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Medical policies in conjunction with other nationally recognized standards of care are used to make medical coverage decisions.

Tissue-Engineered Skin Substitutes Policy

Indication/Usage:

SummaCare considers tissue-engineered skin substitutes and the various proposed products for wound care medically necessary when criteria for the product has been met.

Bioengineered skin and soft tissue substitutes are cellular or acellular matrices and can be derived from human tissue, nonhuman tissue, synthetic materials, or a composite of these materials. Specific manufacturing processes vary by company, but generally involve seeding selected cells onto a matrix, where they receive proteins and growth factors necessary for them to multiply and develop into the desired tissue. The tissue may be used for a variety of conditions and procedures including breast reconstruction, treatment of severe burns, surgical wounds, and healing of lower extremity ulcers, such as diabetic and/or venous ulcers. The goals of treating non-healing acute and chronic wounds with biological tissue engineered human skin substitutes are to provide temporary wound coverage, provide complete wound closure, reduce time to healing, lessen pain, minimize

postoperative contracture, improve aesthetics and functional abilities, avoid the need for more extensive treatments such as skin grafting or amputation, and improve the overall quality of life.

Medical Indications for Authorization Commercial Members

SummaCare considers the following products for wound care medically necessary for any of the following indications:

Breast Reconstruction

1. **AlloDerm, AlloMax, Cortiva, DermACELL, FlexHD** CPT codes 15777, Q4116, Q4100, C1781, C9399, Q4128

Considered medically necessary when used in association with a covered, medically necessary breast reconstruction procedure

Burn Wounds 1. **Biobrane, Biobrane L**
CPT codes 15271-15278, C1849, Q4100

Considered medically necessary when used for temporary covering of a partial-thickness freshly debrided or excised burn wound

2. **Epicel**
CPT Codes 15150-15157 C5271-C5278 Q4100 C9399

Considered medically necessary when used according to the U.S. Food and Drug Administration (FDA)-approved Humanitarian Device Exemption (HDE) for an individual with deep dermal or full thickness burns comprising a total body surface area of greater than or equal to 30%

Note: Epicel may be used in conjunction with split-thickness autografts, or alone in persons for whom split-thickness autografts may not be an option due to the severity and extent of their burns

3. **Integra Dermal Regeneration Template, Integra Bilayer Matrix Wound Dressing, and Integra Meshed Bilayer Wound Matrix**
CPT Codes 15271-15278, Q4105, Q4104, Q4108, C9363

Considered medically necessary when BOTH of the following criteria are met:

- Postexcisional treatment of a full thickness or deep partial-thickness burn
- Sufficient autograft is not available at time of excision or is contraindicated

4. **Transcyte**

CPT Codes 15271-15278 Q4182

Considered medically necessary when used for temporary covering of a surgically excised deep partial- or full-thickness burn wound as a covering prior to autografting

Diabetic and Venous Stasis Ulcers and Miscellaneous Wound Care Listed by Product

1. Apligraf (graft skin)

CPT codes 15275-15278, Q4101

Considered medically necessary when ALL of the following criteria are met:

A. Full-thickness diabetic foot ulcer of greater than 6 weeks duration for which standard wound therapy has failed and which extend through the dermis but without tendon, muscle, capsule or bone exposure

 initial treatment is limited to 4 applications ***or***

B. In conjunction with standard therapy to promote effective wound healing of chronic, non-infected, partial and full-thickness venous stasis ulcers that have failed conservative measures of greater than ~~4~~ weeks duration using regular dressing changes and standard therapeutic compression

Iinitial treatment is limited to 3- 4 applications

Additional applications for both types of wounds up to a maximum of eight in 12 weeks when there is evidence of wound healing

2. AminoBand CPT Codes 5275-15278, Q4151 Q4168

Considered medically necessary when ALL of the following criteria are met:

A. Full-thickness diabetic foot ulcer of greater than 6 weeks duration for which standard therapy has failed and which extend through the dermis but without tendon, muscle, capsule or bone exposure.

- Initial treatment is limited to up to 5 initial applications

B. Partial or full thickness Venous Stasis ulcer greater than 4 weeks that has failed standard wound therapy.

- Initial treatment is limited to 3-4 applications

Additional applications for both types of wounds up to a maximum of eight in 12 weeks when there is evidence of wound healing.

3. Dermagraft

CPT codes 15275-15278 Q4106

Considered medically necessary when ALL of the following criteria are met:

A. Full-thickness diabetic foot ulcers greater than 6-week duration that extend through the dermis, but without tendon, muscle, joint capsule or bone exposure *or*

B. For the treatment of wounds related to dystrophic epidermolysis bullosa

- Initial treatment is limited to 3-4 applications

Additional applications for both types of wounds up to a maximum of eight in 12 weeks when there is evidence of wound healing.

