



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

Medical Necessity Guideline (MNG) Title: Skin and Soft Tissue Substitutes		
<b>MNG #: 044</b>	<input checked="" type="checkbox"/> SCO <input checked="" type="checkbox"/> One Care <input checked="" type="checkbox"/> MA Medicare Premier <input checked="" type="checkbox"/> MA Medicare Value <input checked="" type="checkbox"/> RI Medicare Preferred <input checked="" type="checkbox"/> RI Medicare Value <input checked="" type="checkbox"/> RI Medicare Maximum	<b>Prior Authorization Needed?</b> <input checked="" type="checkbox"/> Yes (always required) <input type="checkbox"/> Yes (only in certain situations. See this MNG for details) <input type="checkbox"/> No
<b>Benefit Type:</b> <input checked="" type="checkbox"/> Medicare <input type="checkbox"/> Medicaid	<b>Approval Date:</b> 8/5/2020	<b>Effective Date:</b> 12/18/2020, 7/13/24
<b>Last Revised Date:</b> 6/7/2020; 07/01/2021;9/13/2021; 10/14/2021; 6/10/2022; 12/09/2022; 1/10/2023; 2/28/2023, 7/13/24	<b>Next Annual Review Date:</b> 8/5/2021; 07/01/2022;9/13/2022; 10/14/2022; 6/10/2023; 1/10/2024; 2/28/2024, 5/14/25	<b>Retire Date:</b>

**OVERVIEW:**

*Skin substitutes* are cellular and tissue-based products that may be derived from human tissue (autologous or allogeneic), non-human tissue (xenogeneic), synthetic materials, or a composite of these sources to replicate the functional and structural characteristics of normal skin. They are becoming important adjuncts in the management of acute and *chronic wounds*, specifically for partial- and full-thickness skin loss in neuropathic *diabetic ulcers*, *chronic venous ulcers*, and *pressure injuries*. They can provide temporary or permanent coverage of open skin wounds following *burns* or injuries and be used for reconstruction.

Skin substitutes have demonstrated benefits (in reduced healing time, pain, and post-operative contractures) when used alone or in addition to the *standard of care* for these conditions, and in situations where conservative treatment may appear insufficient to provide complete healing. Skin substitutes donate growth factors and provide the scaffolding for deficit reduction, wound re-vascularization, cell proliferation, and epithelial growth. They are not able to replace the patient’s own skin, however, they can (1) cover skin deficits temporarily, (2) promote tissue healing, and (3) regenerate lost tissue, without the need for more extensive treatments. Consequently, skin substitutes have improved the appearance, functional abilities, and overall quality of life in these patients.

Depending on the product’s origin and composition, the U.S. Food and Drug Administration (FDA) regulates skin substitutes as either: human-derived products regulated as human cells, tissues, and cellular and tissue-based products (HCT/Ps), human- and human/animal-derived products regulated through premarket approval (PMA) or as a Humanitarian Use Device (HUD) obtained through a humanitarian device exemption (HDE), or animal-derived products and synthetic products regulated under the 510(k) process. Since wound healing tends to be unique to the individual, the choice of skin substitute used, needs to be carefully considered. Some factors that may inform decision-making are the types of skin substitutes available, indications, type of wound, etiology, skin component that requires replacement, and desired outcomes.



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

### DEFINITIONS:

**Burn Wounds:** Acute wounds that are caused by an isolated non-recurring insult such as from heat, electrical discharge, friction, chemicals, or radiation. Skin substitutes can be used as temporary dressings for large surface area burns when there is limited donor skin available in the acute phase of treatment. In the chronic phase, skin substitutes can be used to reconstruct and improve burn scars and other defects.

**Chronic Wounds:** Wounds that do not respond to standard wound treatment following four (4) weeks of conservative therapy and optimization. These wounds fail to pass through the normal healing process in an orderly and timely manner. They tend to remain in the inflammatory phase. Skin substitutes can provide cells and growth factors to promote re-epithelialization and revascularization of the wound.

**Complete Healing of Chronic Wounds or Healed Ulcers:** Wounds that are marked by re-epithelialization of the epidermis and repair of the dermis. This is evidenced by wounds that are  $\leq 0.5$  sq cm and a size reduction of  $\geq 75\%$ .

**Diabetic Foot Ulcer:** An ulceration in the foot of a patients with diabetes as a result of neuropathy, pressure, and/or ischemia. Diabetic foot ulcers have impaired wound healing from the lack of response to growth factors and reduced collagen accumulation. Skin substitutes have been used in conjunction with the standard of care to improve healing rates.

**Failure to Respond (in the context of wound care):** Situation where despite the application of appropriate standard wound care measures, an ulcer or skin deficit has increased in size or depth, or has not changed in baseline size or depth, and there is no indication that improvement (in terms of granulation, epithelialization, or progression towards closing) is likely.

