



Qualified Health Plans offered in North Carolina by CareSource North Carolina Co., d/b/a CareSource

MEDICAL POLICY STATEMENT North Carolina Marketplace

Policy Name & Number	Date Effective
Skin Substitutes-NC MP-MM-1415	05/01/2023-04/30/2024
Policy Type	
MEDICAL	

Medical Policy Statement prepared by CareSource and its affiliates are derived from literature based on and supported by clinical guidelines, nationally recognized utilization and technology assessment guidelines, other medical management industry standards, and published MCO clinical policy guidelines. Medically necessary services include, but are not limited to, those health care services or supplies that are proper and necessary for the diagnosis or treatment of disease, illness, or injury and without which the patient can be expected to suffer prolonged, increased or new morbidity, impairment of function, dysfunction of a body organ or part, or significant pain and discomfort. These services meet the standards of good medical practice in the local area, are the lowest cost alternative, and are not provided mainly for the convenience of the member or provider. Medically necessary services also include those services defined in any Evidence of Coverage documents, Medical Policy Statements, Provider Manuals, Member Handbooks, and/or other policies and procedures.

Medical Policy Statements prepared by CareSource and its affiliates do not ensure an authorization or payment of services. Please refer to the plan contract (often referred to as the Evidence of Coverage) for the service(s) referenced in the Medical Policy Statement. If there is a conflict between the Medical Policy Statement and the plan contract (i.e., Evidence of Coverage), then the plan contract (i.e., Evidence of Coverage) will be the controlling document used to make the determination. According to the rules of Mental Health Parity Addition Equity Act (MHPAEA), coverage for the diagnosis and treatment of a behavioral health disorder will not be subject to any limitations that are less favorable than the limitations that apply to medical conditions as covered under this policy.

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A. Subject

Skin Substitutes

B. Background

Wounds are disruptions of the skin's structural and functional integrity and normally transition through distinct phases until the skin's structure and function are restored. The purpose of skin substitutes is to provide coverage for open wounds, both deep thermal and full-thickness wounds. Wounds normally transition through four phases: hemostasis, inflammation, cellular migration and proliferation, and remodeling. At the completion of these four phases the skin's structure and function are restored. Chronic wounds can result in loss of function, wound recurrence, and significant morbidity. Pressure ulcers, diabetic foot ulcers, and venous leg ulcers are the three categories that comprise the majority of chronic wounds.

Skin substitutes have the function and composition of skin or have the potential for autologous regenerative healing when applied to a wound. Their uses span acute or chronic wounds, burns, or reconstruction such as release of contractures secondary to severe burns. The most common classification system utilized to determine the type of skin substitute that would be appropriate for a particular wound is the Kumar Classification system, in which Class I includes temporary impervious dressing material, Class II includes single-layer durable skin substitutes, and Class III included composite skin substitutes that replace both dermal and epidermal layers.

Skin substitutes are a heterogeneous group of biologics, synthetics, or biosynthetic materials. When determining if the use of a skin substitute is appropriate, the clinician evaluates the material being used and its properties. Individual wounds have a specific microenvironment. Various manufacturers may utilize differing processes in the development of skin substitutes but generally involve seeding selected cells onto a matrix. The matrices subsequently receive proteins and growth factors necessary for them to multiply and develop into the desired tissue.

C. Definitions

- **Allogeneic** - Refers to having a different genetic constitution but belonging to the same species.
- **Ankle-brachial Index** - The ankle-brachial index test compares the blood pressure measured at the ankle with the blood pressure measured at the arm. A low ankle-brachial index number can indicate narrowing or blockage of the arteries in the legs.
- **Autologous** - Refers to being derived from the same individual, such as an individual serving as both donor and recipient.
- **Chronic Wounds** - Wounds that have not progressed along the normal healing process, generally after a 4-week duration.
- **Chronic Venous Ulcers** - A venous ulcer, also known as venous stasis ulcer, is a wound that takes longer than usual to heal and often occurs on the legs or ankles. Venous ulcers occur when oxygen-poor blood flow is impaired and pools, creating pressure in the veins. This damages skin tissue and leads to an ulcer.

- **Diabetic Foot Ulcers** - A diabetic foot ulcer is an open sore or wound that occurs in approximately 15 percent of patients with diabetes and is commonly located on the bottom of the foot. Of those who develop a foot ulcer, 6 percent will be hospitalized due to infection or other ulcer-related complication.
- **Pressure Ulcers** - Injuries to skin and underlying tissue resulting from prolonged pressure on the skin. Bedsores most often develop on skin that covers bony areas of the body, such as the heels, ankles, hips and tailbone.
- **Tissue Engineering** - Refers to the practice of combining scaffolds, cells, and biologically active molecules into functional tissues. The goal of tissue engineering is to assemble functional constructs that restore, maintain, or improve damaged tissues or whole organs.
- **Xenogeneic** - Denoting, relating to, or involving tissues or cells belonging to individuals of different species.

