



Skin and Soft Tissue Substitutes

LOB(s): <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Medicare	State(s): <input checked="" type="checkbox"/> Idaho <input checked="" type="checkbox"/> Montana <input checked="" type="checkbox"/> Oregon <input checked="" type="checkbox"/> Washington <input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Medicaid	<input checked="" type="checkbox"/> Oregon <input type="checkbox"/> Washington

Enterprise Policy

PacificSource is committed to assessing and applying current regulatory standards, widely-used treatment guidelines, and evidenced-based clinical literature when developing clinical criteria for coverage determination. Each policy contains a list of sources (references) that serves as the summary of evidence used in the development and adoption of the criteria. The evidence was considered to ensure the criteria provide clinical benefits that promote patient safety and/or access to appropriate care. Each clinical policy is reviewed, updated as needed, and readopted, at least annually, to reflect changes in regulation, new evidence, and advancements in healthcare.

Clinical Guidelines are written when necessary to provide guidance to providers and members in order to outline and clarify coverage criteria in accordance with the terms of the Member's policy. This Clinical Guideline only applies to PacificSource Health Plans PacificSource Community Health Plans, and PacificSource Community Solutions, in Idaho, Montana, Oregon, and Washington. Because of the changing nature of medicine, this list is subject to revision and update without notice. This document is designed for informational purposes only and is not an authorization or contract. Coverage determinations are made on a case-by-case basis and subject to the terms, conditions, limitations, and exclusions of the Member's policy. Member policies differ in benefits and to the extent a conflict exists between the Clinical Guideline and the Member's policy, the Member's policy language shall control. Clinical Guidelines do not constitute medical advice nor guarantee coverage.

Background

Skin and soft tissue substitutes are biologic, synthetic, or biosynthetic materials that may be used temporarily or permanently, eventually replacing damaged skin. Skin substitutes may be used to treat burns, chronic ulcers, or wounds. They may provide temporary coverage of wounds to facilitate healing, help reduce incidence of contracture or infection, either eliminate the need for grafting or as a bridge until the wound is ready for grafting.

Skin consists of two main layers, the dermis, and the epidermis. The epidermis is the outer, thinner layer of skin consisting of layers of stratified squamous epithelium. The epidermis has minimal blood vessels and nerve endings. The dermis is a dense connective tissue layer which lies beneath the epidermis. It is comprised of collagenous fibers, blood vessels, lymph channels, nerves, sebaceous glands, sweat glands and hair follicles.

Wounds may be described as partial-thickness or full-thickness.

Partial thickness wounds have damage to the epidermis and a portion of the dermis. Partial-thickness wounds may heal spontaneously if kept clean and protected; however, contractures formed by scar tissue may result.

Full-thickness wounds have damage that extends through both the dermis and the epidermis. Full-thickness wounds usually require excision followed by split-thickness grafts of varying thickness. Split-thickness grafts contain only small portions of dermis which is why skin substitutes may be elected for the treatment of larger surface area burns.

Deep partial thickness burns – These burns extend into the deeper dermis and are characteristically different from superficial partial-thickness burns. Deep burns damage hair follicles and glandular tissue. They are painful to pressure only, almost always blister (easily unroofed), are wet or waxy dry, and have variable mottled colorization from patchy cheesy white to red.

Skin and soft tissue substitutes may also be used for repair, reconstruction, and reinforce; tendons, cardiac applications, traumatic injuries, and other surgical procedures.

- DuraSeal is considered integral to dural repair during spinal surgery and is not separately reimbursed.
- Tisseel is considered integral to the surgery, when used, and is not separately reimbursed.
- TissueMend is considered integral to the surgery, when used, and is not separately reimbursed for the repair or reinforcement of soft tissues repaired by sutures or suture anchors during tendon repair surgery, including reinforcement of the rotator cuff, patellar, Achilles, biceps, quadriceps, or other tendons.

Criteria

Commercial

Prior authorization is required

I. Skin Substitutes for Breast Reconstruction Surgery

PacificSource considers the following products to be medically necessary when used in an approved breast reconstruction surgery:

- A. AlloDerm
- B. DermACELL

II. Skin Substitutes for Full Thickness or Deep Partial Thickness Burns

PacificSource considers **Integra Bilayer Matrix Wound Dressing, Integra Dermal Regeneration Template, and Integra Matrix** to be medically necessary for the post excisional treatment of full-thickness or deep partial-thickness burns when **EITHER** of the following criteria is met:

- A. There is a limited amount of the patient's own skin to use for autografts
- B. The member is too ill for autografting

III. Skin Substitutes for Diabetic Plantar Surface Foot Ulcers

PacificSource considers the use of **Dermagraft** to be medically necessary for treatment of diabetic plantar surface foot ulcers when **ALL** of the following criteria is met:

- A. The plantar surface ulcer has been present more than 3 weeks
- B. The ulcer has failed to respond to standard therapy (e.g., moist-wound therapy with alginates, foams, hydrocolloids, or hydrogels)
- C. There is no tendon, muscle, capsule, or bone exposed in ulcer

IV. Skin Substitutes for Venous Stasis Leg Ulcers and Diabetic Foot Ulcers:

PacificSource considers the use of **Apligraf** or the **sheet form of EpiFix** medically necessary for the treatment of venous stasis leg ulcers when **ALL** of the following criteria is met:

- A. The venous stasis ulcer has been present for more than one month
- B. The ulcer is not infected
- C. The ulcer has failed to respond to standard treatment prior to Apligraf or EpiFix application (e.g., compression dressings, Unna boot)

PacificSource considers the use of **Apligraf** or the **sheet form of EpiFix** medically necessary for the treatment of diabetic foot ulcers when **ALL** of the following criteria is met:

- A. The diabetic foot ulcer is full thickness
- B. The ulcer has been present more than 3 weeks
- C. The ulcer has failed to respond to standard therapy (e.g., moist-wound therapy with alginates, foams, hydrocolloids, or hydrogels)
- D. There is no tendon, muscle, capsule, or bone exposed in the ulcer bed

Medicaid

PacificSource Community Solutions (PCS) follows OARs 410-141-3820 to 3830, 410-151-0000 to 0003, & and 410-120-1200 for coverage of Skin and Soft Tissue Substitutes and Guideline Note 163 of the Oregon Health Plan (OHP) Prioritized List of Health Services for coverage of Skin and Soft Tissue Substitutes.

PacificSource Community Solutions (PCS) considers implantation of acellular dermal matrix for soft tissue reinforcement (15777) to be medically necessary when performed as part of an approved breast reconstruction surgery. For all other indications, PCS follows Guideline Note 172 of the Oregon Health Plan (OHP) Prioritized List of Health Services which considers this service to have an increased risk of adverse events and unclear benefits versus other effective therapies. Additionally, for members under the age of 21, PacificSource Community Solutions (PCS) follows OARs 410-151-0000 through 0003 for coverage of services.

Medicare

PacificSource Medicare follows CMS guidelines and criteria. In the absence of CMS guidelines and criteria, PacificSource Medicare will follow internal policy for determination of coverage and medical necessity.

Experimental/ Investigational/Unproven

PacificSource considers the use of AlloDerm and DermACELL to be to be experimental, investigational, or unproven for all other indications.

PacificSource considers the use of Integra Bilayer Matrix Wound Dressing, Integra Dermal Regeneration Template, and Integra Matrix to be to be experimental, investigational, or unproven for all other indications.

PacificSource considers the use of Dermagraft to be to be experimental, investigational, or unproven for all other indications.

PacificSource considers the use of Apligraf and EpiFix to be to be experimental, investigational, or unproven for all other indications.

PacificSource considers all new skin substitutes products to be experimental, investigational, or unproven until approved for coverage by PacificSource when specific indications and criteria listed in this policy are met.

The following skin substitutes are considered to be experimental, investigational, or unproven for any indication:

- ACM Surgical Collagen
- ACM Surgical Extra Advanced Collagen
- ACM Surgical Extra Advanced Collagen Powder
- ActiGraft
- AC5 Advanced Wound System (AC5)
- Adherus Dural Sealant
- Affinity Human Amniotic Allograft
- AlloAid amniotic liquid / amniotic patch
- AlloGen
- AlloGen Liquid
- AlloMax
- AlloSkin AC Acellular Dermal Matrix
- Alloskin RT
- AlloWrap
- AlphaGems amniotic tissue allograft
- AltiPlast
- AltiPly
- Ambio Choice amniotic membrane
- Amnioamp-mp
- AmnioArmor
- AmnioCare
- AmnioCord
- AmnioCyte Plus
- AmnioExCel
- AmnioFill Human Placental Tissue Allograft
- AmnioFix Amnion/Chorion Membrane Allograft
- Amnio FRT

- AmnioGenix
- AmnioHeal amniotic membrane
- Amniomatrix Human Amniotic Suspension Allograft
- Amnio-Maxx or Amnio-Maxx Lite
- AmnioMTM
- Amnion allograft ASG
- Amnion Bio
- Amniorepair
- Amnios' acellular liquid amnion
- AmnioShield
- AmnioStrip
- Amniotext (suspension or patch)
- Amnio Wound
- AmnioWrap2
- Amniotic fluid injection
- Amniotic Membrane Allograft (e.g., Axolotl Ambient, Axolotl Cryo, Axolotl Dual Graft, Axolotl Graft, Cygnus)
- Amniiox (human embryonic membrane)
- Amniplay
- AmnyoFactor
- AmnyoFluid
- Apis
- Apligraf for necrotizing lesions
- Architect ECM
- Architect PX
- Artacent Cord
- Artacent Wound
- Artelon (poly[urethane urea] elastomer)
- Arthres GraftRope

- Arthrex Amnion matrix
- Arthrex Amnion viscous
- Arthroflex (FlexGraft)
- Ascent (injectable derived from human amniotic fluid)
- Autologous blood-derived products (e.g., autologous platelet-rich plasma, autologous platelet gel, and autologous platelet-derived growth factors (e.g., Autologel, Procuren, SafeBlood))
- Autologous fat for the treatment of scars
- Avotermin
- AxoBioMembrane
- Axolotl Ambient
- Axolotl Cryo
- Axolotl DualGraft
- Axolotl Graft
- BellaCell HD
- Biobrane/Biobrane-L
- BioDexcel
- Biodesign® Surgisis® AFP™ Anal Fistula Plug, GORE BIO-A® Fistula Plug and SIS Fistula Plug
- BioDfactor Viable Tissue Matrix
- BioDfence human amniotic allograft
- BioDfence Dryflex
- BioDmatrix
- BioDOptix
- BioDRestore Elemental Tissue Matrix
- Bio-ConneKt
- BioFix Amniotic Membrane Allograft
- BioFix Flow Placental Tissue Matrix Allograft
- Bioinductive implant Regeneten
- Bionect
- BioSkin Flow
- Biostat Biologx fibrin sealant
- Biotape reinforcement matrix
- Biovance Amniotic Membrane Allograft

- BioWound Membrane
- BioWound Plus Membrane
- BioWound XPlus Membrane
- CarePATCH
- Celera Dual Membrane
- Celera Dual Layer
- CellECT (human amnion and amniotic fluid allograft)
- CellerateRX
- Cellesta Cord
- Cellesta Duo
- Cellesta Flowable Amnion
- Cellgenuity amniotic fluid
- Clarix 100
- Clarix Cord 1K
- Clarix Flo
- Clarix Regenerative Matrix
- Cocoon Membrane
- Cogenex amniotic membrane
- Cogenex Flowable Amnion
- CollaFix
- Colla-Pad
- CollaSorb collagen dressing
- CollaWound collagen sponge
- Coll-e-Derm
- Collexa
- Complete FT
- Complete SL
- Conexa reconstructive tissue matrix
- Cook Medical anal fistula plug
- CoreCyte
- CoreText

- CorMatrix ECM Patch
- Corplex or Corplex P
- Cortiva Allograft Dermis
- C-QUR biosynthetic mesh
- CRXa
- Cryo-Cord
- CryoText
- CYGNUS Amnion Patch Allografts
- CYGNUS Matrix
- Cymetra injectable allograft
- Cytal Burn Matrix
- Cytal Multilayer Wound Matrix
- Cytal Wound Matrix
- Dehydrated human amniotic membrane allograft (e.g., AmnioPro, BioFix and FlowerPatch)
- DermaBind
- DermaClose RC continuous external tissue expander
- Dermacyte
- Derma-Gide
- DermaMatrix (formerly InteXen) Porcine Dermal Matrix
- DermaPure
- DermaSpan Acellular Dermal Matrix
- Dermavest Human Placental Connective Tissue Matrix
- Derm-Maxx
- Dermis on Demand (DOD) allografts
- DryFlex (human amnion allograft)
- Dual Layer Impax Membrane
- DuraGen Plus dural regeneration matrix
- Dura-Guard (Dural Repair Patch)

- DuraMatrix
- Durepair Regeneration Matrix
- Endoform Dermal Template
- ENDURAGen
- Enverse
- TransCu O2 (E02 Concepts, San Antonio, TX) continuous diffusion of oxygen (CDO) therapy
- EpiBurn
- Epicel
- Epicord
- Epidex
- EPIFLO transdermal continuous oxygen therapy
- Equine-derived decellularized collagen products (e.g., OrthADAPT, Unite, and Unite Biomatrix)
- EZ Derm
- Evicel fibrin sealant
- Excellagen
- FlexHD acellular dermal matrix
- FloGraft Amniotic Fluid-Derived Allograft
- FlowerDerm
- FlowerFlo (FlowerAmnioFlo)
- FlowerPatch (FlowerAMINOPatch)
- Fluid Flow
- Fluid GF
- Fortaderm
- Fortaderm Antimicrobial
- Fortiva Porcine Dermis
- GalaFLEX Mesh
- Gammagraft skin substitute
- Genesis Amniotic Membrane

- GORE BIO-A Fistula Plug
- Grafix -preserved placental membrane
- GraftJacket / Xpress injectable allograft
- Guardian
- Helicoll
- Human Health Factor 10 Amniotic Patch (HHF10-P)
- Hyalomatrix (hMatrix ADM) Tissue Reconstruction Matrix
- HydroFix
- Inforce
- InnovaMatrix AC, InnovaMatrix FS
- InteguPly
- Interfyl Human Connective Tissue Matrix
- Jacob's Ladder external closure device
- Keramatrix
- Kerasorb Wound Matrix
- Kerecis (Mirragen wound matrix3)
- Keroxx Flowable Wound Matrix
- LiquidGen
- Lyoplant
- Matriderm
- Matrion
- MatriStem Burn Matrix
- MatriStem Micro Matrix
- MatriStem UBM (Urinary Bladder Matrix)
- MatriStem Wound Matrix
- Matrix HD Allograft
- Matrix PSM
- MediHoney

- Mediskin
- Medeor
- Membrane Graft
- Membrane Wrap-Hydro
- MemoDerm
- Meso BioMatrix
- MiAmnion for the treatment of burns
- Micro3d
- MicroMatrix
- MIRODERM
- Mirragen Advanced Wound Matrix
- MLG Complete
- MyOwn Skin
- Myriad Morcells
- Neoform Dermis for wound healing
- NeoMatriX Wound Matrix
- NeoPatch chorioamniotic membrane allograft
- NeoStim DL
- NeoStim Membrane
- NeoStim TL
- Neox Cord 1K
- Neox 100
- Neox Flo
- Neuragen
- Neuroflex
- Novachor
- Novafix
- Novafix DL

- NovoSorb SynPath dermal matrix
- NuCel liquid wound covering
- NuDyn
- NuShield, NuShield Orthopaedics, and NuShield Spine
- Oasis burn matrix
- Oasis Tri-Layer Matrix
- Ologen Collagen Matrix
- Omega3 MariGen, Omega3 MariGen Shield, Omega3 Wound ECM, Omega3 Wound Matrix (Kerecis fish s
- Omeza Collagen Matrix
- OrCel
- OrthADAPT Bioimplant (type I collagen scaffold)
- OrthoFlo
- OsseoGuard
- Ovation
- OviTex (reinforced tissue matrix)
- PalinGen Flow
- PalinGen Hydromembrane
- PalinGen Membrane
- Palingen SportFlow
- PalinGen XPlus Hydromembrane
- PalinGen XPlus Membrane
- ParaDerm dermal matrix
- Parietex Composite (PCO) Mesh
- Peri-Guard Repair Patch
- Peri-Strips Dry, and Peri-Strips Dry with Veritas Collagen Matrix
- Permacol Biologic Implant
- PermeaDerm B
- PermeaDerm C

- PermeaDerm Glove
- Phoenix Wound Matrix
- Placental tissue matrix allograft
- Plurivest Human Placental Connective Tissue Matrix
- PolyCyte
- Porcine-derived decellularized collagen products (e.g., Collamend, Cuffpatch, Pelvicol, and Pelvisoft)
- Porcine-derived decellularized fetal skin products (e.g., Mediskin)
- Porcine-derived polypropylene composite wound dressing (e.g., Avaulta Plus)
- PriMatrix Dermal Repair Scaffold
- PRISMA matrix wound dressing
- Pro3-C amniotic membrane
- Procenta
- ProgenaMatrix
- ProLayer human allograft acellular dermal matrix
- ProMatrX ACF
- Promogran Matrix
- ProText
- PTFE felt
- Puracol Collagen Wound Dressing
- Puracol Plus Collagen Wound Dressing
- PuraPly Antimicrobial Wound Matrix (PuraPly AM)
- PuraPly Wound Matrix (PuraPly)
- Puros Dermis
- Radiofrequency stimulation devices (e.g., Provant Wound Closure System, MicroVas Vascular Treatment System)
- RECELL Autologous Cell Harvesting Device (RECELL)
- Reguard
- Relese

- ReNu (amniotic membrane and fluid allograft)
- Renuva
- Repliform
- Repriza
- Resolve Matrix
- Restrata
- Revita
- Revitalon
- RHEO (BioStem Life Sciences, Inc.)
- Seamguard
- Signature APatch
- SkinTE for the treatment of burns
- Silver-coated wound dressings (e.g., Acticoat, Actisorb, Aquacel Ag, Granufoam silver VAC dressing, Mepitel Ag, and Silversorb)
- Solana allograft
- Sonafine wound dressing
- SportMatrix
- SportMesh
- SteriShield II dual layer amnion patch
- Strattice Reconstructive Tissue Matrix
- StrataGraft
- Stravix
- Stravix PL
- Supra SDRM
- Suprathel
- SureDerm
- SurFactor
- SurgiCORD

- surgiGRAFT
- SurgiGRAFT-DUAL
- SurGraft FT
- SurGraft TL
- SurGraft XT
- SurgiMend
- Surgisis (including Surgisis AFP Anal Fistula Plug, Surgisis Gold Hernia Repair Grafts, and Surgisis Biodesign)
- SurGraft
- Symphony
- TAG
- Talymed
- TenoGlide tendon protector sheet (Tendon Wrap™ tendon protector)
- TenSIX Acellular Dermal Matrix
- TheraForm Standard/Sheet Absorbable Collagen Membrane
- TheraGenesis
- TheraSkin
- Tornier BioFiber Absorbable Biological Scaffold, and Tornier Collagen Coated BioFiber Scaffold
- Transcyte
- Truskin
- Unite Biomatrix
- Vaso Shield
- Veritas Collagen Matrix
- VersaWrap Tendon Protector
- Viaflow / Viaflow C flowable placental tissue matrices
- Vitagel surgical hemostat
- Vendaje
- Vendaje AC (BioStem Life Sciences, Inc.)

- VIM Human Amniotic Membrane
- WoundEx Flow
- WoundEx Membrane
- WoundFix Membrane
- WoundFix Plus Membrane
- WoundFix XPlus Membrane
- XCellerate
- XCM Biologic Tissue Matrix
- Xelma
- XcelliStem
- XenMatrix
- X-Repair
- Xwrap Amniotic Membrane-Derived Allograft
- XWrap Dry or Hydro Plus
- Zenith Amniotic Membrane
- Xelma

Coding Information

The following list of codes are for informational purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Skin Substitute Grafts: The type of skin substitute graft(s) (Q code) should be requested in conjunction with the application 15271- 15278.

- 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 (List separately in addition to code for primary procedure)
- 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% of body area of infants and children, or part thereof (List separately in addition to code for primary procedure)

- 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 (List separately in addition to code for primary procedure)
- 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% of body area of infants and children, or part thereof
- 15777 Implantation of biologic implant (e.g., acellular dermal matrix) for soft tissue reinforcement (e.g., breast, trunk) (List separately in addition to code for primary procedure)
- 46707 Repair of anorectal fistula with plug (e.g.: porcine small intestine submucosa).

HCPCS	Product
A2001	InnovaMatrix® AC
A2002	Mirragen Advanced Wound Matrix, per sq cm
A2004	XCelliStem, 1 mg
A2005	Microlyte Matrix, per sq cm
A2006	NovoSorb SynPath dermal matrix, per sq cm
A2007	Restrata, per sq cm
A2008	TheraGenesis, per sq cm
A2009	Symphony, per sq cm
A2010	Apis, per sq cm
A2011	Supra SDRM, per sq cm
A2012	Suprathel
A2013	InnovaMatrix® FS
A2014	Omeza Collagen Matrix, per 100 mg
A2015	Phoenix Wound Matrix, per sq cm
A2016	PermeaDerm B, per sq cm

A2017	PermeaDerm Glove, each
A2018	PermeaDerm C, per sq cm
A2019	Kerecis Omega3 MariGen Shield, per sq cm
A2020	AC5 Advanced Wound System (AC5)
A2021	NeoMatriX, per sq cm
A2022	Innovaburn or innovamatrix xl, per sq cm
A2023	Innovamatrix pd, 1mg
A2024	Resolve matrix, per sq cm
A2025	Miro3d, per cubic cm
A2026	Restrata MiniMatrix, 5 mg
A4100	Skin substitute, FDA-cleared as a device, not otherwise specified
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
L8699	Prosthetic implant, not otherwise specified
Q4100	Skin substitute, not otherwise specific
Q4101	Apligraf
Q4102	Oasis Wound Matrix
Q4103	Oasis Burn Matrix
Q4104	Integra Bilayer Matrix Wound
Q4105	Integra Dermal Regeneration Template (IDRT)
Q4105	Integra Omnigraft Dermal Regeneration Matrix
Q4106	Dermagraft
Q4107	Graftjacket
Q4108	Integra Matrix Wound

Q4110	Primatrix, per sq cm
Q4111	GammaGraft, per sq cm
Q4113	GraftJacket Xpress
Q4114	Integra Flowable Wound Matrix, injectable, 1 cc
Q4115	Alloskin, per square centimeter
Q4116	Alloderm
Q4117	Hyalomatrix, per sq. cm
Q4118	MatriStem micro matrix, 1 mg
Q4121	TheraSkin, per square centimeter
Q4122	DermACELL, per square centimeter
Q4123	Alloskin RT, per sq. cm
Q4124	Oasis ultra tri layer matrix, per sq cm
Q4125	ArthroFlex, per sq cm
Q4126	Memoderm, dermaspan, tranzgraft or integuply, per square centimeter.
Q4127	Talymed®, per sq. cm
Q4128	FlexHD Allopatch HD, or Matrix HD, per sq cm
Q4130	Strattice/StrataGraft
Q4132	Grafix core, per square centimeter
Q4133	Grafix prime, per square centimeter
Q4134	Hmatrix, per square centimeter
Q4135	MediSkin
Q4136	Ez-derm, per square centimeter
Q4137	AmnioExcel or BioDexcel
Q4138	Biodfence dryflex,
Q4139	Amniomatrix or biodmatrix, injectable, 1 cc

Q4140	Biodfence
Q4141	Alloskin
Q4142	Xcm biologic tissue matrix,
Q4143	Repriza,
Q4145	Epifix, injectable, 1 mg
Q4146	TenSIX
Q4147	Architect, Architect PT, Architect Fx, extracellular matrix
Q4148	Neox Cord 1k, Neox Cord RT, Clarix Cord1k
Q4149	Excellagen, 0.1 cc
Q4150	Allowrap® ds or dry, per square centimeter
Q4151	Amnioband or guardian, per square centimeter
Q4152	Dermapure, per square centimeter
Q4153	Dermavest or Plurivest per square centimeter
Q4154	Biovance, per square centimeter
Q4155	Neox Flo or clarix Flo, 1 mg
Q4156	Neox 100 or Clarix, per square centimeter
Q4157	Revitalon, per square centimeter
Q4158	Kerecis Omega3
Q4159	Affinity, per square centimeter
Q4160	Nushield, per square centimeter
Q4161	Bio-connekt wound matrix, per square centimeter
Q4162	BioSkin Flow, WoundEx Flow
Q4163	BioSkin, WoundEx,
Q4164	Helicoll, per square centimeter
Q4165	Keramatrix or Kerasorb, per square centimeter

