MEDICAL POLICY

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MEDICAL POLICY DETAILS	
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Product Disclaimer	• *Services are contract dependent; if a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.* • *If a commercial product (including an Essential Plan or Child Health Plus product), medical policy criteria apply to the benefit.* • *If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.* • *If a Medicare product (including Medicare, HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.* • *If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.*

POLICY STATEMENT

I. Based upon our criteria and assessment of the peer-reviewed literature, each of the following bioengineered tissue products has been proven to be medically effective and, therefore, is considered **medically appropriate** for the listed indications, when criteria are met.

Indication	**Biologic tissue product**	**FDA***	**Class**	**Criteria**
Diabetic Foot Ulcers	AlloPatch	Human tissue	Human reticular acellular dermis	1. The patient has adequate arterial blood supply as evidenced by ankle-brachial index (ABI) of 0.65 or greater in the limb being treated; 2. The patient is competent and/or has support system required to participate in follow-up care associated with treatment with a bioengineered tissue product; 3. Ulcers are full thickness, extend through the dermis but without tendon, muscle, capsule, or bone exposure, and of greater than
	Apligraf	PMA	Cellular, bilayered skin substitute; human-derived composite cultured skin	
	AmnioBand Membrane	Human Tissue	Dehydrated human placental membrane	
	Biovance	Human Tissue	Dehydrated, decellularized human amniotic tissue membrane	

Indication	**Biologic tissue product**	**FDA***	**Class**	**Criteria**
	Dermagraft	PMA	Interactive wound dressing; human-derived composite cultured skin; dermal replacement from neonatal foreskin fibroblasts	three weeks' duration for which standard wound therapy has failed; 4. Patient has adequate treatment of underlying disease process(es) contributing to the ulcer; 5. Ulcers are located on foot or toes and are free of infection, redness, drainage, underlying osteomyelitis, surrounding cellulitis, tunnels and tracts, eschar, or any necrotic material that would interfere with adherence of a bioengineered tissue product and wound healing; and 6. Patient's current HbA1C does not exceed 12%.
	EpiCord	Human Tissue	Minimally manipulated, lyophilized, non-viable cellular umbilical cord allograft	
	EpiFix	Human Tissue	Dehydrated human amnion chorion membrane (dHACM) allograft	
	Grafix CORE	Human Tissue	Cellular matrix from human placental chorionic membrane	
	Grafix PRIME	Human Tissue	Cellular matrix from human placental amniotic membrane	
	Integra	510k	Bovine-derived tendon collagen and glycosaminoglycan	
	Integra Dermal Regeneration Matrix (Omnigraft)	PMA	Bilayered, extracellular, cross-linked bovine collagen and chondroitin sulfate **Contraindications:** • Known hypersensitivity to bovine collagen, silicone, or chondroitin materials; • Pregnancy; • Clinically diagnosed infected wounds.	
	Oasis Wound Matrix	510k	Collagen matrix from porcine small intestine submucosa, single layer	
Venous Ulcers	Apligraf	PMA	Cellular, bilayered skin substitute; human-derived composite cultured skin	1. The patient has adequate arterial blood supply as evidenced by ankle-brachial index (ABI) of

Indication	**Biologic tissue product**	**FDA***	**Class**	**Criteria**
	Oasis Wound Matrix	510k	Collagen matrix from porcine small intestine submucosa, single layer	0.65 or greater in the limb being treated; 2. The patient is competent and/or has support system required to participate in follow-up care. associated with treatment with a bioengineered tissue product; 3. Ulcers are partial or full thickness and have failed to respond to conservative measures of at least one month duration that have, at a minimum, included regular dressing changes, debridement of necrotic tissue, and standard therapeutic compression. ("Failure to respond" is defined as increase in size or depth or no change in size or depth with no sign or indication that improvement is likely, such as granulation, epithelialization, or progress toward closing); 4. Patient has adequate treatment of the underlying disease process(es) contributing to the ulcer; and 5. Ulcers are free of infection, redness, drainage, underlying osteomyelitis, surrounding cellulitis, tunnels and tracts, eschar or any necrotic material that would interfere with adherence of a bioengineered tissue product and wound healing.
Breast Reconstruction	Alloderm	Human Tissue	Acellular dermal matrix; allogeneic human derived decellularized skin	1. Breast reconstruction surgery following surgical mastectomy 2. The optimal timing of radiation is within eight weeks of the mastectomy. Radiation is associated with an increased risk of complications and reconstructive failure among patients undergoing post-mastectomy expander/implant
	AlloMax	Human Tissue	Acellular dermal matrix; allogeneic human derived decellularized skin	
	Cortiva	Human tissue	Acellular dermal matrix; allogeneic human derived decellularized skin	

Indication	**Biologic tissue product**	**FDA***	**Class**	**Criteria**
	DermACELL AWM	Human Tissue	Decellularized regenerative human tissue matrix allograft	breast reconstruction. Patients should be counseled in regard to these increased risks. 3. Evidence on acellular dermal matrix (ADM) in post-mastectomy expander/implant breast reconstruction is varied and conflicting. Surgeons should evaluate each clinical case individually and objectively determine the use of ADM.
	DermaMatrix	Human Tissue	Human skin allograft	
	FlexHD	Human Tissue	Acellular dermal matrix	
	GraftJacket	Human Tissue	Bilaminate, acellular regenerative tissue; allogeneic, human-derived, decellularized skin	
	Surgimend	Animal tissue	Acellular dermal matrix derived from decellularized bovine skin Contraindications: Allergy to bovine material or refusal to receive bovine	
Nasal Repairs	Alloderm	Human Tissue	Acellular dermal matrix; allogeneic, human-derived, decellularized skin	1. Septal repair, septal perforation repair, reconstructive septorhinoplasty
Non-primary Hernia Repair	Alloderm	Human Tissue	Acellular dermal matrix; allogeneic, human-derived, decellularized skin	1. When chronic infection contraindicates the use of mesh or other conventional repair
Parotidectomy	Alloderm	Human Tissue	Acellular dermal matrix; allogeneic, human-derived, decellularized skin	
Burns	Integra Dermal Regeneration Matrix (Omnigraft)	PMA	Bilayered, extracellular, cross-linked bovine collagen and chondroitin sulfate **Contraindications:** • Known hypersensitivity to bovine collagen, silicone, or chondroitin materials; • Pregnancy; • Clinically diagnosed infected wounds.	1. The patient is competent to understand the need for immobilization and the need for a second surgical procedure for application of an ultra-thin epidermal graft, regular follow-ups, and rehabilitation; 2. Insufficient autograft is available at the time of burn excision; and 3. The burn site is free of residual eschar.

