

Sutureless Amniotic Membrane Workshop: How to Properly Insert and Remove Them



Nicholas Colatrella, OD, FAAO, Diplomate AAO, ABO, ABCMO
Jeffrey R. Varanelli, OD, FAAO, Diplomate ABO, ABCMO

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Jeffrey Varanelli, OD, FAAO, Dipl ABO, ABCMO



Disclosure

- Allergan/AbbVie
- BioTissue
- Katena/Corza
- Dompé
- Oyster Point / Viatrix
- Kala
- Merakris Therapeutics
- Bausch+Lomb
- ImmunoGen
- Zeiss
- There are no conflicts of interest in this program as all conflicts have been mitigated

Experience

- Have given hundreds of lectures discussing amniotic membranes
- Gave first wetlab on AM
 - November 2014
- Have conducted over 50 wetlabs and workshops around the country
 - AAO, AOA, SECO, ICO, PCO, MCO, OSU, CCO, state associations
 - Instructed 1200+ doctors and students on proper application techniques



What is the amniotic membrane

- Amnion is avascular and a translucent membrane composed of an inner layer of epithelial cells which are planted on a basement membrane
- Amnion is made of Collagen I, III, IV, V and VII, laminin and fibronectin of which IV, VII, laminin and fibronectin are also found in conjunctiva and cornea

Mechanisms of Action

- Promotes Epithelialization
- Suppresses Inflammation
- Inhibits Scarring
- Inhibits Angiogenesis
- Neurotrophic Factors
- Anti-Microbial Agent

All without the harmful side effects found in topical and oral medications

Indications

- Acute Chemical/Thermal Burns
- Recurrent Corneal Erosions
- Neurotrophic Defects / Persistent Corneal Epithelial Defects
- Filamentary Keratitis
- Vernal Keratoconjunctivitis
- Recalcitrant Dry Eye
- Microbial Keratitis
- Nodular Degeneration
- PRK

Indications

- Acute Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis
- Post-infectious Recalcitrant Corneal Inflammation (e.g. herpetic, vernal, and bacterial)
- In conjunction with:
 - Superficial Keratectomy
 - High-Risk Corneal Transplantation
 - Corneal ulcers, descemetocoele or perforations
 - Scleral melts
 - Limbal graft for partial or total limbal stem cell deficiency
 - Oculoplastic procedures including lid, fornix, and socket reconstruction
 - Glaucoma Surgery
 - Conjunctivochalasis and conjunctival reconstruction
 - Pterygium surgery
 - Bullous keratopathy
 - Band keratopathy

Available Sutureless Membranes

Available Sutureless Membranes:

- PROKERA Clear
- ACELLFX
- BioD
- INTEGRALife
- ProKera
- ATLAS OCULAR
- SURGENEX
- XCELLEREYES
- OPHTHALOGIX
- Opticyte
- corzamedical
- Skye™ OculoMatrix

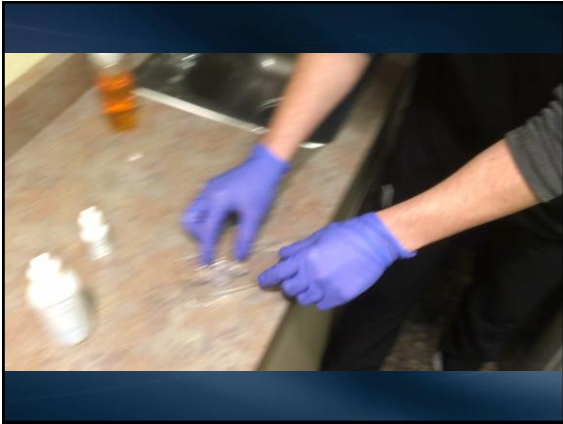
Prokera

Prokera

- Approved by FDA Dec 2003 as a Class II medical device comprised of cryopreserved amniotic membrane graft fastened to thermoplastic ring-set
 - Launched in April 2005
 - Over 300,000 ProKera products placed
- Dual action promotes healing of ocular surface and controls inflammation
- Stored in medium made of Dulbecco's Modified Eagle Medium / Glycerol containing Ciprofloxacin and Amphotericin B
 - Do not use on patients with a history of drug reaction to Cipro or amphotericin B

Prokera

- Cryopreserved
- Store in freezer
 - 1 year bet -49 deg C to 0 deg C (-56.2 F to 32 F)
 - 2 years bet -85 C to -50 C (-121 F to -58 F)- shelf life is 2 years from date of manufacturer
- Allow to thaw to room temperature unopened for 5-10 minutes
- Rinse with saline to reduce stinging sensation
- Do not leave in eye longer than 30 days



Bruder
Better By Design.

