



**Australian Government**

**Department of Health**

# **Application Form**

## **Amnion membrane (human tissue) for topical treatment of ophthalmic disorders (caused by disease and/or trauma), and wound dressings for burns and ulcers on the craniofacial area, torso, and limbs.**

This application form is to be completed for new and amended requests for public funding (including but not limited to the Medicare Benefits Schedule (MBS)). It describes the detailed information that the Australian Government Department of Health requires to determine whether a proposed medical service is suitable.

Please use this template, along with the associated Application Form Guidelines to prepare your application. Please complete all questions that are applicable to the proposed service, providing relevant information only. Applications not completed in full will not be accepted.

Should you require any further assistance, departmental staff are available through the Health Technology Assessment Team (HTA Team) on the contact numbers and email below to discuss the application form, or any other component of the Medical Services Advisory Committee process.

Email: [hta@health.gov.au](mailto:hta@health.gov.au)

Website: [www.msac.gov.au](http://www.msac.gov.au)

# PART 1 – APPLICANT DETAILS

## 1. Applicant details (primary and alternative contacts)

Corporation / partnership details (where relevant): REDACTED

Corporation name: South Eastern Sydney Local Health District, NSW Tissue Banks

ABN: REDACTED

Business trading name: REDACTED

**Primary contact name:** REDACTED

Primary contact numbers

Business: REDACTED

Mobile: REDACTED

Email: REDACTED

**Alternative contact name:** REDACTED

Alternative contact numbers

Business: REDACTED

Mobile: REDACTED

Email: REDACTED

## 2. (a) Are you a lobbyist acting on behalf of an Applicant?

Yes

No

## (b) If yes, are you listed on the Register of Lobbyists?

Yes

No

## PART 2 – INFORMATION ABOUT THE PROPOSED MEDICAL SERVICE

### 3. Application title

Amnion membrane (human tissue) for topical treatment of ophthalmic disorders (caused by disease and/or trauma), and wound dressings for burns, graft sites and ulcers on the craniofacial area, torso, and limbs.

### 4. Provide a succinct description of the medical condition relevant to the proposed service (no more than 150 words – further information will be requested at Part F of the Application Form)

Treatment of the ocular surface when the integrity has been disrupted due to surgery, disease or chemicals and treatment of acute and chronic wounds on the surface of the body including burns, graft sites and ulcers.

### 5. Provide a succinct description of the proposed medical service (no more than 150 words – further information will be requested at Part 6 of the Application Form)

Amnion membrane is a tissue of human origin and the inner lining of the foetal membranes. It is semi-transparent; does not contain blood vessels and is 20-50 microns thick. It is comprised of five layers: the epithelium; a basement membrane; and compact, fibroblast and intermediate layers.

Separated from the chorion and cryopreserved, the amnion membrane can be used for the topical treatment of ophthalmic disorders, disease and trauma and as a dressing for wounds.

### 6. (a) Is this a request for MBS funding?

- Yes  
 No

#### (b) If yes, is the medical service(s) proposed to be covered under an existing MBS item number(s) or is a new MBS item(s) being sought altogether?

- Amendment to existing MBS item(s)  
 New MBS item(s)

#### (c) If an amendment to an existing item(s) is being sought, please list the relevant MBS item number(s) that are to be amended to include the proposed medical service:

Insert relevant MBS item numbers here

#### (d) If an amendment to an existing item(s) is being sought, what is the nature of the amendment(s)?

- i.  An amendment to the way the service is clinically delivered under the existing item(s)
- ii.  An amendment to the patient population under the existing item(s)
- iii.  An amendment to the schedule fee of the existing item(s)
- iv.  An amendment to the time and complexity of an existing item(s)
- v.  Access to an existing item(s) by a different health practitioner group
- vi.  Minor amendments to the item descriptor that does not affect how the service is delivered
- vii.  An amendment to an existing specific single consultation item
- viii.  An amendment to an existing global consultation item(s)
- ix.  Other (please describe below):

Insert description of 'other' amendment here

**(e) If a new item(s) is being requested, what is the nature of the change to the MBS being sought?**

- i.  A new item which also seeks to allow access to the MBS for a specific health practitioner group
- ii.  A new item that is proposing a way of clinically delivering a service that is new to the MBS (in terms of new technology and / or population)
- iii.  A new item for a specific single consultation item
- iv.  A new item for a global consultation item(s)

**(f) Is the proposed service seeking public funding other than the MBS?**

- Yes
- No

**(g) If yes, please advise:**

Insert description of other public funding mechanism here

**7. What is the type of service:**

- Therapeutic medical service
- Investigative medical service
- Single consultation medical service
- Global consultation medical service
- Allied health service
- Co-dependent technology
- Hybrid health technology