Indication	**Biologic tissue product**	**FDA***	**Class**	**Criteria**
	Biobrane	PMA	Collagen (porcine type 1) incorporated with silicone and nylon	1. The patient is competent to understand the need for immobilization and/or has the support system required to participate in follow-up care associated with treatment with a bioengineered tissue product; 2. The burn is superficial, partial thickness with limited involvement of the dermis (less than or equal to 25% total body surface area); and 3. The burn is clean, non-infected, and free of nonviable tissue and coagulation eschar.
	Epicel	HDE	Cultured epidermal autograft; combined human and animal dermal cellular material	1. Full thickness burns over greater than 30% of the body; 2. The patient is competent to understand the need for immobilization and the need for a second surgical procedure for application of an ultra-thin epidermal graft, regular follow-ups, and rehabilitation; 3. Insufficient autograft is available at the time of burn excision; and 4. The burn site is free of residual eschar.

*PMA U.S. Food and Drug Administration (FDA) pre-market approval process of scientific and regulatory review to evaluate the safety and effectiveness of Class III medical devices

*510(k) - Premarket submission made to FDA to demonstrate that the device to be marketed is at least as safe and effective (i.e., substantially equivalent) to a legally marketed device that is not subject to PMA

*Human tissue - Donated, banked human skin regulated by the American Association of Tissue Banks and FDA guidelines

II. Based upon our criteria and assessment of the peer-reviewed literature, **ALL** other bioengineered tissue products have not been medically proven to be effective and, therefore, are considered **investigational** for **ANY** indication. Please refer to the code section of the policy for HCPCS codes designated as (E/I).

Refer to Corporate Medical Policy #1.01.38 Negative Pressure Wound Therapy (Vacuum Assisted Closure)

Refer to Corporate Medical Policy #2.01.24 Growth Factors for Wound Healing and Other Conditions

Refer to Corporate Medical Policy #10.01.01 Breast Reconstruction Surgery

Refer to Corporate Medical Policy #11.01.03 Experimental or Investigational Services

This policy does not address fibrin sealants (e.g., Tisseel).

This policy does not address the use of amniotic membrane products for repair of ocular defects.

POLICY GUIDELINES

I. Specific products should only be used in accordance with FDA product approval and when the above policy criteria are met.

II. If a product is not FDA approved for the indication for which it is being used (i.e.., "off label" use), documentation of a shared decision-making process and informed consent is required.

III. The FDA requests prompt reporting of adverse effects associated with bioengineered tissue products through MedWatch, the FDA Safety Information and Adverse Event Reporting Program.

IV. If a wound has not responded to standard of care by achieving a 50% or better wound reduction after four weeks of standard of care, a single application of a bioengineered tissue product was thought to be all that was required to affect wound healing in wounds likely to be improved by this treatment. Based on clinical input from wound specialists, refractory wounds rarely heal with one graft application and may require additional graft applications, no more frequently than once per week, until the wound heals. Re-application of a product is appropriate only if there has been measurable response to the first application. Re-application less than one year after successful treatment is considered treatment failure and **not medically appropriate**.

V. Treatment of venous stasis ulcers that extend above the malleoli is beyond the scope of practice of podiatrists.

DESCRIPTION

Bioengineered tissue products are cellular (contain living cells) or acellular (no biological component) matrices that can be derived from human tissue (autologous or allogeneic), nonhuman tissue (xenographic), synthetic materials, or a composite of these materials. Manufacturing processes vary, but generally involve seeding selected cells onto a matrix, where they receive proteins and growth factors necessary for them to develop into the desired tissue. The tissue may then be used for a variety of procedures, including breast reconstruction, treatment of severe burns, and healing of diabetic and venous ulcers.

RATIONALE

Bioengineered skin and soft tissue substitutes are being investigated for a variety of conditions. Overall, the number of bioengineered skin and soft tissue substitutes is large, but the evidence is limited for any specific product. Relatively few products have been compared with the standard of care (SOC), and then only for some indications. Most trials identified were industry-sponsored and open label, with no masking indicating potential performance bias. The data on many of the industry-sponsored trials had incomplete outcome data, indicating attrition bias. Additional studies with larger numbers of subjects are needed, to evaluate the effect of bio-engineered skin and soft tissue substitutes versus the current SOC or current advanced wound therapies (i.e., Apligraf or Dermagraft). Overall, results of these studies do not provide convincing evidence that many of these products are more effective than SOC or current advanced wound therapies for healing diabetic foot or venous ulcers. Additional trials with a larger number of subjects are needed, to determine whether these products improve health outcomes.

In February 2020, the Agency for Health Research and Quality (AHRQ) completed a technology assessment addressing *Skin Substitutes for Treating Chronic Wounds.* The assessment addresses 76 products commercially available in the U.S. that are used to manage or treat chronic wounds and are regulated by FDA. Based on FDA regulations, skin substitutes can be organized into four groups: human-derived products regulated as HCT/Ps (human cells, tissues, and tissue-based products), human- and human/animal-derived products regulated through PMA or humanitarian device exemption (HDE), animal-derived products regulated under the 510(k) process, and synthetic products regulated under the 510(k) process. Of those included in the tech assessment, 68 (89%) were categorized as acellular dermal substitutes, mostly replacements from human placental membranes and animal tissue sources. Three systematic reviews and 22 RCTs examined use of 16 distinct skin substitutes, including acellular dermal substitutes, cellular dermal substitutes, and cellular epidermal and dermal substitutes in diabetic foot ulcers, pressure ulcers, and venous leg ulcers. Twenty-one ongoing clinical trials (all

RCTs) examined an additional nine skin substitutes with similar classifications. Studies rarely reported clinical outcomes, such as amputation, wound recurrence at least two weeks after treatment ended, or patient related outcomes, such as return to function, pain, exudate, and odor. The large majority of skin substitute products listed in the report did not have efficacy data from RCTs. Industry funds most published studies and funded 20 of 22 RCTs included in this report, which raises significant concerns about possible publication bias or selective outcome reporting. The clearest implications of this Technical Brief are the lack of studies examining the effectiveness of most skin substitute products and the need for better designed and better reported studies providing more clinically relevant data.

Product Categories:

Acellular Dermal Matrices (ADM):
There is a small amount of evidence utilizing acellular dermal matrix products in breast reconstruction that does not show any difference in outcomes among the different types of ADM products.

A retrospective review compared complication rates following breast reconstruction with AlloDerm or FlexHD in 382 consecutive women (547 breasts). A total of 81% of the patients underwent immediate reconstructions; 165 used AlloDerm, and 97 used FlexHD. Mean follow-up was 6.4 months. Compared with breast reconstruction without use of AlloDerm or FlexHD, ADM had a higher rate of delayed healing (20.2% vs 10.3%), although this finding might be related to differences in fill volumes. In univariate analysis, there were no significant differences in complications (return to the operating room, surgical site infection, seroma, hematoma, delayed healing, or implant loss) between AlloDerm and FlexHD. In multivariate analysis, there were no significant differences between AlloDerm and FlexHD for the return to the operating room, surgical site infection, seroma, or delayed healing. Independent risk factors for implant loss included the use of FlexHD, single-stage reconstruction, and smoking. (Liu et al., 2014).