Q4166	Cytal, per square centimeter
Q4167	Truskin, per square centimeter
Q4168	Amnioband, 1 mg
Q4169	Artacent wound, per square centimeter
Q4170	Cygnus, per square centimeter
Q4171	Interfyl, 1 mg
Q4173	PalinGen or PalinGen XPlus, per sq cm
Q4174	PalinGen or ProMatrX, 0.36 mg per 0.25 cc
Q4175	Miroderm, per sq cm
Q4176	Neopatch or therion, per square centimeter
Q4177	Flower AmnioFlo, 0.1 cc
Q4178	FlowerAmnioPatch, per sq cm
Q4179	FlowerDerm, per sq cm
Q4180	Revita, per sq cm
Q4181	Amnio Wound, per sq cm
Q4182	Transcyte, per sq cm
Q4183	Surgigraft, per sq cm
Q4184	Cellesta or Cellesta Duo, per sq cm
Q4185	Cellesta Flowable Amnion (25 mg per cc); per 0.5 cc
Q4186	EpiFix, per sq cm
Q4187	Epicord, per sq cm
Q4188	AmnioArmor,
Q4189	Artacent AC, 1 mg
Q4190	Artacent AC, per sq cm
Q4191	Restorigin, per sq cm

Q4192	Restorigin, 1 cc
Q4193	Coll-e-Derm, per sq cm
Q4194	Novachor, per sq cm
Q4195	PuraPly, per sq cm
Q4196	PuraPly AM, per sq cm
Q4197	PuraPly XT, per sq cm
Q4198	Genesis Amniotic Membrane, per sq cm
Q4199	Cygnus Matrix
Q4200	SkinTE, per sq cm
Q4201	Matrion, per sq cm
Q4202	Keroxx (2.5 g/cc), 1 cc
Q4203	Derma-Gide, per sq cm
Q4204	XWRAP, per sq cm
Q4205	Membrane Graft or Membrane Wrap, per sq cm
Q4206	Fluid Flow or Fluid GF, 1 cc
Q4208	Novafix, per sq cm
Q4209	SurGraft, per sq cm
Q4210	Axolotl Graft or Axolotl DualGraft, per sq cm
Q4211	Amnion Bio or AxoBioMembrane, per sq cm
Q4212	AlloGen, per cc
Q4213	Ascent, 0.5 mg
Q4214	Cellesta Cord, per sq cm
Q4215	Axolotl Ambient, Axolotl Cryo, Axolotl Dual Graft
Q4216	Artacent Cord, per sq cm
Q4217	WoundFix, BioWound, WoundFix Plus, BioWound Plus, WoundFix Xplus or BioWound Xplus, per sq cm

Q4218	SurgiCORD, per sq cm
Q4219	SurgiGRAFT-DUAL, per sq cm
Q4220	BellaCell HD or Surederm, per sq cm
Q4221	AmnioWrap 2
Q4222	ProgenaMatrix, per sq cm
Q4224	Human Health Factor 10 Amniotic Patch (HHF10-P), per sq cm
Q4225	AmnioBind, per sq cm
Q4226	MyOwn Skin, per sq cm
Q4227	AmnioCore TM, per sq cm
Q4229	Cogenex Amniotic Membrane, per sq cm
Q4230	Cogenex Flowable Amnion, per 0.5 cc
Q4231	Corplex P, per cc
Q4232	Corplex, per square centimeter
Q4233	SurFactor or NuDyn, per 0.5 cc
Q4234	XCellerate, per sq cm
Q4235	AMNIOREPAIR or AltiPly, per sq cm
Q4236	carePATCH, per sq cm
Q4237	Cryo-Cord, per sq cm
Q4238	Derm-Maxx, per sq cm
Q4239	Amnio-Maxx or Amnio-Maxx Lite, per sq cm
Q4240	CoreCyte, for topical use only, per 0.5 cc
Q4241	PolyCyte, for topical use only, per 0.5 cc
Q4242	AmnioCyte Plus, per 0.5 cc
Q4245	AmnioText, per cc
Q4246	CoreText or ProText, per cc

Q4247	Amniotext patch, per sq cm
Q4248	Dermacyte Amniotic Membrane Allograft, per sq cm
Q4249	AMNIPLY, for topical use only, per sq cm
Q4250	AmnioAmp-MP, per sq cm
Q4251	Vim, per sq cm
Q4252	Vendaje, per sq cm
Q4253	Zenith Amniotic Membrane, per sq cm
Q4254	Novafix DL, per sq cm
Q4255	REGUaRD, for topical use only, per sq cm
Q4256	MLG-Complete, per sq cm
Q4257	Relese, per sq cm
Q4258	Enverse, per sq cm
Q4259	Celera Dual Layer or Celera Dual Membrane, per sq cm
Q4260	Signature APatch, per sq cm
Q4261	TAG, per sq cm
Q4262	Dual Layer Impax Membrane, per sq cm
Q4263	SurGraft TL, per sq cm
Q4264	Cocoon Membrane, per sq cm
Q4265	NeoStim TL, per sq cm
Q4266	NeoStim Membrane, per sq cm
Q4267	NeoStim DL, per sq cm
Q4268	SurGraft FT, per sq cm
Q4269	SurGraft XT, per sq cm
Q4270	Complete SL, per sq cm
Q4271	Complete FT, per sq cm

Q4272	Esano A, per sq cm
Q4273	Esano AAA, per sq cm
Q4274	Esano AC, per sq cm
Q4275	Esano ACA, per sq cm
Q4276	ORION, per sq cm
Q4277	WoundPlus membrane or E-Graft, per sq cm
Q4278	EPIEFFECT, per sq cm
Q4279	Vendaje AC, per sq cm
Q4280	Xcell Amnio Matrix, per sq cm
Q4281	Barrera SL or Barrera DL, per sq cm
Q4282	Cygnus Dual, per sq cm
Q4283	Biovance Tri-Layer or Biovance 3L, per sq cm
Q4284	DermaBind SL, per sq cm
Q4285	NuDYN DL or NuDYN DL MESH, per sq cm
Q4286	NuDYN SL or NuDYN SLW, per sq cm
Q4287	DermaBind DL, per sq cm
Q4288	DermaBind CH, per sq cm
Q4289	RevoShield+ Amniotic Barrier, per sq cm
Q4290	Membrane Wrap-Hydro(TM), per sq cm
Q4291	Lamellas XT, per sq cm
Q4291	Lamellas, per sq cm
Q4293	Acesso DL, per sq cm
Q4294	Amnio Quad-Core, per sq cm
Q4295	Amnio Tri-Core Amniotic, per sq cm
Q4297	Emerge Matrix, per sq cm

Q4298	AmniCore Pro, per sq cm
Q4299	AmniCore Pro+, per sq cm
Q4300	Acesso TL, per sq cm
Q4301	Activate Matrix, per sq cm
Q4302	Complete ACA, per sq cm
Q4303	Complete AA, per sq cm
Q4304	GRAFIX PLUS, per sq cm
Q4305	American Amnion AC Tri-Layer, per sq cm
Q4306	American Amnion AC, per sq cm
Q4307	American Amnion, per sq cm
Q4308	Sanopellis, per sq cm
Q4309	VIA Matrix, per sq cm
Q4310	Procenta, per 100 mg

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Related Policies

New and Emerging Technologies – Coverage Status

Bone and Tendon Graft Substitutes

Gender Affirming Surgery and Related Procedures

Reduction Mammoplasty

References

Agency for Healthcare Research and Quality's (AHRQ). (January 28, 2019). Technology Assessment Program: Skin substitutes for treating chronic wounds. Draft technical brief. Available at:

https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/ta/drafts-for-review/skin-substitutes_draft.pdf.

Broderick, C., Pagnamenta, F., & Forster, R. (2020). Dressings and topical agents for arterial leg ulcers. The Cochrane database of systematic reviews, 1(1), CD001836.

<https://doi.org/10.1002/14651858.CD001836.pub4>

B., Follmann, M., Freyer, D., Huppertz, H., Ehm, A., & Wasem, J. (2011). The evidence for the use of growth factors and active skin substitutes for the treatment of non-infected diabetic foot ulcers (DFU): a health technology assessment (HTA). *Experimental and clinical endocrinology & diabetes : official journal, German Society of Endocrinology [and] German Diabetes Association*, 119(8), 472–479.

Canadian Agency for Drugs and Technologies in Health. (2011). Non-adherent versus traditional dressings for wound care: Comparative effectiveness, safety, and guidelines. Ottawa, ON: Canadian Agency for Drugs and Technologies in Health (CADTH).

Centers for Medicare & Medicaid Services (CMS). October 17, 2023). Healthcare Common Procedure Coding System (HCPCS) Application Summaries and Coding Recommendations. Third Quarter, 2023 HCPCS Coding Cycle.

Centers for Medicare and Medicaid Services. (February 2, 2020). Technology Assessment Program: Skin Substitutes for Treating Chronic Wounds. Available at:
<https://www.cms.gov/Medicare/Coverage/DeterminationProcess/downloads/id109TA.pdf>

Chaby, G., Senet, P., Vaneau, M., Martel, P., Guillaume, J. C., Meaume, S., Téot, L., Debure, C., Domp Martin, A., Bachelet, H., Carsin, H., Matz, V., Richard, J. L., Rochet, J. M., Sales-Aussias, N., Zagnoli, A., Denis, C., Guillot, B., & Chosidow, O. (2007). Dressings for acute and chronic wounds: a systematic review. *Archives of dermatology*, 143(10), 1297–1304.
<https://doi.org/10.1001/archderm.143.10.1297>

Cheng, A., & Saint-Cyr, M. (2012). Comparison of different ADM materials in breast surgery. *Clinics in plastic surgery*, 39(2), 167–175. <https://doi.org/10.1016/j.cps.2012.02.004>

Diabetes Canada Clinical Practice Guidelines Expert Committee, Embil, J. M., Albalawi, Z., Bowering, K., & Trepman, E. (2018). Foot Care. *Canadian journal of diabetes*, 42 Suppl 1, S222–S227.
<https://doi.org/10.1016/j.jcjd.2017.10.020>

Dumville, J. C., Deshpande, S., O'Meara, S., & Speak, K. (2011). Foam dressings for healing diabetic foot ulcers. *The Cochrane database of systematic reviews*, (9), CD009111.
<https://doi.org/10.1002/14651858.CD009111.pub2>

Dumville, J. C., Deshpande, S., O'Meara, S., & Speak, K. (2012). Hydrocolloid dressings for healing diabetic foot ulcers. *The Cochrane database of systematic reviews*, (2), CD009099.
<https://doi.org/10.1002/14651858.CD009099.pub2>

Dumville, J. C., O'Meara, S., Deshpande, S., & Speak, K. (2012). Alginate dressings for healing diabetic foot ulcers. *The Cochrane database of systematic reviews*, (2), CD009110.
<https://doi.org/10.1002/14651858.CD009110.pub2>

Dumville, J. C., O'Meara, S., Deshpande, S., & Speak, K. (2013). Hydrogel dressings for healing diabetic foot ulcers. *The Cochrane database of systematic reviews*, 2013(7), CD009101.
<https://doi.org/10.1002/14651858.CD009101.pub3>

Dumville, J. C., Walter, C. J., Sharp, C. A., & Page, T. (2011). Dressings for the prevention of surgical site infection. *The Cochrane database of systematic reviews*, (7), CD003091.
<https://doi.org/10.1002/14651858.CD003091.pub2>

Ehrenreich, M., & Ruszczak, Z. (2006). Update on tissue-engineered biological dressings. *Tissue engineering*, 12(9), 2407–2424. <https://doi.org/10.1089/ten.2006.12.2407>

Greer, N., Foman, N. A., MacDonald, R., Dorrian, J., Fitzgerald, P., Rutks, I., & Wilt, T. J. (2013). Advanced wound care therapies for nonhealing diabetic, venous, and arterial ulcers: a systematic review. *Annals of internal medicine*, 159(8), 532–542. <https://doi.org/10.7326/0003-4819-159-8-201310150-00006>

Greer, N., Foman, N. A., MacDonald, R., Dorrian, J., Fitzgerald, P., Rutks, I., & Wilt, T. J. (2013). Advanced wound care therapies for nonhealing diabetic, venous, and arterial ulcers: a systematic

review. *Annals of internal medicine*, 159(8), 532–542. <https://doi.org/10.7326/0003-4819-159-8-201310150-00006>

Hayes Knowledge Center. (May 10, 2023). Health Technology Assessment: Acellular Skin Substitutes for Chronic Foot Ulcers in Adults with Diabetes Mellitus.

Hayes Knowledge Center. (April 24, 2023). Health Technology Assessment: Cellular Skin Substitutes for Chronic Foot Ulcers in Adults with Diabetes Mellitus.

Hayes Knowledge Center. (February 28, 2022). Health Technology Assessment: Comparative Effectiveness Review of Human Acellular Dermal Matrix for Breast Reconstruction.

Hunt D. L. (2011). Diabetes: foot ulcers and amputations. *BMJ clinical evidence*, 2011, 0602.

Isaacs, J. E., McDaniel, C. O., Owen, J. R., & Wayne, J. S. (2008). Comparative analysis of biomechanical performance of available "nerve glues". *The Journal of hand surgery*, 33(6), 893–899. <https://doi.org/10.1016/j.jhsa.2008.02.009>

Jones, J. E., Nelson, E. A., & Al-Hity, A. (2013). Skin grafting for venous leg ulcers. *The Cochrane database of systematic reviews*, 2013(1), CD001737. <https://doi.org/10.1002/14651858.CD001737.pub4>

Skin grafting for venous leg ulcers. *The Cochrane database of systematic reviews*, 2013(1), CD001737. <https://doi.org/10.1002/14651858.CD001737.pub4>

Kranke, P., Bennett, M. H., Martyn-St James, M., Schnabel, A., & Debus, S. E. (2012). Hyperbaric oxygen therapy for chronic wounds. *The Cochrane database of systematic reviews*, (4), CD004123. <https://doi.org/10.1002/14651858.CD004123.pub3>

Lipsky, B. A., Berendt, A. R., Cornia, P. B., Pile, J. C., Peters, E. J., Armstrong, D. G., Deery, H. G., Embil, J. M., Joseph, W. S., Karchmer, A. W., Pinzur, M. S., Senneville, E., & Infectious Diseases Society of America (2012). 2012 Infectious Diseases Society of America clinical practice guideline for the diagnosis and treatment of diabetic foot infections. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*, 54(12), e132–e173. <https://doi.org/10.1093/cid/cis346>

National Institute for Health and Care Excellence (NICE). (2023). Diabetic foot problems: prevention and management.

National Institute for Health and Care Excellence (NICE). (2015) .Diabetic foot problems: Prevention and management.

National Institute for Health and Clinical Excellence (NICE). (2011). Clinical Guideline 119: Diabetic foot problems: Inpatient management of diabetic foot problems.

O'Meara, S., Martyn-St James, M., & Adderley, U. J. (2015). Alginate dressings for venous leg ulcers. *The Cochrane database of systematic reviews*, 2015(8), CD010182. <https://doi.org/10.1002/14651858.CD010182.pub3>

O'Meara, S., & Martyn-St James, M. (2013). Foam dressings for venous leg ulcers. *The Cochrane database of systematic reviews*, (5), CD009907.

Palfreyman, S. J., Nelson, E. A., Lochiel, R., & Michaels, J. A. (2006). Dressings for healing venous leg ulcers. *The Cochrane database of systematic reviews*, (3), CD001103. <https://doi.org/10.1002/14651858.CD001103.pub2>

Rice, P., L., Orgill, D. (2023, February 20). Assessment and classification of burn injury. UpToDate. https://www.uptodate.com/contents/assessment-and-classification-of-burn-injury?search=Deep+Partial+Thickness&source=search_result&selectedTitle=2~55&usage_type=default&display_rank=2

Reddy M. (2011). Pressure ulcers. *BMJ clinical evidence*, 2011, 1901.

Santema, T. B., Poyck, P. P., & Ubbink, D. T. (2016). Skin grafting and tissue replacement for treating foot ulcers in people with diabetes. *The Cochrane database of systematic reviews*, 2(2), CD011255.

Shahrokhi, S. (2022, February). Skin substitutes. UpToDate. https://www.uptodate.com/contents/skin-substitutes?search=skin+substitute&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1

Snyder, D., Sullivan, N., Margolis, D., & Schoelles, K. (2020). *Skin Substitutes for Treating Chronic Wounds*. Agency for Healthcare Research and Quality (US).

Sobti, N., Ji, E., Brown, R. L., Cetrulo, C. L., Jr, Colwell, A. S., Winograd, J. M., Austen, W. G., Jr, & Liao, E. C. (2018). Evaluation of Acellular Dermal Matrix Efficacy in Prosthesis-Based Breast Reconstruction. *Plastic and reconstructive surgery*, 141(3), 541–549. <https://doi.org/10.1097/PRS.0000000000004109>

Sonnad, S. S., Goldsack, J. C., Mohr, P., & Tunis, S. (2013). Methodological recommendations for comparative research on the treatment of chronic wounds. *Journal of wound care*, 22(9), 470–480. <https://doi.org/10.12968/jowc.2013.22.9.470>

Sorkin, M., Qi, J., Kim, H. M., Hamill, J. B., Kozlow, J. H., Pusic, A. L., & Wilkins, E. G. (2017). Acellular Dermal Matrix in Immediate Expander/Implant Breast Reconstruction: A Multicenter Assessment of Risks and Benefits. *Plastic and reconstructive surgery*, 140(6), 1091–1100. <https://doi.org/10.1097/PRS.0000000000003842>

Wasiak, J., & Cleland, H. (2009). Burns (minor thermal). *BMJ clinical evidence*, 2009, 1903.

Zenilman, J., Valle, M. F., Malas, M. B., Maruthur, N., Qazi, U., Suh, Y., Wilson, L. M., Haberl, E. B., Bass, E. B., & Lazarus, G. (2013). *Chronic Venous Ulcers: A Comparative Effectiveness Review of Treatment Modalities*. Agency for Healthcare Research and Quality (US).

Affinity

1. McQuilling, J. P., Vines, J. B., & Mowry, K. C. (2017). In vitro assessment of a novel, hypothermically stored amniotic membrane for use in a chronic wound environment. *International wound journal*, 14(6), 993–1005.
2. Mowry, K. C., Bonvallet, P. P., & Bellis, S. L. (2017). Enhanced Skin Regeneration Using a Novel Amniotic-derived Tissue Graft. *Wounds : a compendium of clinical research and practice*, 29(9), 277–285.
3. Sabo M, Moore S, Yaakov R, et al. (2018). Chronic Wound Care Manage Research. Fresh hypothermically stored amniotic allograft in the treatment of chronic nonhealing ulcers: A prospective case series. 5,1-4.
4. Serena, T. E., Yaakov, R., Moore, S., Cole, W., Coe, S., Snyder, R., Patel, K., Doner, B., Kasper, M. A., Hamil, R., Wendling, S., & Sabolinski, M. L. (2020). A randomized controlled clinical trial of a hypothermically stored amniotic membrane for use in diabetic foot ulcers. *Journal of comparative effectiveness research*, 9(1), 23–34.

AlloDerm

1. Australia and New Zealand Horizon Scanning Network (ANZHSN). (February 2007). AlloDerm for deep superficial and full-thickness burns. Horizon Scanning Prioritizing Summary.
2. Aycock, J., Fichera, A., Colwell, J. C., & Song, D. H. (2007). Parastomal hernia repair with acellular dermal matrix. *Journal of wound, ostomy, and continence nursing : official publication of The Wound, Ostomy and Continence Nurses Society*, 34(5), 521–523.
3. Beale, E. W., Hoxworth, R. E., Livingston, E. H., & Trussler, A. P. (2012). The role of biologic mesh in abdominal wall reconstruction: a systematic review of the current literature. *American journal of surgery*, 204(4), 510–517.
4. Bindingavele, V., Gaon, M., Ota, K. S., Kulber, D. A., & Lee, D. J. (2007). Use of acellular cadaveric dermis and tissue expansion in postmastectomy breast reconstruction. *Journal of plastic, reconstructive & aesthetic surgery : JPRAS*, 60(11), 1214–1218.
5. Bluebond-Langner, R., Keifa, E. S., Mithani, S., Bochicchio, G. V., Scalea, T., & Rodriguez, E. D. (2008). Recurrent abdominal laxity following interpositional human acellular dermal matrix. *Annals of plastic surgery*, 60(1), 76–80.
6. Bochicchio, G. V., De Castro, G. P., Bochicchio, K. M., Weeks, J., Rodriguez, E., & Scalea, T. M. (2013). Comparison study of acellular dermal matrices in complicated hernia surgery. *Journal of the American College of Surgeons*, 217(4), 606–613.
7. Breuing, K. H., & Colwell, A. S. (2007). Inferolateral AlloDerm hammock for implant coverage in breast reconstruction. *Annals of plastic surgery*, 59(3), 250–255.
8. Brooke, S., Mesa, J., Uluer, M., Michelotti, B., Moyer, K., Neves, R. I., Mackay, D., & Potochny, J. (2012). Complications in tissue expander breast reconstruction: a comparison of AlloDerm, DermaMatrix, and FlexHD acellular inferior pole dermal slings. *Annals of plastic surgery*, 69(4), 347–349.
9. Buinewicz, B., & Rosen, B. (2004). Acellular cadaveric dermis (AlloDerm): a new alternative for abdominal hernia repair. *Annals of plastic surgery*, 52(2), 188–194.
10. Butler, C. E., Langstein, H. N., & Kronowitz, S. J. (2005). Pelvic, abdominal, and chest wall reconstruction with AlloDerm in patients at increased risk for mesh-related complications. *Plastic and reconstructive surgery*, 116(5), 1263–1277.
11. Butterfield J. L. (2013). 440 Consecutive immediate, implant-based, single-surgeon breast reconstructions in 281 patients: a comparison of early outcomes and costs between SurgiMend fetal bovine and AlloDerm human cadaveric acellular dermal matrices. *Plastic and reconstructive surgery*, 131(5), 940–951.
12. Champagne, B., J. (2023). Operative management of anorectal fistulas. UpToDate.
13. Deneve, J. L., Turaga, K. K., Marzban, S. S., Puleo, C. A., Sarnaik, A. A., Gonzalez, R. J., Sondak, V. K., & Zager, J. S. (2013). Single-institution outcome experience using AlloDerm® as temporary coverage or definitive reconstruction for cutaneous and soft tissue malignancy defects. *The American surgeon*, 79(5), 476–482.
14. Diaz, J. J., Jr, Guy, J., Berkes, M. B., Guillaumondegui, O., & Miller, R. S. (2006). Acellular dermal allograft for ventral hernia repair in the compromised surgical field. *The American surgeon*, 72(12), 1181–1188.

