AmnioGraft®

AmnioGuard®

Rapid Recovery.
Lasting Benefit.

AmnioGraft®
AmnioGuard®

Biologic ocular transplantation tissue grafts help restore your patients' eyes to normal and improve their quality of life.

AmnioGraft® and AmnioGuard® have changed the way eyes heal.

As an eyecare industry partner, we understand you have many options when choosing products and techniques to optimize patient outcomes. Knowing their benefits and limitations are key in determining the best option. BioTissue strives to manufacture biologic tissue products that give you functional and therapeutic benefits that lead to better outcomes and happier patients.

The Challenge with the Conventional Treatments

Autografts

- Requirement for donor site excision[1]
- Donor-site hypersensitivity or morbidity[2,3]
- Time consuming[4-6]
- Limited quantity
- Limited graft size[6]
- Requirement for retrobulbar anesthesia in some cases[6]

Dehydrated AM

- Reduced structural integrity[7]
- Compromised properties[8,9]
- No or limited presence of HC-HA/PTX3[7,10]
- Lack of supporting ophthalmic clinical studies

Gamma-Irradiated Sterile Cornea

- Irradiation alters biomechanical and structural properties of the corneal surface[11-13]
- Transplantation procedure is complex[14]
- May not retain integrity after aqueous drainage device surgery[15]

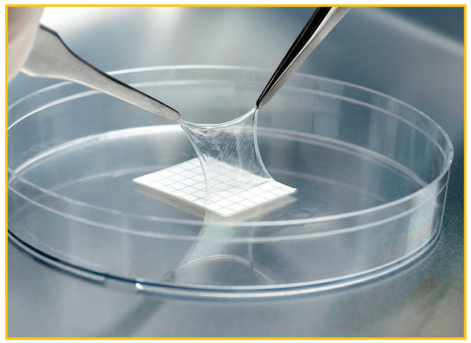
Human Pericardium Patch Graft

- Significant tube exposure due to graft thinning and melt[16]
- Opaque patch graft makes it difficult to diagnose any tube migration, retraction, kinking and twisting[17]
- May be too thin for desired application[18]

Bioengineered Spacer Graft

- Minor complications including cyst formation, infection, chemosis, pyogenic granuloma, and corneal abrasion contributing to reoperation in 5% of cases[19]
- Unsightly and palpable to the patient[20]
- Possible immunogenic rejection[21]
- Prone to shrinkage[22-25]
- Takes longer to vascularize compared to mucosal graft[22,25]

Regenerative Healing with Amniotic Membrane



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.[3,27-29,31]

Our CryoTek process preserves naturally occurring biological components, including HC/HA-PTX3 complex, which are essential for quality healing. HC/HA-PTX3 suppresses scarring, inflammation and angiogenesis while creating an environment that stimulates regenerative healing.[7,9,26]

Our biologic ocular transplantation tissue grafts help your patient heal better and faster.

BioTissue's cryopreserved amniotic membrane products are the only amniotic membrane products cleared by the FDA for its therapeutic properties in repairing and healing ocular surface wounds.[10]

Comparing AmnioGraft with Conj. Auto and Dehydrated AM

		AmnioGraft	Conj. Auto	Dehydrated
General Properties	Superior Physical Integrity[20]	✓	✓	✗
	High Tensile Strength/Elasticity/Durability	✓	✓	✗
	Easy Intra-operative Surgical Manipulation	✓	✗	✗
	Accommodates Any Ocular Defect Size	✓	Limited	✓
Clinical Properties	Facilitate Healing	✓	✗	✗
	Anti-Inflammatory	✓	✗	✗
	Anti-Angiogenic	✓	✗	✗
	Anti-Scarring	✓	✗	✗
Surgical Outcome	Single Surgical Site	✓	✗	✓
	Minimal Surgical Trauma	✓	✗	✓
	Less than 1% Recurrence Rate[27]	✓	✗	?
	Faster & Shorter Surgical Procedure	✓	✗	?
	Minimal Post-operative Discomfort	✓	✗	?
	Time for Cosmetic Recovery	2 weeks	30–60 days	Variables
	Superior Cosmetic Outcome	✓	✗	?
Value Added Services	Reimbursement Support	✓	✗	?
	Clinical Implementation Support	✓	✗	?
	Live Surgical Technique Training Support	✓	✗	?
	Account Services	✓	✗	?

*The surgical outcome with AmnioGraft is significantly based on the surgical technique used[27]

AmnioGraft

Amniotic Membrane Transplantation Graft

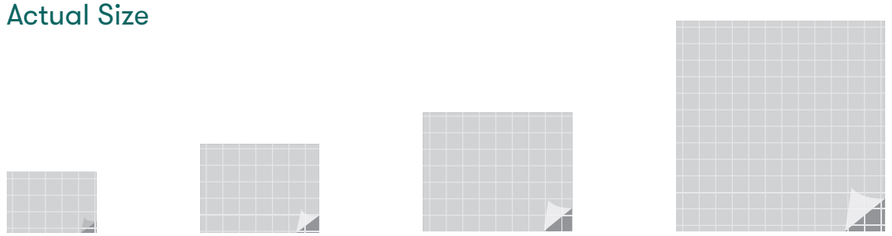
AmnioGraft, an amniotic membrane graft, helps rapidly restore the ocular surface when used during ocular surface reconstruction surgery, especially in indications such as pterygium and Mechanical Dry Eye (MDE), also known as Conjunctivochalasis (CCh).[3,28,29,31]