Another retrospective review published in 2013 compared complication rates following use of AlloDerm (n=136) or FlexHD (n=233) in a consecutive series of 255 patients (369 breasts). Total complication rates for the two products were similar (19.1% for AlloDerm and 19.3% for FlexHD). Analysis by type of complication showed no significant difference between the products, and regression analysis controlling for differences in baseline measures found that the type of ADM was not a risk factor for any complication (Seth et al., 2013).

A retrospective review of complication rates when AlloDerm (n=49), DermaMatrix (n=110), or FlexHD (n=62) was used for tissue expander breast reconstruction was published in 2012. Clinically significant complications were defined as cellulitis, abscess, seroma, expander leak or puncture, skin necrosis, wound dehiscence, or hematoma. The total clinically significant complication rate was 22% with AlloDerm, 15% with DermaMatrix, and 16% with FlexHD (not significantly different). Infectious complication rates for the three products were the same at 10%. When compared with breast reconstruction without an ADM (n=64), there was no significant difference in the total complication rate (17% vs 11%), but there was a trend toward a higher incidence of infectious complications (10% vs 2%, p=0.09) (Brooke et al., 2012).

Over the past several years, the use of ADM has increased and is now commonly used off-label in implant-based breast reconstruction. The FDA completed an analysis of patient-level data from real-world use of ADMs for implant-based breast construction (IBBR). The Mastectomy Reconstruction Outcomes Consortium (MROC) was a prospective, cohort study that collected data on 1451 patients from 11 centers with high volumes of breast reconstruction in an effort to evaluate outcomes in patients undergoing implant-based breast reconstruction after mastectomy. The FDA's analysis of the MROC Study data demonstrated significantly higher major complication rates, including reoperation and infections, in patients with FlexHD and AlloMax brands of ADM two years after surgery, when compared to patients who received SurgiMend or AlloDerm brands, or no ADM. These findings, however, have been refuted in other studies, including a 2021 RCT by Boyeles, et al. The FDA issued a statement on March 31, 2021 stating while used for other types of reconstruction, the FDA has not cleared or approved ADM for use in breast reconstruction. The statement informed patients, caregivers, and health care providers that certain ADM products used in implant-based breast reconstruction may have a higher chance for complications or problems. The FDA requests prompt reporting of adverse events to help evaluate the risks.

Amniotic Tissue Membrane:
Human amniotic membrane is classified by the FDA as banked human tissue and, therefore, does not require FDA approval. Examples of amniotic tissue membrane include, but are not limited to, EpiFix and Grafix. Results from small studies are encouraging, but preliminary. Further large, randomized, controlled studies are needed before conclusions may be reached regarding the efficacy of these products.

A review article, published in 2015 by Zelen et al., addresses the use of human amnion/chorion membrane (dHACM) for lower extremity repair. The article states:

> Although there are limited data available regarding most amniotic membrane-based products, there is substantial preclinical and clinical evidence supporting the rationale and effectiveness of dHACM allograft as a treatment modality. The rapidly growing body of evidence suggests that the properties inherent in dHACM promote tissue regeneration and healing, recruiting patients' own stem cells into the wounded area. Randomized controlled trials evaluating dHACM now include more than 200 patients collectively and the results consistently show improved healing. Use of dHACM has been shown to be more clinically effective and cost-effective than other frequently used advanced wound care products. This cost-effectiveness results from dHACM showing higher healing rates and more rapid healing than other advanced wound care products. Cost-effectiveness is also enhanced through the availability of grafts of multiple sizes, which reduces wastage, and through ease of handling and storage for clinical use. Ongoing and future studies will further define and establish the value of amniotic membrane for chronic tissue repair and regeneration.

A small, industry-sponsored, non-blinded, RCT comparing the use of EpiFix (n=13) with SOC (moist wound therapy, n=12) for diabetic foot ulcers of at least four weeks' duration was published in 2013. EpiFix was applied every two weeks if the wound had not healed, with weekly dressing changes consisting of non-adherent dressing, moisture retentive dressing, and a compression dressing. Standard moist wound dressing was changed daily. After four weeks of treatment, EpiFix-treated wounds had reduced in size by a mean of 97.1%, compared with 32.0% for the SOC group. Healing rate (complete epithelialization of the open area of the wound) was 77% for EpiFix, compared with 0% for SOC. After six weeks of treatment, wounds were reduced by 98.4% with EpiFix treatment, compared with -1.8% for SOC. The healing rate was 92% with EpiFix, compared with 8% with standard treatment alone (Zelen et al., 2013).

Treatment with EpiFix, Apligraf, or standard wound care was compared in a multicenter randomized, controlled study. Sixty patients with chronic lower extremity diabetic ulcers were randomized to treatment with Epifix (dehydrated human amniotic membrane), Apligraf (human skin allograft with living fibroblasts and keratinocytes), or standard wound care. Although the patient and site investigator could not be blinded due to differences in products, wound healing was verified by three independent physicians who evaluated photographic images. The median wound size was 2.0 cm^2 (range, 1.0-9.0), and the median duration of the index ulcer was 11 weeks (range, 5-54). After six weekly treatments, the mean percent wound area healed was 97.1% for EpiFix, 80.9% for Apligraf, and 27.7% for standard care; 95% of wounds had healed in the EpiFix group compared with 45% treated with Apligraf and 35% who received standard wound care ($p<0.003$). The estimated median time to wound closure, based on Kaplan-Meier analysis, was 13 days for EpiFix, compared with 49 days for both Apligraf and SOC ($p<0.001$). Based on the updated Zelen et al. (2015) article, data were included on treatment of 226 diabetic foot ulcers from 99 wound care centers. Although wounds for the two groups were compared at baseline, the rationale for using a particular product was not reported. There were 163 wounds treated with Apligraf and 63 treated with Epifix. By week 24, 72% of the wounds treated with Apligraf and 47% of the wounds treated with Epifix had closed. The median time to closure was 13.3 weeks for Apligraf and 26.0 weeks for Epifix.

In 2015, Kirsner et al. reported an industry-sponsored observational study comparing the effectiveness of Apligraf and EpiFix in a real-world setting. Data were obtained from a wound care–specific database from 3000 wound care facilities. The database included 1458 diabetic ulcers treated for the first time in 2014 with Apligraf (n=994) or EpiFix (n=464). Using the same criteria as the 2015 study by Zelen (described above), data were included on the treatment of 226 diabetic foot ulcers from 99 wound care centers. Foot wounds were included with size between 1 cm2 and 25 cm2, duration of one year or less, and wound reduction of 20% or less in the 14 days prior to treatment. Although wounds for the two groups were comparable at baseline, the rationale for using a particular product was not reported. There were 163 wounds treated

with Apligraf (mean, 2.5 applications) and 63 treated with EpiFix (mean, 3.5 applications, p=0.003). By week 24, 72% of wounds treated with Apligraf and 47% of wounds treated with EpiFix had closed (p=0.01).