**Measurable Signs of Healing:** The measurable signs of healing include diminishing wound size or depth, decreased amount of exudate, and reduction in necrotic tissue.

**Pressure injuries:** Pressure ulcers that result from local trauma to the skin and/or underlying tissues due to shearing, frictional forces, or unrelieved pressure. Skin substitutes used in conjunction with the standard of care have been shown to improve wound healing.

**Skin Substitutes:** Products that include non-autologous human cellular and tissue products (e.g., dermal or epidermal, cellular and acellular, homograft or allograft), non-human cellular or tissue products (e.g., xenograft), and biological products (synthetic or xenogeneic) that are applied in a sheet over an open wound to augment wound closure or skin growth. Skin substitutes may be classified into the following types: (a) Human skin allografts which are derived from donated human skin (cadavers), (b) Allogeneic matrices which are derived from human tissue (fibroblasts or membrane), (c) Composite matrices which are derived from human keratinocytes, fibroblasts, and xenogeneic collagen, or (d) Acellular matrices derived from xenogeneic collagen or tissue.

**Standard of Care (in the context of wound care):** Standard treatment of lower extremity ulcers or skin loss would include: Infection and edema control, mechanical offloading (for diabetic foot ulcers), mechanical compression or limb



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

elevation (for venous leg ulcers), debridement of necrotic or infected tissue, maintenance of moisture balance (to control exudate), and management of concomitant medical issues (e.g., blood glucose control and tobacco use cessation).

**Venous Stasis Ulcers:** Shallow open lesions caused by venous hypertension or insufficiency. They tend to weep serous fluid and are located on the lower leg near the ankles. Skin substitutes created from human epidermal keratinocytes, human dermal fibroblasts and connect tissue proteins have been used in conjunction with compression therapy have been used for the treatment of venous leg ulcers to promote wound healing.

### DECISION GUIDELINES:

#### Clinical Coverage Criteria:

Commonwealth Care Alliance (CCA) follows applicable Medicare and Medicaid regulations and uses InterQual Smart Sheets, when available, to review prior authorization requests for medical necessity. This Medical Necessity Guideline (MNG) applies to all CCA Products unless a more expansive and applicable CMS National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), or state-specific medical necessity guideline exists.

#### Senior Care Options and One Care

1. Commonwealth Care Alliance may cover **Apligraf, Bio-Connekt wound matrix, Dermagraft, Epicord, Epifix, Grafix (Grafix Core, GrafixPL Core, GrafixPL, GrafixPRIME, GrafixPL PRIME), GraftJacket, Helicoll, Integra® (bilayer matrix wound dressing, dermal regeneration template, Integra Matrix), Keramatrix, Oasis™ (Wound Matrix), TheraSkin, WoundEx, and WoundEx flow** for the treatment of chronic neuropathic diabetic foot ulcers, when all of the following criteria are met. Documentation is provided that:
  - a. Supports the medical necessity for skin substitute application; *and*
  - b. The member has a diagnosis of Type I or Type II diabetes; *and*
  - c. Demonstrates failure to respond to standard wound care for at least four (4) weeks; *and*
  - d. The member has been compliant with the standard wound treatment and recommendations; *and*
  - e. There is no evidence of clinical infection in the ulcer, known/suspected malignancy of the current ulcer being treated, or active Charcot deformity; *and*
  - f. The ulcer is of partial- or full-thickness and does not involve the tendon, muscle, joint capsule, or exhibit exposed bone or sinus tract; *and*
  - g. The skin deficit is at least one (1) square centimeter (cm) in size; *and*
  - h. There is evidence of adequate circulation/oxygenation to support tissue growth and wound healing by having a clean granular base, an Ankle-Brachial Index (ABI) of no less than 0.60 and toe pressure greater than 30 millimeters of mercury (mmHg) on the affected limb.
  
2. Commonwealth Care Alliance may cover **AlloSkin, Apligraf, Bio-Connekt wound matrix, Dermagraft, Epicord, Epifix, GraftJacket, Grafix (Grafix Core, GrafixPL Core, GrafixPL, GrafixPRIME, GrafixPL PRIME), Helicoll, Integra® (bilayer matrix wound dressing, dermal regeneration template, Integra Matrix), Keramatrix, Oasis™ (Wound Matrix), PriMatrix, TheraSkin, and WoundEx**, for the treatment of chronic partial- or full-thickness venous stasis ulcers, when all the following criteria are met. Documentation is provided that:
  - a. Supports the medical necessity for skin substitute application; *and*



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

- b. There is presence of a venous stasis ulcer for at least three (3) months; *and*
- c. Demonstrates failure to respond to standard wound care for at least 30 days of; *and*
- d. The member has been compliant with the standard wound treatment and recommendations; *and*
- e. There is no evidence of clinical infection in the ulcer, known/suspected malignancy of the current ulcer being treated, or active Charcot deformity; *and*
- f. The ulcer is of partial- or full-thickness and does not involve the tendon, muscle, joint capsule, or exhibit exposed bone or sinus tract; *and*
- g. The skin deficit is at least one (1) square centimeter (cm) in size; *and*
- h. There is evidence of adequate circulation/oxygenation to support tissue growth and wound healing by having a clean granular base, an Ankle-Brachial Index (ABI) of no less than 0.60 and toe pressure greater than 30 millimeters of mercury (mmHg) on the affected limb.