15. Efsandiari S., Dendukuri, N., McGregor, M. (2009). Clinical efficacy and cost of Allogenic Acellular Dermal Matrix (AADM) in implant-based breast reconstruction of post mastectomy cancer patients. Report No. 40.
16. Ellis, C. V., & Kulber, D. A. (2012). Acellular dermal matrices in hand reconstruction. *Plastic and reconstructive surgery*, 130(5 Suppl 2), 256S–269S.
17. Espinosa-de-los-Monteros, A., de la Torre, J. I., Marrero, I., Andrades, P., Davis, M. R., & Vásquez, L. O. (2007). Utilization of human cadaveric acellular dermis for abdominal hernia reconstruction. *Annals of plastic surgery*, 58(3), 264–267.
18. Gamboa-Bobadilla G. M. (2006). Implant breast reconstruction using acellular dermal matrix. *Annals of plastic surgery*, 56(1), 22–25.
19. Garramone, C. E., & Lam, B. (2007). Use of AlloDerm in primary nipple reconstruction to improve long-term nipple projection. *Plastic and reconstructive surgery*, 119(6), 1663–1668.
20. Germani, R. M., Vivero, R., Herzallah, I. R., & Casiano, R. R. (2007). Endoscopic reconstruction of large anterior skull base defects using acellular dermal allograft. *American journal of rhinology*, 21(5), 615–618.
21. Glasberg, S. B., & D'Amico, R. A. (2006). Use of regenerative human acellular tissue (AlloDerm) to reconstruct the abdominal wall following pedicle TRAM flap breast reconstruction surgery. *Plastic and reconstructive surgery*, 118(1), 8–15.
22. Gordley, K., Cole, P., Hicks, J., & Hollier, L. (2009). A comparative, long term assessment of soft tissue substitutes: AlloDerm, Enduragen, and Dermamatrix. *Journal of plastic, reconstructive & aesthetic surgery : JPRAS*, 62(6), 849–850.
23. Gore D. C. (2005). Utility of acellular allograft dermis in the care of elderly burn patients. *The Journal of surgical research*, 125(1), 37–41.
24. Gupta, A., Zahriya, K., Mullens, P. L., Salmassi, S., & Keshishian, A. (2006). Ventral herniorrhaphy: experience with two different biosynthetic mesh materials, Surgisis and Alloderm. *Hernia : the journal of hernias and abdominal wall surgery*, 10(5), 419–425.
25. Guy, J. S., Miller, R., Morris, J. A., Jr, Diaz, J., & May, A. (2003). Early one-stage closure in patients with abdominal compartment syndrome: fascial replacement with human acellular dermis and bipedicle flaps. *The American surgeon*, 69(12), 1025–1029.
26. Harirchian, S., & Baredes, S. (2013). Use of AlloDerm in primary reconstruction after resection of squamous cell carcinoma of the lip and oral commissure. *American journal of otolaryngology*, 34(5), 611–613.
27. Harth, K. C., Krpata, D. M., Chawla, A., Blatnik, J. A., Halaweish, I., & Rosen, M. J. (2013). Biologic mesh use practice patterns in abdominal wall reconstruction: a lack of consensus among surgeons. *Hernia : the journal of hernias and abdominal wall surgery*, 17(1), 13–20.
28. Hiles, M., Record Ritchie, R. D., & Altizer, A. M. (2009). Are biologic grafts effective for hernia repair: a systematic review of the literature. *Surgical innovation*, 16(1), 26–37.
29. Holton, L. H., 3rd, Kim, D., Silverman, R. P., Rodriguez, E. D., Singh, N., & Goldberg, N. H. (2005). Human acellular dermal matrix for repair of abdominal wall defects: review of clinical experience and experimental data. *Journal of long-term effects of medical implants*, 15(5), 547–558.

30. Janis, J. E., O'Neill, A. C., Ahmad, J., Zhong, T., & Hofer, S. O. P. (2012). Acellular dermal matrices in abdominal wall reconstruction: a systematic review of the current evidence. *Plastic and reconstructive surgery*, 130(5 Suppl 2), 183S–193S.
31. Jansen, L. A., De Caigny, P., Guay, N. A., Lineaweaver, W. C., & Shokrollahi, K. (2013). The evidence base for the acellular dermal matrix AlloDerm: a systematic review. *Annals of plastic surgery*, 70(5), 587–594.
32. Jin, J., Rosen, M. J., Blatnik, J., McGee, M. F., Williams, C. P., Marks, J., & Ponsky, J. (2007). Use of acellular dermal matrix for complicated ventral hernia repair: does technique affect outcomes. *Journal of the American College of Surgeons*, 205(5), 654–660.
33. Kim, H., Bruen, K., & Vargo, D. (2006). Acellular dermal matrix in the management of high-risk abdominal wall defects. *American journal of surgery*, 192(6), 705–709. Kissane NA, Itani KM. A decade of ventral incisional hernia repairs with biologic acellular dermal matrix: What have we learned? *Plast Reconstr Surg*. 2012;130(5 Suppl 2):194S-202S.
34. Kolker, A. R., Brown, D. J., Redstone, J. S., Scarpinato, V. M., & Wallack, M. K. (2005). Multilayer reconstruction of abdominal wall defects with acellular dermal allograft (AlloDerm) and component separation. *Annals of plastic surgery*, 55(1), 36–42.
35. Lattari, V., Jones, L. M., Varcelotti, J. R., Latenser, B. A., Sherman, H. F., & Barrette, R. R. (1997). The use of a permanent dermal allograft in full-thickness burns of the hand and foot: a report of three cases. *The Journal of burn care & rehabilitation*, 18(2), 147–155.
36. Lee, J. M., Seo, Y. J., Shim, D. B., Lee, H. J., & Kim, S. H. (2018). Surgical outcomes of tympanoplasty using a sterile acellular dermal allograft: a prospective randomised controlled study. *Acta otorhinolaryngologica Italica: organo ufficiale della Societa italiana di otorinolaringologia e chirurgia cervico-facciale*, 38(6), 554–562.
37. Li, C., Yang, X., Pan, J., Shi, Z., & Li, L. (2013). Graft for prevention of Frey syndrome after parotidectomy: a systematic review and meta-analysis of randomized controlled trials. *Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons*, 71(2), 419–427.
38. Liu, D. Z., Mathes, D. W., Neligan, P. C., Said, H. K., & Louie, O. (2014). Comparison of outcomes using AlloDerm versus FlexHD for implant-based breast reconstruction. *Annals of plastic surgery*, 72(5), 503–507.
39. Lorenz, R. R., Dean, R. L., Hurley, D. B., Chuang, J., & Citardi, M. J. (2003). Endoscopic reconstruction of anterior and middle cranial fossa defects using acellular dermal allograft. *The Laryngoscope*, 113(3), 496–501.
40. Lydiat, W. M., Quivey, J. M. Salivary gland tumors: Treatment of locoregional disease. UpToDate.
41. Lynch, M. P., Chung, M. T., & Rinker, B. D. (2013). Dermal autografts as a substitute for acellular dermal matrices (ADM) in tissue expander breast reconstruction: a prospective comparative study. *Journal of plastic, reconstructive & aesthetic surgery : JPRAS*, 66(11), 1534–1542.
42. McCarthy, C. M., Lee, C. N., Halvorson, E. G., Riedel, E., Pusic, A. L., Mehrara, B. J., & Disa, J. J. (2012). The use of acellular dermal matrices in two-stage expander/implant

reconstruction: a multicenter, blinded, randomized controlled trial. *Plastic and reconstructive surgery*, 130(5 Suppl 2), 57S–66S.

43. Memorial Sloan Kettering Cancer Center (MSKCC). (February 18, 2009). Tissue expander/implant reconstruction: A single-blinded, randomized, controlled trial. *ClinicalTrials.gov*. Identifier NCT00639106.
44. Mendenhall, S. D., Anderson, L. A., Ying, J., Boucher, K. M., Liu, T., Neumayer, L. A., & Agarwal, J. P. (2015). The BREASTrial: stage I. Outcomes from the time of tissue expander and acellular dermal matrix placement to definitive reconstruction. *Plastic and reconstructive surgery*, 135(1), 29e–42e.
45. Patel, K. M., & Bhanot, P. (2012). Complications of acellular dermal matrices in abdominal wall reconstruction. *Plastic and reconstructive surgery*, 130(5 Suppl 2), 216S–224S.
46. Patel, M. R., Stadler, M. E., Snyderman, C. H., Carraru, R. L., Kassam, A. B., Germanwala, A. V., Gardner, P., & Zanation, A. M. (2010). How to choose? Endoscopic skull base reconstructive options and limitations. *Skull base : official journal of North American Skull Base Society ... [et al.]*, 20(6), 397–404.
47. Patton, J. H., Jr, Berry, S., & Kralovich, K. A. (2007). Use of human acellular dermal matrix in complex and contaminated abdominal wall reconstructions. *American journal of surgery*, 193(3), 360–363.
48. Preminger, B. A., McCarthy, C. M., Hu, Q. Y., Mehrara, B. J., & Disa, J. J. (2008). The influence of AlloDerm on expander dynamics and complications in the setting of immediate tissue expander/implant reconstruction: a matched-cohort study. *Annals of plastic surgery*, 60(5), 510–513.
49. Ricci, J. A., Treiser, M. D., Tao, R., Jiang, W., Guldbrandsen, G., Halvorson, E., Hergrueter, C. A., & Chun, Y. S. (2016). Predictors of Complications and Comparison of Outcomes Using SurgiMend Fetal Bovine and AlloDerm Human Cadaveric Acellular Dermal Matrices in Implant-Based Breast Reconstruction. *Plastic and reconstructive surgery*, 138(4), 583e–591e.
50. Salzberg C. A. (2006). Nonexpansive immediate breast reconstruction using human acellular tissue matrix graft (AlloDerm). *Annals of plastic surgery*, 57(1), 1–5.
51. Scott, B. G., Welsh, F. J., Pham, H. Q., Carrick, M. M., Liscum, K. R., Granchi, T. S., Wall, M. J., Jr, Mattox, K. L., & Hirshberg, A. (2006). Early aggressive closure of the open abdomen. *The Journal of trauma*, 60(1), 17–22.
52. Shridharani, S. M., & Tufaro, A. P. (2012). A systematic review of acellular dermal matrices in head and neck reconstruction. *Plastic and reconstructive surgery*, 130(5 Suppl 2), 35S–43S.
53. Slater, N. J., van der Kolk, M., Hendriks, T., van Goor, H., & Bleichrodt, R. P. (2013). Biologic grafts for ventral hernia repair: a systematic review. *American journal of surgery*, 205(2), 220–230.
54. Sobti, N., & Liao, E. C. (2016). Surgeon-Controlled Study and Meta-Analysis Comparing FlexHD and AlloDerm in Immediate Breast Reconstruction Outcomes. *Plastic and reconstructive surgery*, 138(5), 959–967.
55. Spear, S. L., Parikh, P. M., Reisin, E., & Menon, N. G. (2008). Acellular dermis-assisted breast reconstruction. *Aesthetic plastic surgery*, 32(3), 418–425.

56. Tsai, C. C., Lin, S. D., Lai, C. S., & Lin, T. M. (1999). The use of composite acellular allodermis-ultrathin autograft on joint area in major burn patients--one year follow-up. *The Kaohsiung journal of medical sciences*, 15(11), 651–658.
57. Vertrees, A., Greer, L., Pickett, C., Nelson, J., Wakefield, M., Stojadinovic, A., & Shriver, C. (2008). Modern management of complex open abdominal wounds of war: a 5-year experience. *Journal of the American College of Surgeons*, 207(6), 801–809.
58. Walters, J., Cazzell, S., Pham, H., Vayser, D., & Reyzelman, A. (2016). Healing Rates in a Multicenter Assessment of a Sterile, Room Temperature, Acellular Dermal Matrix Versus Conventional Care Wound Management and an Active Comparator in the Treatment of Full-Thickness Diabetic Foot Ulcers. *Eplasty*, 16, e10.
59. Weber, P. C., Lambert, P. R., Cunningham, C. D., 3rd, Richardson, M. S., & Genao, R. B. (2002). Use of Alloderm in the neurotologic setting. *American journal of otolaryngology*, 23(3), 148–152.
60. Yonehiro, L., Burleson, G., & Sauer, V. (2013). Use of a new acellular dermal matrix for treatment of nonhealing wounds in the lower extremities of patients with diabetes. *Wounds : a compendium of clinical research and practice*, 25(12), 340–344.
61. Zelen, C. M., Orgill, D. P., Serena, T., Galiano, R., Carter, M. J., DiDomenico, L. A., Keller, J., Kaufman, J., & Li, W. W. (2017). A prospective, randomised, controlled, multicentre clinical trial examining healing rates, safety, and cost to closure of an acellular reticular allogenic human dermis versus standard of care in the treatment of chronic diabetic foot ulcers. *International wound journal*, 14(2), 307–315.
62. Zeng, X. T., Tang, X. J., Wang, X. J., Li, M. Z., Guo, Y., Huang, W., Niu, Y. M., & Leng, W. D. (2012). AlloDerm implants for prevention of Frey syndrome after parotidectomy: a systematic review and meta-analysis. *Molecular medicine reports*, 5(4), 974–980.
63. Zhong, T., Janis, J. E., Ahmad, J., & Hofer, S. O. (2011). Outcomes after abdominal wall reconstruction using acellular dermal matrix: a systematic review. *Journal of plastic, reconstructive & aesthetic surgery : JPRAS*, 64(12), 1562–1571.
64. Zienowicz, R. J., & Karacaoglu, E. (2007). Implant-based breast reconstruction with allograft. *Plastic and reconstructive surgery*, 120(2), 373–381.

Alloderm / Strattice

1. Booth, J. H., Garvey, P. B., Baumann, D. P., Selber, J. C., Nguyen, A. T., Clemens, M. W., Liu, J., & Butler, C. E. (2013). Primary fascial closure with mesh reinforcement is superior to bridged mesh repair for abdominal wall reconstruction. *Journal of the American College of Surgeons*, 217(6), 999–1009.
2. Garvey, P. B., Giordano, S. A., Baumann, D. P., Liu, J., & Butler, C. E. (2017). Long-Term Outcomes after Abdominal Wall Reconstruction with Acellular Dermal Matrix. *Journal of the American College of Surgeons*, 224(3), 341–350.
3. Giordano, S., Garvey, P. B., Baumann, D. P., Liu, J., & Butler, C. E. (2017). Primary fascial closure with biologic mesh reinforcement results in lesser complication and recurrence rates than bridged biologic mesh repair for abdominal wall reconstruction: A propensity score analysis. *Surgery*, 161(2), 499–508.

4. Mericli, A. F., Garvey, P. B., Giordano, S., Liu, J., Baumann, D. P., & Butler, C. E. (2017). Abdominal Wall Reconstruction with Concomitant Ostomy-Associated Hernia Repair: Outcomes and Propensity Score Analysis. *Journal of the American College of Surgeons*, 224(3), 351–361.e2.
5. Romain, B., Story, F., Meyer, N., Delhorme, J. B., Brigand, C., & Rohr, S. (2016). Comparative study between biologic porcine dermal meshes: risk factors of postoperative morbidity and recurrence. *Journal of wound care*, 25(6), 320–325.
6. Sbitany, H., Kwon, E., Chern, H., Finlayson, E., Varma, M. G., & Hansen, S. L. (2015). Outcomes Analysis of Biologic Mesh Use for Abdominal Wall Reconstruction in Clean-Contaminated and Contaminated Ventral Hernia Repair. *Annals of plastic surgery*, 75(2), 201–204.

Allomax

1. Alicuben, E. T., Worrell, S. G., & DeMeester, S. R. (2014). Impact of crural relaxing incisions, Collis gastroplasty, and non-cross-linked human dermal mesh crural reinforcement on early hiatal hernia recurrence rates. *Journal of the American College of Surgeons*, 219(5), 988–992.
2. Brosious, J. P., Wong, N., Fowler, G., Stephenson, L. L., Wang, W. Z., Zamboni, W. A., & Taghipour-Khiabani, K. (2014). Evaluation of AlloMax acellular dermal matrix for objective collagen deposition. *Journal of reconstructive microsurgery*, 30(1), 31–34.
3. Chauviere, M. V., Schutter, R. J., Steigelman, M. B., Clark, B. Z., Grayson, J. K., & Sahar, D. E. (2014). Comparison of AlloDerm and AlloMax tissue incorporation in rats. *Annals of plastic surgery*, 73(3), 282–285.
4. Roth, J. S., Brathwaite, C., Hacker, K., Fisher, K., & King, J. (2015). Complex ventral hernia repair with a human acellular dermal matrix. *Hernia : the journal of hernias and abdominal wall surgery*, 19(2), 247–252.

AlloPatch

1. Agrawal H, Tholpady S, Capito A, et al. (2012). Macrophage phenotypes correspond with remodeling outcomes of various acellular dermal matrices. *Open J Regen Med*;1(3):51-59.
2. Agrawal V. (2012). Healing rates for challenging rotator cuff tears utilizing an acellular human dermal reinforcement graft. *International journal of shoulder surgery*, 6(2), 36–44.
3. Barber FA, Aziz-Jacobo J. (2009). Biomechanical testing of commercially available soft-tissue augmentation materials. *Arthroscopy*. 9;25(11):1233-1239.
4. Dasgupta, A., Orgill, D., Galiano, R. D., Zelen, C. M., Huang, Y. C., Chnari, E., & Li, W. W. (2016). A Novel Reticular Dermal Graft Leverages Architectural and Biological Properties to Support Wound Repair. *Plastic and reconstructive surgery. Global open*, 4(10), e1065.
5. Musculoskeletal Transplant Foundation (MTF). (January 2015). AlloPatch Pliable allograft dermal matrix. Donated human tissue. Package Insert. PI –112 Rev1., RM –2065.
6. Zelen, C. M., Orgill, D. P., Serena, T., Galiano, R., Carter, M. J., DiDomenico, L. A., Keller, J., Kaufman, J., & Li, W. W. (2017). A prospective, randomised, controlled, multicentre clinical trial examining healing rates, safety, and cost to closure of an acellular reticular allogenic human dermis versus standard of care in the treatment of chronic diabetic foot ulcers. *International wound journal*, 14(2), 307–315.

7. Zelen, C. M., Orgill, D. P., Serena, T. E., Galiano, R. D., Carter, M. J., DiDomenico, L. A., Kaufman, J. P., Keller, J., Young, N. J., & Li, W. W. (2017). Human Reticular Acellular Dermal Matrix in the Healing of Chronic Diabetic Foot Ulcerations that Failed Standard Conservative Treatment: A Retrospective Crossover Study. *Wounds : a compendium of clinical research and practice*, 29(2), 39–45.
8. Zelen, C. M., Orgill, D. P., Serena, T. E., Galiano, R. E., Carter, M. J., DiDomenico, L. A., Keller, J., Kaufman, J. P., & Li, W. W. (2018). An aseptically processed, acellular, reticular, allogenic human dermis improves healing in diabetic foot ulcers: A prospective, randomised, controlled, multicentre follow-up trial. *International wound journal*, 15(5), 731–739.

Alloskin / Allosource

1. Fagotti, L., Soares, E., Bolia, I. K., Briggs, K. K., & Philippon, M. J. (2019). Early Outcomes After Arthroscopic Hip Capsular Reconstruction Using Iliotibial Band Allograft Versus Dermal Allograft. *Arthroscopy : the journal of arthroscopic & related surgery : official publication of the Arthroscopy Association of North America and the International Arthroscopy Association*, 35(3), 778–786.
2. ISBI Practice Guidelines Committee, Steering Subcommittee, & Advisory Subcommittee (2016). ISBI Practice Guidelines for Burn Care. *Burns : journal of the International Society for Burn Injuries*, 42(5), 953–1021.
3. Li, H. Y., Xiao, S. C., Zhu, S. H., Wang, G. Y., Wang, G. Q., Ji, S. Z., & Xia, Z. F. (2011). Successful treatment of a patient with an extraordinarily large deep burn. *Medical science monitor : international medical journal of experimental and clinical research*, 17(4), CS47–CS51.
4. Moravvej, H., Hormozi, A. K., Hosseini, S. N., Sorouri, R., Mozafari, N., Ghazisaidi, M. R., Rad, M. M., Moghimi, M. H., Sadeghi, S. M., & Mirzadeh, H. (2016). Comparison of the Application of Allogeneic Fibroblast and Autologous Mesh Grafting With the Conventional Method in the Treatment of Third-Degree Burns. *Journal of burn care & research : official publication of the American Burn Association*, 37(1), e90–e95.

AmnioBand / Guardian / Amnion

1. DiDomenico, L. A., Orgill, D. P., Galiano, R. D., Serena, T. E., Carter, M. J., Kaufman, J. P., Young, N. J., & Zelen, C. M. (2016). Aseptically Processed Placental Membrane Improves Healing of Diabetic Foot Ulcerations: Prospective, Randomized Clinical Trial. *Plastic and reconstructive surgery*. *Global open*, 4(10), e1095.
2. DiDomenico, L. A., Orgill, D. P., Galiano, R. D., Serena, T. E., Carter, M. J., Kaufman, J. P., Young, N. J., & Zelen, C. M. (2017). A Retrospective Crossover Study of the Use of Aseptically Processed Placental Membrane in the Treatment of Chronic Diabetic Foot Ulcers. *Wounds : a compendium of clinical research and practice*, 29(10), 311–316.
3. DiDomenico, L. A., Orgill, D. P., Galiano, R. D., Serena, T. E., Carter, M. J., Kaufman, J. P., Young, N. J., Jacobs, A. M., & Zelen, C. M. (2018). Use of an aseptically processed, dehydrated human amnion and chorion membrane improves likelihood and rate of healing in chronic diabetic foot ulcers: A prospective, randomised, multi-centre clinical trial in 80 patients. *International wound journal*, 15(6), 950–957. <https://doi.org/10.1111/iwj.12954>
4. Glat, P., Orgill, D. P., Galiano, R., Armstrong, D., Serena, T., DiDomenico, L. A., Kaufman, J., Carter, M. J., Jacobs, A. M., & Zelen, C. M. (2019). Placental Membrane Provides Improved

Healing Efficacy and Lower Cost Versus a Tissue-Engineered Human Skin in the Treatment of Diabetic Foot Ulcerations. *Plastic and reconstructive surgery*. Global open, 7(8), e2371.

5. Musculoskeletal Transplant Foundation (MTF). (August 2016). AmnioBand Membrane allograft placental matrix. Donated human tissue. Package Insert. PI -108 Rev 3.
6. Serena, T. E., Orgill, D. P., Armstrong, D. G., Galiano, R. D., Glat, P. M., Carter, M. J., Kaufman, J. P., Li, W. W., & Zelen, C. M. (2022). A Multicenter, Randomized, Controlled, Clinical Trial Evaluating Dehydrated Human Amniotic Membrane in the Treatment of Venous Leg Ulcers. *Plastic and reconstructive surgery*, 150(5), 1128–1136.

AmnioExcel

1. Snyder, R. J., Shimosaki, K., Tallis, A., Kerzner, M., Reyzelman, A., Lintzeris, D., Bell, D., Rutan, R. L., & Rosenblum, B. (2016). A Prospective, Randomized, Multicenter, Controlled Evaluation of the Use of Dehydrated Amniotic Membrane Allograft Compared to Standard of Care for the Closure of Chronic Diabetic Foot Ulcer. *Wounds : a compendium of clinical research and practice*, 28(3), 70–77.

Amniotic-Derived Products

1. Duerr, R. A., Ackermann, J., & Gomoll, A. H. (2019). Amniotic-Derived Treatments and Formulations. *Clinics in sports medicine*, 38(1), 45–59.
2. Hannon, C. P., Yanke, A. B., & Farr, J. (2019). Amniotic Tissue Modulation of Knee Pain-A Focus on Osteoarthritis. *The journal of knee surgery*, 32(1), 26–36.
3. Muttini, A., Barboni, B., Valbonetti, L., Russo, V., & Maffulli, N. (2018). Amniotic Epithelial Stem Cells: Salient Features and Possible Therapeutic Role. *Sports medicine and arthroscopy review*, 26(2), 70–74.
4. Riboh, J. C., Saltzman, B. M., Yanke, A. B., & Cole, B. J. (2016). Human Amniotic Membrane-Derived Products in Sports Medicine: Basic Science, Early Results, and Potential Clinical Applications. *The American journal of sports medicine*, 44(9), 2425–2434.
5. Sultan, A. A., Samuel, L. T., Roth, A., Mahmood, B., Sodhi, N., & Mont, M. A. (2019). Operative Applications of Placental Tissue Matrix in Orthopaedic Sports Injuries: A Review of the Literature. *Surgical technology international*, 34, 397–402.

Amniotic Fluid Injection

1. Abbasian, B., Kazemini, H., Esmaeili, A., & Adibi, S. (2011). Effect of bovine amniotic fluid on intra-abdominal adhesion in diabetic male rats. *Journal of diabetes and its complications*, 25(1), 39–43.
2. Castro-Combs, J., Noguera, G., Cano, M., Yew, M., Gehlbach, P. L., Palmer, J., & Behrens, A. (2008). Corneal wound healing is modulated by topical application of amniotic fluid in an ex vivo organ culture model. *Experimental eye research*, 87(1), 56–63.
3. Kerimoğlu, S., Livaoğlu, M., Sönmez, B., Yuluğ, E., Aynaci, O., Topbas, M., & Yazar, S. (2009). Effects of human amniotic fluid on fracture healing in rat tibia. *The Journal of surgical research*, 152(2), 281–287.
4. Ozgenel, G. Y., Samli, B., & Ozcan, M. (2001). Effects of human amniotic fluid on peritendinous adhesion formation and tendon healing after flexor tendon surgery in rabbits. *The Journal of hand surgery*, 26(2), 332–339.

5. Tahmasebi, S., Tahamtan, M., & Tahamtan, Y. (2012). Prevention by rat amniotic fluid of adhesions after laparotomy in a rat model. *International journal of surgery (London, England)*, 10(1), 16–19.