Treatment with Grafix or standard wound care was compared in a small, multi-centered RCT for diabetic foot ulcers (Lavery et al., 2014). Although the results were positive, the sample size was small, with 50 treated with Grafix and 47 in the control group treated with SOC. The primary end point was complete wound closure by 12 weeks. Grafix patients who achieved full closure was 62% versus 21% in the control group receiving SOC. Ananian et al. (2018) reported a prospective, randomized, single-blind study comparing the efficacy of Grafix with Dermagraft. The end result of this study was measured by wound closure and showed that Grafix (48.4% closure) is non-inferior to Dermagraft (38.7% closure).

AmnioBand was compared to SOC for treatment of non-healing diabetic foot ulcers in an industry-sponsored, multi-center study (DiDomenico et al., 2016). Forty patients were randomized to SOC or SOC with AmnioBand for up to 12 weeks. Complete healing by six weeks was observed for 70% of wounds treated with SOC and AmnioBand versus 15% treated with SOC alone. At 12 weeks, complete healing was observed in 85% of the SOC and AmnioBand group versus 25% treated with SOC alone. Limitations of the study were small sample size, a drop-out rate of 9/40, and the wound area in the control group was larger than in the treatment group.

Smiell et al (2015) reported on an industry-sponsored, multicenter registry study of Biovance d-HAM for the treatment of various chronic wound types; about a third (n=47) were diabetic foot wounds. Of those treated, 28 ulcers had failed prior treatment with advanced biologic therapies. For all wound types, 41.6% closed within a mean time of 8 weeks and a mean of 2.4 amniotic membrane applications.

Other Products:

AlloDerm is classified by the FDA as human tissue and is approved for use in burns and full-thickness wounds. There is limited scientific evidence in the form of retrospective case series to support the use of AlloDerm in rare cases of non-primary hernia repair when chronic infection contraindicates the use of mesh or other conventional repair.

Although the literature investigating the use of AlloDerm in breast reconstruction surgery consists of small case series that lack long-term data on effectiveness and safety, they all reach favorable conclusions. The use of AlloDerm obviates many of the current disadvantages to implant breast reconstruction, including thinning of the muscle layer causing visible rippling and contour irregularities. In the multi-step processing of AlloDerm, the epidermis and all of the dermal cellular components are removed, leaving no reservoir for viral agents. As a result, no immune response is elicited after placement of the allograft.

Literature regarding the use of AlloDerm in parotidectomy also consists of small case series; however, the studies support that AlloDerm is beneficial in preventing Frey's syndrome after parotidectomy.

AlloPatch, which is a pliable human reticular, acellular dermis, was compared to SOC in a 2016 industry-sponsored, multicenter trial by Zelen et al. The trial was powered to detect a 45% difference between groups in percentage healing at six weeks with 20 patients per group. Evaluation of the outcome measures was not blinded. At six weeks, 65% (13/20) of wounds treated with AlloPatch had healed, compared to 5% (1/20) in the SOC-alone group (p<0.001). After adjusting for wound area at baseline, the hazard ratio for healing was 168 (95% CI, 10 to 2704; p<0.001), indicating a lack of precision in the estimate. Per protocol, 10 patients in the SOC group and one in the AlloPatch group exited the study at six weeks because their wounds failed to reduce in area by at least 50%. According to intent-to-treat (ITT) analysis with last observation carried forward, the percentage of wounds healed at 12 weeks was 80% in the AlloPatch group, compared to 20% in the SOC group. However, because there was a high (50%) withdrawal rate in the SOC group, this result has a high risk of bias.

Biobrane was granted pre-market approval by the FDA as a temporary covering of full-thickness burns until autografting is clinically appropriate.

The Integra Dermal Regeneration Template (Integra) was granted pre-market approval by the FDA for use in post-excisional treatment of life-threatening, full-thickness or deep partial-thickness thermal injuries where sufficient autograft

in not available at the time of excision or not desirable due to the physiological condition of the patient, and for the repair of scar contractures when other therapies have failed or when donor sites for repair are not sufficient or desirable due to the physiologic condition of the patient. Evidence for use of the Integra for contracture release procedures consists only of a retrospective case series without controls.

In January 2016, the FDA approved the Integra Dermal Regeneration Template, marketed as Omnigraft, for use in the treatment of partial- and full-thickness neuropathic diabetic foot ulcers that are greater than six weeks in duration, with no capsule, tendon, or bone exposed, when used in conjunction with standard diabetic ulcer care. Randomized, controlled studies have been shown to improve healing of chronic, non-healing diabetic foot ulcers with the use of Omnigraft. The Foot Ulcer New Dermal Replacement (FOUNDER) multicenter study on the use of Integra Dermal Regeneration Template for chronic, non-healing diabetic foot ulcers was conducted under an FDA-regulated investigational device exemption. A total of 307 patients with at least one chronic diabetic foot ulcer were randomized to treatment with the Integra Template or a control condition (0.9% sodium chloride gel). Treatment was given for 16 weeks or until wound closure. There was a modest increase in wound closure with the Integra Template (51% vs 32%) and a shorter median time to closure (43 days versus 78 days). There was a strong correlation between investigator-assessed and computerized planimetry assessment of wound healing (r=0.97). Kaplan-Meier analysis showed the greatest difference between groups in wound closure up to 10 weeks, with diminishing differences after 10 weeks. Strengths of the study included adequate power to detect an increase in wound healing of 18%, which was considered to be clinically significant, as well as secondary outcomes of wound closure and time to wound closure by computerized planimetry and intention-to-treat (ITT) analysis. (Driver et. al., 2015)

The Oasis Wound Matrix, Oasis Burn Matrix, and Oasis Ultra Tri-Layer Matrix have FDA 510(k) approval in the management of wounds, including partial- and full-thickness wounds, pressure ulcers, venous ulcers, diabetic ulcers, chronic vascular ulcers, tunneled undermined wounds, surgical wounds, trauma wounds, and draining wounds. The Oasis Wound Matrix (Cook Biotech) is a xenogeneic collagen scaffold derived from porcine small intestinal mucosa. Niezgoda, et al. (2005) compared healing rates at 12 weeks for full-thickness diabetic foot ulcers treated with the OASIS Wound Matrix (an acellular wound care product) to Regranex Gel. This industry sponsored, multicenter RCT was conducted at nine outpatient wound care clinics and involved 73 patients with at least one diabetic foot ulcer. Patients were randomized to receive either Oasis Wound Matrix (n=37) or Regranex Gel (n=36) and a secondary dressing. Wounds were cleansed and debrided, if needed, at a weekly visit. The maximum treatment period for each patient was 12 weeks. After 12 weeks, 18 (49%) Oasis-treated patients had complete wound closure, compared with 10 (28%) Regranex-treated patients. Oasis treatment met the noninferiority margin, but the study did not demonstrate that healing in the Oasis group was statistically superior (p=0.055). Post hoc subgroup analysis showed no significant difference in incidence of healing in patients with type 1 diabetes (33% vs 25%) but showed a significant improvement in patients with type 2 diabetes (63% vs 29%). There was also an increased healing of plantar ulcers in the Oasis group (52% vs 14%).