3. Commonwealth Care Alliance may cover **Epicel**, **Integra (bilayer wound matrix, dermal regeneration template)**, and **Transcyte** for the treatment of second- and third-degree burns, when all of the following criteria are met.

Documentation is provided that:

- a. Supports the medical necessity for skin substitute application; *and*
- b. The member has been compliant with the standard wound treatment and recommendations; *and*
- c. There is no evidence of an infection in the burn area.

4. Commonwealth Care Alliance may cover **AlloMax**, **AlloMend**, **FlexHD**, and **GraftJacket** for breast reconstructive surgery following cancer treatment when there is documentation that supports the medical necessity for skin substitute application.

### **Medicare Advantage (MA Medicare Preferred, MA Medicare Value, RI Medicare Preferred, RI Medicare Value, RI Medicare Maximum)**

- 1. Commonwealth Care Alliance may cover **Apligraf**, **Dermagraft**, **Epifix**, **Integra® (bilayer matrix wound dressing, dermal regeneration template)**, and **Oasis™ (Wound Matrix)** for the treatment of chronic neuropathic diabetic foot ulcers, when **all** of the following criteria are met. Documentation is provided that:
  - a. Supports the medical necessity for skin substitute application; *and*
  - b. The member has a diagnosis of Type I or Type II diabetes; *and*
  - c. Demonstrates failure to respond to standard wound care for at least four (4) weeks; *and*
  - d. The member has been compliant with the standard wound treatment and recommendations; *and*
  - e. There is no evidence of clinical infection in the ulcer, known/suspected malignancy of the current ulcer being treated, or active Charcot deformity; *and*
  - f. The ulcer is of partial- or full-thickness and does not involve the tendon, muscle, joint capsule, or exhibit exposed bone or sinus tract; *and*
  - g. The skin deficit is at least one (1) square centimeter (cm) in size; *and*
  - h. There is evidence of adequate circulation/oxygenation to support tissue growth and wound healing by having a clean granular base, an Ankle-Brachial Index (ABI) of no less than 0.60 and toe pressure greater than 30 millimeters of mercury (mmHg) in the affected limb.



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

2. Commonwealth Care Alliance may cover **Apligraf, Epifix, and Oasis™ (Wound Matrix)** for the treatment of chronic partial- or full-thickness venous stasis ulcers, when all the following criteria are met. Documentation is provided that:
  - a. Supports the medical necessity for skin substitute application; *and*
  - b. There is presence of a venous stasis ulcer for at least three (3) months; *and*
  - c. Demonstrates failure to respond to standard wound care for at least (4) weeks; *and*
  - d. The member has been compliant with the standard wound treatment and recommendations; *and*
  - e. There is no evidence of clinical infection in the ulcer, known/suspected malignancy of the current ulcer being treated, or active Charcot deformity; *and*
  - f. The ulcer is of partial- or full-thickness and does not involve the tendon, muscle, joint capsule, or exhibit exposed bone or sinus tract; *and*
  - g. The skin deficit is at least one (1) square centimeter (cm) in size; *and*
  - h. There is evidence of adequate circulation/oxygenation to support tissue growth and wound healing by having a clean granular base, an Ankle-Brachial Index (ABI) of no less than 0.60 and toe pressure greater than 30 millimeters of mercury (mmHg) in the affected limb.