Amniox

1. Cooke, M., Tan, E. K., Mandrycky, C., He, H., O'Connell, J., & Tseng, S. C. (2014). Comparison of cryopreserved amniotic membrane and umbilical cord tissue with dehydrated amniotic membrane/chorion tissue. *Journal of wound care*, 23(10), 465–476.
2. Swan J. (2014). Use of Cryopreserved, Particulate Human Amniotic Membrane and Umbilical Cord (AM/UC) Tissue: A Case Series Study for Application in the Healing of Chronic Wounds. *Surgical technology international*, 25, 73–78.

Apis

1. U.S. Food and Drug Administration (FDA). (May 31, 2019). Apis. 510K no.K182725.

Apligraf

1. Agence d'Evaluation des technologies et des Modes d'Intervention en Sante (AETMIS). (2000). The treatment of venous leg ulcers and optimal use of Apligraf (TM). CETS 2000-5.
2. Alvarez, O. M., Fahey, C. B., Auletta, M. J., & Fernández-Obregón, A. (1998). A novel treatment for venous leg ulcers. *The Journal of foot and ankle surgery : official publication of the American College of Foot and Ankle Surgeons*, 37(4), 319–324.
3. Australia and New Zealand Horizon Scanning Network (ANZHSN). (February 2007). Apligraf for burn injuries. Horizon Scanning Prioritising Summary. Adelaide, SA: Royal Australasian College of Surgeons, Australian Safety and Efficacy Registry of New Interventional Procedures - Surgical (ASERNIP-S).
4. BlueCross BlueShield Association (BCBSA), Technology Evaluation Center (TEC). Graftskin for the treatment of skin ulcers. (2001). TEC Assessment Program, 1;16(12).
5. Brem, H., Balledux, J., Bloom, T., Kerstein, M. D., & Hollier, L. (2000). Healing of diabetic foot ulcers and pressure ulcers with human skin equivalent: a new paradigm in wound healing. *Archives of surgery (Chicago, Ill. : 1960)*, 135(6), 627–634.
6. Buchberger, B., Follmann, M., Freyer, D., Huppertz, H., Ehm, A., & Wasem, J. (2011). The evidence for the use of growth factors and active skin substitutes for the treatment of non-infected diabetic foot ulcers (DFU): a health technology assessment (HTA). *Experimental and clinical endocrinology & diabetes : official journal, German Society of Endocrinology [and] German Diabetes Association*, 119(8), 472–479.
7. Carlson, M., Faria, K., Shamis, Y., Leman, J., Ronfard, V., & Garlick, J. (2011). Epidermal stem cells are preserved during commercial-scale manufacture of a bi-layered, living cellular construct (Apligraf®). *Tissue engineering. Part A*, 17(3-4), 487–493.
8. Coulomb, B., Friteau, L., Baruch, J., Guilbaud, J., Chretien-Marquet, B., Glicenstein, J., Lebreton-Decoster, C., Bell, E., & Dubertret, L. (1998). Advantage of the presence of living dermal fibroblasts within in vitro reconstructed skin for grafting in humans. *Plastic and reconstructive surgery*, 101(7), 1891–1903.

9. De, S. K., Reis, E. D., & Kerstein, M. D. (2002). Wound treatment with human skin equivalent. *Journal of the American Podiatric Medical Association*, 92(1), 19–23.
10. DeCarbo WT. Special segment: soft tissue matrices--Apligraf bilayered skin substitute to augment healing of chronic wounds in diabetic patients. *Foot Ankle Spec*. 2009;2(6):299-302.
11. DiDomenico L, Emch KJ, Landsman AR, et al. A prospective comparison of diabetic foot ulcers treated with either cryopreserved skin allograft or bioengineered skin substitute. *Wounds*. 2011;23(7):184-189.
12. Dolynchuk K, Hull P, Guenther L, et al. The role of Apligraf in the treatment of venous leg ulcers. *Ostomy Wound Manage*. 1999;45(1):34-43.
13. Eaglstein WH, Falanga V. Tissue engineering and the development of Apligraf, a human skin equivalent. *Cutis*. 1998;62(1 Suppl):1-8.
14. Eaglstein WH, Falanga V. Tissue engineering and the development of Apligraf, a human skin equivalent. *Clin Ther*. 1997;19(5):894-905.
15. Eaglstein WH, Falanga V. Tissue engineering for skin: An update. *J Am Acad Dermatol*. 1998;39(6):1007-1010.
16. Eaglstein WH, Iriondo M, Laszlo K. A composite skin substitute (graftskin) for surgical wounds. A clinical experience. *Dermatol Surg*. 1995;21(10):839-843.
17. Edmonds M, Bates M, Doxford M, et al. New treatments in ulcer healing and wound infection. *Diabetes Metab Res Rev*. 2000;16 Suppl 1:S51-S54.
18. Edmonds M; European and Australian Apligraf Diabetic Foot Ulcer Study Group. Apligraf in the treatment of neuropathic diabetic foot ulcers. *Int J Low Extrem Wounds*. 2009;8(1):11-18.
19. Fahey C. Experience with a new human skin equivalent for healing venous leg ulcers. *J Vasc Nurs*. 1998;16(1):11-15.
20. Falanga V, Margolis D, Alvarez O, et al. Rapid healing of venous ulcers and lack of clinical rejection with an allogeneic cultured human skin equivalent. Human skin equivalent investigators group. *Arch Dermatol*. 1998;134(3):293-300.
21. Ho C, Tran K, Hux M, et al. Artificial skin grafts in chronic wound care: A meta-analysis of clinical efficacy and a review of cost-effectiveness. Technology Report No 52. Ottawa, ON: Canadian Coordinating Office for Health Technology Assessment (CCOHTA); 2005.
22. Hu S, Kirsner RS, Falanga V, et al. Evaluation of Apligraf(R) persistence and basement membrane restoration in donor site wounds: A pilot study. *Wound Repair Regen*. 2006;14(4):427-433.
23. Jansen DA, Asgari MM, Atillasoy ES, Milstone LM. Clinical and in vitro responses of bilayered skin construct (graftskin) to meshing. *Arch Dermatol*. 2002;138(6):843-844.
24. Kirsner RS, Eaglstein WH, Kerdel FA. Split-thickness skin grafting for lower extremity ulcerations. *Dermatol Surg*. 1997;23(2):85-93.
25. Kirsner RS, Falanga V, Eaglstein WH. The development of bioengineered skin. *Trends Biotechnol*. 1998;16(6):246-249.
26. Kirsner RS, Fastenau J, Falabella A, et al. Clinical and economic outcomes with graftskin for hard-to-heal venous leg ulcers: A single-center experience. *Dermatol Surg*. 2002;28(1):81-82.

27. Langer A, Rogowski W. Systematic review of economic evaluations of human cell-derived wound care products for the treatment of venous leg and diabetic foot ulcers. *BMC Health Serv Res.* 2009;9:115.
28. Mundy L, Parrella A. Apligraf (R): For the treatment of diabetic foot and venous leg ulcers. Horizon Scanning Prioritising Summary - Volume 7. Adelaide, SA: Adelaide Health Technology Assessment (AHTA) on behalf of National Horizon Scanning Unit (HealthPACT and MSAC); 2004.
29. Novartis Pharmaceuticals Corporation. Apligraf (graftskin). Product Labeling. East Hanover, NJ; Novartis; June 2002.
30. Paquette D, Falanga V. Leg ulcers. *Clin Geriatr Med.* 2002;18(1):77-88, vi.
31. Rice JB, Desai U, Ristovska L, et al. Economic outcomes among Medicare patients receiving bioengineered cellular technologies for treatment of diabetic foot ulcers. *J Med Econ.* 2015;18(8):586-595.
32. Sams HH, Chen J, King LE. Graftskin treatment of difficult to heal diabetic foot ulcers: One center's experience. *Dermatol Surg.* 2002;28(8):698-703.
33. Shealy FG Jr, DeLoach ED. Experience with the use of apligraf to heal complicated surgical and nonsurgical wounds in a private practice setting. *Adv Skin Wound Care.* 2006;19(6):310-322.
34. Sorensen JC. Living skin equivalents and their application in wound healing. *Clin Podiatr Med Surg.* 1998;15(1):129-137.
35. Steinberg JS, Edmonds M, Hurley DP Jr, King WN. Confirmatory data from EU study supports Apligraf for the treatment of neuropathic diabetic foot ulcers. *J Am Podiatr Med Assoc.* 2010;100(1):73-77.
36. Swedish Council on Technology Assessment in Health Care (SBU). Transplantation of cultured skin (Apligraf) in treating venous leg ulcers - early assessment briefs (Alert). Stockholm, Sweden: SBU; 2003.
37. Veves A, Falanga V, Armstrong DG, et al. Graftskin, a human skin equivalent, is effective in the management of noninfected neuropathic diabetic foot ulcers: A prospective randomized multicenter clinical trial. *Diabetes Care.* 2001;24(2):290-295.
38. Waymack P, Duff RG, Sabolinski M. The effect of a tissue engineered bilayered living skin analog, over meshed split-thickness autografts on the healing of excised burn wounds. The Apligraf Burn Study Group. *Burns.* 2000;26(7):609-619.
39. Zaulyanov L, Kirsner RS. A review of a bi-layered living cell treatment (Apligraf) in the treatment of venous leg ulcers and diabetic foot ulcers. *Clin Interv Aging.* 2007;2(1):93-98.

Artelon

1. Bell R, Desai S, House H, et al. A retrospective multicenter study of the Artelon® carpometacarpal joint implant. *Hand (N Y).* 2011;6(4):364-372.
2. Clarke S, Hagberg W, Kaufmann RA, et al. Complications with the use of Artelon in thumb CMC joint arthritis. *Hand (N Y).* 2011;6(3):282-286.

3. Ehrl D, Erne H. Poor outcomes from use of the Artelon® biodegradable implant for the treatment of thumb carpo-metacarpal joint and scapho-trapezio-trapezoid osteoarthritis: A short report and brief review of literature. *J Hand Surg Eur Vol.* 2015;40(9):1009-1012.
4. Giuffrida AY, Gyuricza C, Perino G, Weiland AJ. Foreign body reaction to artelon spacer: Case report. *J Hand Surg Am.* 2009;34(8):1388-1392.
5. Giza E, Frizzell L, Farac R, et al. Augmented tendon Achilles repair using a tissue reinforcement scaffold: A biomechanical study. *Foot Ankle Int.* 2011;32(5):S545-S549.
6. Huang YC, Jazayeri L, Le W, Yao J. Failure of artelon interposition arthroplasty after partial trapeziectomy: A case report with histologic and immunohistochemical analysis. *Am J Orthop (Belle Mead NJ).* 2015;44(4):E117-E122.
7. Huss FR, Nyman E, Gustafson CJ, et al. Characterization of a new degradable polymer scaffold for regeneration of the dermis: In vitro and in vivo human studies. *Organogenesis.* 2008;4(3):195-200.
8. Jorheim M, Isaxon I, Flondell M, et al. Short-term outcomes of trapeziometacarpal artelon implant compared with tendon suspension interposition arthroplasty for osteoarthritis: A matched cohort study. *J Hand Surg Am.* 2009;34(8):1381-1387.
9. Nilsson A, Liljensten E, Bergström C, Sollerman C. Results from a degradable TMC joint Spacer (Artelon) compared with tendon arthroplasty. *J Hand Surg Am.* 2005;30(2):380-389.
10. Nilsson A, Wiig M, Alnehill H, et al. The Artelon CMC spacer compared with tendon interposition arthroplasty. *Acta Orthop.* 2010;81(2):237-244.
11. Park MJ, Lee AT, Yao J. Treatment of thumb carpometacarpal arthritis with arthroscopic hemitrapeziectomy and interposition arthroplasty. *Orthopedics.* 2012;35(12):e1759-e1764.
12. Robinson PM, Muir LT. Foreign body reaction associated with Artelon: Report of three cases. *J Hand Surg Am.* 2011;36(1):116-120.
13. Vermeulen GM, Slijper H, Feitz R, et al. Surgical management of primary thumb carpometacarpal osteoarthritis: A systematic review. *J Hand Surg Am.* 2011;36(1):157-169.
14. Vitale MA, Taylor F, Ross M, Moran SL. Trapezium prosthetic arthroplasty (silicone, Artelon, metal, and pyrocarbon). *Hand Clin.* 2013;29(1):37-55.
15. Wajon A, Vinycomb T, Carr E, et al. Surgery for thumb (trapeziometacarpal joint) osteoarthritis. *Cochrane Database Syst Rev.* 2015;(2):CD004631.

Arthroflex

1. Beitzel K, Chowanec DM, McCarthy MB, et al. Stability of double-row rotator cuff repair is not adversely affected by scaffold interposition between tendon and bone. *Am J Sports Med.* 2012;40(5):1148-1154.
2. Beitzel K, McCarthy MB, Cote MP, et al. Properties of biologic scaffolds and their response to mesenchymal stem cells. *Arthroscopy.* 2014;30(3):289-298.
3. Denard PJ, Brady PC, Adams CR, et al. Preliminary results of arthroscopic superior capsule reconstruction with dermal allograft. *Arthroscopy.* 2018;34(1):93-99
4. Dimock RAC, Malik S, Consigliere P, et al. Superior capsule Reconstruction: What do we know? *Arch Bone Jt Surg.* 2019;7(1):3-11.

5. Ehsan A, Lee DG, Bakker AJ, Huang JI. Scapholunate ligament reconstruction using an acellular dermal matrix: A mechanical study. *J Hand Surg Am.* 2012;37(8):1538-1542.
6. Gilot GJ, Alvarez-Pinzon AM, Barcksdale L, et al. Outcome of large to massive rotator cuff tears repaired with and without extracellular matrix augmentation: A prospective comparative study. *Arthroscopy.* 2015;31(8):1459-1465
7. Gilot GJ, Attia AK, Alvarez AM. Arthroscopic repair of rotator cuff tears using extracellular matrix graft. *Arthrosc Tech.* 2014;3(4):e487-e489
8. Hirahara AM, Adams CR. Arthroscopic superior capsular reconstruction for treatment of massive irreparable rotator cuff tears. *Arthrosc Tech.* 2015;4(6):e637-e641
9. Hirahara AM, Andersen WJ, Panero AJ. Superior capsular reconstruction: Clinical outcomes after minimum 2-year follow-up. *Am J Orthop (Belle Mead NJ).* 2017;46(6):266-278
10. Makovicka JL, Chung AS, Patel KA, et al. Superior capsule reconstruction for irreparable rotator cuff tears: A systematic review of biomechanical and clinical outcomes by graft type. *J Shoulder Elbow Surg.* 2020;29(2):392-401
11. Mihata T, Lee TQ, Watanabe C, et al. Clinical results of arthroscopic superior capsule reconstruction for irreparable rotator cuff tears. *Arthroscopy.* 2013;29(3):459-470
12. Morris A, Samsell B, Dorsch K, et al. Use of acellular dermal matrix for reconstruction of massive rotator cuff tears in an older population. *Orthop Muscular Syst.* 2018;7:3
13. Pennington WT, Bartz BA, Pauli JM, et al. Arthroscopic superior capsular reconstruction with acellular dermal allograft for the treatment of massive irreparable rotator cuff tears: Short-term clinical outcomes and the radiographic parameter of superior capsular distance. *Arthroscopy.* 2018;34(6):1764-1773
14. Tokish JM, Beicker C. Superior capsule reconstruction technique using an acellular dermal allograft. *Arthrosc Tech.* 2015;4(6):e833-e839.
15. Zastrow RK, London DA, Parsons BO, Cagle PJ. Superior capsule reconstruction for irreparable rotator cuff tears: A systematic review. *Arthroscopy.* 2019;35(8):2525-2534.

Artiss

1. Foster K, Greenhalgh D, Gamelli R et al; FS 4IU VH S/D Clinical Study Group. Efficacy and safety of a fibrin sealant for adherence of autologous skin grafts to burn wounds: Results of a phase 3 clinical study. *J Burn Care Res.* 2008;29(2):293-303.
2. U.S. Food and Drug Administration (FDA). FDA approves new medical adhesive to treat burn patients. *FDA News.* Rockville, MD: FDA; March 19, 2008.

Autologous Platelet-Derived Growth Factors (e.g., Procuren)

1. Bergstrom N, Bennett MA, Carlson CE, et al. Treatment of pressure ulcers. Clinical Practice Guideline No. 15. AHCPR Pub. No. 95-0652. Rockville, MD: Agency for Healthcare Policy and Research (AHCPR); December 1994.
2. Browne AC, Sibbald RG. The diabetic neuropathic ulcer: An overview. *Ostomy Wound Manage.* 1999;45(1A Suppl):6S-22S.

3. Center for Medicare and Medicaid Services (CMS). Decision memo for autologous blood-derived products for chronic non-healing wounds (CAG-00190N). Baltimore, MD: CMS; December 15, 2003.
4. Center for Medicare and Medicaid Services (CMS). Medlearn Matters: Information for Medical Providers. Autologous blood-derived products for chronic non-healing wounds (MM3384). Baltimore, MD: CMS; July 23, 2004.
5. Center for Medicare and Medicaid Services (CMS). Proposed decision memo for autologous blood derived products for chronic non-healing wounds (CAG-00190R2). Baltimore, MD: CMS; December 20, 2007.
6. Centers for Medicare & Medicaid Services (CMS). National coverage determination (NCD) for blood derived products for chronic non-healing wounds (270.3). Baltimore, MD: CMS; August 2, 2012.
7. Evans JM, Andrews KL, Chutka DS, et al. Pressure ulcers: Prevention and management. *Mayo Clin Proc.* 1995;70(8):789-799.
8. Ganio C, Tenewitz FE, Wilson RC, Moyles BG. The treatment of chronic nonhealing wounds using autologous platelet-derived growth factors. *J Foot Ankle Surg.* 1993;32(3):263-268.
9. Gillam AJ, Da Camara CC. Treatment of wounds with procuren. *Ann Pharmacother.* 1993;27(10):1201-1203.
10. Graham A. The use of growth factors in clinical practice. *J Wound Care.* 1998;7(10):536-540.
11. Hafner J, Brunner U, Burg G. [Treatment guidelines for venous leg ulcers: Causal therapy initiation and local wound treatment]. *Ther Umsch.* 1996;53(4):304-308.
12. He C, Hughes MA, Cherry GW, Arnold F. Effects of chronic wound fluid on the bioactivity of platelet-derived growth factor in serum-free medium and its direct effect on fibroblast growth. *Wound Repair Regen.* 1999;7(2):97-105.
13. Herndon DN, Nguyen TT, Gilpin DA. Growth factors. Local and systemic. *Arch Surg.* 1993;128(11):1227-1233.
14. Hom DB. Growth factors and wound healing in otolaryngology. *Otolaryngol Head Neck Surg.* 1994;110:560-564.
15. Hotta SS, Holohan TV. Procuren: A platelet-derived wound healing formula. *Health Technology Review No. 2. AHCPR Pub. No. 92-0065.* Rockville, MD: Agency for Healthcare Policy and Research (AHCPR); July 1992.
16. Kirsner RS, Warriner R, Michela M, et al. Advanced biological therapies for diabetic foot ulcers. *Arch Dermatol.* 2010;146(8):857-862.
17. Lutz S. Mixed views on wound product. *Mod Healthcare.* 1991;21(50):34, 36.
18. Martinez-Zapata MJ, Martí-Carvajal AJ, Solà I, et al. Autologous platelet-rich plasma for treating chronic wounds. *Cochrane Database Syst Rev.* 2012;(10):CD006899.
19. Meyer-Ingold W. Wound therapy: Growth factors as agents to promote healing. *Trends Biotechnol.* 1993;11(9):387-392.

20. Nelson EA, Jones J. Venous leg ulcers. In: BMJ Clinical Evidence. London, UK: BMJ Publishing Group; September 2007.
21. No authors listed. A discussion of CHAMPUS policy. Federal Register. 1995;60(96):26705-26709.
22. No authors listed. Procuren: A platelet-derived wound healing formula. American Medical Association Technology News. 1994;7(5):8-10.
23. Robinson CJ. Growth factors: Therapeutic advances in wound healing. *Ann Med*. 1993;25(6):535-538.
24. Robson MC, Mustoe TA, Hunt TK. The future of recombinant growth factors in wound healing. *Am J Surg*. 1998;176(2A Suppl):80S-82S.
25. Rudkin GH, Miller TA. Growth factors in surgery. *Plast Reconstr Surg*. 1996;97(2):469-476.
26. Sobiczewska E, Szmigielski S. The role of selected cell growth factors in the wound healing process. *Przegl Lek*. 1997;54(9):634-638.
27. Steed DL, Donohoe D, Webster MW, Lindsley L. Effect of extensive debridement and treatment on the healing of diabetic foot ulcers. Diabetic Ulcer Study Group. *J Am Coll Surg*. 1996;183(1):61-64.
28. Steed DL. Modifying the wound healing response with exogenous growth factors. *Clin Plast Surg*. 1998;25(3):397-405.
29. Steenfos HH. Growth factors and wound healing. *Scand J Plast Reconstr Surg Hand Surg*. 1994;28(2):95-105.
30. Wasiak J, Cleland H, Campbell F. Dressings for superficial and partial thickness burns. *Cochrane Database Syst Rev*. 2008;(4):CD002106.

Avaulta

1. Auzin M, Teune TM, Hogewoning CJ. Bladder polyps following Avaulta anterior mesh vaginal wall repair. *Int Urogynecol J*. 2012;23(12):1797-1799.
2. Bondili A, Deguara C, Cooper J. Medium-term effects of a monofilament polypropylene mesh for pelvic organ prolapse and sexual function symptoms. *J Obstet Gynaecol*. 2012;32(3):285-290.
3. Cervigni M, Natale F, La Penna C, et al. Collagen-coated polypropylene mesh in vaginal prolapse surgery: An observational study. *Eur J Obstet Gynecol Reprod Biol*. 2011;156(2):223-227.
4. Culligan PJ, Littman PM, Salamon CG, et al. Evaluation of a transvaginal mesh delivery system for the correction of pelvic organ prolapse: Subjective and objective findings at least 1 year after surgery. *Am J Obstet Gynecol*. 2010;203(5):506.e1-e6.
5. Dass AK, Lo TS, Khanuengkitkong S, Tan YL. A delayed type of ureteric injury developed after transobturator mesh procedure for massive prolapse. *Female Pelvic Med Reconstr Surg*. 2013;19(3):179-180.
6. Thomin A, Touboul C, Hequet D, et al. Genital prolapse repair with Avaulta Plus(®) mesh: Functional results and quality of life. *Prog Urol*. 2013;23(4):270-275.

7. Vollebregt A, Fischer K, Gietelink D, van der Vaart CH. Primary surgical repair of anterior vaginal prolapse: A randomised trial comparing anatomical and functional outcome between anterior colporrhaphy and trocar-guided transobturator anterior mesh. *BJOG*. 2011;118(12):1518-1527.

Avotermin

1. Bush J, Duncan JA, Bond JS, et al. Scar-improving efficacy of avotermin administered into the wound margins of skin incisions as evaluated by a randomized, double-blind, placebo-controlled, phase II clinical trial. *Plast Reconstr Surg*. 2010;126(5):1604-1615.
2. Ferguson MW, Duncan J, Bond J, et al. Prophylactic administration of avotermin for improvement of skin scarring: Three double-blind, placebo-controlled, phase I/II studies. *Lancet*. 2009;373(9671):1264-1274.
3. McCollum PT, Bush JA, James G, et al. Randomized phase II clinical trial of avotermin versus placebo for scar improvement. *Br J Surg*. 2011;98(7):925-934.
4. Occleston NL, O'Kane S, Lavery HG, et al. Discovery and development of avotermin (recombinant human transforming growth factor beta 3): A new class of prophylactic therapeutic for the improvement of scarring. *Wound Repair Regen*. 2011;19 Suppl 1:s38-s48.
5. So. K., McGrouther DA, Bush JA, et al. Avotermin for scar improvement following scar revision surgery: A randomized, double-blind, within-patient, placebo-controlled, phase II clinical trial. *Plast Reconstr Surg*. 2011;128(1):163-172.

Axogen

1. Brooks DN, Weber RV, Chao JD, et al. Processed nerve allografts for peripheral nerve reconstruction: A multicenter study of utilization and outcomes in sensory, mixed, and motor nerve reconstructions. *Microsurgery*. 2012;32(1):1-14.
2. Danish SF, Samdani A, Hanna A, et al. Experience with acellular human dura and bovine collagen matrix for duraplasty after posterior fossa decompression for Chiari malformations. *J Neurosurg*. 2006;104(1 Suppl):16-20.
3. Guo Y, Chen G, Tian G, Tapia C. Sensory recovery following decellularized nerve allograft transplantation for digital nerve repair. *J Plast Surg Hand Surg*. 2013;47(6):451-453.
4. Moore AM, MacEwan M, Santosa KB, et al. Acellular nerve allografts in peripheral nerve regeneration: A comparative study. *Muscle Nerve*. 2011;44(2):221-234.
5. Narotam PK, José S, Nathoo N, et al. Collagen matrix (DuraGen) in dural repair: Analysis of a new modified technique. *Spine (Phila Pa 1976)*. 2004;29(24):2861-2867; discussion 2868-2869.
6. Peled ZM. Treatment of a patient with small fiber pathology using nerve biopsy and grafting: A case report. *J Reconstr Microsurg*. 2013;29(8):551-554.