PriMatrix received FDA 510(k) approval in 2006 for the management of wounds that include: partial- and full-thickness wounds; pressure, diabetic, and venous ulcers; second-degree burns; surgical wounds, including donor sites/grafts, post-Mohs surgery, post-laser surgery, and podiatric, wound dehiscence; trauma wounds, including abrasions, lacerations, and skin tears; tunneled/undermined wounds; and draining wounds.

Theraskin was reported in a small (n=23), industry-funded, randomized comparison of TheraSkin (human skin allograft with living fibroblasts and keratinocytes) to Dermagraft (human-derived fibroblasts cultured on mesh) for diabetic foot ulcers. Wound size at baseline ranged from 0.5 to 18.02 cm^2; the average wound size was about 5 cm^2 and was similar for the two groups (p=0.51). Grafts were applied according to the manufacturer's instructions over the first 12 weeks of the study until healing, with an average of 4.4 TheraSkin grafts (every two weeks) compared with 8.9 Dermagraft applications (every week). At week 12, complete wound healing was observed in 63.6% of ulcers treated with TheraSkin and 33.3% of ulcers treated with Dermagraft (p<0.049). At 20 weeks, complete wound healing was observed in 90.9% of the TheraSkin-treated ulcers, compared with 66.67% of the Dermagraft group (p=0.428). (Sanders et al., 2014). Further large, randomized, controlled studies are needed before conclusions may be reached regarding the efficacy of Theraskin.

CODES

- *Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*
- *CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.*
- *Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.*
- *Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).*

CPT Codes

Code	Description
15271	Application of skin substitute graft to trunk, arms, legs, total wound surface area up to 100 sq cm; first 25 sq cm or less wound surface area
15272	each additional 25 sq cm wound surface area, or part thereof
15273	Application of skin substitute graft to trunk, arms, legs, total wound surface area greater than or equal to 100 sq cm; first 100 sq cm wound surface area, or 1% of body area of infants and children
15274	each additional 100 sq cm wound surface area, or part thereof, or each additional 1% body area of infants and children, or part thereof
15275	Application of skin substitute graft to face, scalp, eyelids, mouth, neck, ears, orbits, genitalia, hands, feet, and/or multiple digits, total wound surface area up to 100 sq cm; first 25 sq cm or less wound surface area
15276	each additional 25 sq cm wound surface area, or part thereof
15277	Application of skin substitute graft to face, scalp, eyelids, mouth, neck, ears, orbits, genitalia, hands, feet, and/or multiple digits, total wound surface area greater than or equal to 100 sq cm; first 100 sq cm wound surface area, or 1% of body area of infants and children
15278	each additional 100 sq cm wound surface area, or part thereof, or each additional 1% body area of infants and children, or part thereof
15777	Implantation of biologic implant (e.g., acellular dermal matrix) for soft tissue reinforcement (i.e., breast, trunk)
15778	Implantation of absorbable mesh or other prosthesis for delayed closure of defect(s) (i.e., external genitalia, perineum, abdominal wall) due to soft tissue infection or trauma *(effective 01/01/23)*

HCPCS Codes

Code	Description
A2001 **(E/I)**	Innovamatrix ac, per sq cm
A2002 **(E/I)**	Mirragen advanced wound matrix, per sq cm
A2004 **(E/I)**	Xcellistem, 1 mg
A2005 **(E/I)**	Microlyte matrix, per sq cm
A2007 **(E/I)**	Restrata, per sq cm
A2008 **(E/I)**	TheraGenesis, per sq cm
A2009 **(E/I)**	Symphony, per sq cm

Code	Description
A2010 **(E/I)**	Apis, per sq cm
A2011 **(E/I)**	Supra SDRM, per sq cm *(effective 04/01/22)*
A2012 **(E/I)**	SUPRATHEL, per sq cm *(effective 04/01/22)*
A2013 **(E/I)**	Innovamatrix FS, per sq cm *(effective 04/01/22)*
A2014 **(E/I)**	Omeza collagen matrix, per 100 mg *(effective 10/01/22)*
A2015 **(E/I)**	Phoenix wound matrix, per sq cm *(effective 10/01/22)*
A2016 **(E/I)**	PermeaDerm B, per sq cm *(effective 10/01/22)*
A2017 **(E/I)**	PermeaDerm glove, each *(effective 10/01/22)*
A2018 **(E/I)**	PermeaDerm C, per sq cm *(effective 10/01/22)*
A2019 **(E/I)**	Kerecis Omega3 MariGen shield, per sq cm *(effective 04/01/23)*
A2020 **(E/I)**	AC5 Advanced Wound System (AC5) *(effective 04/01/23)*
A2021 **(E/I)**	NeoMatrix, per sq cm *(effective 04/01/23)*
A2026 **(E/I)**	Restrata MiniMatrix, 5 mg *(effective 04/01/24)*
C5271	Application of low cost skin substitute graft to trunk, arms, legs, total wound surface area up to 100 sq cm; first 25 sq cm or less wound surface area *(effective 01/01/2014)*
C5272	Application of low cost skin substitute graft to trunk, arms, legs, total wound surface area up to 100 sq cm; each additional 25 sq cm wound surface area, or part thereof (list separately in addition to code for primary procedure) *(effective 01/01/2014)*
C5273	Application of low cost skin substitute graft to trunk, arms, legs, total wound surface area greater than or equal to 100 sq cm; first 100 sq cm wound surface area, or 1% of body area of infants and children
C5274	each additional 100 sq cm wound surface area, or part thereof, or each additional 1% of body area of infants and children, or part thereof
C5275	Application of low cost skin substitute graft to face, scalp, eyelids, mouth, neck, ears, orbits, genitalia, hands, feet, and/or multiple digits, total wound surface area up to 100 sq cm; first 25 sq cm or less wound surface area
C5276	each additional 25 sq cm or less wound surface area, or part thereof
C5277	Application of low cost skin substitute graft to face, scalp, eyelids, mouth, neck, ears, orbits, genitalia, hands, feet, and/or multiple digits, total wound surface area greater than or equal to 100 sq cm; first 100 sq cm wound surface area, or 1% of body area of infants and children
C5278	each additional 100 sq cm wound surface area, or part thereof, or each additional 1% of body area of infants and children, or part thereof
C9354 **(E/I)**	Acellular pericardial tissue matrix of non-human origin (Veritas), per sq cm
C9356 **(E/I)**	Tendon, porous matrix of cross-linked collagen and glycosaminoglycan matrix (TenoGlide Tendon Protector Sheet), per sq cm
C9358	Dermal substitute, native, nondenatured collagen, fetal bovine origin (SurgiMend Collagen Matrix), per 0.5 sq cm
C9360	Dermal substitute, native, nondenatured collagen, neonatal bovine origin (SurgiMend Collagen Matrix), per 0.5 sq cm
C9363 **(E/I)**	Skin substitute (Integra Meshed Bilayer Wound Matrix), per sq cm