<https://order.bruder.com/collections/pecaamember/instruments-accessories>

KARPECKI Prokera Lens Forceps

\$175.50

[View cart](#)

Tape-sorrhaphy

Courtesy Dr. Tseng

A tape over the lid crease- Narrows the eye opening, Keeps ProKera centered, and Minimizes discomfort

Prokera

- Complete the donor and recipient information form and return immediately

Morselized Tissue

NeoxFlo

- BioTissue
- Sterile, particulate human placental tissue product
- Aseptically processed from Amniotic Membrane and Umbilical Cord tissues
- Processing retains key biological characteristics of the tissue



NeoxFlo

- Powder mixed in CL with saline to create gel
- Applied directly to affected eye
- Limited blur
- Generally left for 1-3 days
- New application regimen



CAM 360



CAM360 AmnioGraft™

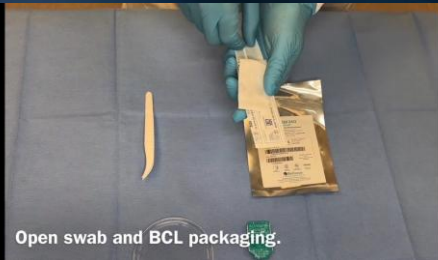
Using the BCL packaging in preparation steps

CAM 360



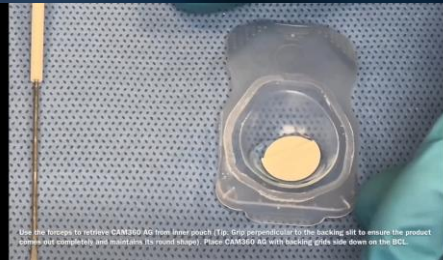
Supplies: Plastic forceps, mini tip polyester swab, CAM360 AG, Bandage Contact Lens (BCL)

CAM 360

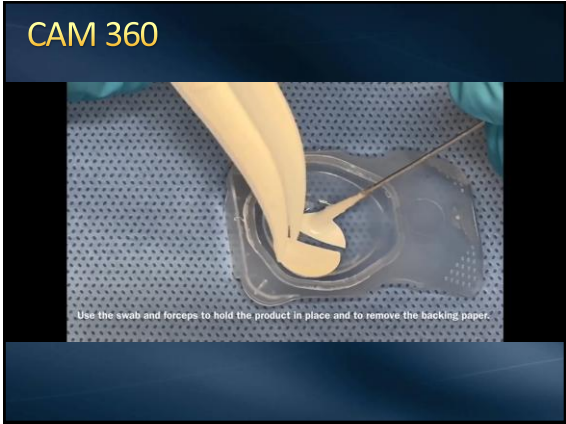


Open swab and BCL packaging.

CAM 360



Use the forceps to remove CAM360 AG from inner pouch. Tip: Set perpendicular to the backing gel to ensure the product spreads and polymerizes, and maintains its round shape. Place CAM360 AG with backing gels side down on the BCL.



Dehydrated Amniotic Membranes

- AmbioDisk (Corza)
- BioDOptix (BioDLogics/IntegralLife)
- AcellFx (Akorn/Blythe Medical)
- VisiDisc (Skye Biologics)
- ReNovaAT (RegenMed)
- AmnioTek-C (ISP Surgical LLC)
- Eclipse (Ophthalmix)
- Xcellereyes (Oculus Biologics)
- SurSight (Surgenex)
- Atlas(Atlas Ocular)
- OptiCyte (Merakris Therapeutics)
- BioVance 3L Ocular (Versea)
- iPatch (C5 Biomedical)

Dehydrated Membranes

- All stored at room temperature
- Shelf life typically 2-5 years
- Do not need to be rehydrated
- All require the use of BCL
 - Careful with sizing

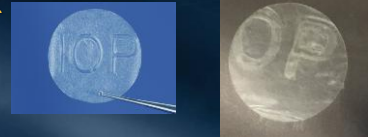
- Complete the donor and recipient information form and return immediately

Dehydrated Membranes

- **Ambio Disk**
 - Ambio 2 (35 μ)
 - 9, 12 or 15 mm
 - Ambio 5 (100 μ)
 - 15 mm
- **BioDOptix**
 - Three disc sizes
 - 9mm, 12mm, 15mm
 - 40-60um thick membrane



AmbioDisk



- Basement membrane side (epithelium) noted by correct right-to-left nomenclature orientation of "IOP"
- Apply to cornea with IOP down, i.e. basement membrane (epithelium) of tissue directly in contact with cornea.
- Processed with Streptomycin Sulfate and Gentamicin Sulfate
 - Caution in patients with allergies to these

AmbioDisk

- In September 2019, Katena switched to next-generation AmbioDisk
 - Preserved using the Clearify process
- The graft is packaged with amnion (epithelial) side facing up (no longer has "IOP" watermark)
- During application, apply the graft amnion (epithelial) side facing down directly in contact with the cornea
- No longer processed with streptomycin sulfate and gentamicin sulfate
- Over 150,000 distributed