Note: Consistent with the Food and Drug Administration (FDA)-approved labeling of Dermagraft, the product should be used in conjunction with standard wound care regimens. In addition, the product is not considered medically necessary in persons with an inadequate blood supply to the involved foot.

Dermagraft is contraindicated and has no proven value in infected ulcers and ulcers with sinus tracts.

4. AlloPatch (Pliable)

CPT codes 15275-15278, Q4128

A. Considered medically necessary for partial or full-thickness diabetic foot ulcer of greater than 6 weeks duration with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic ulcer care.

- Initial treatment is limited to 3-4 applications

Additional applications for both types of wounds up to a maximum of eight in 12 weeks when there is evidence of wound healing (e.g., signs of epithelialization and reduction in ulcer size)

5. EpiFix Amniotic Membrane CPT codes 15275-15278, Q4128

Considered medically necessary when 1 of the following criteria below is met:

A. Partial or full thickness, neuropathic diabetic foot ulcer of greater than 6 weeks in duration with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic ulcer care.

B. Difficult-to-heal chronic venous or diabetic partial and full-thickness ulcers of the lower extremity that have failed standard wound therapy of at least 4-weeks duration.

- Initial treatment is limited to 3-4 applications

Additional applications for both types of wounds may be applied at a minimum of one week intervals, for up to a maximum of 4 in 12 weeks are considered medically necessary when evidence of wound healing is present.

6. DermaCell

CPT Codes 15275-15278

A. Considered medically necessary for treatment of partial and full-thickness neuropathic diabetic foot ulcers that are greater than 6 weeks in duration with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic ulcer care.

B. Considered medically necessary for the treatment of oro-nasal fistula following cleft palate repair.

 Initial treatment is limited to 3-4 applications

Additional applications beyond 12 weeks are considered not medically necessary regardless of wound status.

7. Grafix

CPT Codes 15275-15278, Q4132, Q4133

Considered medically necessary for treatment of partial and full-thickness neuropathic diabetic foot ulcers that are greater than 6 weeks in duration with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic ulcer care.

 Initial treatment is limited to 3-4 applications

Additional applications for both types of wounds may be applied at a minimum of one week intervals, for up to a maximum of 6 in 12 weeks are considered medically necessary when evidence of wound healing is present

8. Graft Jacket Regenerative Tissue Matrix

CPT Codes 15275-15278, Q4107

A. Medically necessary for treatment of full-thickness diabetic foot ulcers greater than 6 week duration that extend through the dermis, but without tendon, muscle, joint capsule or bone exposure.

B. Medically necessary for the treatment of oro-nasal fistula following cleft palate repair.

9. Integra Dermal Regeneration Template and Integra Omnigraft Dermal Regeneration Template

CPT Codes 15275-15278, Q4105

Considered medically necessary for the treatment of partial and full-thickness neuropathic diabetic foot ulcers that are greater than 6 weeks in duration with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic ulcer care.

10. Oasis wound Matrix, Ultra Tri-Layer Matrix

CPT 15271-15278, Q4102 , Q4124

A. Considered medically necessary for treatment of partial and full-thickness neuropathic diabetic foot ulcers that are greater than 6 weeks in duration with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic ulcer care.

- Initial treatment is limited to up to 4 applications
- additional applications at a minimum of one week intervals, for up to a maximum of four in 12 weeks are considered medically necessary when evidence of wound healing is present
- Additional applications beyond 12 weeks are considered not medically necessary regardless of wound status

B. Considered medically necessary for treatment of difficult-to-heal chronic venous partial and full thickness ulcers of the lower extremity that have failed standard wound therapy of at least 4-weeks duration.

- Initial treatment is limited to up to 3 -4 applications
- additional applications at a minimum of one week intervals, for up to a maximum of four in 12 weeks are considered medically necessary when evidence of wound healing is present
- Additional applications beyond 12 weeks are considered not medically necessary regardless of wound status

Additional criteria for all diabetic foot ulcers

- For both type 1 and 2 diabetics the HbA1C must be less than 12%
- Treated foot has adequate blood supply as evidenced by either the presence of a palpable pedal pulse or an ankle-brachial index (ABI) of ≥ 0.70

Additional criteria for all venous stasis ulcers

- Treated lower extremity has adequate blood supply as evidenced by either the presence of a palpable pedal pulse or an ankle-brachial index (ABI) of ≥ 0.70

Medicare Members

Novitas LCD ID L35041 Skin Substitute Grafts/Cellular and Tissue-Based Products for the Treatment of D Coverage Guidance

Coverage Indications, Limitations, and/or Medical Necessity

Compliance with the provisions in this LCD may be monitored and addressed through post payment data analysis and subsequent medical review audits.