Code	Description
C9364 **(E/I)**	Porcine implant, Permacol, per sq cm
Q4100	Skin substitute, not otherwise specified
Q4101	Apligraf, per sq cm
Q4102	Oasis wound matrix, per sq cm
Q4103 **(E/I)**	Oasis burn matrix, per sq cm
Q4104 **(E/I)**	Integra bilayer matrix wound dressing (BMWD), per square cm
Q4105	Integra dermal regeneration template (DRT) or Integra Omnigraft dermal regeneration matrix, per sq cm
Q4106	Dermagraft, per sq cm
Q4107	GRAFTJACKET, per sq cm
Q4108	Integra matrix, per sq cm
Q4110 **(E/I)**	PriMatrix, per sq cm
Q4111 **(E/I)**	GammaGraft, per sq cm
Q4112 **(E/I)**	Cymetra, injectable, 1 cc
Q4113 **(E/I)**	GRAFTJACKET XPRESS, injectable, 1 cc
Q4114 **(E/I)**	Integra flowable wound matrix, injectable, 1 cc
Q4115 **(E/I)**	AlloSkin, per sq cm
Q4116	AlloDerm, per sq cm
Q4117 **(E/I)**	HYALOMATRIX, per sq cm
Q4118 **(E/I)**	MatriStem micromatrix, 1 mg
Q4121 **(E/I)**	TheraSkin, per sq cm
Q4122	DermACELL, DermACELL AWM or DermACELL AWM Porous, per sq cm
Q4123 **(E/I)**	AlloSkin RT, per sq cm
Q4124 **(E/I)**	OASIS ultra tri-layer wound matrix, per sq cm
Q4125 **(E/I)**	ArthroFlex, per sq cm
Q4126 **(E/I)**	MemoDerm, DermaSpan, TranZgraft or IntéguPly, per sq cm
Q4127 **(E/I)**	Talymed, per sq cm
Q4128	FlexHD, AllopatchHD, per sq cm
Q4130 **(E/I)**	Strattice TM, per sq cm
Q4132	Grafix Core and GrafixPL Core, per sq cm
Q4133	Grafix PRIME, GrafixPL PRIME, Stravix and StravixPL, per sq cm
Q4134 **(E/I)**	HMatrix, per sq cm
Q4135 **(E/I)**	Mediskin, per sq cm
Q4136 **(E/I)**	E-Z Derm, per sq cm
Q4137 **(E/I)**	AmnioExcel, AmnioExcel Plus or BioDExcel, per sq cm
Q4138 **(E/I)**	BioDFence DryFlex, per sq cm
Q4139 **(E/I)**	AmnioMatrix or BioDMatrix, injectable, 1 cc
Q4140 **(E/I)**	BioDFence, per sq cm
Q4141 **(E/I)**	AlloSkin AC, per sq cm
Q4142 **(E/I)**	XCM biologic tissue matrix, per sq cm
Q4143 **(E/I)**	Repriza, per sq cm

Code	Description
Q4145 **(E/I)**	EpiFix, injectable, 1 mg
Q4146 **(E/I)**	Tensix, per sq cm
Q4147 **(E/I)**	Architect, Architect PX, or Architect FX, extracellular matrix, per sq cm
Q4148 **(E/I)**	Neox Cord 1K, Neox Cord RT, or Clarix Cord 1K, per sq cm
Q4149 **(E/I)**	Excellagen, 0.1 cc
Q4150 **(E/I)**	AlloWrap DS or dry, per sq cm
Q4151	AmnioBand or Guardian, per sq cm
Q4152 **(E/I)**	DermaPure, per sq cm
Q4153 **(E/I)**	Dermavest and Plurivest, per sq cm
Q4154	Biovance, per sq cm
Q4155 **(E/I)**	Neox Flo or Clarix Flo, 1 mg
Q4156 **(E/I)**	Neox 100 or Clarix 100, per sq cm
Q4157 **(E/I)**	Revitalon, per sq cm
Q4158 **(E/I)**	Kerecis Omega3, per sq cm
Q4159 **(E/I)**	Affinity, per sq cm
Q4160 **(E/I)**	NuShield, per sq cm
Q4161 **(E/I)**	Bio-ConneKt wound matrix, per sq cm
Q4162 **(E/I)**	WoundEx Flow, BioSkin Flow, 0.5 cc
Q4163 **(E/I)**	WoundEx, BioSkin, per sq cm
Q4164 **(E/I)**	Helicoll, per sq cm
Q4165 **(E/I)**	Keramatrix or Kerasorb, per sq cm
Q4166 **(E/I)**	Cytal, per sq cm
Q4167 **(E/I)**	Truskin, per sq cm
Q4168 **(E/I)**	AmnioBand, 1 mg
Q4169 **(E/I)**	Artacent wound, per sq cm
Q4170 **(E/I)**	Cygnus, per sq cm
Q4171 **(E/I)**	Interfyl, 1 mg
Q4173 **(E/I)**	PalinGen or PalinGen Xplus, per sq cm
Q4174 **(E/I)**	PalinGen or ProMatrX, 0.36 mg per 0.25 cc
Q4175 **(E/I)**	Miroderm, per sq cm
Q4176 **(E/I)**	Neopatch or therion, per square centimeter
Q4177 **(E/I)**	FlowerAmnioFlo, 0.1 cc
Q4178 **(E/I)**	FlowerAmnioPatch, per sq cm
Q4179 **(E/I)**	FlowerDerm, per sq cm
Q4180 **(E/I)**	Revita, per sq cm
Q4181 **(E/I)**	Amnio Wound, per sq cm
Q4182 **(E/I)**	Transcyte, per sq cm
Q4183 **(E/I)**	Surgigraft, per sq cm
Q4184 **(E/I)**	Cellesta or Cellesta Duo, per sq cm
Q4185 **(E/I)**	Cellesta Flowable Amnion (25 mg per cc); per 0.5 cc
Q4186	Epifix, per sq cm