AmnioGraft provides greater flexibility amongst a variety of procedures. It's the only amniotic membrane tissue with high tensile strength that retains intraoperative resilience and workability[8], ensures reproducible surgical outcomes, and is available in multiple sizes to accommodate different ocular defects—large or small. Its biologic structural integrity is equivalent to fresh tissue.[7,9]

Post-op recovery time is accelerated, as AmnioGraft reduces inflammation and promotes fast, regenerative healing, typically in 2-3 weeks.[27-31,33-34]

Long-term, patients treated with AmnioGraft are less likely to have disease recurrence. A recent retrospective study of over 280 patients showed a **recurrence rate of less than 1%** after surgical excision of primary, single-headed pterygium with cryopreserved AM.[27]

Shown as Actual Size



AG 1510
1.5 × 1.0 cm

AG 2015
2.0 × 1.5 cm

AG 2520
2.5 × 2.0 cm

AG 3535
3.5 × 3.5 cm

Also available in: AG 5050 5.0 × 5.0 cm, AG 10050 10.0 × 5.0 cm
Average thickness: 75-150 µm[9]

AmnioGuard

Ultra-thick Graft Derived from Umbilical Cord

AmnioGuard is the ultra-thick tissue graft that suppresses inflammation, promotes healing, and provides more durable tensile strength to avoid surgical challenges related to conjunctival tumor excisions, glaucoma drainage device implantations, and oculoplastic reconstructions.[37-39, 42]

Studies have shown AmnioGuard as an excellent alternative to other homologous tissue grafts for ocular surface reconstruction and management of Anophthalmic socket contracture.[39]
It helps achieve 100% epithelialization, without wound dehiscence and excellent prosthesis fit at final follow-up with no clinically significant complications.[39]

Shown as Actual Size

AGD 1075
1.0 × 0.75 cm

AGD 2520
2.5 × 2.0 cm

AGD GS40
3.0 × 4.0 cm

Average thickness: 500-900 µm[9]

AmnioGraft and AmnioGuard are Adjunct Therapies for:

- AminioGraft
- AminioGuard
- 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 and Oculoplastics Indications

- Chemical and Thermal Burns
- Stevens-Johnson Syndrome / Toxic Epidermal Necrosis
- Pemphigoid
- Marginal Entropion Repair
- Scleral Melt/Ischemia
- Fornix & Socket Reconstruction
- Strabismus Repair
- Medial Canthal 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 Capsule to help prevent reinvasion of residual fibrovascular tissue
- Creates only one wound

Pre-Op

1 Year Post-Op

Optimizes Surgical Outcomes

Long-term recurrence of	Superior cosmetic outcomes as early as	Cuts procedural time by
<1%[27]	7 days	30 min.

Recurrence rate with conventional pterygium surgery is as high as 88%[27]

Conjunctivochalasis (CCh):
The Reservoir Restoration Technique

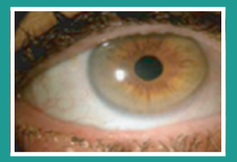
AmnioGraft Addresses the Underlying Cause of CCh[28,31,40]

- 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

Mechanical Dry Eye (MDE), also known as CCh is one of the most commonly underdiagnosed/ misdiagnosed ocular surface diseases. Dry eye syndrome patients who are not responding to current interventions should be evaluated for CCh.

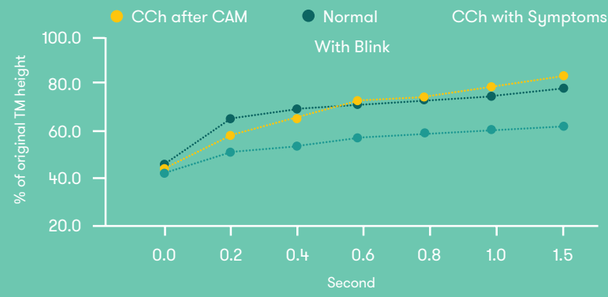
Conventional CCh procedures may further diminish the tear reservoir.[36]

Pre-Op



1 Year Post-Op

Recovery Rates After Reservoir Restoration Procedure[40*]



“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 post operative day.” [40]

Explore Techniques and Results

BioTissue.com/AmnioGraft
BioTissue.com/AmnioGuard

Including:

Lower recurrence and optimal healing in Pterygium:
The TissueTuck Technique

Optimized outcomes in Mechanical Dry Eye:
The Reservoir Restoration Technique

A comparison of cryopreserved amniotic membrane to conjunctival autograft and dehydrated amniotic membrane

Advanced healing in post-excision of conjunctival tumors

Superior stability in post-glaucoma treatment

Post-oculoplasty optimal healing

Superior alternative to pericardium as a solution for safe and stable tube shunt coverage

Links to clinical trials and research

Surgical Guides

TissueTuck Procedure for Pterygium

Reservoir Restoration Procedure for Mechanical Dry Eye (MDE)

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The time is now to achieve a new standard of care. Together, we can make a difference in eye care management.

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