7. Sade B, Oya S, Lee JH. Non-watertight dural reconstruction in meningioma surgery: Results in 439 consecutive patients and a review of the literature. Clinical article. *J Neurosurg.* 2011;114(3):714-718.
8. Whitlock EL, Tuffaha SH, Luciano JP, et al. Processed allografts, and type I collagen conduits for repair of peripheral nerve gaps. *Muscle Nerve.* 2009;39(6):787-799.
9. Williams LE, Vannemreddy PS, Watson KS, Slavin KV. The need in dural graft suturing in Chiari I malformation decompression: A prospective, single-blind, randomized trial comparing sutured and sutureless duraplasty materials. *Surg Neurol Int.* 2013;4:26.

Biobrane Biosynthetic Dressing

1. Austin RE, Merchant N, Shahrokhi S, Jeschke MG. A comparison of Biobrane™ and cadaveric allograft for temporizing the acute burn wound: Cost and procedural time. *Burns.* 2015;41(4):749-753.
2. Barret JP, Dziewulski P, Ramzy PI, et al. Biobrane versus 1% silver sulfadiazine in second-degree pediatric burns. *Plast Reconstr Surg.* 2000;105(1):62-65.
3. Bishop JF. Pediatric considerations in the use of Biobrane in burn wound management. *J Burn Care Rehabil.* 1995;16(3 Pt 1):331-333; discussion 333-334.
4. Cassidy C, St Peter SD, Lacey S, et al. Biobrane versus duoderm for the treatment of intermediate thickness burns in children: A prospective, randomized trial. *Burns.* 2005;31(7):890-893.
5. Ehrenreich M, Ruszczak Z. Tissue-engineered temporary wound coverings. Important options for the clinician. *Acta Dermatovenerol Alp Panonica Adriat.* 2006;15(1):5-13.
6. Farroha A, Frew Q, El-Muttardi N, et al. Use of Biobrane to dress split-thickness skin graft adjacent to skin graft donor sites or partial-thickness burns. *J Burn Care Res.* 2013;34(5):e308.
7. Frew Q, Philp B, Shelley O, et al. The use of Biobrane® as a delivery method for cultured epithelial autograft in burn patients. *Burns.* 2013;39(5):876-880.
8. Greenwood JE. A randomized, prospective study of the treatment of superficial partial-thickness burns: AWBAT-S versus Biobrane. *Eplasty.* 2011;11:e10.
9. Hubik DJ, Wasiak J, Paul E, Cleland H. Biobrane: A retrospective analysis of outcomes at a specialist adult burns centre. *Burns.* 2011;37(4):594-600.
10. Krezdorn N, Könniker S, Paprottka FJ, et al. Biobrane versus topical agents in the treatment of adult scald burns. *Burns.* 2017;43(1):195-199.
11. Leshner AP, Curry RH, Evans J, et al. Effectiveness of Biobrane for treatment of partial-thickness burns in children. *J Pediatr Surg.* 2011;46(9):1759-1763.
12. Pham C, Greenwood J, Cleland H, Woodruff P, Maddern G. Bioengineered skin substitutes for the management of burns: A systematic review. *Burns.* 2007;33(8):946-957.
13. Phillips LG, Robson MC, Smith DJ, et al. Uses and abuses of a biosynthetic dressing for partial skin thickness burns. *Burns.* 1989;15(4):254-256.

14. Rahmanian-Schwarz A, Beiderwieden A, Willkomm LM, et al. A clinical evaluation of Biobrane® and Suprathel® in acute burns and reconstructive surgery. *Burns*. 2011;37(8):1343-1348.
15. Smith DJ Jr. Use of Biobrane in wound management. *J Burn Care Rehabil*. 1995;16(3 Pt 1):317-320.
16. Vloemans AF, Hermans MH, van der Wal MB, et al. Optimal treatment of partial thickness burns in children: A systematic review. *Burns*. 2014;40(2):177-190.
17. Wiechula R. Post harvest management of split thickness skin graft donor sites: A systematic review. Systematic Review No. 13. Adelaide, SA: Joanna Briggs Institute for Evidence Based Nursing and Midwifery; 2001.

Bio-ConneCt Wound Matrix

1. Centers for Medicare & Medicaid Services (CMS) Agenda for Health Common Procedures Coding System (HCPCS). Public Meeting for Code Applications for Non-Drug and Non-Biological Items and Services Submitted to CMS' 1st 2021 Biannual HCPCS Coding Cycle. Baltimore, MD: CMS; July 7, 2021.

BioDfactor Human Amnion Allograft

1. Gutierrez-Moreno S, Alsina-Gibert M, Sampietro-Colom L, et al. Cost-benefit analysis of amniotic membrane transplantation for venous ulcers of the legs that are refractory to conventional treatment. *Actas Dermosifiliogr*. 2011;102(4):284-288.
2. Koike T, Yasuo M, Shimane T, et al. Cultured epithelial grafting using human amniotic membrane: The potential for using human amniotic epithelial cells as a cultured oral epithelium sheet. *Arch Oral Biol*. 2011;56(10):1170-1176.

Bionect

1. Brown TJ, Alcorn D, Fraser JR. Absorption of hyaluronan applied to the surface of intact skin. *J Invest Dermatol*. 1999 Nov;113(5):740-6.
2. Gariboldi S, Palazzo M, Zanobbio L, et al. Low molecular weight hyaluronic acid increases the self-defense of skin epithelium by induction of beta-defensin 2 via TLR2 and TLR4. *J Immunol*. 2008;181(3):2103-10.
3. Greco RM, Iacono JA, Ehrlich HP. Hyaluronic acid stimulates human fibroblast proliferation within a collagen matrix. *J Cell Physiol*. 1998;177(3):465-73.
4. Prescribing information for Bionect (hyaluronic acid sodium salt, 0.2%). Charleston, SC: Innocutis Holdings, LLC; June 2014.
5. Schlesinger T, Rowland Powell C. Efficacy, and safety of a low molecular weight hyaluronic Acid topical gel in the treatment of facial seborrheic dermatitis final report. *J Clin Aesthet Dermatol*. 2014;7(5):15-8.
6. Shaharudin A, Aziz Z. Effectiveness of hyaluronic acid and its derivatives on chronic wounds: a systematic review. *J Wound Care*. 2016;25(10):585-592.
7. Weindl G, Schaller M, Schäfer-Korting M, et al. Hyaluronic acid in the treatment and prevention of skin diseases: molecular biological, pharmaceutical, and clinical aspects. *Skin Pharmacol Physiol*. 2004;17(5):207-13.

Biovance

1. Letendre S, LaPorta G, O'Donnell E, et al. Pilot trial of biovance collagen-based wound covering for diabetic ulcers. *Adv Skin Wound Care*. 2009;22(4):161-166.

CellECT

1. Delibaltov DL, Gaur U, Kim J, et al. CellECT: Cell evolution capturing tool. *BMC Bioinformatics*. 2016;17:88.
2. Englund MC, Caisander G, Noaksson K, et al. The establishment of 20 different human embryonic stem cell lines and subclones; a report on derivation, culture, characterisation, and banking. *In Vitro Cell Dev Biol Anim*. 2010;46(3-4):217-230.
3. Lee K, Goodman SB. Cell therapy for secondary osteonecrosis of the femoral condyles using the Collect DBM System: A preliminary report. *J Arthroplasty*. 2009;24(1):43-48.

CellerateRx

1. Newman MI, Baratta LG, Swartz K. Activated, type I collagen (CellerateRx) and its effectiveness in healing recalcitrant diabetic wounds: A case presentation. *Adv Skin Wound Care*. 2008;21(8):370-374.

CollaMend

1. Chavarriaga LF, Lin E, Losken A, et al. Management of complex abdominal wall defects using acellular porcine dermal collagen. *Am Surg*. 2010;76(1):96-100.
2. Coccolini F, Lotti M, Bertoli P, et al. Thoracic wall reconstruction with Collamend® in trauma: Report of a case and review of the literature. *World J Emerg Surg*. 2012;7(1):39.
3. Harth KC, Rosen MJ. Major complications associated with xenograft biologic mesh implantation in abdominal wall reconstruction. *Surg Innov*. 2009;16(4):324-329.
4. Shah BC, Tiwari MM, Goede MR, et al. Not all biologics are equal! *Hernia*. 2011;15(2):165-171.

Conexa

1. Xu H, Sandor M, Qi S, et al. Implantation of a porcine acellular dermal graft in a primate model of rotator cuff repair. *J Shoulder Elbow Surg*. 2012;21(5):580-588.

Cook Medical Anal Fistula Plug

1. Filgate R, Thomas A, Ballal M. Treatment of foregut fistula with biologic plugs. *Surg Endosc*. 2015;29(7):2006-2012.

Cormatrix

1. Bibeovski S, Scholl FG. Feasibility and early effectiveness of a custom, hand-made systemic atrioventricular valve using porcine extracellular matrix (CorMatrix) in a 4-month-old infant. *Ann Thorac Surg*. 2015;99(2):710-712.
2. Brinster DR, Patel JA. The use of CorMatrix extracellular matrix for aortic root enlargement. *J Cardiothorac Surg*. 2014;9(1):178.
3. Deorsola L, Pace Napoleone C, Abbruzzese PA. Repair of an unusual aortic coarctation using an extracellular matrix patch. *Ann Thorac Surg*. 2014;97(3):1059-1061.

4. DuBose JJ, Azizzadeh A. Utilization of a tubularized CorMatrix extracellular matrix for repair of an arteriovenous fistula aneurysm. *Ann Vasc Surg.* 2015;29(2):366.e1-e4.
5. Gerdisch MW, Boyd WD, Harlan JL, et al. Early experience treating tricuspid valve endocarditis with a novel extracellular matrix cylinder reconstruction. *J Thorac Cardiovasc Surg.* 2014;148(6):3042-3048.
6. Gerdisch MW, Shea RJ, Barron MD. Clinical experience with CorMatrix extracellular matrix in the surgical treatment of mitral valve disease. *J Thorac Cardiovasc Surg.* 2014;148(4):1370-1378.
7. Gilbert CL, Gnanapragasam J, Benhaggen R, Novick WM. Novel use of extracellular matrix graft for creation of pulmonary valved conduit. *World J Pediatr Congenit Heart Surg.* 2011;2(3):495-501.
8. Quarti A, Nardone S, Colaneri M, et al. Preliminary experience in the use of an extracellular matrix to repair congenital heart diseases. *Interact Cardiovasc Thorac Surg.* 2011;13(6):569-572.
9. Slachman FN. Constructive remodeling of CorMatrix extracellular matrix after aortic root repair in a 90-year-old woman. *Ann Thorac Surg.* 2014;97(5):e129-e131.
10. Szczeklik M, Gupta P, Amersey R, Lall KS. Reconstruction of the right atrium and superior vena cava with extracellular matrix. *J Card Surg.* 2015;30(4):351-354.
11. Wallen J, Rao V. Extensive tricuspid valve repair after endocarditis using CorMatrix extracellular matrix. *Ann Thorac Surg.* 2014;97(3):1048-1050.
12. Yanagawa B, Rao V, Yau TM, Cusimano RJ. Initial experience with intraventricular repair using CorMatrix extracellular matrix. *Innovations (Phila).* 2013;8(5):348-352.
13. Yanagawa B, Rao V, Yau TM, Cusimano RJ. Potential myocardial regeneration with CorMatrix ECM: A case report. *J Thorac Cardiovasc Surg.* 2014;147(4):e41-e43.
14. Yeen WC, Faber C, Caldeira C, et al. Reconstruction of pulmonary venous conduit with CorMatrix in lung transplant. *Asian Cardiovasc Thorac Ann.* 2013;21(3):360-362.
15. Zaidi AH, Nathan M, Emani S, et al. Preliminary experience with porcine intestinal submucosa (CorMatrix) for valve reconstruction in congenital heart disease: Histologic evaluation of explanted valves. *J Thorac Cardiovasc Surg.* 2014;148(5):2216-2224, 2225.

Cuffpatch

1. Barber FA, Herbert MA, Coons DA. Tendon augmentation grafts: Biomechanical failure loads and failure patterns. *Arthroscopy.* 2006;22(5):534-538.
2. Coons DA, Alan Barber F. Tendon graft substitutes-rotator cuff patches. *Sports Med Arthrosc.* 2006;14(3):185-190.
3. Derwin KA, Baker AR, Spragg RK, et al. Commercial extracellular matrix scaffolds for rotator cuff tendon repair. Biomechanical, biochemical, and cellular properties. *J Bone Joint Surg Am.* 2006;88(12):2665-2672.
4. Johnson W, Inamasu J, Yantzer B, et al. Comparative in vitro biomechanical evaluation of two soft tissue defect products. *J Biomed Mater Res B Appl Biomater.* 2007.

5. Karlsson M, Lindgren M, Jarnhed-Andersson I, Tarpila E. Dressing the split-thickness skin graft donor site: A randomized clinical trial. *Adv Skin Wound Care*. 2014;27(1):20-25.
6. Valentin JE, Badylak JS, McCabe GP, Badylak SF. Extracellular matrix bioscaffolds for orthopaedic applications. A comparative histologic study. *J Bone Joint Surg Am*. 2006;88(12):2673-2686.

Cymetra

1. Allam RC. Micronized, particulate dermal matrix to manage a non-healing pressure ulcer with undermined wound edges: A case report. *Ostomy Wound Manage*. 2007;53(4):78-82.
2. Apte RS, Solomon SD, Gehlbach P. Acute choroidal infarction following subcutaneous injection of micronized dermal matrix in the forehead region. *Retina*. 2003;23(4):552-554.
3. Banta MN, Eaglstein WH, Kirsner RS. Healing of refractory sinus tracts by dermal matrix injection with Cymetra. *Dermatol Surg*. 2003;29(8):863-866.
4. Hirsch RJ, Cohen JL. Soft tissue augmentation. *Cutis*. 2006;78(3):165-172.
5. Homicz MR, Watson D. Review of injectable materials for soft tissue augmentation. *Facial Plast Surg*. 2004;20(1):21-29.
6. Levy D, Banta MR, Kirsner RS. Refractory pyoderma gangrenosum peristomal ulcer and sinus tract treated with micronized cadaveric dermis. *J Am Acad Dermatol*. 2005;52(6):1104.
7. Maloney BP, Murphy BA, Cole HP 3rd. Cymetra. *Facial Plast Surg*. 2004;20(2):129-134.
8. Narins RS, Bowman PH. Injectable skin fillers. *Clin Plast Surg*. 2005;32(2):151-162.
9. Sclafani AP, Romo T 3rd, Jacono AA. Rejuvenation of the aging lip with an injectable acellular dermal graft (Cymetra). *Arch Facial Plast Surg*. 2002;4(4):252-257.

Dehydrated Human Amniotic Membrane Allograft (e.g., BioFix, FlowerPatch)

1. Masee M, Chinn K, Lei J, et al. Dehydrated human amnion/chorion membrane regulates stem cell activity in vitro. *J Biomed Mater Res B Appl Biomater*. 2016;104(7):1495-1503.
2. Willett NJ, Thote T, Lin AS, et al. Intra-articular injection of micronized dehydrated human amnion/chorion membrane attenuates osteoarthritis development. *Arthritis Res Ther*. 2014;16(1):R47.

DermACELL

1. Bullocks JM. DermACELL: A novel and biocompatible acellular dermal matrix in tissue expander and implant-based breast reconstruction. *Eur J Plast Surg*. 2014;37(10):529-538.
2. Capito AE, Tholpady SS, Agrawal H, et al. Evaluation of host tissue integration, revascularization, and cellular infiltration within various dermal substrates. *Ann Plast Surg*. 2012;68(5):495-500.
3. Cazzell S. A randomized controlled trial comparing a human acellular dermal matrix versus conventional care for the treatment of venous leg ulcers. *Wounds*. 2019;31(3):68-74.
4. Cazzell S, Vayser D, Pham H, et al. A randomized clinical trial of a human acellular dermal matrix demonstrated superior healing rates for chronic diabetic foot ulcers over conventional care and an active acellular dermal matrix comparator. *Wound Repair Regen*. 2017;25(3):483-497.

5. Chen SG, Tzeng YS, Wang CH. Treatment of severe burn with DermACELL(®), an acellular dermal matrix. *Int J Burns Trauma*. 2012;2(2):105-109.
6. Cheng A, Saint-Cyr M. Comparison of different ADM materials in breast surgery. *Clin Plast Surg*. 2012;39(2):167-175.
7. Robb GL, Gurtner GC. Letter to the editor. Healing rates in a multicenter assessment of a sterile, room temperature, acellular dermal matrix versus conventional care wound management and an active comparator in the treatment of full-thickness diabetic foot ulcers. *Eplasty*. 2016;16:229.
8. Roussalis JL. Novel use of an acellular dermal matrix allograft to treat a chronic scalp wound with bone exposure: A case study. *Int J Burns Trauma*. 2014;4(2):49-52.
9. Shitrit SB, Ramon Y, Bertasi G. Use of a novel acellular dermal matrix allograft to treat complex trauma wound: A case study. *Int J Burns Trauma*. 2014;4(2):62-65.
10. Vashi C. Clinical outcomes for breast cancer patients undergoing mastectomy and reconstruction with use of DermACELL, a sterile, room temperature acellular dermal matrix. *Plast Surg Int*. 2014;2014:704323.
11. Walters J, Cazzell S, Pham H, et al. Healing rates in a multicenter assessment of a sterile, room temperature, acellular dermal matrix versus conventional care wound management and an active comparator in the treatment of full-thickness diabetic foot ulcers. *Eplasty*. 2016;16:e10.

DermaClose

1. Bajoghli AA, Yoo JY, Faria DT. Utilization of a new tissue expander in the closure of a large Mohs surgical defect. *J Drugs Dermatol*. 2010;9(2):149-151.
2. Durden F Jr, Tiwari P, Kocak E. Can the DermaClose device contribute to periwound tissue ischemia and necrosis: A case presentation and discussion? *Plast Surg Nurs*. 2012;32(3):132-133.
3. Reinard KA, Zakaria HM, Qatanani A, et al. Preoperative external tissue expansion for complex cranial reconstructions. *J Neurosurg*. 2016;125(4):861-868.
4. Santiago GF, Bograd B, Basile PL, et al. Soft tissue injury management with a continuous external tissue expander. *Ann Plast Surg*. 2012;69(4):418-421.

Derma-Gide

1. Armstrong DG, Orgill DP, Galiano RD, et al. An observational pilot study using a purified reconstituted bilayer matrix to treat non-healing diabetic foot ulcers. *Int Wound J*. 2020;17(4):966-973.
2. Armstrong DG, Orgill DP, Galiano RD, et al. Functional properties of a purified reconstituted bilayer matrix design support natural wound healing activities. *Plast Reconstr Surg Glob Open*. 2021;9(5):e3596.
3. Armstrong DG, Orgill DP, Galiano RG, et al. Use of a purified reconstituted bilayer matrix in the management of chronic diabetic foot ulcers improves patient outcomes vs standard of care: Results of a prospective randomised controlled multi-centre clinical trial. *Int Wound J*. 2022;19(5):1197-1209.

Dermagraft

1. Advanced Tissue Sciences, Inc. Dermagraft interactive wound dressing. Summary of Safety and Effectiveness Data. Premarket Approval Application No. P000036. Rockville, MD: U.S. Food and Drug Administration; September 28, 2001.
2. Bowering CK. Dermagraft in the treatment of diabetic foot ulcers. *J Cutan Med Surg*. 1998;3 Suppl 1:S1-29-32.
3. Browne AC, Vearncombe M, Sibbald RG. High bacterial load in asymptomatic diabetic patients with neurotrophic ulcers retards wound healing after application of Dermagraft. *Ostomy Wound Manage*. 2001;47(10):44-49.
4. Buchberger B, Follmann M, Freyer D, et al. The evidence for the use of growth factors and active skin substitutes for the treatment of non-infected diabetic foot ulcers (DFU): A health technology assessment (HTA). *Exp Clin Endocrinol Diabetes*. 2011;119(8):472-479.
5. Eaglstein WH. Dermagraft treatment of diabetic ulcers. *J Dermatol*. 1998;25(12):803-804.
6. Edmonds ME, Foster AV, McColgan M. 'Dermagraft': A new treatment for diabetic foot ulcers. *Diabet Med* 1997;14:1010-1011.
7. Frykberg RG, Marston WA, Cardinal M. The incidence of lower-extremity amputation and bone resection in diabetic foot ulcer patients treated with a human fibroblast-derived dermal substitute. *Adv Skin Wound Care*. 2015;28(1):17-20.
8. Gentzkow GD, Iwasaki SD, Hershon KS, et al. Use of dermagraft, a cultured human dermis, to treat diabetic foot ulcers. *Diabetes Care*. 1996;19(4):350-354.
9. Hanft JR, Surprenant MS. Healing of chronic foot ulcers in diabetic patients treated with a human fibroblast-derived dermis. *J Foot Ankle Surg*. 2002;41(5):291-299.
10. Hansbrough JF, Mazingo DW, Kealey GP, et al. Clinical trials of a biosynthetic temporary skin replacement, Dermagraft-Transitional Covering, compared with cryopreserved human cadaver skin for temporary coverage of excised burn wounds. *J Burn Care Rehabil*. 1997;18(1 Pt 1):43-51.
11. Harding K, Sumner M, Cardinal M. A prospective, multicentre, randomised controlled study of human fibroblast-derived dermal substitute (Dermagraft) in patients with venous leg ulcers. *Int Wound J*. 2013;10(2):132-137.
12. Jiang WG, Harding KG. Enhancement of wound tissue expansion and angiogenesis by matrix-embedded fibroblast (dermagraft), a role of hepatocyte growth factor/scatter factor. *Int J Mol Med*. 1998;2(2):203-210.
13. Kashefsky H, Marston W. Total contact casting combined with human fibroblast-derived dermal tissue in 15 DFU patients. *J Wound Care*. 2012;21(5):236, 238, 240, 242-243.
14. Krishnamoorthy L, Harding K, Griffiths D, et al. The clinical and histological effects of Dermagraft in the healing of chronic venous leg ulcers. *Phlebology*. 2003;18(1):12-22.
15. Landsman A, Roukis TS, DeFronzo DJ, et al. Living cells or collagen matrix: Which is more beneficial in the treatment of diabetic foot ulcers? *Wounds*. 2008;20(5):111-116.
16. Langer A, Rogowski W. Systematic review of economic evaluations of human cell-derived wound care products for the treatment of venous leg and diabetic foot ulcers. *BMC Health Serv Res*. 2009;9:115.

17. Marston WA, Hanft J, Norwood P, et al. The efficacy and safety of Dermagraft in improving the healing of chronic diabetic foot ulcers: Results of a prospective randomized trial. *Diabetes Care*. 2003;26(6):1701-1705.
18. Marston WA. Dermagraft, a bioengineered human dermal equivalent for the treatment of chronic nonhealing diabetic foot ulcer. *Expert Rev Med Devices*. 2004;1(1):21-31.
19. Mundy L, Merlin T, Parrella A. Dermagraft (R): Dermal substitute wound cover for patients with dystrophic epidermolysis bullosa. *Horizon Scanning Prioritising Summary - Volume 6*. Adelaide, SA: Adelaide Health Technology Assessment (AHTA) on behalf of National Horizon Scanning Unit (HealthPACT and MSAC); 2004.
20. Naughton G, Mansbridge J, Gentzkow G. A metabolically active human dermal replacement for the treatment of diabetic foot ulcers. *Artif Organs*. 1997;21(11):1203-1210.
21. Newton DJ, Khan F, Belch JJ, et al. Blood flow changes in diabetic foot ulcers treated with dermal replacement therapy. *J Foot Ankle Surg*. 2002;41(4):233-237.
22. Purdue GF, Hunt JL, Still JM Jr, et al. A multicenter clinical trial of a biosynthetic skin replacement, Dermagraft-TC, compared with cryopreserved human cadaver skin for temporary coverage of excised burn wounds. *J Burn Care Rehabil*. 1997;18(1 Pt 1):52-57.
23. Truong AT, Kowal-Vern A, Latenser BA, et al. Comparison of dermal substitutes in wound healing utilizing a nude mouse model. *J Burns Wounds*. 2005;4:e4.
24. U.S. Food and Drug Administration (FDA). Dermagraft, Human Fibroblast-Derived Dermal Substitute. Treatment of wounds related to dystrophic epidermolysis bullosa. Summary of Safety and Probable Benefit. Humanitarian Device Exemption No. H020004. Rockville, MD: FDA; July 7, 2003.
25. Warriner RA 3rd, Cardinal M; TIDE Investigators. Human fibroblast-derived dermal substitute: Results from a treatment investigational device exemption (TIDE) study in diabetic foot ulcers. *Adv Skin Wound Care*. 2011;24(7):306-311.