**8. For investigative services, advise the specific purpose of performing the service (which could be one or more of the following):**

- i.  To be used as a screening tool in asymptomatic populations
- ii.  Assists in establishing a diagnosis in symptomatic patients
- iii.  Provides information about prognosis
- iv.  Identifies a patient as suitable for therapy by predicting a variation in the effect of the therapy
- v.  Monitors a patient over time to assess treatment response and guide subsequent treatment decisions

**9. Does your service rely on another medical product to achieve or to enhance its intended effect?**

- Pharmaceutical / Biological
- Prosthesis or device
- No

**10. (a) If the proposed service has a pharmaceutical component to it, is it already covered under an existing Pharmaceutical Benefits Scheme (PBS) listing?**

- Yes
- No

**(b) If yes, please list the relevant PBS item code(s):**

Insert PBS item code(s) here

**(c) If no, is an application (submission) in the process of being considered by the Pharmaceutical Benefits Advisory Committee (PBAC)?**

- Yes (please provide PBAC submission item number below)
- No

Insert PBAC submission item number here

**(d) If you are seeking both MBS and PBS listing, what is the trade name and generic name of the pharmaceutical?**

Trade name: Insert trade name here

Generic name: Insert generic name here

**11. (a) If the proposed service is dependent on the use of a prosthesis, is it already included on the Protheses List?**

- Yes  
 No

**(b) If yes, please provide the following information (where relevant):**

Billing code(s): Insert billing code(s) here

Trade name of prostheses: Insert trade name here

Clinical name of prostheses: Insert clinical name here

Other device components delivered as part of the service: Insert description of device components here

**(c) If no, is an application in the process of being considered by a Clinical Advisory Group or the Protheses List Advisory Committee (PLAC)?**

- Yes  
 No

**(d) Are there any other sponsor(s) and / or manufacturer(s) that have a similar prosthesis or device component in the Australian market place which this application is relevant to?**

- Yes  
 No

**(e) If yes, please provide the name(s) of the sponsor(s) and / or manufacturer(s):**

Insert sponsor and/or manufacturer name(s) here

**12. Please identify any single and / or multi-use consumables delivered as part of the service?**

Single use consumables: Insert description of single use consumables here

Multi-use consumables: Insert description of multi use consumables here

## PART 3 – INFORMATION ABOUT REGULATORY REQUIREMENTS

13. (a) If the proposed medical service involves the use of a medical device, in-vitro diagnostic test, pharmaceutical product, radioactive tracer or any other type of therapeutic good, please provide the following details:

Type of therapeutic good: Amnion Membrane  
Manufacturer's name: South Eastern Sydney Local Health  
District Sponsor's name: South Eastern Sydney Local Health  
District

- (b) Is the medical device classified by the TGA as either a Class III or Active Implantable Medical Device (AIMD) against the TGA regulatory scheme for devices?

- Class III  
 AIMD  
 N/A

14. (a) Is the therapeutic good to be used in the service exempt from the regulatory requirements of the *Therapeutic Goods Act 1989*?

- Yes (If yes, please provide supporting documentation as an attachment to this application form)  
 No

- (b) If no, has it been listed or registered or included in the Australian Register of Therapeutic Goods (ARTG) by the Therapeutic Goods Administration (TGA)?

- Yes (if yes, please provide details below)  
 No

ARTG listing, registration or inclusion number: 303207

TGA approved indication(s), if applicable: Treatment of ophthalmic disorder/disease/trauma, or as a wound dressing

TGA approved purpose(s), if applicable: Treatment of ophthalmic disorder/disease/trauma, or as a wound dressing

15. If the therapeutic good has not been listed, registered or included in the ARTG, is the therapeutic good in the process of being considered for inclusion by the TGA?

- Yes (please provide details below)  
 No

Date of submission to TGA: Insert date of submission here

Estimated date by which TGA approval can be expected: Insert estimated date here

TGA Application ID: Insert TGA Application ID here

TGA approved indication(s), if applicable: If applicable, insert description of TGA approved indication(s) here

TGA approved purpose(s), if applicable: If applicable, insert description of TGA approved purpose(s) here

16. If the therapeutic good is not in the process of being considered for listing, registration or inclusion by the TGA, is an application to the TGA being prepared?