### LIMITATIONS/EXCLUSIONS:

1. Commonwealth Care Alliance will limit the following:
  - a. All skin substitutes used for the episode of wound care must comply with the U.S. Food and Drug Administration's Guidelines for the specific product. CCA will cover a maximum of 10 applications or treatment for each skin substitute product within a 12-week period of care. After such time it is recommended to resume routine wound care, and to identify risk factors and treat other reversible causes of the wound. If the wound does not present with measurable signs of healing thereafter, review from a medical director will be required to determine the medical necessity of further skin substitute therapy; *and*
  - b. CCA will authorize the use of one (1) skin substitute product for the episode of the wound, unless there is consultation with an appropriate specialist, and documentation can be provided for the medical necessity of a different product; *and*
  - c. Treatment of any chronic skin wound, ulcer, or for breast reconstructive surgery following cancer treatment with any skin substitute product listed above will typically last no more than twelve (12) weeks. Requests for treatment beyond 12 weeks may be considered on an individual case-by-case basis and will require review from a CCA medical director to determine the medical necessity and clinical appropriateness.
2. Commonwealth Care Alliance will not cover **any** of, but not limited to, the following:
  - a. Skin substitute products that are not listed in CCA's MNG and/or for indications other than the one(s) specifically listed above; *or*
  - b. Skin substitute products without the appropriate applicable required documentation submitted by the treating provider; *or*
    - i. Medical record documentation that supports the medical necessity for the need for skin substitute application and specific product; wound characteristics at baseline (size, location, stage, duration, presence of infection); current wound treatment plan (interventions and response to treatment); medication history; review of pertinent medical problems; conditions that have been treated and



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

resolved (e.g. control of edema, infection, smoking cessation, etc.), planned wound treatment plan (skin replacement surgery, choice of skin substitute graft product), *or*

- c. The simultaneous use of more than one (1) product for the episode of the wound; *or*
- d. Repeat or alternative applications of skin substitute grafts when a previous full course of applications was unsuccessful; *or*
- e. Retreatment or continued treatment of healed ulcers; *or*
- f. The use of skin substitutes in members with inadequate control of underlying conditions or exacerbating factors; including but not limited to
  - i. Uncontrolled diabetes, exudate consistent with heavy bacterial contamination, active infection, active Charcot arthropathy of the ulcer extremity, vasculitis, or continued tobacco smoking despite medical team’s attempt to affect smoking cessation, *or*
- g. For ulcers with partial thickness loss and retention of epithelial appendages; *or*
- h. Repeat use of surgical preparation services in conjunction with skin substitute application; *or*
- i. Retreatment within one year of any given course of skin substitute for a chronic, non-infected lower extremity skin ulcer (e.g., diabetic neuropathic foot ulcer or venous stasis ulcer), *or*
- j. PriMatrix for the treatment of third-degree burns.

Skin substitutes not specifically referenced in this MNG may be considered experimental and investigational therapies per *MNG 010 Experimental and Investigational Services*, and therefore not medically necessary for the treatment of chronic diabetic foot ulcers, venous stasis ulcers, second- and third-degree burns, and breast reconstructive surgery following cancer treatment.

**AUTHORIZATION:**

**Prior authorization is required for all skin substitute treatments. If the skin substitute treatment has been determined to be medically necessary by meeting the criteria listed above for the indication requested, then the associated skin substitute application procedure may also be approved in accordance with CCA’s billing and coding guidelines.**

The following list(s) of codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not signify that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. This Medical Necessity Guideline is subject to all applicable Plan Policies and Guidelines, including requirements for prior authorization and other requirements in Provider’s agreement with the Plan (including complying with Plan’s Provider Manual specifications).

HCPCS Code	Description	Coverage	
		SCO/One Care	Medicare Advantage
Q4100	Skin substitute, not otherwise specified (when used for Epicel,	Yes	No



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

HCPCS Code	Description	Coverage	
		SCO/One Care	Medicare Advantage
	AlloMax, AlloMend)		
Q4101	Apligraf, per sq cm	Yes	Yes
Q4102	Oasis wound matrix, per sq cm	Yes	Yes
Q4103	Oasis burn matrix, per sq cm		
Q4104	Integra bilayer matrix wound dressing (BMWd), per sq cm	Yes	Yes
Q4105	Integra dermal regeneration template (DRT) or integra omnigraft dermal regeneration matrix, per sq cm	Yes	Yes
Q4106	Dermagraft, per sq cm	Yes	Yes
Q4107	GRAFTJACKET, per sq cm	Yes	No
Q4108	Integra matrix, per sq cm	Yes	Yes
Q4110	PriMatrix, per sq cm	Yes	Yes
Q4111	GammaGraft, per sq cm	Yes	Yes
Q4112	Cymetra, injectable, 1 cc	Yes	Yes
Q4113	GRAFTJACKET XPRESS, injectable, 1 cc	Yes	Yes
Q4114	Integra flowable wound matrix, injectable, 1 cc	Yes	Yes
Q4115	AlloSkin, per sq cm	Yes	No
Q4121	TheraSkin, per sq cm	Yes	Yes
Q4128	FlexHD, or AllopatchHD, per sq cm	Yes	No
Q4132	Grafix Core and GrafixPL Core, per sq cm	Yes	No
Q4133	Grafix PRIME, GrafixPL PRIME, Stravix and StravixPL, per sq cm	Yes	No
Q4151	AmnioBand or Guardian, per sq cm	Yes	Yes
Q4161	Bio-ConneKt wound matrix, per sq cm	Yes	No
Q4162	WoundEx, BioSkin Flow, 0.5 cc	Yes	No
Q4163	WoundEx, BioSkin, per sq cm	Yes	No
Q4164	Helicoll, per sq cm	Yes	No
Q4165	Keramatrix or Kerasorb, per sq cm	Yes	Yes
Q4182	Transcyte, per sq cm	Yes	No
Q4186	Epifix, per sq cm	Yes	Yes
Q4187	Epicord, per sq cm	Yes	No
Q4199	Cygnus matrix, per sq cm	Yes	Yes
Q4251	Vim, per sq cm	Yes	Yes
Q4252	Vendaje, per sq cm	Yes	Yes
Q4253	Zenith Amniotic Membrane, per sq cm	Yes	Yes