Dermamatrix

1. Athavale SM, Phillips S, Mangus B, et al. Complications of alloderm and dermamatrix for parotidectomy reconstruction. *Head Neck*. 2012;34(1):88-93.
2. Kathju S, Lasko LA, Medich DS. Perineal hernia repair with acellular dermal graft and suture anchor fixation. *Hernia*. 2011;15(3):357-360.
3. Lee EW, Berbos Z, Zaldivar RA, et al. Use of DermaMatrix graft in oculoplastic surgery. *Ophthal Plast Reconstr Surg*. 2010;26(3):153-154.
4. Sahoo S, DeLozier KR, Erdemir A, Derwin KA. Clinically relevant mechanical testing of hernia graft constructs. *J Mech Behav Biomed Mater*. 2015;41:177-188.

Duragen

1. Alfieri A, Schettino R, Taborelli A, et al. Endoscopic endonasal treatment of a spontaneous temporosphenoidal encephalocele with a detachable silicone balloon. Case report. *J Neurosurg*. 2002;97(5):1212-1216.2:
2. Bowers CA, Brimley C, Cole C, et al. AlloDerm for duraplasty in Chiari malformation: Superior outcomes. *Acta Neurochir (Wien)*. 2015;157(3):507-511.

3. Braca JA 3rd, Marzo S, Prabhu VC. Cerebrospinal fluid leakage from tegmen tympani defects repaired via the middle cranial fossa approach. *J Neurol Surg B Skull Base*. 2013;74(2):103-107.
4. Danish SF, Samdani A, Hanna A, et al. Experience with acellular human dura and bovine collagen matrix for duraplasty after posterior fossa decompression for Chiari malformations. *J Neurosurg*. 2006;104(1 Suppl):16-20.
5. Grigoryants V, Jane JA Jr, Lin KY. Salvage of a complicated myelomeningocele using collagen (Duragen) and dermal (Alloderm) matrix substitutes. Case report and review of the literature. *Pediatr Neurosurg*. 2007;43(6):512-515.
6. Harvey RJ, Nogueira JF, Schlosser RJ, et al. Closure of large skull base defects after endoscopic transnasal craniotomy. *J Neurosurg*. 2009;111(2):371-379.
7. Khorasani L, Kapur RP, Lee C, Avellino AM. Histological analysis of DuraGen in a human subject: Case report. *Clin Neuropathol*. 2008;27(5):361-364.
8. Litvack ZN, West GA, Delashaw JB, et al. Dural augmentation: Part I-evaluation of collagen matrix allografts for dural defect after craniotomy. *Neurosurgery*. 2009;65(5):890-897; discussion 897.
9. McCall TD, Fults DW, Schmidt RH. Use of resorbable collagen dural substitutes in the presence of cranial and spinal infections-report of 3 cases. *Surg Neurol*. 2008;70(1):92-96; discussion 96-97.
10. Narotam PK, Jose S, Nathoo N, et al. Collagen matrix (DuraGen) in dural repair: Analysis of a new modified technique. *Spine (Phila Pa 1976)*. 2004;29(24):2861-2867; discussion 2868-2869.
11. Narotam PK, Qiao F, Nathoo N. Collagen matrix duraplasty for posterior fossa surgery: Evaluation of surgical technique in 52 adult patients. *J Neurosurg*. 2009;111(2):380-386.
12. Narotam PK, Reddy K, Fewer D, et al. Collagen matrix duraplasty for cranial and spinal surgery: A clinical and imaging study. *J Neurosurg*. 2007;106(1):45-51.
13. Raffa SJ, Benglis DM, Levi AD. Treatment of a persistent iatrogenic cerebrospinal fluid-pleural fistula with a cadaveric dural-pleural graft. *Spine J*. 2009;9(4):e25-e29.
14. Sade B, Oya S, Lee JH. Non-watertight dural reconstruction in meningioma surgery: Results in 439 consecutive patients and a review of the literature. *J Neurosurg*. 2011;114(3):714-718.
15. Stendel R, Danne M, Fiss I, et al. Efficacy and safety of a collagen matrix for cranial and spinal dural reconstruction using different fixation techniques. *J Neurosurg*. 2008 Aug;109(2):215-221.
16. Than KD, Wang AC, Etame AB, et al. Postoperative management of incidental durotomy in minimally invasive lumbar spinal surgery. *Minim Invasive Neurosurg*. 2008;51(5):263-266.
17. Williams LE, Vannemreddy PS, Watson KS, Slavin KV. The need in dural graft suturing in Chiari I malformation decompression: A prospective, single-blind, randomized trial comparing sutured and sutureless duraplasty materials. *Surg Neurol Int*. 2013;4:26.
18. Zerris VA, James KS, Roberts JB, et al. Repair of the dura mater with processed collagen devices. *J Biomed Mater Res B Appl Biomater*. 2007;83(2):580-588.

1. Braca JA 3rd, Marzo S, Prabhu VC. Cerebrospinal fluid leakage from tegmen tympani defects repaired via the middle cranial fossa approach. *J Neurol Surg B Skull Base*. 2013;74(2):103-107.
2. Chin CJ, Kus L, Rotenberg BW. Use of duraseal in repair of cerebrospinal fluid leaks. *J Otolaryngol Head Neck Surg*. 2010;39(5):594-599.
3. Epstein NE. Dural repair with four spinal sealants: Focused review of the manufacturers' inserts and the current literature. *Spine J*. 2010;10(12):1065-1068.
4. Jeon SH, Lee SH, Tsang YS, et al. Watertight sealing without lumbar drainage for incidental ventral dural defect in transthoracic spine surgery: A retrospective review of 53 cases. *J Spinal Disord Tech*. 2017;30(6):E702-E706.
5. Kim KD, Wright NM. Polyethylene glycol hydrogel spinal sealant (DuraSeal Spinal Sealant) as an adjunct to sutured dural repair in the spine: Results of a prospective, multicenter, randomized controlled study. *Spine (Phila Pa 1976)*. 2011;36(23):1906-1912.
6. Lee G, Lee CK, Bynevelt M. DuraSeal-hematoma: Concealed hematoma causing spinal cord compression. *Spine (Phila Pa 1976)*. 2010;35(25):E1522-E1524.
7. Lee SH, Park CW, Lee SG, Kim WK. Postoperative cervical cord compression induced by hydrogel dural sealant (DuraSeal®). *Korean J Spine*. 2013;10(1):44-46.
8. Leng LZ, Brown S, Anand VK, Schwartz TH. "Gasket-seal" watertight closure in minimal-access endoscopic cranial base surgery. *Neurosurgery*. 2008;62(5 Suppl 2):ONSE342-ONSE343; discussion ONSE343.
9. Mulder M, Crosier J, Dunn R. Cauda equina compression by hydrogel dural sealant after a laminotomy and discectomy: Case report. *Spine (Phila Pa 1976)*. 2009;34(4):E144-E148.
10. Osbun JW, Ellenbogen RG, Chesnut RM, et al. A multicenter, single-blind, prospective randomized trial to evaluate the safety of a polyethylene glycol hydrogel (Duraseal Dural Sealant System) as a dural sealant in cranial surgery. *World Neurosurg*. 2012;78(5):498-504.
11. Parker SR, Harris P, Cummings TJ, et al. Complications following decompression of Chiari malformation Type I in children: Dural graft or sealant? *J Neurosurg Pediatr*. 2011;8(2):177-183.
12. Rihn JA, Patel R, Makda J, et al. Complications associated with single-level transforaminal lumbar interbody fusion. *Spine J*. 2009;9(8):623-629.
13. Schiariti M, Acerbi F, Broggi M, et al. Two alternative dural sealing techniques in posterior fossa surgery: (Polylactide-co-glycolide) self-adhesive resorbable membrane versus polyethylene glycol hydrogel. *Surg Neurol Int*. 2014;5:171.
14. Than KD, Baird CJ, Olivi A. Polyethylene glycol hydrogel dural sealant may reduce incisional cerebrospinal fluid leak after posterior fossa surgery. *Neurosurgery*. 2008;63(1 Suppl 1):ONS182-ONS186; discussion ONS186-ONS187.
15. Than KD, Wang AC, Etame AB, et al. Postoperative management of incidental durotomy in minimally invasive lumbar spinal surgery. *Minim Invasive Neurosurg*. 2008;51(5):263-266.
16. Thavarajah D, De Lacy P, Hussain R, Redfern RM. Postoperative cervical cord compression induced by hydrogel (DuraSeal): A possible complication. *Spine (Phila Pa 1976)*. 2010;35(1):E25-E26.

17. Weinstein JS, Liu KC, Delashaw JB Jr, et al. The safety and effectiveness of a dural sealant system for use with nonautologous duraplasty materials. *J Neurosurg*. 2010;112(2):428-433.

Durepair

1. Bowers CA, Brimley C, Cole C, et al. AlloDerm for duraplasty in Chiari malformation: Superior outcomes. *Acta Neurochir (Wien)*. 2015;157(3):507-511.
2. Braca JA 3rd, Marzo S, Prabhu VC. Cerebrospinal fluid leakage from tegmen tympani defects repaired via the middle cranial fossa approach. *J Neurol Surg B Skull Base*. 2013;74(2):103-107.
3. Foy AB, Giannini C, Raffel C. Allergic reaction to a bovine dural substitute following spinal cord untethering. Case report. *J Neurosurg Pediatr*. 2008;1(2):167-169.
4. McCall TD, Fults DW, Schmidt RH. Use of resorbable collagen dural substitutes in the presence of cranial and spinal infections-report of 3 cases. *Surg Neurol*. 2008;70(1):92-96; discussion 96-97.
5. Parker SR, Harris P, Cummings TJ, et al. Complications following decompression of Chiari malformation Type I in children: Dural graft or sealant? *J Neurosurg Pediatr*. 2011;8(2):177-183.

E02 Transdermal Continuous Oxygen Therapy [TCOT] for Wound Healing

1. Armstrong DG, Meyr AJ. Basic principles of wound management. UpToDate [serial online]. Waltham, MA: UpToDate; reviewed November 2013.
2. Asmis R, Qiao M, Zhao Q. Low-flow oxygenation of full-excisional skin wounds on diabetic mice improves wound healing by accelerating wound closure and reepithelialization. *Int Wound J*. 2010;7:349-357.
3. Bowen J, Ingersoll MS, Carlson R. Effect of CDO on pain in treatment of chronic wounds. *Wound Central*. 2018;2(4):186-195.
4. Brannick B, Engelthaler M, Jadzak J, Wu S. A closer look at continuous diffusion of oxygen therapy for a chronic, painful venous leg ulcer. *Podiatry Today*. 2014;27(11).
5. Chan BCF, Campbell KE. An economic evaluation examining the cost effectiveness of continuous diffusion of oxygen therapy for individuals with diabetic foot ulcers. *Int Wound J*. 2020;1-18.
6. Couture M. Does continuous diffusion of oxygen have potential in chronic diabetic foot ulcers? *Podiatry Today*. 2015;28(12).
7. Howard MA, Asmis R, Evans KK, Mustoe TA. Oxygen and wound care - A review of current therapeutic modalities and future direction. *Wound Rep Reg*. 2013; 21(4):503-511.
8. Kimmel HM. A comparison of continuous oxygen therapy to topical oxygen. *Foot Ankle Quarterly*. 2019;30(4):203-209.
9. Lavery LA, Niederauer MQ, Papas KK, Armstrong DG. Does debridement improve clinical outcomes in people with DFU ulcers treated with CDO? *Wounds*. 2019;31(10):246-251.
10. Niederauer MQ, Michalek JE, Liu Q, et al. Continuous diffusion of oxygen improves diabetic foot ulcer healing when compared with a placebo control: A randomised, double-blind, multicentre study. *J Wound Care*. 2018;27(9):s30-s45.

11. Niederauer MQ, Michalek JE, Armstrong DG. A prospective, randomized, double-blind multicenter study comparing continuous diffusion of oxygen therapy to sham therapy in the treatment of diabetic foot ulcers. *J Diabetes Science Tech.* 2017;Special Issue:1-9.
12. Niederauer MQ, Michalek JE, Armstrong DG. Interim results for a prospective, randomized, double-blind multicenter study comparing continuous diffusion of oxygen therapy to standard moist wound therapy in the treatment of diabetic foot ulcers. *Wound Medicine.* 2015;8:19-23.
13. Rayman G, Vas P, Dhatariya K, et al. Guidelines on use of interventions to enhance healing of chronic foot ulcers in diabetes (IWGDF 2019 update). *Diabetes Metab Res Rev.* 2020;36 Suppl 1:e3283.
14. Urrea-Botero G. Can continuous diffusion of oxygen heal chronic toe ulcers? *Podiatry Today.* 2015;28(10).
15. Vas P, Rayman G, Dhatariya K, et al. Effectiveness of interventions to enhance healing of chronic foot ulcers in diabetes: A systematic review. *Diabetes Metab Res Rev.* 2020;36 Suppl 1:e3284.

Endoform

1. Liden BA, May BC. Clinical outcomes following the use of ovine forestomach matrix (endoform dermal template) to treat chronic wounds. *Adv Skin Wound Care.* 2013;26(4):164-167.

Enduragen

1. Cillo JE Jr, Caloss R, Miles BA, Ellis E 3rd. An unusual response associated with cross-linked porcine dermal collagen (ENDURAGen) used for reconstruction of a post-traumatic lateral nasal wall deformity. *J Oral Maxillofac Surg.* 2007;65(5):1017-1022.
2. Cole PD, Stal D, Sharabi SE, et al. A comparative, long-term assessment of four soft tissue substitutes. *Aesthet Surg J.* 2011;31(6):674-681.
3. Ibrahim AM, Rabie AN, Kim PS, et al. Static treatment modalities in facial paralysis: A review. *J Reconstr Microsurg.* 2013;29(4):223-232.
4. McCord C, Nahai FR, Codner MA, et al. Use of porcine acellular dermal matrix (Enduragen) grafts in eyelids: A review of 69 patients and 129 eyelids. *Plast Reconstr Surg.* 2008;122(4):1206-1213.
5. Symbas J, McCord C, Nahai F. Acellular dermal matrix in eyelid surgery. *Aesthet Surg J.* 2011;31(7 Suppl):101S-107S.
6. Wu AY, Vagefi MR, Georgescu D, et al. Enduragen patch grafts for exposed orbital implants. *Orbit.* 2011;30(2):92-95.

Epicel Cultured Epidermal Autograft

1. Carsin H, Ainaud P, Le Bever H, et al. Cultured epithelial autografts in extensive burn coverage of severely traumatized patients: A five year single-center experience with 30 patients. *Burns.* 2000;26(4):379-387.
2. Genzyme Corp. Epicel [website]. Cambridge, MA: Genzyme; 2010. Available at: http://www.genzyme.com/business/biosurgery/biosurg_home.asp. Accessed on February 11, 2010.

3. Munster AM, Weiner SH, Spence RJ. Cultured epidermis for the coverage of massive burn wounds. A single center experience. *Ann Surg.* 1990;211(6):676-679.
4. U.S. Food and Drug Administration (FDA), Center for Devices and Radiological Health (CDRH). Epicel (cultured epidermal autografts). Humanitarian Device Exemption No. H990002. Rockville, MD: FDA; Oct 25, 2007.

EpiCord

1. Tettelbach W, Cazzell S, Sigal F, et al. A multicentre prospective randomised controlled comparative parallel study of dehydrated human umbilical cord (EpiCord) allograft for the treatment of diabetic foot ulcers. *Int Wound J.* 2019b;16(1):122-130.

Epidex

1. Hafner J, Kühne A, Trüeb RM. Successful grafting with EpiDex in pyoderma gangrenosum. *Dermatology.* 2006;212(3):258-259.
2. Ortega-Zilic N, Hunziker T, Läuchli S, et al. EpiDex® Swiss field trial 2004-2008. *Dermatology.* 2010;221(4):365-372.
3. Renner R, Harth W, Simon JC. Transplantation of chronic wounds with epidermal sheets derived from autologous hair follicles--the Leipzig experience. *Int Wound J.* 2009;6(3):226-232.
4. Tausche AK, Skaria M, Böhlen L, et al. An autologous epidermal equivalent tissue-engineered from follicular outer root sheath keratinocytes is as effective as split-thickness skin autograft in recalcitrant vascular leg ulcers. *Wound Repair Regen.* 2003;11(4):248-252.

EpiFix

1. Berhane CC, Brantley K, Williams S, et al. An evaluation of dehydrated human amnion/chorion membrane allografts for pressure ulcer treatment: A case series. *J Wound Care.* 2019;28(Sup5):S4-S10.
2. Bianchi C, Cazzell S, Vayser D, et al; EpiFix VLU Study Group. A multicentre randomised controlled trial evaluating the efficacy of dehydrated human amnion/chorion membrane (EpiFix®) allograft for the treatment of venous leg ulcers. *Int Wound J.* 2018;15(1):114-122.
3. Forbes J, Fetterolf DE. Dehydrated amniotic membrane allografts for the treatment of chronic wounds: A case series. *J Wound Care.* 2012;21(6):290, 292, 294-296.
4. National Institute for Health and Care Excellence (NICE). EpiFix for chronic wounds. Medtech Innovation Briefing [MIB139]. London, UK: NICE; January 2018.
5. Serena TE, Carter MJ, Le LT, et al.; EpiFix VLU Study Group. 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.* 2014;22(6):688-693.
6. Sheikh ES, Sheikh ES, Fetterolf DE. Use of dehydrated human amniotic membrane allografts to promote healing in patients with refractory non healing wounds. *Int Wound J.* 2014;11(6):711-717.
7. Tettelbach W, Cazzell S, Reyzelman AM, et al. A confirmatory study on the efficacy of dehydrated human amnion/chorion membrane dHACM allograft in the management of

diabetic foot ulcers: A prospective, multicentre, randomised, controlled study of 110 patients from 14 wound clinics. *Int Wound J.* 2019a;16(1):19-29.

8. Torabi R, Strong AL, Hogan ME, et al. Bone and tendon coverage via dehydrated human amniotic/chorionic membrane and split-thickness skin grafting. *J Reconstr Microsurg Open.* 2016;1:59-62.
9. Zelen CM, Gould L, Serena TE, et al. A prospective, randomised, controlled, multi-centre comparative effectiveness study of healing using dehydrated human amnion/chorion membrane allograft, bioengineered skin substitute or standard of care for treatment of chronic lower extremity diabetic ulcers. *Int Wound J.* 2015;12(6):724-732.
10. Zelen CM, Poka A, Andrews J. Prospective, randomized, blinded, comparative study of injectable micronized dehydrated amniotic/chorionic membrane allograft for plantar fasciitis--a feasibility study. *Foot Ankle Int.* 2013;34(10):1332-1339.
11. Zelen CM, Serena TE, Denozziere G, Fetterolf DE. A prospective randomised comparative parallel study of amniotic membrane wound graft in the management of diabetic foot ulcers. *Int Wound J.* 2013;10(5):502-507.
12. Zelen CM, Serena TE, Fetterolf DE. Dehydrated human amnion/chorion membrane allografts in patients with chronic diabetic foot ulcers: A long-term follow-up study. *Wound Medicine.* 2014(4):1-4.
13. Zelen CM, Serena TE, Gould L, et al. Treatment of chronic diabetic lower extremity ulcers with advanced therapies: A prospective, randomised, controlled, multi-centre comparative study examining clinical efficacy and cost. *Int Wound J.* 2016;13(2):272-282.
14. Zelen CM, Serena TE, Snyder RJ. A prospective, randomised comparative study of weekly versus biweekly application of dehydrated human amnion/chorion membrane allograft in the management of diabetic foot ulcers. *Int Wound J.* 2014;11(2):122-128.
15. Zelen CM, Snyder RJ, Serena TE, et al. The use of human amnion/chorion membrane in the clinical setting for lower extremity repair: A review. *Clin Podiatr Med Surg.* 2015;32(1):135-146.
16. Zelen CM. Advances in forefoot surgery. *Clin Podiatr Med Surg.* 2013;30(3):xiii-xiv.
17. Zelen CM. An evaluation of dehydrated human amniotic membrane allografts in patients with DFUs. *J Wound Care.* 2013;22(7):347-348, 350-351.

EPIFLO Transdermal Continuous Oxygen Therapy [TCOT] for Wound Healing

1. Armstrong DG, Meyr AJ. Basic principles of wound management. UpToDate [serial online]. Waltham, MA: UpToDate; reviewed November 2013.
2. Bakri MH, Nagem H, Sessler DI, et al. Transdermal oxygen does not improve sternal wound oxygenation in patients recovering from cardiac surgery. *Anesth Analg.* 2008;106(6):1619-1626.
3. Banks PG, Ho CH. A novel topical oxygen treatment for chronic and difficult-to-heal wounds: Case studies. *J Spinal Cord Med.* 2008;31(3):297-301.
4. Blackman E, Moore C, Hyatt J, et al. Topical wound oxygen therapy in the treatment of severe diabetic foot ulcers: A prospective controlled study. *Ostomy Wound Manage.* 2010;56(6):24-31.

5. Driver VR, Reyzelman A, Kawalec J, French M. A prospective, randomized, blinded, controlled trial comparing transdermal continuous oxygen delivery to moist wound therapy for the treatment of diabetic foot ulcers. *Ostomy Wound Manage.* 2017;63(4):12-28.
6. Hirsh F, Berlin SJ, Holtz A. Transdermal oxygen delivery to diabetic wounds: A report of 6 cases. *Adv Skin Wound Care.* 2009;22(1):20-24.
7. Schreml S, Szeimies RM, Prantl L. Oxygen in acute and chronic wound healing. *Br J Dermatol.* 2010;163(2):257-268.
8. Woo KY, Coutts PM, Sibbald RG. Continuous topical oxygen for the treatment of chronic wounds: A pilot study. *Adv Skin Wound Care.* 2012;25(12):543-547.

Evicel

1. Adelmeijer J, Porte RJ, Lisman T. In vitro effects of proteases in human pancreatic juice on stability of liquid and carrier-bound fibrin sealants. *Br J Surg.* 2013;100(11):1498-1504.
2. Bou Monsef J, Buckup J, Waldstein W, et al. Fibrin sealants or cell saver eliminate the need for autologous blood donation in anemic patients undergoing primary total knee arthroplasty. *Arch Orthop Trauma Surg.* 2014;134(1):53-58.
3. Chalmers RT, Darling Iii RC, Wingard JT, et al. Randomized clinical trial of tranexamic acid-free fibrin sealant during vascular surgical procedures. *Br J Surg.* 2010;97(12):1784-1789.
4. Cohen J, Jayram G, Mullins JK, et al. Do fibrin sealants impact negative outcomes after robot-assisted partial nephrectomy? *J Endourol.* 2013;27(10):1236-1239.
5. Dhillon S. Fibrin sealant (evicel® [quixil®/crosseal™]): A review of its use as supportive treatment for haemostasis in surgery. *Drugs.* 2011;71(14):1893-1915.
6. Epstein NE. Dural repair with four spinal sealants: Focused review of the manufacturers' inserts and the current literature. *Spine J.* 2010;10(12):1065-1068.
7. Green AL, Arnaud A, Batiller J, et al. A multicentre, prospective, randomized, controlled study to evaluate the use of a fibrin sealant as an adjunct to sutured dural repair. *Br J Neurosurg.* 2014 Aug 12:1-7.
8. Ofikwu GI, Sarhan M, Ahmed L. EVICEL glue-induced small bowel obstruction after laparoscopic gastric bypass. *Surg Laparosc Endosc Percutan Tech.* 2013;23(1):e38-e40.
9. Pryor SG, Sykes J, Tollefson TT. Efficacy of fibrin sealant (human) (Evicel) in rhinoplasty: A prospective, randomized, single-blind trial of the use of fibrin sealant in lateral osteotomy. *Arch Facial Plast Surg.* 2008;10(5):339-344.
10. Randelli F, D'Anchise R, Ragone V, et al. Is the newest fibrin sealant an effective strategy to reduce blood loss after total knee arthroplasty? A randomized controlled study. *J Arthroplasty.* 2014;29(8):1516-1520.
11. Skovgaard C, Holm B, Troelsen A, et al. No effect of fibrin sealant on drain output or functional recovery following simultaneous bilateral total knee arthroplasty: A randomized, double-blind, placebo-controlled study. *Acta Orthop.* 2013;84(2):153-158.