- Yes (please provide details below)  
 No

Estimated date of submission to TGA: Insert date of submission here

Proposed indication(s), if applicable: If applicable, insert description of proposed indication(s)

Proposed purpose(s), if applicable: If applicable, insert description of proposed purpose(s) here

## PART 4 – SUMMARY OF EVIDENCE

17. Provide an overview of all key journal articles or research published in the public domain related to the proposed service that is for your application (limiting these to the English language only). *Please do not attach full text articles, this is just intended to be a summary.*

	Type of study design*	Title of journal article or research project (including any trial identifier or study lead if relevant)	Short description of research (max 50 words)**	Website link to journal article or research (if available)	Date of publication***
1.	Randomised trial	Transplantation of preserved human amniotic membrane for surface reconstruction in severely damaged rabbit corneas  Kim,J.C., Tseng,S.C.G	Seminal study, trialling use of amnion membrane on ocular surface based on evidence of use with burns. Results indicate usefulness of using amnion for corneal surface reconstruction and re-epithelisation	<a href="http://www.ncbi.nlm.nih.gov/pubmed/8536460">www.ncbi.nlm.nih.gov/pubmed/8536460</a> Published in Cornea	1995
2.	Literature review	How does Amniotic Membrane work?  Tseng,S.C.G., Espana,E.M., Kawakita,T., Di Pascuale,M.A., He,H., Liu,T., Cho,T., Gao,Y., Yeh,L., Liu,C.	Amnion prepared in a manner that maintains the integrity of the cytokine-rich extracellular matrix, such as cryopreservation, is considered homologous to the ocular surface and approved by the FDA since 2001 as a tissue and does not require pre-market approval. Dehydrated and decellurised amnion is not considered a tissue.	<a href="http://www.ncbi.nlm.nih.gov/pubmed/17216089">www.ncbi.nlm.nih.gov/pubmed/17216089</a> Published in The Ocular Surface	July 2004
3.	Literature review	Amniotic membrane use in ophthalmology  Gomes,J.A.P., Romano,A., Santos,M.S., Dua,H.S.	The use of amniotic membrane in ophthalmic surgery has been shown to provide an alternative for corneal and conjunctival reconstruction in many clinically challenging situations, often with anecdotal evidence. Randomised controlled studies are required to evaluate its true potential.	<a href="http://www.ncbi.nlm.nih.gov/pubmed/16000896">www.ncbi.nlm.nih.gov/pubmed/16000896</a> Published in Current Opinion in Ophthalmology	2005

	Type of study design*	Title of journal article or research project (including any trial identifier or study lead if relevant)	Short description of research (max 50 words)**	Website link to journal article or research (if available)	Date of publication***
4	Literature review	Amniotic membrane: from structure and functions to clinical applications  Mamede,A.C., Carvalho,M.J., Abrantes,A.M., Laranjo,C.J., Botelho,M.F.	Amniotic membrane can be applied in clinical practice in various fields of medicine, particularly treatment of skin burns; prevention of tissue adhesion in surgery of the head, neck, abdomen, genito-urinary tract and larynx. But is most commonly used for ocular surface reconstruction, wound healing, gynaecology and tissue engineering.	<a href="http://www.ncbi.nlm.nih.gov/pubmed/22592624">www.ncbi.nlm.nih.gov/pubmed/22592624</a> Published in Cell and Tissue Research	18/5/2012
5	Literature review	Human amniotic membrane transplantation: different modalities of its use in ophthalmology  Malhotra, C., Jain, A.K.	Review of ophthalmic indications for use of amnion membrane. Broadly classified into corneal surface disorders with and without limbal stem cell deficiency; conjunctival surface reconstruction; use as a carrier for ex- vivo expansion of corneal epithelial cells; glaucoma; and treatment of scleral melts and perforations.	<a href="http://www.ncbi.nlm.nih.gov/pubmed/25032100">www.ncbi.nlm.nih.gov/pubmed/25032100</a> Published in World Journal of Transplantation	24/6/2014
6	Clinical trial	Comparison of cryopreserved amniotic membrane and umbilical cord tissue with dehydrated amniotic membrane/chorion tissue  Cooke,M., Tan,E.K., Mandrycky,C., He,H., O'Connell,J., Tseng,SD.C.G.	Direct comparison of two standard preservation methods, namely cryopreservation and dehydration. Cryopreservation preserves the structural and biochemical integrity essential for anti- inflammatory and anti-scarring effects	<a href="http://www.ncbi.nlm.nih.gov/pubmed/25296347">www.ncbi.nlm.nih.gov/pubmed/25296347</a> Published in Journal of Wound Care	10/10/2014