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

### REGULATORY NOTES:

Medical Necessity Guidelines are published to provide a better understanding of the basis upon which coverage decisions are made. CCA makes coverage decisions on a case-by-case basis by considering the individual member's health care needs. If at any time an applicable CMS LCD or NCD or state-specific MNG is more expansive than the criteria set forth herein, the NCD, LCD, or state-specific MNG criteria shall supersede these criteria.

This MNG references the specific regulations, coverage, limitations, service conditions, and/or prior authorization requirements in the following:

1. MassHealth, 130 CMR 433.000: Physician Services, Subchapter 6: Service Codes, Effective date: 01/01/2022
2. MassHealth, 130 CMR 410.000: Acute Outpatient Hospital, Subchapter 6: Service Codes, Effective date: 09/01/2022
3. Centers for Medicare & Medicaid, Local Coverage Determination (Novitas Solutions, Inc), L35041 Application of Bioengineered Skin Substitutes to Lower Extremity Chronic Non-Healing Wounds, Effective date: 9/26/2019. *This LCD has been used as guidance as there is no applicable reference from a Medicare Administrative Contractor that administers services for CCA's beneficiaries.*



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

### Disclaimer:

This Medical Necessity Guideline is not a rigid rule. As with all of CCA's criteria, the fact that a member does not meet these criteria does not, in and of itself, indicate that no coverage can be issued for these services. Providers are advised, however, that if they request services for any member who they know does not meet our criteria, the request should be accompanied by clear and convincing documentation of medical necessity. The preferred type of documentation is the letter of medical necessity, indicating that a request should be covered either because there is supporting science indicating medical necessity (supporting literature (full text preferred) should be attached to the request), or describing the member's unique clinical circumstances, and describing why this service or supply will be more effective and/or less costly than another service which would otherwise be covered. Note that both supporting scientific evidence and a description of the member's unique clinical circumstances will generally be required.

### RELATED REFERENCES:

1. Abbott, J., Fedorowicz, Z. & Oettgen, P. (2018). *DynaMed: Venous ulcer*. Retrieved from <https://www.dynamed-com.ahs.idm.oclc.org/condition/venous-ulcer>
2. Agency for Healthcare Research and Quality. (2018). *Research protocol: Skin substitutes for treating chronic wounds*. Retrieved from <https://effectivehealthcare.ahrq.gov/products/skin-substitutes/protocol>
3. Agency for Healthcare Research and Quality. (2019). *Technology assessment program: Skin substitutes for treating chronic wounds*. Retrieved from [https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/ta/drafts-for-review/skin-substitutes\\_draft.pdf](https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/ta/drafts-for-review/skin-substitutes_draft.pdf)
4. Armstrong, D., Galiano, R., Orgill, D., Glat, P., Carter, M., Di Domenico, L., Reyzelman, A. & Zelen, C. (2022). Multi-centre prospective randomised controlled clinical trial to evaluate a bioactive split thickness skin allograft vs. standard of care in the treatment of diabetic foot ulcers. *International Wound Journal*, 19(4): 932-944.
5. Austin, R., Merchant, N., Shakrokhi, S. & Jeschke, M. (2015). A comparison of Biobrane™ and cadaveric allograft for temporizing the acute burn wound: Cost and procedural time. *Burns*, 41(4): 749-753.
6. Bianchi, C., Cazzell, S., Vayser, D., Reyzelman, A., Dosluoglu, H. & Tovmassian, G. (2018). A multicentre randomized controlled trial evaluating the efficacy of dehydrated human amnion/chorion membrane (EpiFix) allograft for the treatment of venous leg ulcers. *Int Wound J*, 15(1): 114-122.
7. Brown-Etris, M., Milne, C. & Hodde, J. (2019). An extracellular matrix graft (Oasis® wound matrix) for treating full-thickness pressure ulcers: A randomized clinical trial. *J Tissue Viability*, 28(1): 21-26.
8. Centers for Medicare and Medicaid Services. (2019). *Local coverage determination (LCD): Application of bioengineered skin substitutes to low extremity chronic non-healing wounds (L35041)*. Retrieved from <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=35041&ver=113&Date=&DocID=L35041&bc=iAAAABAAAA&>
9. Centers for Medicare and Medicaid Services. (2019). *Local coverage determination (LCD): Application of skin substitute grafts for treatment of DFU and VLU of lower extremities (L36377)*. Retrieved from <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?lclid=36377&ver=7&keyword=skin%20substitute&keywordType=starts&areaid=all&docType=NCA,CAL,NCD,MEDCAC,TA,MCD,6,3,5,1,F,P&contractOption=all&sortBy=relevance&bc=AAAAAAQAAAA&KeyWordLookUp=Doc&KeyWordSearchType=Exact>
10. Commonwealth of Massachusetts. (2022). *MassHealth provider manual series acute outpatient hospital manual: Service codes and descriptions*. Retrieved from <https://www.mass.gov/doc/acute-outpatient-hospital-aoh-subchapter-6-0/download>