E-Z Derm

1. Bello YM, Falabella AF, Eaglstein WH. Tissue-engineered skin. Current status in wound healing. *Am J Clin Dermatol.* 2001;2(5):305-313.

2. El-Khatib HA, Hammouda A, Al-Ghol A, et al. Aldehyde-treated porcine skin versus biobrane as biosynthetic skin substitutes for excised burn wounds: Case series and review of the literature. *Ann Burns Fire Disasters*. 2007;20(2):78-82.
3. Healy CM, Boorman JG. Comparison of E-Z Derm and Jelonet dressings for partial skin thickness burns. *Burns Incl Therm Inj*. 1989;15(1):52-54.
4. Lawin PB, Silverstein P, Still JM Jr. E-Z Derm a porcine heterograft material. *Am J Clin Dermatol*. 2002;3(7):507; author reply 507-508.
5. Vanstraelen P. Comparison of calcium sodium alginate (KALTOSTAT) and porcine xenograft (E-Z DERM) in the healing of split-thickness skin graft donor sites. *Burns*. 1992;18(2):145-148.

Fibrin Sealant for Breast Reconstruction

1. Carless PA, Henry DA. Systematic review, and meta-analysis of the use of fibrin sealant to prevent seroma formation after breast cancer surgery. *Br J Surg*. 2006;93(7):810-819.
2. Cipolla C, Fricano S, Vieni S, et al. Does the use of fibrin glue prevent seroma formation after axillary lymphadenectomy for breast cancer? A prospective randomized trial in 159 patients. *J Surg Oncol*. 2010;101(7):600-603.
3. Llewellyn-Bennett R, Greenwood R, Benson JR, et al. Randomized clinical trial on the effect of fibrin sealant on latissimus dorsi donor-site seroma formation after breast reconstruction. *Br J Surg*. 2012;99(10):1381-1388.

FlexHD

1. Bochicchio GV, De Castro GP, Bochicchio KM, et al. Comparison study of acellular dermal matrices in complicated hernia surgery. *J Am Coll Surg*. 2013;217(4):606-613.
2. Cahan AC, Palaia DA, Rosenberg M, et al. The aesthetic mastectomy utilizing a non-nipple-sparing portal approach. *Ann Plastic Surg*. 2011;66(5):424-428.
3. Rawlani V, Buck DW, Johnson SA, et al. Tissue expander breast reconstruction using prehydrated human acellular dermis. *Ann Plastic Surg*. 2011.
4. Rosenberg M, Palaia D, Cahen A, et al. Immediate single-stage reconstruction of the breast utilizing FlexHD and implant following skin-sparing mastectomy. *Am J Cosm Surg*. 2011;28(3):145-155.
5. Topol BM, Dalton EF, Ponn T, et al. Immediate single-stage breast reconstruction using implants and human acellular dermal tissue matrix with adjustment of the lower pole of the breast to reduce unwanted lift. *Ann Plastic Surg*. 2008;61(5):494-499.
6. Ward KC, Costello KP, Baalman S, et al. Effect of acellular human dermis buttress on laparoscopic hiatal hernia repair. *Surg Endosc*. 2015;29(8):2291-2297.

Gammagraft

1. Promethean LifeSciences, Inc. GammaGraft [website]. Pittsburgh, PA: Promethean LifeSciences; 2008. Available at: <http://www.prometheanlifesci.com/gammagraft.html>. Accessed December 15, 2008.

Gore Bio-A Fistula Plug

1. Binda GA, Piscitelli A, Longhin R. Treatment of high ano-vaginal fistula with GORE BIO-A® Fistula Plug in an immunocompromised patient. *Tech Coloproctol*. 2013;17(5):609-611.

2. Buchberg B, Masoomi H, Choi J, et al. A tale of two (anal fistula) plugs: Is there a difference in short-term outcomes? *Am Surg*. 2010;76(10):1150-1153.
3. de la Portilla F. Gore Bio-A(®) Fistula Plug for complex anal fistula: The results should be interpreted cautiously. *Colorectal Dis*. 2013;15(5):628-629.
4. Favreau-Weltzer C, Bouchard D, Eleouet-Kaplan M, Pigot F. Response to Ratto et al., 'new Gore Bio-A(®) plug for anal fistula'. *Colorectal Dis*. 2012;14(9):1152-1153.
5. Heydari A, Attina GM, Merolla E, et al. Bioabsorbable synthetic plug in the treatment of anal fistulas. *Dis Colon Rectum*. 2013;56(6):774-779.
6. Ratto C, Litta F, Parello A, et al. Gore Bio-A® Fistula Plug: A new sphincter-sparing procedure for complex anal fistula. *Colorectal Dis*. 2012;14(5):e264-e269.

Grafix

1. Ananian CE, Dhillon YS, Van Gils CC, et al. A multicenter, randomized, single-blind trial comparing the efficacy of viable cryopreserved placental membrane to human fibroblast-derived dermal substitute for the treatment of chronic diabetic foot ulcers. *Wound Repair Regen*. 2018;26(3):274-283.
2. Frykberg RG, Gibbons GW, Walters JL, et al. A prospective, multicentre, open-label, single-arm clinical trial for treatment of chronic complex diabetic foot wounds with exposed tendon and/or bone: Positive clinical outcomes of viable cryopreserved human placental membrane. *Int Wound J*. 2017;14(3):569-577.
3. Johnson EL, Marshall JT, Michael GM. A comparative outcomes analysis evaluating clinical effectiveness in two different human placental membrane products for wound management. *Wound Repair Regen*. 2017;25(1):145-149.
4. Lavery LA, Fulmer J, Shebetka KA, et al.; Grafix Diabetic Foot Ulcer Study Group. The efficacy and safety of Grafix(®) for the treatment of chronic diabetic foot ulcers: Results of a multi-centre, controlled, randomised, blinded, clinical trial. *Int Wound J*. 2014;11(5):554-560.
5. Maxson S, Lopez EA, Yoo D, et al. Concise review: Role of mesenchymal stem cells in wound repair. *Stem Cells Transl Med*. 2012;1(2):142-149.
6. Regulski M, Jacobstein DA, Petranto RD, et al. A retrospective analysis of a human cellular repair matrix for the treatment of chronic wounds. *Ostomy Wound Manage*. 2013;59(12):38-43.

Grafix Cryo-Preserved Placental Membrane

1. Ananian CE, Dhillon YS, Van Gils CC, et al. A multicenter, randomized, single-blind trial comparing the efficacy of viable cryopreserved placental membrane to human fibroblast-derived dermal substitute for the treatment of chronic diabetic foot ulcers. *Wound Repair Regen*. 2018;26(3):274-283.
2. Farivar BS, Toursavadkahi S, Monahan TS, et al. Prospective study of cryopreserved placental tissue wound matrix in the management of chronic venous leg ulcers. *J Vasc Surg Venous Lymphat Disord*. 2019;7(2):228-233.

3. Lavery L, Fulmer J, Shebetka KA, et al. Open-label extension phase of a chronic diabetic foot ulcer multicenter, controlled, randomized clinical trial using cryopreserved placental membrane. *Wounds*. 2018;30(9):283-289.
4. Raspovic KM, Wukich DK, Naiman DQ, et al. Effectiveness of viable cryopreserved placental membranes for management of diabetic foot ulcers in a real-world setting. *Wound Repair Regen*. 2018;26(2):213-220.

Graftjacket Regenerative Tissue Matrix and Graftjacket Xpress

1. Adams JE, Merten SM, Steinmann SP. Arthroscopic interposition arthroplasty of the first carpometacarpal joint. *J Hand Surg Eur Vol*. 2007;32(3):268-274.
2. Barber FA, Burns JP, Deutsch A, et al. A prospective, randomized evaluation of acellular human dermal matrix augmentation for arthroscopic rotator cuff repair. *Arthroscopy*. 2012;28(1):8-15.
3. Barber FA, Herbert MA, Boothby MH. Ultimate tensile failure loads of a human dermal allograft rotator cuff augmentation. *Arthroscopy*. 2008;24(1):20-24
4. Barber FA, McGarry JE, Herbert MA, Anderson RB. A biomechanical study of Achilles tendon repair augmentation using GraftJacket matrix. *Foot Ankle Int*. 2008;29(3):329-333.
5. Beniker D, McQuillan D, Livesey S, et al. The use of acellular dermal matrix as a scaffold for periosteum replacement. *Orthopedics*. 2003;26(5 Suppl):s591-s596.
6. Blume O, Back M, Born T, Donkiewicz P. Reconstruction of a unilateral alveolar cleft using a customized allogenic bone block and subsequent dental implant placement in an adult patient. *J Oral Maxillofac Surg*. 2019;77(10):2127.e1-2127.e11.
7. Bond JL, Dopirak RM, Higgins J, et al. Arthroscopic replacement of massive, irreparable rotator cuff tears using a GraftJacket allograft: Technique and preliminary results. *Arthroscopy*. 2008;24(4):403-409.
8. Brigido SA, Boc SF, Lopez RC. Effective management of major lower extremity wounds using an acellular regenerative tissue matrix: A pilot study. *Orthopedics*. 2004;27(1 Suppl):s145-s149.
9. Brigido SA, Schwartz E, McCarroll R, Hardin-Young J. Use of an acellular flowable dermal replacement scaffold on lower extremity sinus tract wounds: A retrospective series. *Foot Ankle Spec*. 2009;2(2):67-72.
10. Brigido SA. The use of an acellular dermal regenerative tissue matrix in the treatment of lower extremity wounds: A prospective 16-week pilot study. *Int Wound J*. 2006;3(3):181-187.
11. Centers for Medicare & Medicaid Services (CMS). HCPCS Public Meeting. Summary Report for: Drugs/Biologicals/Radiopharmaceuticals/Radiologic Imaging Agents Public Meeting. Baltimore, MD: CMS; June 14, 2006.
12. Cockcroft AC, Markelov AM. Trapeziectomy with interpositional arthroplasty using acellular dermal matrix: Description of technique and early outcomes. *Plast Reconstr Surg Glob Open*. 2018;6(5):e1763.
13. El-Kassaby MA, Khalifah MA, Metwally SA, Abd EIKader KA. Acellular dermal matrix allograft: An effective adjunct to oronasal fistula repair in patients with cleft palate. *Ann Maxillofac Surg*. 2014;4(2):158-161.

14. Furukawa K, Pichora J, Steinmann S, et al. Efficacy of interference screw and double-docking methods using palmaris longus and GraftJacket for medial collateral ligament reconstruction of the elbow. *J Shoulder Elbow Surg.* 2007;16(4):449-453.
15. Khoury WE, Fahim R, Sciulli JM, Ehredt DJ Jr. Management of failed and infected first metatarsophalangeal joint implant arthroplasty by reconstruction with an acellular dermal matrix: A case report. *J Foot Ankle Surg.* 2012;51(5):669-674.
16. Kirsner RS, Bohn G, Driver VR, et al. Human acellular dermal wound matrix: Evidence and experience. *Int Wound J.* 2015;12(6):646-654.
17. Kokkalis ZT, Zanaros G, Weiser RW, Sotereanos DG. Trapezium resection with suspension and interposition arthroplasty using acellular dermal allograft for thumb carpometacarpal arthritis. *J Hand Surg Am.* 2009;34(6):1029-1036.
18. Lanier ST, Wang ED, Chen JJ, et al. The effect of acellular dermal matrix use on complication rates in tissue expander/implant breast reconstruction. *Ann Plast Surg.* 2010;64(5):674-678.
19. Lee DK. A preliminary study on the effects of acellular tissue graft augmentation in acute Achilles tendon ruptures. *J Foot Ankle Surg.* 2008;47(1):8-12.
20. Lee DK. Achilles tendon repair with acellular tissue graft augmentation in neglected ruptures. *J Foot Ankle Surg.* 2007;46(6):451-455.
21. Lee MS. GraftJacket augmentation of chronic Achilles tendon ruptures. *Orthopedics.* 2004;27(1 Suppl):s151-s153.
22. Martin BR, Sangalang M, Wu S, Armstrong DG. Outcomes of allogenic acellular matrix therapy in treatment of diabetic foot wounds: An initial experience. *Int Wound J.* 2005;2(2):161-165.
23. Namdari S, Melnic C, Huffman GR. Foreign body reaction to acellular dermal matrix allograft in biologic glenoid resurfacing. *Clin Orthop Relat Res.* 2013;471(8):2455-2458.
24. Otto S, Kleye C, Burian E, et al. Custom-milled individual allogeneic bone grafts for alveolar cleft osteoplasty -- A technical note. *J Craniomaxillofac Surg.* 2017;45(12):1955-1961.
25. Reyzelman A, Crews RT, Moore JC, et al. Clinical effectiveness of an acellular dermal regenerative tissue matrix compared to standard wound management in healing diabetic foot ulcers: A prospective, randomised, multicentre study. *Int Wound J.* 2009;6(3):196-208.
26. Reyzelman AM, Bazarov I. Human acellular dermal wound matrix for treatment of DFU: Literature review and analysis. *J Wound Care.* 2015;24(3):128; 129-134.
27. Shirzadeh A, Rahpeyma A, Khajehahmadi S. A prospective study of chin bone graft harvesting for unilateral maxillary alveolar cleft during mixed dentition. *J Oral Maxillofac Surg.* 2018;76(1):180-188.
28. Spear SL, Seruya M, Clemens MW, et al. Acellular dermal matrix for the treatment and prevention of implant-associated breast deformities. *Plast Reconstr Surg.* 2011;127(3):1047-1058.
29. Strauss EJ, Verma NN, Salata MJ, et al. The high failure rate of biologic resurfacing of the glenoid in young patients with glenohumeral arthritis. *J Shoulder Elbow Surg.* 2014;23(3):409-419

30. Susarla SM, Andrews R, Hilal N, et al. Is canine eruption velocity affected by the presence of allograft within a repaired alveolar cleft? *J Oral Maxillofac Surg.* 2015;73(10):1888-1893.
31. Williams ML, Holewinski JE. Use of a human acellular dermal wound matrix in patients with complex wounds and comorbidities. *J Wound Care.* 2015;24(6):261-262, 264-267.
32. Wong I, Burns J, Snyder S. Arthroscopic GraftJacket repair of rotator cuff tears. *J Shoulder Elbow Surg.* 2010;19(2 Suppl):104-109.

GraftRope

1. Cook JB, Shaha JS, Rowles DJ, et al. Early failures with single clavicular transosseous coracoclavicular ligament reconstruction. *J Shoulder Elbow Surg.* 2012;21(12):1746-1752.
2. DeBerardino TM, Pensak MJ, Ferreira J, et al. Arthroscopic stabilization of acromioclavicular joint dislocation using the AC graftrope system. *J Shoulder Elbow Surg.* 2010;19(2 Suppl):47-52.
3. Jensen G, Katthagen JC, Alvarado L, et al. Arthroscopically assisted stabilization of chronic AC-joint instabilities in GraftRope™ technique with an additive horizontal tendon augmentation. *Arch Orthop Trauma Surg.* 2013;133(6):841-851.
4. Nordin JS, Aagaard KE, Lunsjö K. Chronic acromioclavicular joint dislocations treated by the GraftRope device. *Acta Orthop.* 2015;86(2):225-228.
5. Thomas K, Litsky A, Jones G, Bishop JY. Biomechanical comparison of coracoclavicular reconstructive techniques. *Am J Sports Med.* 2011;39(4):804-810.

Hyalomatrix (hMatrix)

1. Alvarez OM, Makowitz L, Patel M. Venous ulcers treated with a hyaluronic acid extracellular matrix and compression therapy: Interim analysis of a randomized controlled trial. *Wounds* 2017;29(7):E51-E54.
2. Caravaggi C, Barbara A, Sganzeroli A, et al. Safety and efficacy of a dermal substitute in the coverage of cancellous bone after surgical debridement for severe diabetic foot ulceration. *EWMA J.* 2009;9(1):11-14.
3. Caravaggi C, De Giglio R, Pritelli C, et al. HYAFF 11-based autologous dermal and epidermal grafts in the treatment of noninfected diabetic plantar and dorsal foot ulcers: A prospective, multicenter, controlled, randomized clinical trial. *Diabetes Care.* 2003;26(10):2853-2859.
4. Caravaggi C, Francesco Grigoletto M, Scuderi N. Wound bed preparation with a dermal substitute (Hyalomatrix® PA) facilitates re-epithelialization and healing: Results of a multicenter, prospective, observational study on complex chronic ulcers: The FAST Study. *Wounds.* 2011;8(23):228-235.
5. Clemens MW, Kronowitz SJ. Acellular dermal matrix in irradiated tissue expander/implant-based breast reconstruction: Evidence-based review. *Plast Reconstr Surg.* 2012;130(5 Suppl 2):27S-34S.
6. Dessy LA, Mazzocchi M, Rizzo MI, et al. Scalp reconstruction using dermal induction template: State of the art and personal experience. *In Vivo.* 2013;27(1):153-158.
7. Dillon PW, et al. The extracellular matrix of the fetal wound: Hyaluronic acid controls lymphocyte adhesion. *J Surg Res.* 1994;57(1):170-173.

8. Ellis CV, Kulber DA. Acellular dermal matrices in hand reconstruction. *Plast Reconstr Surg*. 2012;130(5 Suppl 2):256S-269S.
9. Erbatur S, Coban YK, Aydın EN. Comparison of clinical and histopathological results of hyalomatrix usage in adult patients. *Int J Burns Trauma*. 2012;2(2):118-125.
10. Faga A, Nicoletti G, Brenta F, et al. Hyaluronic acid three-dimensional scaffold for surgical revision of retracting scars: A human experimental study. *Int Wound J*. 2013;10(3):329-335.
11. Gravante G, Delogu D, Giordan N, et al. The use of Hyalomatrix PA in the treatment of deep partial-thickness burns. *J Burn Care Res*. 2007;28(2):269-274.
12. Gravante G, Sorge R, Merone A, et al. Hyalomatrix PA in burn care practice: Results from a national retrospective survey, 2005 to 2006. *Ann Plast Surg*. 2010;64(1):69-79.
13. Janis JE, O'Neill AC, Ahmad J, et al. Acellular dermal matrices in abdominal wall reconstruction: A systematic review of the current evidence. *Plast Reconstr Surg*. 2012;130(5 Suppl 2):183S-193S.
14. Longaker MT, Chiu ES, Adzick NS, et al. A prolonged presence of hyaluronic acid characterizes fetal wound fluid. *Ann Surg*. 1991;213(4):292-296.
15. Longaker MT, Chiu ES, Harrison MR, et al. Studies in fetal wound healing. IV. Hyaluronic acid-stimulating activity distinguishes fetal wound fluid from adult wound fluid. *Ann Surg*. 1989;210(5):667-672.
16. Longas MO, Russell CS, He XY. Evidence for structural changes in dermatan sulfate and hyaluronic acid with aging. *Carbohydr Res*. 1987;159:127-136.
17. Longinotti C. The use of hyaluronic acid-based dressings to treat burns: A review. *Burns Trauma*. 2014;2(4):162-168.
18. Moseley R, Walker M, Waddington RJ, Chen WY. Comparison of the antioxidant properties of wound dressing materials -- carboxymethylcellulose, hyaluronan benzyl ester and hyaluronan, towards polymorphonuclear leukocyte-derived reactive oxygen species. *Biomaterials*. 2003;24(9):1549-1557.
19. Motolese A, Vignati F, Brambilla R, et al. Interaction between a regenerative matrix and wound bed in nonhealing ulcers: Results with 16 cases. *Biomed Res Int*. 2013;849321.
20. Nicoletti G, Brenta F, Bleve M, et al. Long-term in vivo assessment of bioengineered skin substitutes: A clinical study. *J Tissue Eng Regen Med*. 2015;9(4):460-468.
21. Shridharani SM, Tufaro AP. A systematic review of acellular dermal matrices in head and neck reconstruction. *Plast Reconstr Surg*. 2012;130(5 Suppl 2):35S-43S.
22. Uccioli L, Giurato L, Ruotolo V, et al. Two-step autologous grafting using HYAFF scaffolds in treating difficult diabetic foot ulcers: Results of a multicenter, randomized controlled clinical trial with long-term follow-up. *Int J Low Extrem Wounds*. 2011;10(2):80-85.
23. Voigt J, Driver VR. Hyaluronic acid derivatives and their healing effect on burns, epithelial surgical wounds, and chronic wounds: A systematic review and meta-analysis of randomized controlled trials. *Wound Repair Regen*. 2012;20(3):317-331.
24. Wilgus TA. Regenerative healing in fetal skin: A review of the literature. *Ostomy Wound Manage*. 2007;53(6):16-31.

InnovaMatrix AC / InnovaMatrix FS

1. Triad Life Sciences. InnovaMatrix AC [website]. Memphis, TN: Triad Life Sciences; 2021. Available at: <https://www.triadls.com/about-innovamatrix-ac/>. Accessed January 21, 2022.
2. U.S. Food and Drug Administration (FDA), Center for Devices and Radiological Health (CDRH). InnovaMatrix FS. 510k no. K210580. Silver Spring, MD: FDA; April 21, 2021.

Integra (Collagen-Glycosaminoglycan Copolymer)

1. Australia and New Zealand Horizon Scanning Network (ANZHSN). Dermal regeneration template (Integra) for deep hand burns. Horizon Scanning Prioritising Summary. Adelaide, SA: Royal Australasian College of Surgeons, Australian Safety and Efficacy Registry of New Interventional Procedures - Surgical (ASERNIP-S); April 2004.
2. Dantzer E, Braye FM. Reconstructive surgery using an artificial dermis (Integra): Results with 39 grafts. *Br J Plast Surg*. 2001;54(8):659-664.
3. Driver VR, Lavery LA, Reyzelman AM, et al. A clinical trial of Integra Template for diabetic foot ulcer treatment. *Wound Repair Regen*. 2015;23(6):891-900.
4. Fette A. Integra artificial skin in use for full-thickness burn surgery: Benefits or harms on patient outcome. *Technol Health Care*. 2005;13(6):463-468.
5. Heimbach DM, Warden GD, Luterman A, et al. Multicenter postapproval clinical trial of Integra dermal regeneration template for burn treatment. *J Burn Care Rehabil*. 2003;24(1):42-48.
6. Heitland A, Piatkowski A, Noah EM, Pallua N. Update on the use of collagen/glycosaminoglycate skin substitute-six years of experiences with artificial skin in 15 German burn centers. *Burns*. 2004;30(5):471-475.
7. Integra LifeSciences Corp. Integra Bilayer Wound Matrix [website]. Plainsboro, NJ: Integra LifeSciences; 2008.
8. Integra LifeSciences Corp. Integra Flowable Wound Matrix [website]. Plainsboro, NJ: Integra LifeSciences; 2008.
9. Integra LifeSciences Corp. Integra Matrix Wound Dressing [website]. Plainsboro, NJ: Integra LifeSciences; 2008.
10. Lagus H, Sarlomo-Rikala M, Böhling T, Vuola J. Prospective study on burns treated with Integra®, a cellulose sponge and split thickness skin graft: Comparative clinical and histological study--randomized controlled trial. *Burns*. 2013;39(8):1577-1587.
11. Lee LF, Porch JV, Spenser W, Garner WL. Integra in lower extremity reconstruction after burn injury. *Plast Reconstr Surg*. 2008;121(4):1256-1262.
12. Ryan CM, Schoenfeld DA, Malloy M, et al. Use of Integra artificial skin is associated with decreased length of stay for severely injured adult burn survivors. *J Burn Care Rehabil*. 2002;23(5):311-317.
13. Stern R, McPherson M, Longaker MT. Histologic study of artificial skin used in the treatment of full-thickness thermal injury. *J Burn Care Rehabil*. 1990;11(1):7-13.
14. U.S. Food and Drug Administration (FDA). Integra Flowable Wound Matrix. 510(k) Summary. K072113. Integra LifeSciences Corp, Plainsboro, NJ. Rockville, MD: FDA; October 10, 2007.