Code	Description
Q4187	Epicord, per sq cm
Q4188 **(E/I)**	AmnioArmor, per sq cm
Q4189 **(E/I)**	Artacent AC, 1 mg
Q4190 **(E/I)**	Artacent AC, per sq cm
Q4191 **(E/I)**	Restorigin, per sq cm
Q4192 **(E/I)**	Restorigin, 1 cc
Q4193 **(E/I)**	Coll-e-Derm, per sq cm
Q4194 **(E/I)**	Novachor, per sq cm
Q4195 **(E/I)**	PuraPly, per sq cm
Q4196 **(E/I)**	PuraPly AM, per sq cm
Q4197 **(E/I)**	PuraPly XT, per sq cm
Q4198 **(E/I)**	Genesis Amniotic Membrane, per sq cm
Q4199 **(E/I)**	Cygnus matrix, per sq cm
Q4200 **(E/I)**	SkinTE, per sq cm
Q4201 **(E/I)**	Matrion, per sq cm
Q4202 **(E/I)**	Keroxx (2.5 g/cc), 1cc
Q4203 **(E/I)**	Derma-Gide, per sq cm
Q4204 **(E/I)**	XWRAP, per sq cm
Q4205 **(E/I)**	Membrane Graft or Membrane Wrap, per sq cm
Q4206 **(E/I)**	Fluid Flow or Fluid GF, 1 cc
Q4208 **(E/I)**	Novafix, per sq cm
Q4209 **(E/I)**	SurGraft, per sq cm
Q4210 **(E/I)**	Axolotl Graft or Axolotl DualGraft, per sq cm
Q4211 **(E/I)**	Amnion Bio or axoBioMembrane, per sq cm
Q4212 **(E/I)**	AlloGen, per cc
Q4213 **(E/I)**	Ascent, 0.5 mg
Q4214 **(E/I)**	Cellesta Cord per sq cm
Q4215 **(E/I)**	Axolotl Ambient or Axolotl Cryo, 0.1 mg
Q4216 **(E/I)**	Artacent Cord, per sq cm
Q4217 **(E/I)**	WoundFix, BioWound, WoundFix Plus, BioWound Plus, WoundFix Xplus or BioWound Xplus, per sq cm
Q4218 **(E/I)**	SurgiCORD, per sq cm
Q4219 **(E/I)**	SurgiGRAFT-DUAL, per sq cm
Q4220 **(E/I)**	BellaCell HD or Surederm, per sq cm
Q4221 **(E/I)**	Amnio Wrap2, per sq cm
Q4222 **(E/I)**	ProgenaMatrix, per sq cm
Q4224 **(E/I)**	Human Health Factor 10 Amniotic Patch (HHF10-P), per sq cm
Q4225 **(E/I)**	AmnioBind, per sq cm
Q4226 **(E/I)**	MyOwn Skin, includes harvesting and preparation procedures, per sq cm
Q4227 **(E/I)**	AmnioCore TM, per sq cm
Q4229 **(E/I)**	Cogenex Amniotic Membrane, per sq cm
Q4230 **(E/I)**	Cogenex Flowable Amnion, per 0.5 cc
Q4231 **(E/I)**	Corplex P, per cc
Q4232 **(E/I)**	Corplex, per sq cm

Code	Description
Q4233 **(E/I)**	SurFactor or NuDyn, per 0.5 cc
Q4234 **(E/I)**	XCellerate, per sq cm
Q4235 **(E/I)**	AMNIOREPAIR or AltiPly, per sq cm
Q4236 **(E/I)**	CarePATCH, per sq cm *(reactivated 01/01/23)*
Q4237 **(E/I)**	Cryo-Cord, per sq cm
Q4238 **(E/I)**	Derm-Maxx, per sq cm
Q4239 **(E/I)**	Amnio-Maxx or Amnio-Maxx Lite, per sq cm
Q4240 **(E/I)**	CoreCyte, for topical use only, per 0.5 cc.
Q4241 **(E/I)**	PolyCyte, for topical use only, per 0.5 cc
Q4242 **(E/I)**	AmnioCyte Plus, per 0.5 cc
Q4244 **(E/I)**	Procenta, per 200 mg
Q4245 **(E/I)**	AmnioText, per cc
Q4246 **(E/I)**	CoreText or ProText, per cc
Q4247 **(E/I)**	Amniotext patch, per sq cm
Q4248 **(E/I)**	Dermacyte Amniotic Membrane Allograft, per sq cm
Q4249 **(E/I)**	AMNIPLY, for topical use only, per sq cm
Q4250 **(E/I)**	AmnioAmp-MP, per sq cm
Q4251 **(E/I)**	VIM per sq cm
Q4252 **(E/I)**	Vendaje, per sq cm
Q4253 **(E/I)**	Zenith Amniotic Membrane, per sq cm
Q4254 **(E/I)**	Novafix DL, per sq cm
Q4255 **(E/I)**	REGUaRD, for topical use only, per sq cm
Q4256 **(E/I)**	MLG-Complete, per sq cm
Q4257 **(E/I)**	Relese, per sq cm
Q4258 **(E/I)**	Enverse, per sq cm
Q4259 **(E/I)**	Celera Dual Layer or Celera Dual Membrane, per sq cm *(effective 7/1/22)*
Q4260 **(E/I)**	Signature APatch, per sq cm *(effective 7/1/22)*
Q4261 **(E/I)**	TAG, per sq cm *(effective 7/1/22)*
Q4262 **(E/I)**	Dual Layer Impax Membrane, per sq cm *(effective 1/1/23)*
Q4263 **(E/I)**	SurGraft TL, per sq cm *(effective 1/1/23)*
Q4264 **(E/I)**	Cocoon Membrane, per sq cm *(effective 1/1/23)*
Q4265 **(E/I)**	NeoStim TL, per sq cm *(effective 04/01/23)*
Q4266 **(E/I)**	NeoStim Membrane, per sq cm *(effective 04/01/23)*
Q4267 **(E/I)**	NeoStim DL, per sq cm *(effective 04/01/23)*
Q4268 **(E/I)**	SurGraft FT, per sq cm *(effective 04/01/23)*
Q4269 **(E/I)**	SurGraft XT, per sq cm *(effective 04/01/23)*
Q4270 **(E/I)**	Complete SL, per sq cm *(effective 04/01/23)*
Q4271 **(E/I)**	Complete FT, per sq cm *(effective 04/01/23)*
Q4272 **(E/I)**	Esano A, per sq cm *(effective 07/01/23)*
Q4273 **(E/I)**	Esano AAA, per sq cm *(effective 07/01/23)*
Q4274 **(E/I)**	Esano AC, per sq cm *(effective 07/01/23)*
Q4275 **(E/I)**	Esano ACA, per sq cm *(effective 07/01/23)*
Q4276 **(E/I)**	ORION, per sq cm *(effective 07/01/23)*
Q4277 **(E/I)**	WoundPlus membrane or E-Graft, per sq cm *(effective 07/01/23)*
Q4278 **(E/I)**	EPEFFEICT, per sq cm *(effective 07/01/23)*
Q4279 **(E/I)**	Vendaje AC, per sq cm *(effective 01/01/24)*
Q4280 **(E/I)**	Xcell Amnio Matrix, per sq cm *(effective 07/01/23)*

