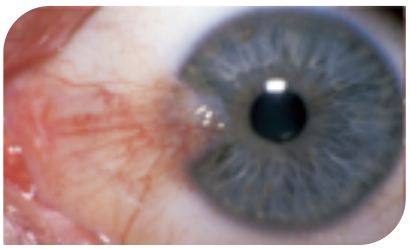
Superior cosmetic outcomes as early as

7 days

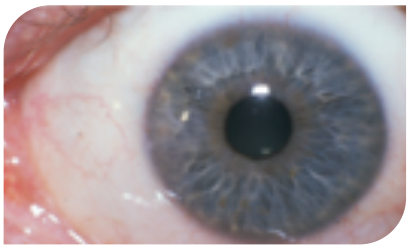
Cuts procedural time by

30 minutes

PRE-OP



1 YEAR POST-OP



> “<1% Recurrence in over 700 patients after 1 year[8]”
>
> Dr. Neel Desai, The Eye Institute of West Florida

Recurrence rate with conventional pterygium surgery is as high as

88%[1]

*In a study of 535 patients who had primary (n = 527) or recurrent (n = 29) pterygium excision. Average follow-up was 17.3 ± 0.8 months (range: 6-74 months).

Conjunctivochalasis (CCh):
The Reservoir Restoration Technique

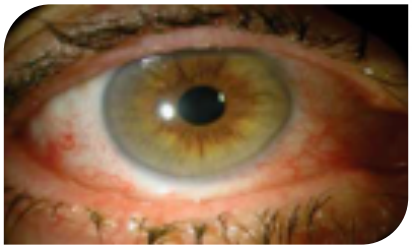
Mechanically induced dry eye, commonly known as CCh, is one of the most commonly underdiagnosed/misdiagnosed ocular surface diseases.[13]

Dry eye syndrome patients who are not responding to current interventions should be evaluated for CCh.

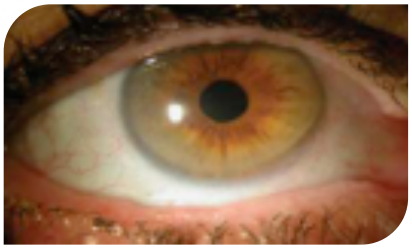
AMNIOGRAFT ADDRESSES THE UNDERLYING CAUSE OF CCH[3,7,18]:

- Efficiently replaces the degenerated Tenon's fascia and excised conjunctiva
- Natural properties support restoration of the tear reservoir to a healthy state
- Restores tear flow from fornix to tear meniscus*

PRE-OP

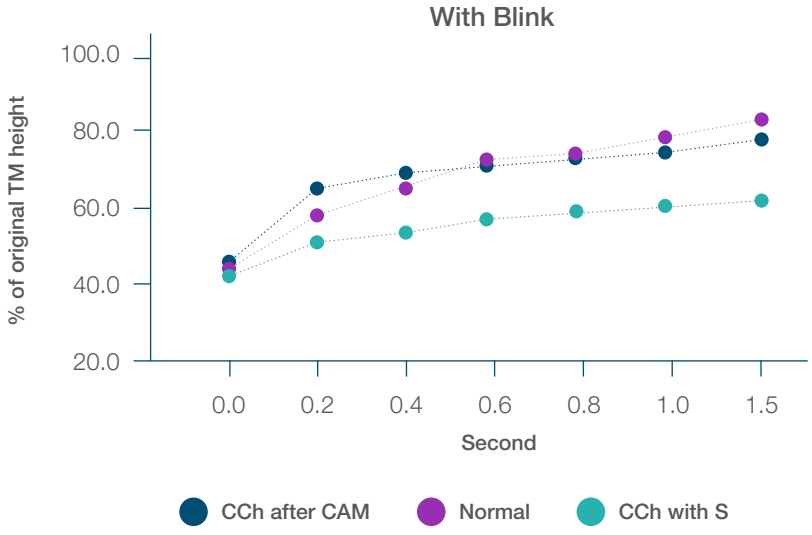


1 YEAR POST-OP



Conventional CCh procedures may further diminish the tear reservoir.[14]

RECOVERY RATES AFTER RESERVOIR RESTORATION PROCEDURE[18*]



"These results suggest a high correlation between symptomatic relief and rapid recovery of the tear meniscus height after maximal depletion in CCh patients as early as the first postoperative day."[17]

*From "Conjuctivochalasis Interferes with Tear Flow from Fornix to Tear Miniscus". Study evalulated the recovery rate of the original meniscus height among 8 asymptomatic and 16 symptomatic CCh patients at each time point after maximal depletion.

Transform Ocular Surface Recovery
in your Practice Today.

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Call 1.888.296.8858 between 8:00 am and 5:00 pm EST, or visit www.biotissue.com.