## Skin and Soft Tissue Substitutes Medical Necessity Guideline

11. Commonwealth of Massachusetts. (2022). *MassHealth provider manual series physician manual: Service codes*. Retrieved from <https://www.mass.gov/doc/physician-phy-subchapter-6/download>
12. DeGeorge, B., Fedorowicz, Z. & Ehrlich, A. (2018). *DynaMed: Major burns*. Retrieved from <https://www-dynamed-com.ahs.idm.oclc.org/condition/major-burns>
13. Gordon, A., Alfonso, A., Nicholson, J. & Chiu, E. (2019). Evidence for healing diabetic foot ulcers with biologic skin substitutes: A systematic review and meta-analysis. *Ann Plast Surg*, 83(4): 31-44.
14. Gravante, G., Sorge, R., Merone, A., Tamisani, A., Lonardo, A., Scalise, A., Doneddu, G., Melandri, D., Stracuzzi, G., Onesti, M., Cerulli, P., Pinn, R. & Esposito, G. (2010). Hyalomatrix PA in burn care practice: Results from a national retrospective survey, 2005 to 2006. *Ann Plast Surg*, 64(1): 69-79.
15. Guo, X. Mu, D. & Gao, F. (2017). Efficacy and safety of acellular dermal matrix in diabetic foot ulcer treatment: A systematic review. *Int J Surg*. 40(2017): 1-7.
16. Hamann, C., Fedorowicz, Z. & Ehrlich, A. (2018). *DynaMed: Pressure injury of the skin and soft tissue*. Retrieved from <https://www-dynamed-com.ahs.idm.oclc.org/condition/pressure-injury-of-the-skin-and-soft-tissue>
17. Harding, K., Sumner, M. & Cardinal, M. (2013). A prospective, multicentre, randomized controlled study of human fibroblast-derived dermal substitute (Dermagraft) in patients with venous leg ulcers. *Int Wound J*, 10(2): 132-137.
18. Haugh, A., Witt, J., Hauch, A., Darden, M., Parker, G., Ellsworth, W. & Buell, J. (2017). Amnion membrane in diabetic foot wounds: A meta-analysis. *Plast Reconstr Surg Glob Open*, 5(4): 1-6.
19. Hoogewerf, C., Hop, M., Nieuwenhuis, M., Oen, I., Middelkoop, E. & Van Baar, M. (2020). Topical treatment for facial burns. *Cochrane Database Syst Rev*. 7(7): 1-85.
20. Jackson, L., Lang, E. & Ehrlich, A. (2018). *DynaMed: Diabetic foot ulcer*. Retrieved from <https://www-dynamed-com.ahs.idm.oclc.org/condition/diabetic-foot-ulcer>
21. Jones, J., Nelson, E. & Al-Hity, A. (2013). Skin grafting for venous leg ulcers. *Cochrane Database Syst Rev*, 31(2013): 1-51.
22. Lavery, L., Fulmer, J., Shebetka, K., Regulski, M., Vvayser, D., Fried, D., Kashefsy, H., Owings, T., Nadarajah, J. & Heps, Z. (2018). Open-label extension phase of a chronic diabetic foot ulcer multicenter, controlled, randomized clinical trial using cryopreserved placental membrane. *Wounds - A Compendium of Clinical Research & Practice*, 30(9): 283-289.
23. Mathes, B. & Kabnick, L. (2022). *Medical management of lower extremity chronic venous disease*. Retrieved from [https://www.uptodate.com/contents/medical-management-of-lower-extremity-chronic-venous-disease?sectionName=ULCER%20CARE&search=skin%20substitutes&topicRef=118064&anchor=H3890584283&source=see\\_link#H3890584283](https://www.uptodate.com/contents/medical-management-of-lower-extremity-chronic-venous-disease?sectionName=ULCER%20CARE&search=skin%20substitutes&topicRef=118064&anchor=H3890584283&source=see_link#H3890584283)
24. Paggiaro, A., Bastianelli, R., Carvalho, V., Isaac, C. & Gemperli, R. (2019). Is allograft skin, the gold-standard for burn skin substitute? A systematic literature review and meta-analysis. *J Plas Reconstr Aesthet Surg*, 72(8): 1245-1253.
25. Paggiaro, A., Menezes, A., Ferrassi, A., De Carvalho, V. & Gemperli, R. (2018). Biological effects of amniotic membrane on diabetic foot wounds: A systematic review. *J Wound Care*, 27(2): 19-25.
26. Pham, C., Greenwood, J., Cleland, H., Woodruff, P. & Maddern, G. (2007). Bioengineered skin substitutes for the management of burns: A systematic review. *Burns*, 33(8): 946.
27. Rice, P. & Orgill, D. (2021). *Assessment and classification of burn injury*. Retrieved from <https://www.uptodate.com/contents/assessment-and-classification-of-burn->