D. Policy

- I. CareSource considers the use of skin substitute products medically necessary under **ANY OF** the following circumstances:
 - A. Treatment of diabetic foot ulcer when adequate circulation to the affected extremity is present as indicated by at least **ONE** of the following:
 1. Palpable pedal pulses;
 2. Ankle-brachial index (ABI) between 0.7 and 1.2;
 3. Dorsum transcutaneous oxygen test (TcPO₂) \geq 30 mm Hg within the last 60 days;
 4. Triphasic or biphasic Doppler arterial waveforms at the ankle of affected leg.
 - B. Treatment of venous insufficiency ulcers when **ALL** of the following criteria are met:
 1. Adequate perfusion of involved limb;
 2. Concurrent conventional wound care;
 3. Concurrent glycemic management, if patient is also diabetic;
 4. Duration greater than 1 month;
 5. Partial-thickness or full-thickness ulcer due to venous insufficiency;
 6. No allergy to bovine products;
 7. No response to conventional therapy, including ALL of the following:
 - a. Compression therapy
 - b. Dressings to maintain moist wound environment (e.g., saline-moistened dressings)
 - c. Sharp debridement
 8. No wound infection.
 - C. Treatment of burn wounds when **ONE** of the following criteria are met:
 1. For use as a temporary wound covering for excised full-thickness and deep partial-thickness burn wounds in individuals who require such a covering prior to autograft placement;
 2. Treatment of mid-dermal to indeterminate depth burn wounds that typically require debridement and that may be expected to heal without autografting.
 - D. Repair of scar contractures when more conservative therapeutic options have failed.

E. When used in conjunction with a breast reconstruction procedure.

II. Exclusions

Skin substitute products that are not on the applicable fee schedule may not be reimbursable and may be considered experimental and investigational.

E. Conditions of Coverage

NA

F. Related Policies/Rules

Breast Reconstruction Surgery

G. Review/Revision History

	DATE	ACTION
Date Issued	02/15/2023	New policy
Date Revised		
Date Effective	05/01/2023	
Date Archived	04/30/2024	This Policy is no longer active and has been archived. Please note that there could be other Policies that may have some of the same rules incorporated and CareSource reserves the right to follow CMS/State/NCCI guidelines without a formal documented Policy

H. References

1. Agency for Healthcare Research and Quality. Technology assessment program: Skin substitutes for treating chronic wounds (2019). Retrieved December 7, 2022 from www.effectivehealthcare.ahrq.gov.
2. American Podiatric Medical Association (APMA). What is a diabetic foot ulcer? Retrieved December 8, 2022 from www.apma.org.
3. Centers for Medicare & Medicaid Services. Porcine skin and gradient pressure dressings. Retrieved February 1, 2023 from www.cms.gov.
4. Cleveland Clinic. Health library: Diseases and conditions: Venous ulcers. Retrieved December 6, 2022 from my.clevelandclinic.org.
5. Hart CE, Loewen-Rodriguez A, Lessem J. Dermagraft: Use in the treatment of chronic wounds. *Adv Wound Care (New Rochelle)*. 2012 Jun;1(3):138-141. doi: 10.1089/wound.2011.0282. PMID: 24527294; PMCID: PMC3623576..
6. Mayo Clinic. Bedsores (pressure ulcers). Retrieved December 8, 2022 from www.mayoclinic.org.
7. Mayo Clinic. Ankle-brachial index. Retrieved December 8, 2022 from www.mayoclinic.org.
8. MCG Health. Skin substitute, tissue-engineered (human cellular), for diabetic foot ulcer and venous ulcer. A-0326 (Last update August 31, 2022). Retrieved December 1, 2022 from www.careweb.careguidelines.com.
9. National Institute of Biomedical Imaging and Bioengineering. Tissue engineering and regenerative medicine. Retrieved December 7, 2022 from www.nibib.nih.gov.

The MEDICAL Policy Statement detailed above has received due consideration as defined in the MEDICAL Policy Statement Policy and is approved.

10. Shahrokhi S. Skin Substitutes. UpToDate. Retrieved February 1,2023 from www.uptodate.com.

Independent medical review – 01/19/2023

Archived

The MEDICAL Policy Statement detailed above has received due consideration as defined in the MEDICAL Policy Statement Policy and is approved.