AMNIOGRAFT®

(Shown as Actual Size)

AG 1510
1.5 x 1.0 cm

AG 2015
2.0 x 1.5 cm

AG 2520
2.5 x 2.0 cm

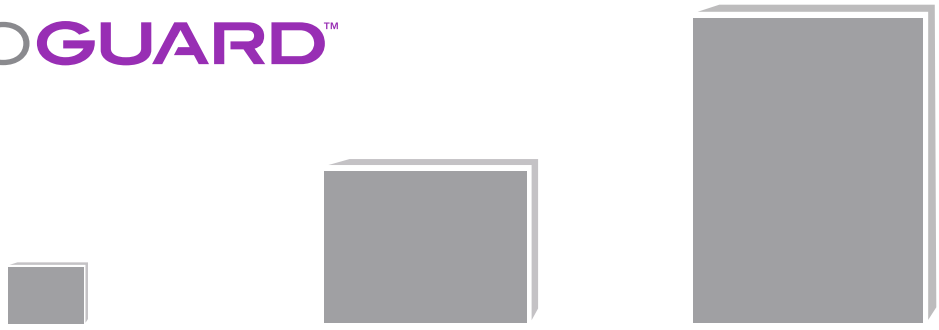
AG 3535
3.5 x 3.5 cm

Also available in: AG 5050 5.0 x 5.0 cm, **AG 10050** 10.0 x 5.0 cm

Average thickness: 75-150 µm[19]

AMNIOGUARD™

(Shown as Actual Size)



AGD 1075
1.0 x 0.75 cm

AGD 2520
2.5 x 2.0 cm

AGD GS40
3.0 x 4.0 cm

Average thickness: 500-900 µm[19]

References: 1. Rosen R. Amniotic membrane grafts to reduce pterygium recurrence. *Cornea.* 2017;0:1–5. **2.** Cooke M, Tan EK, Mandrycky C, et al. Comparison of cryopreserved amniotic membrane and umbilical cord tissue with dehydrated amniotic membrane/chorion tissue. *J Wound Care.* 2014;23(10):465-476. **3.** Kheirkhah A, Casas V, Esquenazi S, et al. New surgical approach for superior conjunctivochalasis. *Cornea.* 2007;26(6):685-691. **4.** Kheirkhah A, Casas V, Blanco G, Li W, Hayashida Y, Chen YT, Tseng SC. Amniotic membrane transplantation with fibrin glue for conjunctivochalasis. *Am J Ophthalmol.* 2007;144(2):311-3. **5.** Tseng S, Espana E, Kawakita T, et al. How does amniotic membrane work? *The Ocular Surface.* 2004; 2(3):177-187. **6.** Solomon A, Pires RTF, Tseng SCG. Amniotic membrane transplantation after extensive removal of primary and recurrent pterygia. *Ophthalmology.* 2001;108:449-460. **7.** Georgiadis NS, Terzidou CD. Epiphora caused by conjunctivochalasis: treatment with transplantation of preserved human amniotic membrane. *Cornea.* 2001; 20(6):619-621.**8.** Desai NR, The Tissue Tuck™ Technique: Sutureless pterygium surgery with AmnioGraft reduces recurrence rate to less than 1%. *Opthalmol Manag.* 2015. http://www.visioncareprofessional.com/emails/omd/corneaeupdate/6/index.html. Accessed September 19, 2019. **9.** Shay E, He H, Sakurai S, Tseng SC. Inhibition of angiogenesis by HC·HA, a complex of hyaluronan and the heavy chain of inter-α-inhibitor, purified from human amniotic membrane. *Invest Ophthalmol Vis Sci.* 2011; 52(5): 2669–2678. **10.** Zhang S, He H, Day AJ, Tseng SC. Constitutive expression of inter-α-inhibitor (Iαl) family proteins and tumor necrosis factor-stimulated gene-6 (TSG-6) by human amniotic membrane epithelial and stromal cells supporting formation of the heavy chain-hyaluronan (HC-HA) complex. *J Biol Chem.* 2012;287(15):12433-1244. **11.** He H, Zhang S, Tighe S, Son J, Tseng SC. Immobilized HC-HA polarizes LPS-activated macrophages toward M2 phenotype. *J Biol Chem.* 2013; 288(36): 25792–25803. **12.** Tan EK, Cooke M, Mandrycky C, et al. Structural and biological comparison of cryopreserved and fresh amniotic membrane tissues. *J Biomater Tissue Eng.* 2014;(4):379–388. **13.** American International Medical University. Conjunctivochalasis: symptoms, diagnosis and management. https://www.aimu.us/2016/11/25/conjunctivochalasis-symptoms-diagnosis-and-management. Accessed September 19, 2019. **14.** The Ocular Surface Research & Education Foundation. Reservoir restoration procedure. https://info.biotissue.com/hubfs/EDU-SG-002,%20Ver%201%20-%20CCH%20reservoir%20restoration%20Surgical%20Guide.pdf. Accessed September 19, 2019. **15.** Sheha H, Tello C, Al-Aswad L, Sayed M, Lee R. Outcomes of the Shunt Tube Exposure Prevention Study (STEPS), a randomized clinical trial. *Opthalmol Glaucoma.* [Online] August 16, 2019. **16.** Finger PT, Jain P, Mukkamala SK. Super-thick amniotic membrane for ocular surface reconstruction. *Am J Opthalmol.* 2019;198:45-53. **17.** Slentz, D. and Nelson, C. (2019). Novel Use of Cryopreserved Ultra-thick Human Amniotic Membrane for Management of Anophthalmic Socket Contracture. *Ophthalmic Plastic and Reconstructive Surgery*, 35(2), pp.193-196. **18.** Huang, Y., Sheha, H. and Tseng, S. (2013). Conjunctivochalasis Interferes with Tear Flow from Fornix to Tear Meniscus. Ophthalmology, 120(8), pp.1681-1687. **19.** Tan, E., Cooke, M., Mandrycky, C., Mahabole, M., He, H., O'Connell, J., McDevitt, T. and Tseng, S. (2014). Structural and Biological Comparison of Cryopreserved and Fresh Amniotic Membrane Tissues. *Journal of Biomaterials and Tissue Engineering*, 4(5), pp.379-388.

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