## Skin and Soft Tissue Substitutes Medical Necessity Guideline

injury?search=burn%20wounds&source=search\_result&selectedTitle=3~150&usage\_type=default&display\_rank=3

28. Santema, T., Poyck, P. & Ubbink, D. (2016). Skin grafting and tissue replacement for treating foot ulcers in people with diabetes. *Cochrane Database Syst. Rev.*, 2(2): 1-62.
29. Schafermeyer, R. (2018). *DynaMed: Topical treatment and dressing of burns*. Retrieved from [https://www-dyanmed-com.ahs.idm.oclc.org/management/topical-treatment-and-dressing-of-burns](https://www.dyanmed-com.ahs.idm.oclc.org/management/topical-treatment-and-dressing-of-burns)
30. Serena, R., Carter, M., Le, L., Sabo, M. & DiMarco, D. (2014). A multicenter, randomized, controlled clinical trial evaluating the use of dehydrated human amnion/chorion membrane allografts and multilayer compression therapy vs. multilayer compression therapy alone in the treatment of venous leg ulcers. *Wound Repair Regen*, 22(6): 688-693.
31. Shahrokhi, S. (2022). *Skin substitutes*. Retrieved from [https://www.uptodate.com/contents/skin-substitutes?search=skin%20substitutes&source=search\\_result&selectedTitle=1~150&usage\\_type=default&display\\_rank=1](https://www.uptodate.com/contents/skin-substitutes?search=skin%20substitutes&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1)
32. Steinberg, J., Edmonds, M., Hurley, D. & King, W. (2010). Confirmatory data from EU study supports apligraf for the treatment of neuropathic diabetic foot ulcers. *J Am Podiatr Med Assoc.*, 100(1): 73-77.
33. Tettelback, W., Cazzell, S., Sigal, F., Caporusso, J., Agnew, P., Hanft, J. & Dove, C. (2019). A multicentre prospective randomised controlled comparative parallel study of dehydrated human umbilical cord (EpiCord) allograft for the treatment of diabetic foot ulcers. *International Wound Journal*, 16(1): 122-130.
34. U.S. Food and Drug Administration. (2014). *510(k) Summary: bio-ConneKt wound matrix*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf14/K140456.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf14/K140456.pdf)
35. U.S. Food and Drug Administration. (2004). *510(k) Summary: Helicoll*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf4/K040314.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf4/K040314.pdf)
36. U.S. Food and Drug Administration. (2018). *510(k) Summary: ProgenaMatrix*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf18/K182010.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf18/K182010.pdf)
37. U.S. Food and Drug Administration. (n.d.). *Memorandum: Annual safety update for the pediatric advisory committee for Epicel (cultured epidermal autografts)*. Retrieved from <https://www.fda.gov/media/140194/download>
38. U.S. Food and Drug Administration. (2000). *Premarket approval (PMA): Apligraf (GraftSkin)*. Retrieved from <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=330515>
39. U.S. Food and Drug Administration. (2013). *Premarket approval (PMA): Dermagraft*. Retrieved from <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=p000036>
40. U.S. Food and Drug Administration. (2016). *Premarket approval (PMA): Integra (R) dermal regeneration template, integra (R) meshed dermal regeneration template, omnigraft (TM) dermal regeneration*. Retrieved from <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=P900033S042>
41. U.S. Food and Drug Administration. (2013). *Premarket approval (PMA): Transcyte human fibroblast-derived temporary skin substitute*. Retrieved from <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpma/pma.cfm?id=P960007>
42. U.S. Food and Drug Administration. (2006). *510(K) Premarket notification: Oasis wound matrix*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf6/K061711.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf6/K061711.pdf)
43. U.S. Food and Drug Administration. (2001). *Summary of safety and effectiveness data: Dermagraft®*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf/P000036B.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf/P000036B.pdf)