	Type of study design*	Title of journal article or research project (including any trial identifier or study lead if relevant)	Short description of research (max 50 words)**	Website link to journal article or research (if available)	Date of publication***
7	Clinical trial	The Healing effect of Amniotic Membrane in burn patients  Eskandarlou,M., Azimi,M., Rabiee,S., Rabiee,M.A.S.	Burns patients (n=32), each with two skin graft sites. One dressed with routine dressing and one with amnion. Comparisons of severity of pain, movement and infection. Study indicated improvements for amnion treated wounds with regard to experience of pain and earlier mobilisation. Nil difference in infection rates.	<a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4904137/">www.ncbi.nlm.nih.gov/pmc/articles/PMC4904137/</a> Published in World Journal of Plastic Surgery	1/10/2015
8	Meta-analysis, review	Ophthalmic indications of amniotic membrane transplantation in Mexico: an eight years amniotic membrane bank experience  Chavez-Garcia,C., Jimenez-Corona, A., Graue-Hernandez,E., Zaga-Clavellina,V., Garcia-Mejia, M., Jimenez-Martinez,M.C., Garfias,Y.	Review of 8 years of experience of an amnion membrane bank in Mexico. Established in 2007, 1686 grafts released for transplant. Five most common indications for use were pterygium, corneal ulcers, conjunctival surface repair, neoplasms and persistent epithelial defects.	<a href="http://link.springer.com/article/10.1007/s10561-015-9540-7">link.springer.com/article/10.1007/s10561-015-9540-7</a> Published in Cell and Tissue Banking	16/12/2015
9	Clinical trial	Amniotic membrane can be a valid source for wound healing  ElHeneidy,H., Omran,E., Halwagy,A., Al-Inany,H., Al-Inany,A., Gad,A.	Small randomised control trial of use of amnion to promote healing in chronic leg ulcers. Use of amnion showed an improvement in tissue reconstruction.	<a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4930235/">www.ncbi.nlm.nih.gov/pmc/articles/PMC4930235/</a> Published in International Journal of Women's Health	27/6/2016

	Type of study design*	Title of journal article or research project (including any trial identifier or study lead if relevant)	Short description of research (max 50 words)**	Website link to journal article or research (if available)	Date of publication***
10.	Literature review	Amniotic membrane in ophthalmology: properties, preparation, storage and indications for grafting – a review  Jirsova,K., Jones,G.	Overview of history of amnion membrane use for transplant, structure and function, preparation for transplant. Identified main objectives of use in ophthalmology as promoting epithelialisation, reducing pain and minimising inflammation of the ocular surface to prevent surgical adhesions.	<a href="http://www.ncbi.nlm.nih.gov/pubmed/28255771">www.ncbi.nlm.nih.gov/pubmed/28255771</a> Published in Cell and Tissue Banking	2/3/2017
11.	Meta-analysis	Amnion membrane in diabetic foot wounds: a meta-analysis  Haugh,A.M., Witt,J.G., Hauch,A., Darden,M., Parker,G., Ellsworth,W.A., Buell,J.F.	Amnion membrane use with diabetic foot ulcers improves healing rates and can potentially result in cost savings associated with treatment	<a href="http://www.ncbi.nlm.nih.gov/pubmed/28507863">www.ncbi.nlm.nih.gov/pubmed/28507863</a> Published in Plastic Reconstruction Surgery Global Open	25/4/2017
12.	Meta-analysis, review	Amniotic Membrane Transplant in Reconstructive and Regenerative Ophthalmology  Rock, T. Bartz-Schmidt,KU. Landenberger, J Bramkamp, M. Rock, D.	Review of 771 amnion transplants undertaken between 2001 and 2016 at University Eye Hospital Tubingen, Germany. Most common surgical indications were corneal ulcers and persistent corneal epithelial defects and the use of amnion has doubled.	<a href="http://www.annalsoftransplantation.com/abstract/index/idArt/906856">www.annalsoftransplantation.com/abstract/index/idArt/906856</a> Published in Annuals of Transplantation	6/3/2018

\* Categorise study design, for example meta-analysis, randomised trials, non-randomised trial or observational study, study of diagnostic accuracy, etc.

\*\*Provide high level information including population numbers and whether patients are being recruited or in post-recruitment, including providing the trial registration number to allow for tracking purposes.

\*\*\* If the publication is a follow-up to an initial publication, please advise.