History/Background and/or General Information

Application of skin substitute grafts/CTP for ulcer care indications other than DFUs or VLUs are not addressed by this LCD. Use of skin substitute grafts/CTP must meet the reasonable and necessary threshold for coverage and these products must be used in accordance with their intended use as approved/regulated by the United States (U.S.) Food and Drug Administration (FDA).

Depending on the purpose of the product and its proposed functions, skin substitute grafts/CTP are regulated by the FDA premarket approval (PMA) process, FDA 510(k) premarket notification process, or the FDA regulations for human cells, tissues, and cellular and tissue-based products (HCT/Ps). A product with proposed benefit to chronic ulcer healing does not assume the designation of a skin substitute graft/CTP. FDA classification and indication are not the sole determinants of designation as a skin substitute graft/CTP or provide the reasonable and necessary threshold for coverage.

Chronic DFUs and VLUs may be unresponsive to initial therapy or persist despite appropriate standardized care. A DFU or VLU that has failed to respond to standard of care treatment after 4 weeks (28 days) may be considered chronic and the addition of a skin substitute graft/CTP may be considered reasonable and necessary for certain patients.1-6

Patients receiving skin replacement surgery with a skin substitute graft/CTP should be under the care of a physician/non-physician practitioner for the treatment of their systemic disease process (e.g., diabetes mellitus, chronic venous insufficiency, or peripheral vascular disease). It is

imperative that systemic diseases are monitored and treated to ensure adequate healing of the ulcer.2,6,7

The medical record documentation must support the medical necessity for skin replacement surgery and the product's use as an ulcer treatment, not as a wound dressing or covering.

Covered Indications

If the patient meets all criteria as outlined in this LCD, application of a skin substitute graft/CTP in the treatment of DFUs and VLUs is considered reasonable and necessary:

The presence of a chronic, non-infected DFU having failed to achieve at least 50% ulcer area reduction with documented standard of care (SOC) treatment (outlined below) for a minimum of 4 weeks with documented compliance.6-8

The presence of a chronic, non-infected VLU having failed to respond to documented SOC treatment (outlined below) for a minimum of 4 weeks with documented compliance.4,6,9,10 For purposes of this LCD, SOC treatment includes2,4,5,7,9,11,12:

Comprehensive patient assessment (history, exam, vascular assessment) and diagnostic tests as indicated as part of the implemented treatment plan.

For patients with a DFU: assessment of Type 1 or Type 2 diabetes and management history with attention to certain comorbidities (e.g., vascular disease, neuropathy, osteomyelitis), review of current blood glucose levels/hemoglobin A1c (HbA1c), diet and nutritional status, activity level, physical exam that includes assessment of skin, ulcer, and vascular perfusion, and assessment of offloading devices or use of appropriate footwear.

For patients with a VLU: assessment of clinical history (that includes prior ulcers, body mass index, history of pulmonary embolism or superficial/deep venous thrombosis, number of pregnancies, and physical inactivity), physical exam (edema, skin changes and vascular competence), evaluation of venous reflux, perforator incompetence, and venous thrombosis. The use of a firm strength compression garment (>20 mmHg) or multi-layered compressive dressing is an essential component of SOC for venous stasis ulcers.

An implemented treatment plan to be continued throughout the course of treatment demonstrating all the following5,6,10, 13-15:

- Debridement as appropriate to a clean granular base.

- Documented evidence of offloading for DFUs.
- Documented evidence of sustained compression dressings for VLUs.
- Infection control with removal of foreign body or focus of infection. Management of exudate with maintenance of a moist environment.

Documentation of smoking history, and counselling on the effect of smoking on wound healing. Treatment for smoking cessation and outcome of counselling (if applicable).