## Skin and Soft Tissue Substitutes Medical Necessity Guideline

44. U.S. Food and Drug Administration. (2000). *Summary of safety and effectiveness data: Graftskin*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf/P950032S016B.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf/P950032S016B.pdf)
45. U.S. Food and Drug Administration. (2016). *Summary of safety and effectiveness data (SSED): Integra dermal regeneration template*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf/P900033S042B.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf/P900033S042B.pdf)
46. U.S. Food and Drug Administration. (2007). *Summary of safety and probable benefit: Epicel*. Retrieved from [https://www.accessdata.fda.gov/cdrh\\_docs/pdf/H990002B.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf/H990002B.pdf)
47. U.S. National Library of Medicine. (2018). Cellular and tissue based therapy registry (CTPR) (Clinicaltrials.gov Identifier NCT02322554). Retrieved from <https://clinicaltrials.gov/ct2/show/NCT02322554>
48. Wasiak, J., Cleland, H., Campbell, F. & Spinks, A. (2013). Dressings for superficial and partial thickness burns. *Cochrane Database Syst Rev.*, 3: 1-67.
49. Widjaja, W., Tan, J. & Maitz, P. (2017). Efficacy of dermal substitute on deep dermal to full thickness burn injury: A systematic review. *ANZ J Surg*, 87(6): 446-452.
50. Wright Medical. (2018). *Package insert: Graftjacket Now: Regenerative tissue matrix*. Retrieved from <https://www.wright.com/wp-content/uploads/2019/01/M1S2818-Wright-Medical-Graftjacket-Now-Package-Insert-11-29-18.pdf>
51. Yim, H., Cho, Y., Seo, C., Lee, B., Ko, J., Kim, D., Hur, J., Chun, W. & Kim, J. (2010). The use of alloderm on major burn patients: Alloderm prevents post-burn joint contracture. *Burns*, 36(6):3 22-328.

### REVISION LOG:

REVISION DATE	DESCRIPTION
7/13/24	Added CPT codes Q4103, Q4108, Q4110, Q4111, Q4112, Q4113, Q4114, Q4121, Q4151, Q4165, Q4199, Q4251, Q4252, Q4253.
12/31/23	Utilization Management Committee approval
1/05/2023	Added in Limitations: Requests for treatment beyond 12 weeks may be considered on an individual case-by-case basis and will require review from a CCA medical director to determine the medical necessity and clinical appropriateness. Added in Exclusions: Skin substitute products that are not listed in CCA’s MNG and/or for indications other than the one(s) specifically listed above. Added in Authorization: Prior authorization is required for all requests for skin substitute treatments. Once approved, associated skin substitute application procedures that have been determined to be appropriate will be approved and reimbursable in accordance with CCA’s billing and coding guidelines.
12/05/2022	Addition of skin substitutes: Alloskin, Bio-conneKt, Epicord, GraftJacket, Helicoll, Keramatrix, TheraSkin, WoundEx, WoundEx Flow, Epicel, Transcyte, AlloMax, AlloMend, and FlexHD. Addition of indications: treatment of second- and third-degree burns and for use in breast reconstructive surgery following cancer treatment.
6/10/2022	Template changed to include PA requirements and benefit type. Overview and format updated with numbering. Clinical eligibility and regulatory notes updated.



## Skin and Soft Tissue Substitutes Medical Necessity Guideline

9/13/2021	Added in Exclusions: Skin substitutes that are not mentioned in this MNG are experimental, investigational, and not medically necessary.
6/7/2021	Proposed a change to the title of the MNG from Dehydrated Human Amniotic Membrane MNG to <i>Skin Substitutes</i> . Expanded coverage of the MNG to include more skin substitutes: <i>Apligraf, Dermagraft, Epifix, Integra (Bilayer matrix wound dressing and dermal regeneration template), Oasis (Wound matrix)</i> . Added limitations of how many treatments per week, how many skin substitutes will be covered per episode of care, and the duration of treatment covered. Added exclusions of coverage to the MNG.

**APPROVALS:**

David Mello

Senior Medical Director, Utilization Review  
and Medical Policy

\_\_\_\_\_  
CCA Senior Clinical Lead [Print]

\_\_\_\_\_  
Title [Print]



12/31/23

\_\_\_\_\_  
Signature

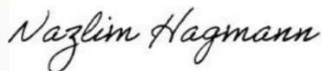
\_\_\_\_\_  
Date

Nazlim Hagmann

Chief Medical Officer

\_\_\_\_\_  
CCA CMO or Designee [Print]

\_\_\_\_\_  
Title [Print]



12/31/23

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date