**18. Identify yet to be published research that may have results available in the near future that could be relevant in the consideration of your application by MSAC (limiting these to the English language only). Please do not attach full text articles, this is just intended to be a summary.**

	Type of study design*	Title of research (including any trial identifier if relevant)	Short description of research (max 50 words)**	Website link to research (if available)	Date***
1.	Clinical review	Experience of NSW Tissue Banks amnion membrane transplant program: first 100 grafts	NSW Tissue Banks amnion membrane program was granted ARTG listing in April 2018 and the cryopreserved tissue release for transplant commenced in January 2019. To date, more than 100 grafts have been released for ophthalmic surgical use with no reported adverse outcomes.	Letters to editors submitted to <i>Medical Journal of Australia</i> and <i>Clinical and Experimental Ophthalmology</i>	November 2019

\* Categorise study design, for example meta-analysis, randomised trials, non-randomised trial or observational study, study of diagnostic accuracy, etc.

\*\*Provide high level information including population numbers and whether patients are being recruited or in post-recruitment.

\*\*\*Date of when results will be made available (to the best of your knowledge).

## PART 5 – CLINICAL ENDORSEMENT AND CONSUMER INFORMATION

- 19. List all appropriate professional bodies / organisations representing the group(s) of health professionals who provide the service (please attach a statement of clinical relevance from each group nominated):**

Royal Australian and New Zealand College of Ophthalmologists (RANZCO)

- 20. List any professional bodies / organisations that may be impacted by this medical service (i.e. those who provide the comparator service):**

Not applicable.

- 21. List the consumer organisations relevant to the proposed medical service (please attach a letter of support for each consumer organisation nominated):**

Please find attached a letter from RANZCO dated 23/9/2019, reference T19/60526.

- 22. List the relevant sponsor(s) and / or manufacturer(s) who produce similar products relevant to the proposed medical service:**

There are currently no other suppliers of cryopreserved amnion membrane in Australia. A dehydrated version is available from LifeHealthcare suppliers of Epifix <https://www.lifehealthcare.com.au/products/epifix/> and Amniofix <https://www.lifehealthcare.com.au/products/amniofix/>

- 23. Nominate two experts who could be approached about the proposed medical service and the current clinical management of the service(s):**

Name of expert 1: **REDACTED**

Telephone number(s): **REDACTED**

Email address: **REDACTED**

Justification of expertise: **REDACTED**

Name of expert 2: **REDACTED**

Telephone number(s): **REDACTED**

Email address: **REDACTED**

Justification of expertise: **REDACTED**

*Please note that the Department may also consult with other referrers, proceduralists and disease specialists to obtain their insight.*

# PART 6 – POPULATION (AND PRIOR TESTS), INTERVENTION, COMPARATOR, OUTCOME (PICO)

## **PART 6a – INFORMATION ABOUT THE PROPOSED POPULATION**

### **24. Define the medical condition, including providing information on the natural history of the condition and a high level summary of associated burden of disease in terms of both morbidity and mortality:**

The use of amnion membrane tissue grafts is not limited to a specific medical condition or disease process. Examples of ophthalmic use include the following where the cells on the corneal surface are disrupted:

- Chemical trauma and burns
- Stevens Johnson Syndrome (a rare form of allergic reaction)
- Surgery that removes the epithelium, the outermost layer of the cornea. For example pterygium and Squamous Cell Carcinoma removal.

Examples of wound use elsewhere on the surface of the body include:

- Burns and graft sites
- Chronic and acute leg ulcers

The cryopreserved amnion membrane has a number of properties that make it an effective treatment option:

1. Structural: acts as a transparent biological bandage, a reconstructive scaffold for host tissue to regenerate on or under; it shields the re-generating epithelium from friction, and maintains a physiologically moist environment;
2. Promotes re-epithelisation: the basement membrane of the amnion contains collagen, a substrate on which epithelial cells can grow, differentiate and migrate, and promotes cell adhesion and proliferation. In this way, it is commonly used for non-healing or persistent epithelial defects;
3. Analgesic: Amnion also has an analgesic effect, providing pain relief by covering nerve endings, and providing a barrier to painful friction on the pathological defect by the eyelids;
4. Anti-inflammatory: suppression of inflammatory cytokine production, and trapping inflammatory cells which undergo apoptosis; also produces natural catalytic enzyme inhibitors;
5. Anti-fibrotic: inhibition of proliferation and differentiation of unwanted fibroblasts, so reducing scarring;
6. Anti-angiogenic: retards blood vessel production by producing anti-angiogenic chemicals, so reducing unwanted vascularization in the eye;
7. Anti-microbial: physical barrier to infection, closely adherent to the wound surface, and secretes microbial inhibitors;
8. Anti-rejection: amnion lacks HLA antigens so there is no immunological rejection of the membrane, and no need for immunosuppression.