Dehydrated Membranes

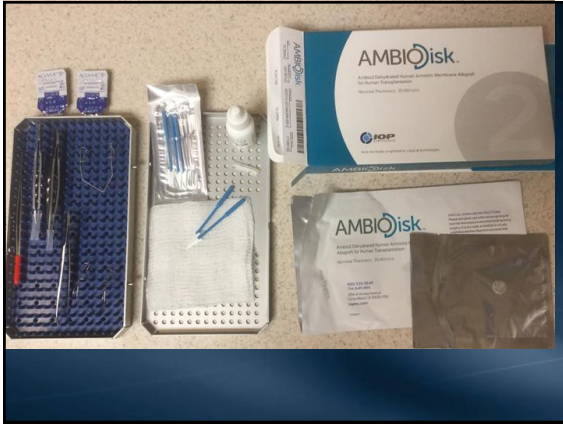
- **AcellFx**
 - 5 mm Disc
 - 8 mm disc
 - 10.5 mm disc
 - 15 mm disc
 - 1 cm x 2 cm ellipse
- **Skye Biologics**
 - VisiDisc Thin (45 μ)
 - VisiDisc Thick (200 μ)
 - 10 mm
 - 12 mm
 - 15 mm

Dehydrated Membranes

- **Ophthalmogix**
 - Eclipse
 - 5,8,10,12,14,16 mm discs
- **Surgenex**
 - Sursight
 - 5,8,10,11,12,14,15 mm discs
- **Merakris Therapeutics**
 - OptiCyte
 - 10,12,15 mm discs
 - 1x1, 2x2, 2x3 cm sheets
 - 45u and 200u thickness
- **Renovo-AT Oculus**
 - 9, 12, 15 mm discs
- **AmnioTek-C**
 - 12 mm disc

Dehydrated 4 Step Process

1. Speculum Insertion
2. Membrane Placement
3. Bandage Contact Lens Placement
4. Speculum Removal



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Purchase 2 AmbioDisks and get 1 free (any size)

New users will also receive a **Jump Start Kit**

Jump Start Kit
Complimentary set of tools needed to apply AmbioDisk therapy

- Single-use speculums (1 box of 50)
- Single-use sponge sponges (1 box of 50)
- Nugent Forceps
- Sterilizing Case

Additional resources available:
Training and in-office support

- Reimbursement consultant
- Technique videos for office staff
- Peer-to-peer consultation

K20-007 Barraquer Speculum
K20-500 K-Sponge 5 Sponges
K10-6009 Blink Max Fine Forceps

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1. Lid Speculum Insertion

- Insert the upper lid first followed by the lower lid
- Anesthetize the eye
- Recline chair to supine position
- Instruct patient to look down
- Insert upper speculum onto upper lid
- Instruct patient to look up
- Insert lower speculum onto lower lid, while squeezing near opening

1. Lid Speculum Insertion



2. Membrane Placement



3. Bandage Contact Lens Placement



4. Lid Speculum Removal

- Remove the Lower Lid followed by the upper lid.
- Instruct patient to look up
- Removed the speculum from the lower lid
- Instruct patient to look ****DOWN****
- Remove from the upper lid while pulling down and away from the patient

4. Lid Speculum Removal



4a – Fine Tuning



Suggestions

- Create a routine for using these
- Consent Form
- Home going instructions help
 - Antibiotic
 - Corticosteroid
 - Cycloplegic
 - Oral narcotic
- Debridement prior
- Follow up call
- Dropbox link to consent form, etc



Side Effects

- Contact lens slippage or displacement of Prokera Ring
- Blurry vision
- Burn and sting upon instillation
- Too uncomfortable for patient to tolerate
- Membrane dissolves too quickly
 - Need thicker membrane
- Membrane doesn't dissolve
 - Typically due to CL being too tight
 - Recommend checking K values prior to insertion and find appropriate BSCL
- Created irritation to cornea (almost micro burns)
 - Sensitivities to chemical make up of cryo / dehydration process

Insertion Techniques



Billing

- CPT 65778
 - Placement of amniotic membrane on the ocular surface; without sutures
 - Bundled code
 - Medicare Fee reduction started Jan 1 roughly down \$250 (\$254.32)
- Modifier
 - 76 – Repeat procedure by same physician
 - Repeat procedure by same physician: The physician may need to indicate that a service was repeated the same day subsequent to the original service. This modifier indicates the difference between duplicate services and repeated services.
- No global period

Conclusion

- When to use a Sutureless AM?
 - Promote Epithelialization
 - Suppress Inflammation
 - Inhibit Scarring
- How to use a Sutureless AM?
 - Practice makes perfect
 - Don't wait for last resort treatment

Supplies

Things to keep

- Forceps
- ProKera Rings
- Bottles of anesthetic

Things to discard

- Speculums

Hands On

- Partner up
- ProKera first

Hands On Workshop

Please feel free to contact us:

Nicholas Colatrella, OD, FAAO, Dipl AAO, ABO, ABCMO
NColatrella@pineconevisioncenter.com

Jeffrey Varanelli, OD, FAAO, Dipl ABO, ABCMO
jrveyedoc@gmail.com



QR Code Link to DropBox Files