The skin substitute graft/CTP is applied to an ulcer that has failed to heal or has stalled in response to documented SOC treatment. Documentation of response to treatment requires measurements of the initial ulcer, pre-SOC ulcer measurements, weekly SOC ulcer measurements, post-completion SOC ulcer measurements following (at least) 4 weeks of SOC treatment, ulcer measurements at initial placement of the skin substitute graft/CTP, and before each subsequent placement of the skin substitute graft/CTP. Failure to heal or stalled response despite standard of care measures must have preceded the application for a minimum of 4 weeks and established SOC treatment must continue for the course of therapy. Continuous compression therapy for VLUs must be documented for the episode of care.7,9,16

The medical record documentation must include the interventions having failed during prior ulcer evaluation and management. The record must include an updated medication history, review of pertinent medical problems diagnosed since the previous ulcer evaluation, and explanation of the planned skin replacement with choice of skin substitute graft/CTP. The procedure risks and complications must also be reviewed and documented.10-12,17,18

The patient is under the care of a qualified provider for the treatment of the systemic disease process(es) etiologic for the condition (e.g., venous insufficiency, diabetes, neuropathy) and documented in the medical record.5,6,10,18

Coverage requirements for skin substitute grafts/CTPs

To qualify as a skin substitute graft/CTP the product must be:
A non-autologous human cellular or tissue product (e.g., dermal or epidermal, cellular and acellular, homograft or allograft), OR non-human cellular and tissue product (i.e., xenograft), OR biological product (synthetic or xenogeneic) applied as a sheet, allowing scaffold for skin growth, intended to remain on the recipient and grow in place or allow recipient's cells to grow into the implanted graft material19 ***and***

Supported by high-certainty evidence to demonstrate the product's safety, effectiveness, and positive clinical outcomes in the function as a graft for DFUs and/or VLUs.4,10 Substantial equivalence to predicate products does not allow sufficient evidence to support similar cleared products.

Note: Liquid or gel preparations are not considered grafts. Their fluidity does not allow graft placement and stabilization of the product on the wound.17

The following are considered reasonable and necessary (per episode of care)2,4-6,8,19: The maximum number of applications of a skin substitute graft/CTP within the episode of skin replacement therapy (defined as 12 to 16 weeks from the first application of a skin substitute graft/CTP) is 8 applications.20 The mean number of skin substitute graft/CTP applications associated with wound healing is 4; however, with documentation of progression of wound closure under the current treatment plan and medical necessity for additional applications, up to 8 applications may be allowed. Use of greater than 4 applications requires an attestation from the provider showing that requirements specified in the LCD have been met and the additional applications are medically necessary. In absence of this attestation, denial of the additional applications will occur. Please refer to the Billing and Coding article for instruction on reporting applications 5 to 8.

The usual episode of care for skin substitute grafts/CTP is 12 weeks; however, some wounds may take longer to heal therefore 16 weeks is allotted with documentation that includes progression of wound closure under current treatment plan.

The skin substitute graft/CTP must be used in an efficient manner utilizing the most appropriate size product available at the time of treatment.

Excessive wastage (discarded amount) should be avoided by utilization of size appropriate packaging of the product consistent with the wound size. The graft must be applied in a single layer without overlay of product or adjacent skin in compliance with the correct label application techniques for the skin substitute graft/CTP.

Only skin substitute grafts/CTP with labeled indications for use over exposed muscle, tendon, or bone will be considered reasonable and necessary for those indications.

Limitations

The following are considered not reasonable and necessary:

1. Greater than 8 applications of a skin substitute graft/CTP within an episode of care (up to 16 weeks).
2. Repeat applications of skin substitute graft/CTP when a previous application was Unsuccessful treatment is defined as increase in size or depth of an ulcer, no measurable change from baseline, and no sign of significant improvement or indication that significant improvement is likely (such as granulation, epithelialization, or progress towards closure).
3. Application of skin substitute graft/CTP in patients with inadequate control of underlying conditions or exacerbating factors, or other contraindications (e.g., active infection, progressive necrosis, active Charcot arthroplasty of the ulcer extremity, active vasculitis, ischemia).[6]

4. Use of surgical preparation services (e.g., debridement), in conjunction with routine, simple or repeat skin replacement therapy with a skin substitute graft/CTP.
5. All liquid or gel skin substitute products or CTPs for ulcer care.[18]
6. Placement of skin substitute graft/CTP on infected, ischemic, or necrotic wound bed

Limitations

Amnio-Maxx is considered experimental, investigational or unproven because there is inadequate medical literature to support clinical effectiveness

SummaCare considers each of the products listed above for ANY unlisted indication is considered experimental, investigational, or unproven because its effectiveness for indications other than the ones listed above has not been established.

Any skin substitute product not listed above is considered experimental, investigational, or unproven for ANY indication because its effectiveness has not been established.

Coverage Decisions

Coverage decisions made per CMS Guidelines, Hayes Research and industry standards research

Plans Covered By This Policy

Commercial and Medicare
Self-funded Commercial groups refer to plan document for coverage

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