Code	Description
Q4281 **(E/I)**	Barrera SL or Barrera DL, per sq cm *(effective 07/01/23)*
Q4282 **(E/I)**	Cygnus Dual, per sq cm *(effective 07/01/23)*
Q4283 **(E/I)**	Biovance Tri-Layer or Biovance 3L, per sq cm *(effective 07/01/23)*
Q4284 **(E/I)**	DermaBind SL, per sq cm *(effective 07/01/23)*
Q4285 **(E/I)**	NuDYN DL or NuDYN DL MESH, per sq cm *(effective 10/01/23)*
Q4286 **(E/I)**	NuDYN SL or NuDYN SLW, per sq cm *(effective 10/01/23)*
Q4287 **(E/I)**	DermaBind DL, per sq cm *(effective 01/01/24)*
Q4288 **(E/I)**	DermaBind CH, per sq cm *(effective 01/01/24)*
Q4289 **(E/I)**	RevoShield+ Amniotic Barrier, per sq cm *(effective 01/01/24)*
Q4290 **(E/I)**	Membrane Wrap-Hydro, per sq cm *(effective 01/01/24)*
Q4291 **(E/I)**	Lamellas XT, per sq cm *(effective 01/01/24)*
Q4292 **(E/I)**	Lamellas, per sq cm *(effective 01/01/24)*
Q4293 **(E/I)**	Acesso DL, per sq cm *(effective 01/01/24)*
Q4294 **(E/I)**	Amnio Quad-Core, per sq cm *(effective 01/01/24)*
Q4295 **(E/I)**	Amnio Tri-Core Amniotic, per sq cm *(effective 01/01/24)*
Q4296 **(E/I)**	Rebound Matrix, per sq cm *(effective 01/01/24)*
Q4297 **(E/I)**	Emerge Matrix, per sq cm *(effective 01/01/24)*
Q4298 **(E/I)**	AmniCore Pro, per sq cm *(effective 01/01/24)*
Q4299 **(E/I)**	AmniCore Pro+, per sq cm *(effective 01/01/24)*
Q4300 **(E/I)**	Acesso TL, per sq cm *(effective 01/01/24)*
Q4301 **(E/I)**	Activate Matrix, per sq cm *(effective 01/01/24)*
Q4302 **(E/I)**	Complete ACA, per sq cm *(effective 01/01/24)*
Q4303 **(E/I)**	Complete AA, per sq cm *(effective 01/01/24)*
Q4304 **(E/I)**	GRAFIX PLUS, per sq cm *(effective 01/01/24)*
Q4305 **(E/I)**	American Amnion AC Tri-Layer, per sq cm *(effective 04/01/24)*
Q4306 **(E/I)**	American Amnion AC, per sq cm *(effective 04/01/24)*
Q4307 **(E/I)**	American Amnion, per sq cm *(effective 04/01/24)*
Q4308 **(E/I)**	Sanopellis, per sq cm *(effective 04/01/24)*
Q4309 **(E/I)**	VIA Matrix, per sq cm *(effective 04/01/24)*
Q4310 **(E/I)**	Procenta, per 100 mg *(effective 04/01/24)*

ICD10 Codes

Code	Description
C07	Malignant neoplasm of parotid gland
C50.011-C50.019	Malignant neoplasm of nipple and areola, female breast (code range)
C50.111-C50.119	Malignant neoplasm of central portion of female breast (code range)
C50.211-C50.219	Malignant neoplasm of upper-inner quadrant of female breast (code range)
C50.221-C50.229	Malignant neoplasm of upper-inner quadrant of male breast (code range)
C50.311-C50.319	Malignant neoplasm of lower-inner quadrant of female breast (code range)
C50.321-C50.329	Malignant neoplasm of lower-inner quadrant of male breast (code range)
C50.411-C50.419	Malignant neoplasm of upper-outer quadrant of female breast (code range)
C50.421-C50.429	Malignant neoplasm of upper-outer quadrant of male breast (code range)
C50.511-C50.519	Malignant neoplasm of lower-outer quadrant of female breast (code range)
C50.521-C50.529	Malignant neoplasm of lower-outer quadrant of male breast (code range)
C50.611-C50.619	Malignant neoplasm of axillary tail of female breast (code range)

Code	Description
C50.621-C50.629	Malignant neoplasm of axillary tail of male breast (code range)
C50.811-C50.819	Malignant neoplasm of overlapping sites of female breast (code range)
C50.821-C50.829	Malignant neoplasm of overlapping sites of male breast (code range)
C50.911-C50.919	Malignant neoplasm of unspecified site of female breast (code range)
C50.921-C50.929	Malignant neoplasm of unspecified site of male breast (code range)
D05.00-D05.92	Carcinoma in situ of breast (code range)
D11.0-D11.9	Benign neoplasm of major salivary gland (code range)
D37.030-D37.039	Neoplasm of uncertain behavior of the salivary glands (code range)
E08.621	Diabetes mellitus due to underlying condition with foot ulcer
E09.621	Drug or chemical induced diabetes mellitus with foot ulcer
E10.621	Type 1 diabetes mellitus with foot ulcer
E11.621	Type 2 diabetes mellitus with foot ulcer
E13.621	Other specified diabetes mellitus with foot ulcer
I83.001-I83.009	Varicose veins of unspecified lower extremity with ulcer (code range)
I83.011-I83.029	Varicose veins of lower extremity with ulcer (code range)
I83.201-I83.229	Varicose veins of lower extremity with both ulcer and inflammation (code range)
I87.311- I87.319	Chronic venous hypertension (idiopathic) with ulcer (code range)
K11.1-K11.9	Disease of salivary gland (code range)
K43.0-K43.2	Incisional hernia (code range)
L97.101-L97.929	Non-pressure chronic ulcer of lower limb, not elsewhere classified (code range)
T20.00XA-T25.399S	Burns - by site and degree of burn (code range)
T30.0	Burn of unspecified body region, unspecified degree
T30.4	Corrosion of unspecified body region, unspecified degree
T31.0-T31.99	Burns (code range)
T32.0-T32.99	Corrosions (code range)
Z85.3	Personal history of malignant neoplasm of breast
Z90.10-Z90.13	Acquired absence of breast and nipple (code range)

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*Key Article

KEY WORDS

Affinity, AlloDerm, AlloMax, AlloSkin, AlloWrap, AmnioBand, Amnioexcel, AmnioMatrix, Apligraf, Artacent Wound, ArthroFlex, Artificial skin, Avaulta Plus, Biobrane, Biobrane l, Bioengineered skin, Biologic tissue, Biovance, Clarix Flo, Collamend, Conexa, Cygnus Solo, Cygnus Matrix, Cygnus Max, Cymetra, Cytal Burn Matrix, Cytal Wound Matrix, DermACELL AWM, DermaMatrix, DermaPure, DermaSpan, Dermavest, Endoform Dermal Template, ENDURAgen, Epicel, EpiCord, EpiFix, Excellagen, E-Z Derm, FlexHD, GammaGraft, Grafix CORE, Grafix PRIME, GraftJacket, GraftJacket Xpress, Graftskin, Guardian, hMatrix, Hyalomatrix, Integra, Integra Bilayer Wound Matrix, Integra Dermal Regeneration Matrix, Integra Flowable Wound Matrix, IntegUPly, Interfyl, Laserskin, MariGen, Mediskin, Miroderm, Neoform, Neox, Neox 1K, Neox Flo, NuShield, OASIS Wound Matrix, OASIS Burn Matrix, OASIS Ultra, Omnigraft, Orcel, Orthoadapt, PalinGen - Membrane, Hydromembrane, Flow, and SportFlow, Pelvicol, Pelvisoft, Permacol, Primatrix, PuraPly, Restore, Revitalon, Skin substitute, StrataGraft, Strattice, SurgiMend, TenSIX, TheraSkin, Tissuemend, TranZgraft, TruSkin, Veritas Collagen Matrix, XCM Biological Tissue Matrix.

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

Based on our review, bioengineered tissue products are not addressed in National or Regional Medicare coverage determinations or policies.