### **25. Specify any characteristics of patients with the medical condition, or suspected of, who are proposed to be eligible for the proposed medical service, including any details of how a patient would be investigated, managed and referred within the Australian health care system in the lead up to being considered eligible for the service:**

Some of the ophthalmic conditions and leg ulcers are more likely to be in adults of middle age but can occur in any age group. Ocular trauma and burns can occur in any age group.

### **26. Define and summarise the current clinical management pathway *before* patients would be eligible for the proposed medical service (supplement this summary with an easy to follow flowchart [as an**

attachment to the Application Form] depicting the current clinical management pathway up to this point):

Diagnosis of condition; consultation with appropriate specialist; and surgical or non-surgical treatment that includes amnion membrane as a component of the dressing or covering of the wound bed.

Dressings and use of the amnion membrane may need to be repeated, especially in the case of burns.

Please refer to Flowchart 1. T19/60583

#### **PART 6b – INFORMATION ABOUT THE INTERVENTION**

**27. Describe the key components and clinical steps involved in delivering the proposed medical service:**

The key component is an awareness by the relevant Specialist of the option of using cryopreserved amnion membrane; knowledge of how and when to order; and how to use the amnion membrane including defrosting and preparation.

**28. Does the proposed medical service include a registered trademark component with characteristics that distinguishes it from other similar health components?**

No.

**29. If the proposed medical service has a prosthesis or device component to it, does it involve a new approach towards managing a particular sub-group of the population with the specific medical condition?**

The proposed medical service is a prosthesis of human origin. Cryopreserved amnion membrane has been available in Australia and used for ophthalmic disorders, disease and trauma for many years. Until 2016, cryopreserved amnion membrane was on the Australian Human Tissue Prosthesis list, manufactured by the Lions Eye Donation Service, Melbourne (Billing Code LEM03). From 2016-2019 it was bought into Australia on the Therapeutic Goods Administration (TGA) special access scheme (SAS) from the New Zealand Eye Bank.

**REDACTED.** The transplantation of amnion membrane grafts for ophthalmic use in Australia was up to 157 grafts/year during the period it was bought into Australia on the SAS program (source of data, Eye Banking Association of Australia and New Zealand (EBAANZ)).

The NSW Tissue Banks secured an ARTG listing in May 2018 and have been releasing cryopreserved amnion membrane for transplant since February 2019. In an eight month period, the amnion grafts have been requested by 50 ophthalmic surgeons in the private and public health sector, across all states and territories except Northern Territory, suggesting a basic National demand for the tissue.

**30. If applicable, are there any limitations on the provision of the proposed medical service delivered to the patient (i.e. accessibility, dosage, quantity, duration or frequency):**

Dependent on the diagnosis and reason for the treatment, use of amnion membrane may be a once-off application or may need to be repeated until the wound has healed. For example, ocular chemical burns may require more than one treatment with amnion membrane.

Availability of the amnion membrane may be limited by the authorisation of donors (living donors undergoing full term, elective caesareans) and the status of the Therapeutic Goods Administration manufacturing licence of the NSW Tissue Banks. The maternal donor is assessed in accordance with Therapeutic Goods Order 88 (reference <https://www.legislation.gov.au/Details/F2013L00854>). The tissue is treated with antibiotics (streptomycin & penicillin) and anti-fungals (amphotericin) to reduce bioburden, cryopreserved with Dimethyl Sulfoxide 10% (DMSO) and stored at -80°C. After a quarantine period of up to three months, the tissue can be released as required and has an expiry (if kept frozen) of 12 months from day of retrieval.

Allocation of amnion membrane grafts is undertaken directly to a recipient on a first come first served basis, with emergency requests prioritised. The amnion membrane is provided on a nitrocellulose backing paper in three sizes, a 5cm diameter circle; 5x10cm; and 10x10cm with no access differentiation between the public and private health sectors.

**31. If applicable, identify any healthcare resources or other medical services that would need to be delivered at the same time as the proposed medical service:**

No common variables.

**32. If applicable, advise which health professionals will primarily deliver the proposed service:**

Ophthalmic surgeons, vascular and burns specialists; physicians and nurses.

**33. If applicable, advise whether the proposed medical service could be delegated or referred to another professional for delivery:**

If the amnion membrane is being used as a component of a dressing, this use and application could possibly be delegated to a nurse.

**34. If applicable, specify any proposed limitations on who might deliver the proposed medical service, or who might provide a referral for it:**

The only specific limitation is the ability to conduct and document consent from the patient (the recipient) receiving the treatment due to the tissue being of human origin.

Advice confirming the serological and microbiological status of the graft accompanies the tissue along with documentation that confirms that it is not a sterile product and does carry a minimal risk to the recipient.

**35. If applicable, advise what type of training or qualifications would be required to perform the proposed service, as well as any accreditation requirements to support service delivery:**

Training requirements are related to the ability and competency to diagnose and prescribe treatment rather than the actual use of the amnion membrane.

**36. (a) Indicate the proposed setting(s) in which the proposed medical service will be delivered (select ALL relevant settings):**

- Inpatient private hospital (admitted patient)
- Inpatient public hospital (admitted patient)
- Private outpatient clinic
- Public outpatient clinic
- Emergency Department
- Private consulting rooms - GP
- Private consulting rooms – specialist
- Private consulting rooms – other health practitioner (nurse or allied health)
- Private day surgery clinic (admitted patient)
- Private day surgery clinic (non-admitted patient)
- Public day surgery clinic (admitted patient)
- Public day surgery clinic (non-admitted patient)
- Residential aged care facility
- Patient's home
- Laboratory
- Other – please specify below

**(b) Where the proposed medical service is provided in more than one setting, please describe the rationale related to each:**

Amnion membrane for ophthalmic use is likely to only be used in an operating theatre setting due to the equipment required for ophthalmic surgery, particularly surgical microscopes. Use for wounds could be applied aseptically in an operating theatre or a clean treatment room type of environment.

**37. Is the proposed medical service intended to be entirely rendered in Australia?**

- Yes
- No

**PART 6c – INFORMATION ABOUT THE COMPARATOR(S)**

**38. Nominate the appropriate comparator(s) for the proposed medical service, i.e. how is the proposed population currently managed in the absence of the proposed medical service being available in the Australian health care system (including identifying health care resources that are needed to be delivered at the same time as the comparator service):**

There are currently no comparable amnion membrane products on the Australian Human Tissue Prosthesis list.

There are irradiated, dehydrated amnion membrane products on the ARTG (307979) as a Biological intended Class 2 product, namely:

AmnioFix [www.lifehealthcare.com.au/products/amniofix/](http://www.lifehealthcare.com.au/products/amniofix/) and

EpiFix [www.lifehealthcare.com.au/products/epifix/](http://www.lifehealthcare.com.au/products/epifix/)

**39. Does the medical service (that has been nominated as the comparator) have an existing MBS item number(s)?**

- Yes (please list all relevant MBS item numbers below)  
 No

**40. Define and summarise the current clinical management pathway/s that patients may follow *after* they receive the medical service that has been nominated as the comparator (supplement this summary with an easy to follow flowchart [as an attachment to the Application Form] depicting the current clinical management pathway that patients may follow from the point of receiving the comparator onwards, including health care resources):**

The specific components of the clinical management pathway after use of the dehydrated amnion membrane are unknown.

The cryopreserved amnion membrane graft is not intended to engraft, rather it is absorbed or sloughs off over a period of 1-3 weeks providing a protective and healing environment in the process.

The wound bed (ophthalmic or otherwise) is checked as required for signs that the graft is working as intended and for routine signs of infection. Confirmation of use of the amnion membrane graft and out comes are reported back to NSW Tissue Banks for traceability and monitoring efficacy as required by the TGA Code of Good Manufacturing Practice. Please refer to Flowchart 2. T19/63275

**41. (a) Will the proposed medical service be used in addition to, or instead of, the nominated comparator(s)?**

- In addition to (i.e. it is an add-on service)  
 Instead of (i.e. it is a replacement or alternative)

**(b) If instead of (i.e. alternative service), please outline the extent to which the current service/comparator is expected to be substituted:**

The comparator products have very different properties because they are irradiated and dehydrated rather than cryopreserved. Refer to reference number 6 by Cooke et al, *Journal of Wound Care*, 2014.

AmnioFix, AmnioFix Wrap, EpiXL, EpiXL Fenestrated, EpiFix, EpiBurn and EpiFix Mesh are intended for use as treatment of acute and chronic wounds to enhance healing.

EpiFix Injectable and AmnioFix Sports Med are morsellised products intended for use as treatment of chronic plantar fasciitis to reduce pain and increase function.

[https://www.ebs.tga.gov.au/servlet/xmlmillr6?dbid=ebs/PublicHTML/pdfStore.nsf&docid=D6D549CE E8F B6E72CA25846B00422DDF&agid=\(PrintDetailsPublic\)&actionid=1](https://www.ebs.tga.gov.au/servlet/xmlmillr6?dbid=ebs/PublicHTML/pdfStore.nsf&docid=D6D549CE E8F B6E72CA25846B00422DDF&agid=(PrintDetailsPublic)&actionid=1)

**42. Define and summarise how current clinical management pathways (from the point of service delivery onwards) are expected to change as a consequence of introducing the proposed medical service, including variation in health care resources (Refer to Question 39 as baseline):**

The availability of cryopreserved amnion membrane in Australia negates the need to use the special access scheme to bring the tissue in from New Zealand and improves the timeliness between order and supply.

**PART 6d – INFORMATION ABOUT THE CLINICAL OUTCOME**

**43. Summarise the clinical claims for the proposed medical service against the appropriate comparator(s), in terms of consequences for health outcomes (comparative benefits and harms):**



Regulatory compliance does not permit the NSW Tissue Banks to make specific claims of clinical effectiveness. Rather, evidence from the literature indicates that cryopreserved amnion membrane has a number of properties that make it an effective treatment option. It is structural; it promotes re-epithelisation; it provides a barrier and has an analgesic effect; it is anti-inflammatory, anti-fibrotic, anti-angiogenic, anti-microbial; and recipients do not require immunosuppression as it does not contain HLA antigens.

Literature evidence (Cooke et al 2014) indicates that cryopreservation of amnion membrane preserves the structural and biochemical integrity of the tissue, whilst dehydration could result in a compacted morphology with less biological and molecular activity.

Tseng et al (2004) reported that the United States Food and Drug Authority (FDA) ruled in 2001 that dehydrated and decellurised amnion membrane is not considered a tissue. By comparison, cryopreserved amnion membrane was considered homologous (similar in structure but not necessarily in function) to the ocular surface and was considered a tissue. The FDA currently regulates amnion membrane, when used without added cells, under the Center for Biologics Evaluation and Research (CBER) (reference <https://www.fda.gov/vaccines-blood-biologics/tissue-tissue-products/fda-regulation-human-cells-tissues-and-cellular-and-tissue-based-products-https-product-list>)

**44. Please advise if the overall clinical claim is for:**

- Superiority
- Non-inferiority

**45. Below, list the key health outcomes (major and minor – prioritising major key health outcomes first) that will need to be specifically measured in assessing the clinical claim of the proposed medical service versus the comparator:**

**Safety Outcomes:**

***Desirable:***

Infection rates – rates of surgical site infection, case mix appropriate.

***Undesirable:***

Rates of hospitalisation due to complications from infection

Rates of Donor derived infections

**Clinical Effectiveness Outcomes:**

***Desirable & Undesirable:***

Wound healing – Acute and Chronic wounds: measurements of wound area (multiplying width by length)

Patient reported: Pain scores: Lowest pain level to highest pain level; and Move scores: Least amount of movement to highest amount of movement

Length of stay – case mix appropriate

## PART 7 – INFORMATION ABOUT ESTIMATED UTILISATION

**46. Estimate the prevalence and/or incidence of the proposed population:**

As the cryopreserved amnion membrane has multiple uses, this estimation is difficult. The New Zealand Eye Bank released 157 amnion grafts to Australian ophthalmologists in 2018 (source of data, EBAANZ).

**47. Estimate the number of times the proposed medical service(s) would be delivered to a patient per year:**

As previously discussed, treatment including cryopreserved amnion membrane might be used once or repeated as required dependent on diagnosis.

**48. How many years would the proposed medical service(s) be required for the patient?**

Unknown.

**49. Estimate the projected number of patients who will utilise the proposed medical service(s) for the first full year:**

Ophthalmic use is predicted to at least match the 2018 activity recorded by the New Zealand Eye Bank. (source of data, EBAANZ).

**50. Estimate the anticipated uptake of the proposed medical service over the next three years factoring in any constraints in the health system in meeting the needs of the proposed population (such as supply and demand factors) as well as provide commentary on risk of 'leakage' to populations not targeted by the service:**

Unknown.

## PART 8 – COST INFORMATION

**51. Indicate the likely cost of providing the proposed medical service. Where possible, please provide overall cost and breakdown:**

The cryopreserved amnion membrane is used either as part of a surgical procedure or as a dressing component. All uses are time variable. The graft preparation includes defrosting and washing which takes 10-15 minutes.

**52. Specify how long the proposed medical service typically takes to perform:**

Specify duration here

**53. If public funding is sought through the MBS, please draft a proposed MBS item descriptor to define the population and medical service usage characteristics that would define eligibility for MBS funding.**

Category (insert proposed category number here) – (insert proposed category description here)

Proposed item descriptor: insert proposed item descriptor here

Fee: \$(insert proposed fee here)

Flowchart 1. Clinical Management Pathway for amnion membrane use