15. U.S. Food and Drug Administration (FDA). Integra Meshed Bilayer Wound Matrix. 510(k) Summary. K081635. Integra LifeSciences Corp, Plainsboro, NJ. Rockville, MD: FDA; December 4, 2008.
16. U.S. Food and Drug Administration (FDA). Bilayer Matrix Wound Dressing. 510(k) Summary. K021792. Integra LifeSciences Corp, Plainsboro, NJ. Rockville, MD: FDA; August 14, 2002.
17. Yao M, Attalla K, Ren Y, et al. Ease of use, safety, and efficacy of integra bilayer wound matrix in the treatment of diabetic foot ulcers in an outpatient clinical setting: A prospective pilot study. *J Am Podiatr Med Assoc.* 2013;103(4):274-280.

Matriderm

1. Bertolli E, Campagnari M, Molina AS, et al. Artificial dermis (Matriderm®) followed by skin graft as an option in dermatofibrosarcoma protuberans with complete circumferential and peripheral deep margin assessment. *Int Wound J.* 2015;12(5):545-547.
2. Choi JY, Kim SH, Oh GJ, et al. Management of defects on lower extremities with the use of matriderm and skin graft. *Arch Plast Surg.* 2014;41(4):337-343.
3. De Angelis B, Gentile P, Agovino A, et al. Chronic ulcers: MATRIDERM(®) system in smoker, cardiopathic, and diabetic patients. *J Tissue Eng.* 2013;4:2041731413502663.
4. Dunne JA, Wilks DJ, Rawlins JM. A previously discounted flap now reconsidered: MatriDerm and split-thickness skin grafting for tendon cover following dorsalis pedis fasciocutaneous flap in lower limb trauma. *Eplasty.* 2014;14:e19.
5. Hur GY, Seo DK, Lee JW. Contracture of skin graft in human burns: Effect of artificial dermis. *Burns.* 2014;40(8):1497-1503.
6. Jeon H, Kim J, Yeo H, et al. Treatment of diabetic foot ulcer using matriderm in comparison with a skin graft. *Arch Plast Surg.* 2013;40(4):403-408.
7. Min JH, Yun IS, Lew DH, et al. The use of matriderm and autologous skin graft in the treatment of full thickness skin defects. *Arch Plast Surg.* 2014;41(4):330-336.
8. Tong E, Martin F, Shelley O. A novel approach to reconstruct a large full thickness abdominal wall defect: Successful treatment with MatriDerm® and Split. *J Wound Care.* 2014;23(7):355-357.

MatriStem

1. Afaneh C, Abelson J, Schattner M, et al. Esophageal reinforcement with an extracellular scaffold during total gastrectomy for gastric cancer. *Ann Surg Oncol.* 2015;22(4):1252-1257.
2. Alvarez OM, Smith T, Gilbert TW, et al. Diabetic foot ulcers treated with porcine urinary bladder extracellular matrix and total contact cast: Interim analysis of a randomized, controlled trial. *Wounds.* 2017;29(5):140-146.

3. Frykberg RG, Cazzell SM, Arroyo-Rivera J, et al. Evaluation of tissue engineering products for the management of neuropathic diabetic foot ulcers: An interim analysis. *J Wound Care*. 2016;25 Suppl 7:S18-S25.
4. Kimmel H, Rahn M, Gilbert TW. The clinical effectiveness in wound healing with extracellular matrix derived from porcine urinary bladder matrix: A case series on severe chronic wounds. *J Am Col Certif Wound Spec*. 2010;2(3):55-59.
5. Kruper GJ, Vandegriend ZP, Lin HS, Zuliani GF. Salvage of failed local and regional flaps with porcine urinary bladder extracellular matrix aided tissue regeneration. *Case Rep Otolaryngol*. 2013;2013:917183.
6. Lecheminant J, Field C. Porcine urinary bladder matrix: A retrospective study and establishment of protocol. *J Wound Care*. 2012;21(10):476, 478-80, 482.
7. Martinson M, Martinson N. A comparative analysis of skin substitutes used in the management of diabetic foot ulcers. *J Wound Care*. 2016;25(Sup10):S8-S17.
8. Rommer EA, Peric M, Wong A. Urinary bladder matrix for the treatment of recalcitrant nonhealing radiation wounds. *Adv Skin Wound Care*. 2013;(10):450-455.
9. Sasse KC, Brandt J, Lim DC, Ackerman E. Accelerated healing of complex open pilonidal wounds using MatriStem extracellular matrix xenograft: Nine cases. *J Surg Case Rep*. 2013;2013(4).

Medihoney

1. Biglari B, Moghaddam A, Santos K, et al. Multicentre prospective observational study on professional wound care using honey (Medihoney™). *Int Wound J*. 2013;10(3):252-259.
2. Biglari B, vd Linden PH, Simon A, et al. Use of Medihoney as a non-surgical therapy for chronic pressure ulcers in patients with spinal cord injury. *Spinal Cord*. 2012;50(2):165-169.
3. Boyar V, Handa D, Clemens K, Shimborske D. Clinical experience with *Leptospermum* honey use for treatment of hard to heal neonatal wounds: Case series. *J Perinatol*. 2014;34(2):161-163.
4. Dunford CE, Hanano R. Acceptability to patients of a honey dressing for non-healing venous leg ulcers. *J Wound Care*. 2004;13(5):193-197.
5. Johnson DW, Clark C, Isbel NM, et al.; HONEYPOT Study Group. The honeypot study protocol: A randomized controlled trial of exit-site application of medihoney antibacterial wound gel for the prevention of catheter-associated infections in peritoneal dialysis patients. *Perit Dial Int*. 2009;29(3):303-309.
6. Jull AB, Walker N, Deshpande S. Honey as a topical treatment for wounds. *Cochrane Database Syst Rev*. 2013;(2):CD005083.
7. Robson V, Dodd S, Thomas S. Standardized antibacterial honey (Medihoney) with standard therapy in wound care: Randomized clinical trial. *J Adv Nurs*. 2009;65(3):565-575.
8. Sare JL. Leg ulcer management with topical medical honey. *Br J Community Nurs*. 2008;13(9):S22, S24, S26 passim.
9. Simon A, Sofka K, Wiszniewsky G, et al. Wound care with antibacterial honey (Medihoney) in pediatric hematology-oncology. *Support Care Cancer*. 2006;14(1):91-97.

10. Smith T, Legel K, Hanft JR. Topical Leptospermum honey (Medihoney) in recalcitrant venous leg wounds: A preliminary case series. *Adv Skin Wound Care*. 2009;22(2):68-71.
11. Thamboo A, Thamboo A, Philpott C, et al. Single-blind study of manuka honey in allergic fungal rhinosinusitis. *J Otolaryngol Head Neck Surg*. 2011;40(3):238-243.
12. Tirado DJ, Hudson NR, Maldonado CJ. Efficacy of medical grade honey against multidrug-resistant organisms of operational significance: Part I. *J Trauma Acute Care Surg*. 2014;77(3 Suppl 2):S204-S207.

Medeor

1. Kulig KM, Luo X, Finkelstein EB, et al. Biologic properties of surgical scaffold materials derived from dermal ECM. *Biomaterials*. 2013;34(23):5776-5784.

Microlyte Matrix

1. Imbed Biosciences. Microlyte Bioabsorbable Matrix [website]. Fitchburg, WI: Imbed Biosciences; 2022. Available at: <https://microlytematrix.com/>. Accessed January 22, 2022.

MicroVas Vascular Treatment System

1. Davis J. The MicroVas Vascular Treatment System. *Int Rev Modern Surg*, February 2002. Available at: <http://www.microvas.com/surgerymag.html>. Accessed March 4, 2005.
2. MicroVas Technologies, Inc. [website]. Tulsa, OK: MicroVas; 2002. Available at: <http://www.microvas.com>. Accessed March 4, 2005.

Mirragen Advanced Wound Matrix

1. Hayes Knowledge Center. (May 2, 2022). Evidence Analysis Research Brief: Mirragen Advanced Wound Matrix (ETS Wound Care) for Management of Diabetic Foot Ulcers.

Miscellaneous

1. Adams CR, Denard PJ, Brady PC, et al. The arthroscopic superior capsular reconstruction. *Am J Orthop (Belle Mead NJ)*. 2016;45(5):320-324.
2. Atzmon R, Radparvar JR, Sharfman ZT, et al. Graft choices for acetabular labral reconstruction. *J Hip Preserv Surg*. 2018;5(4):329-338.
3. Beech A, Farrier J. Use of the Integra skin regeneration system in an intraoral mandibular defect in osteoradionecrosis. *Int J Oral Maxillofac Surg*. 2016;45(9):1159-1161.
4. Bourdillon KA, Delury CP, Cullen BM. Biofilms, and delayed healing - an in vitro evaluation of silver- and iodine-containing dressings and their effect on bacterial and human cells. *Int Wound J*. 2017;14(6):1066-1075.
5. Bullard D, Souza J. Three-level anterior cervical discectomy and fusion with plate fixation: Radiographic results of 127 patients. *Internet J Neurosurg*. 2008;6(1).
6. Chalmers PN, Frank RM, Gupta AK, et al. All-arthroscopic patch augmentation of a massive rotator cuff tear: Surgical technique. *Arthrosc Tech*. 2013;2(4):e447-e451.
7. Ciprandi G, Kjartansson H, Grussu F. Use of acellular intact fish skin grafts in treating acute paediatric wounds during the COVID-19 pandemic: A case series. *J Wound Care*. 2022;31(10):824-831.

8. Denard PJ, Brady PC, Adams CR, et al. Preliminary results of arthroscopic superior capsule reconstruction with dermal allograft. *Arthroscopy*. 2018;34(1):93-99.
9. Dorweiler B, Trinh TT, Dunschede F, et al. The marine Omega3 wound matrix for treatment of complicated wounds. A multicenter experience report. *Gefasschirurgie*. 2018;23(Suppl 2):46-55.
10. Ekhtiari S, Adili AF, Memon M, et al. Sources, quality, and reported outcomes of superior capsular reconstruction: A systematic review. *Curr Rev Musculoskelet Med*. 2019;12(2):173-180.
11. Ely EE, Figueroa NM, Gilot GJ. Biomechanical analysis of rotator cuff repairs with extracellular matrix graft augmentation. *Orthopedics*. 2014;37(9):608-614.
12. Farr J, Gomoll AH, Yanke AB, et al; ASA Study Group. A randomized controlled single-blind study demonstrating superiority of amniotic suspension allograft injection over hyaluronic acid and saline control for modification of knee osteoarthritis symptoms. *J Knee Surg*. 2019;32(11):1143-1154.
13. Galloway T, Amdur RJ. Management of late complications of head and neck cancer and its treatment. UpToDate Inc., Waltham, MA. Last reviewed December 2022.
14. Gauglitz GG, Williams FN. Overview of the management of the severely burned patient. UpToDate [online serial]. Waltham, MA: UpToDate; reviewed December 2020.
15. Guerrero L, Camacho B. Comparison of different skin preservation methods with gamma irradiation. *Burns*. 2017;43(4):804-811.
16. Katthagen JC, Tahal DS, Millett PJ. Arthroscopic superior capsule reconstruction for irreparable rotator cuff tears. *Orthopedics Today*. March 2016.
17. Khodadadi A, Olang O, Makhllough A, et al. Human split-thickness skin allograft from brain-dead donors. *Int J Organ Transplant Med*. 2016;7(3):188-191.
18. Lantis JC, II, Lullove EJ, Liden B, et al. Final efficacy, and cost analysis of a fish skin graft vs standard of care in the management of chronic diabetic foot ulcers: A prospective, multicenter, randomized controlled clinical trial. *Wounds*. 2023;35(4):71-79.
19. Lavery LA, Killeen AL, Farrar D. The effect of continuous diffusion of oxygen treatment on cytokines, perfusion, bacterial load, and healing in patients with diabetic foot ulcers. *Int Wound J*. 2020;17(6):1986-1995.
20. Leon-Villapalos J, Dziewulski P. Overview of surgical procedures used in the management of burn injuries. UpToDate [online serial]. Waltham, MA: UpToDate; reviewed December 2020.
21. Levenda AC, Sanders NR. A simplified approach for arthroscopic repair of rotator cuff tear with dermal patch augmentation. *Adv Orthopedic Surg*. 2015;1-7.
22. Lu KW, Khachemoune A. Skin substitutes for the management of mohs micrographic surgery wounds: A systematic review. *Arch Dermatol Res*. 2023;315(1):17-31.
23. Lullove EJ, Liden B, Winters C, et al. A multicenter, blinded, randomized controlled clinical trial evaluating the effect of Omega-3-rich fish skin in the treatment of chronic, nonresponsive diabetic foot ulcers. *Wounds* 2021;33(7):169-177.

24. Mihata T, Bui CNH, Akeda M, et al. A biomechanical cadaveric study comparing superior capsule reconstruction using fascia lata allograft with human dermal allograft for irreparable rotator cuff tear. *J Shoulder Elbow Surg.* 2017;26(12):2158-2166.
25. Mihata T, Lee TQ, Watanabe C, et al. Clinical results of arthroscopic superior capsule reconstruction for irreparable rotator cuff tears. *Arthroscopy.* 2013;29(3):459-470.
26. Mihata T, McGarry MH, Pirolo JM, et al. Superior capsule reconstruction to restore superior stability in irreparable rotator cuff tears: A biomechanical cadaveric study. *Am J Sports Med.* 2012;40(10):2248-55.
27. Moore MA, Samsell B, Wallis G, et al. Decellularization of human dermis using non-denaturing anionic detergent and endonuclease: A review. *Cell Tissue Bank.* 2015;16(2):249-259.
28. Pennington WT, Bartz BA, Pauli JM, et al. Arthroscopic superior capsular reconstruction with acellular dermal allograft for the treatment of massive irreparable rotator cuff tears: Short-term clinical outcomes and the radiographic parameter of superior capsular distance. *Arthroscopy.* 2018;34(6):1764-1773.
29. Pennington WT, Chen SW, Bartz BA, Pauli JM. Arthroscopic superior capsular reconstruction with acellular dermal allograft using push-in anchors for glenoid fixation. *Arthrosc Tech.* 2018;8(1):e51-e55.
30. Pennington WT, Chen SW, Bartz BA, Pennington JM. Superior capsular reconstruction with arthroscopic rotator cuff repair in a “functional biologic augmentation” technique to treat massive atrophic rotator cuff tears. *Arthrosc Tech.* 2019;8(5):e465-e472.
31. Petri M, Greenspoon JA, Millett PJ. Arthroscopic superior capsule reconstruction for irreparable rotator cuff tears. *Arthrosc Tech.* 2015;4(6):e751–e755.
32. Phelan HA, Bernal E. Treatment of deep burns. *UpToDate* [online serial]. Waltham, MA: UpToDate; reviewed December 2020.
33. Plachel F, Klatter-Schulz F, Minkus M, et al. Biological allograft healing after superior capsule reconstruction. *J Shoulder Elbow Surg.* 2018;27(12):e387-e392.
34. Reda F, Kjartansson H, Jeffery SLA. Use of fish skin graft in management of combat injuries following military drone assaults in field-like hospital conditions. *Mil Med.* 2023 Feb 15 [Online ahead of print].
35. Srivastava A, Maniakas A, Myers J, et al. Reconstruction of intraoral oncologic surgical defects with Integra bilayer wound matrix. *Clin Case Rep.* 2020;9(1):213-219.
36. Stilwell R, Delaney R. The biomechanics of ProLayer™ acellular dermal matrix: Biocompatibility study. 2022a.
37. Stilwell R, Delaney R. The biomechanics of ProLayer™ acellular dermal matrix: Suture retention strength. 2022b.
38. Thon SG, O'Malley L, 2nd, O'Brien MJ, Savoie FH, 3rd. Evaluation of healing rates and safety with a bioinductive collagen patch for large and massive rotator cuff tears: 2-year safety and clinical outcomes. *Am J Sports Med.* 2019;47(8):1901-1908.
39. Tokish JM, Beicker C. Superior capsule reconstruction technique using an acellular dermal allograft. *Arthrosc Tech.* 2015;4(6):e833-e839.

40. van der Meijden OA, Wijdicks CA, Gaskill TR, et al. Biomechanical analysis of two-tendon posterosuperior rotator cuff tear repairs: Extended linked repairs and augmented repairs. *Arthroscopy*. 2013;29(1):37-45.
41. Vines JB, Aliprantis AO, Gomoll AH, Farr J. Cryopreserved amniotic suspension for the treatment of knee osteoarthritis. *J Knee Surg*. 2016;29(6):443-50.
42. Washburn R, 3rd, Anderson TM, Tokish JM. Arthroscopic rotator cuff augmentation: Surgical technique using bovine collagen bioinductive implant. *Arthrosc Tech*. 2017;6(2):e297-e301.
43. Werber B, Martin E. A prospective study of 20 foot and ankle wounds treated with cryopreserved amniotic membrane and fluid allograft. *J Foot Ankle Surg*. 2013;52(5):615-621.
44. Yildiz F, Bilsel K, Pulatkan A, et al. Comparison of two different superior capsule reconstruction methods in the treatment of chronic irreparable rotator cuff tears: A biomechanical and histologic study in rabbit models. *J Shoulder Elbow Surg*. 2019;28(3):530-538.

Neoforn

1. Fahrenbach EN, Qi C, Ibrahim O, Kim JY, Alam M. Resistance of acellular dermal matrix materials to microbial penetration. *JAMA Dermatol*. 2013:1-5.
2. Losken A. Early results using sterilized acellular human dermis (Neoforn) in post-mastectomy tissue expander breast reconstruction. *Plast Reconstr Surg*. 2009;123(6):1654-1658.

Neox Flo

1. Marston WA, Lantis JC, 2nd, Wu SC, et al. An open-label trial of cryopreserved human umbilical cord in the treatment of complex diabetic foot ulcers complicated by osteomyelitis. *Wound Repair Regen*. 2019;27(6):680-686.
2. Marston WA, Lantis JC, 2nd, Wu SC, et al. One-year safety, healing and amputation rates of Wagner 3-4 diabetic foot ulcers treated with cryopreserved umbilical cord (TTAX01). *Wound Repair Regen*. 2020;28(4):526-531.
3. Swan J. Use of cryopreserved, particulate human amniotic membrane and umbilical cord (AM/UC) tissue: A case series study for application in the healing of chronic wounds. *Surg Technol Int*. 2014;25:73-78.

Neuragen

1. Farole A, Jamal BT. A bioabsorbable collagen nerve cuff (NeuraGen) for repair of lingual and inferior alveolar nerve injuries: A case series. *J Oral Maxillofac Surg*. 2008 ;66(10):2058-2062.
2. Lee JY, Parisi TJ, Friedrich PF, et al. Does the addition of a nerve wrap to a motor nerve repair affect motor outcomes? *Microsurgery*. 2014;34(7):562-567.
3. Meyer RA, Bagheri SC. A bioabsorbable collagen nerve cuff (NeuraGen) for repair of lingual and inferior alveolar nerve injuries: A case series. *J Oral Maxillofac Surg*. 2009;67(11):2550-2551.
4. Wangenstein KJ, Kalliainen LK. Collagen tube conduits in peripheral nerve repair: A retrospective analysis. *Hand (N Y)*. 2010;5(3):273-277.

Neurawrap

1. Bekler HI, Rosenwasser MP, Akilina Y, Bulut G. The use of an absorbable collagen cover (NeuraWrap) improves patency of interpositional vein grafts. *Acta Orthop Traumatol Turc.* 2010;44(2):157-161.
2. Hibner M, Castellanos ME, Drachman D, Balducci J. Repeat operation for treatment of persistent pudendal nerve entrapment after pudendal neurolysis. *J Minim Invasive Gynecol.* 2012;19(3):325-330.

NeuroMatrix Collagen Nerve Cuff and NeuroMend Collagen Nerve Wrap

1. Collagen Matrix, Inc. NeuroMatrix™ Collagen Nerve Cuff. [website]. Franklin Lakes, NJ: Collagen Matrix; 2008. Available at: <http://www.collagenmatrix.com/products-neurological.htm>. Accessed January 22, 2008.
2. Collagen Matrix, Inc. NeuroMend Collagen Wrap Conduits [website]. Franklin Lakes, NJ; Collagen Matrix; 2008. Available at: <http://www.collagenmatrix.com/products-neurological.htm>. Accessed July 1, 2009.
3. Pfister LA, Papaloizos M, Merkle HP, et al. Nerve conduits and growth factor delivery in peripheral nerve repair. *J Peripher Nerv Syst.* 2007;12(2):65-82.
4. U.S. Food and Drug Administration (FDA). Collagen nerve cuff. 510(k) Summary. K012814. Collagen Matrix, Inc., Franklin Lakes, NJ. Rockville, MD: FDA; September 21, 2001.
5. U.S. Food and Drug Administration (FDA). Collagen nerve wrap. 510(k) Summary. K060952. Collagen Matrix, Inc., Franklin Lakes, NJ. Rockville, MD: FDA; July 14, 2006.

Oasis Wound Dressing and Oasis Burn Matrix

1. Cook Biotech, Inc. Healthpoint launches Oasis Burn Matrix. News Release. West Lafayette, IN: Cook Biotech; April 9, 2003. Available at: <http://www.cookbiotech.com/corp/news/040903.html>. Accessed December 15, 2008.
2. Hankin CS, Knispel J, Lopes M, et al. Clinical and cost efficacy of advanced wound care matrices for venous ulcers. *J Manag Care Pharm.* 2012;18(5):375-384.
3. Landsman A, Roukis TS, DeFronzo DJ, et al. Living cells or collagen matrix: which is more beneficial in the treatment of diabetic foot ulcers? *Wounds* 2008;20(5):111-116.
4. Mostow EN, Haraway GD, Dalsing M, et al. Effectiveness of an extracellular matrix graft (OASIS Wound Matrix) in the treatment of chronic leg ulcers: A randomized clinical trial. *J Vasc Surg.* 2005;41(5):837-843.
5. Niezgoda JA, Van Gils CC, Frykberg RG, Hodde JP. Randomized clinical trial comparing OASIS Wound Matrix to Regranex Gel for diabetic ulcers. *Adv Skin Wound Care.* 2005;18(5 Pt 1):258-266.
6. O'Donnell TF Jr, Lau J. A systematic review of randomized controlled trials of wound dressings for chronic venous ulcer. *J Vasc Surg.* 2006;44(5):1118-1125.
7. Romanelli M, Dini V, Bertone M, et al. OASIS wound matrix versus Hyaloskin in the treatment of difficult-to-heal wounds of mixed arterial/venous aetiology. *Int Wound J.* 2007;4(1):3-7.

8. Romanelli M, Dini V, Bertone MS. Randomized comparison of OASIS wound matrix versus moist wound dressing in the treatment of difficult-to-heal wounds of mixed arterial/venous etiology. *Adv Skin Wound Care*. 2010;23(1):34-38.

Orcel

1. Bello YM, Falabella AF, Eaglstein WH. Tissue-engineered skin. Current status in wound healing. *Am J Clin Dermatol*. 2001;2(5):305-313.
2. Ehrenreich M, Ruszczak Z. Update on tissue-engineered biological dressings. *Tissue Eng*. 2006;12(9):2407-2424.
3. Lipkin S, Chaikof E, Isseroff Z, Silverstein P. Effectiveness of OrCel™ (bilayered cellular matrix) in healing of neuropathic diabetic foot ulcers: Results of a multi-center pilot trial. *Wounds*. 2003;15(7):230-236.
4. Still J, Glat P, Silverstein P, et al. The use of a collagen sponge/living cell composite material to treat donor sites in burn patients. *Burns*. 2003;29(8):837-841.

Orthadapt

1. Barber FA, Aziz-Jacobo J. Biomechanical testing of commercially available soft-tissue augmentation materials. *Arthroscopy*. 2009;25(11):1233-1239.
2. Johnson W, Inamasu J, Yantzer B, et al. Comparative in vitro biomechanical evaluation of two soft tissue defect products. *J Biomed Mater Res B Appl Biomater*. 2007.
3. Yoder JH, Elliott DM. Nonlinear and anisotropic tensile properties of graft materials used in soft tissue applications. *Clin Biomech (Bristol, Avon)*. 2010;25(4):378-382.

Osseoguard

1. De Angelis N, Felice P, Pellegrino G, et al. Guided bone regeneration with and without a bone substitute at single post-extractive implants: 1-year post-loading results from a pragmatic multicentre randomised controlled trial. *Eur J Oral Implantol*. 2011;4(4):313-325.
2. Slutzkey S, Kozlovsky A, Artzi Z, Matalon S. Collagen barrier membranes may accelerate bacterial growth in vitro: A potential clinical risk to regenerative procedures. *Quintessence Int*. 2015;46(1):43-50.

OviTex

1. de Figueiredo SMP, Tastaldi L, Mao RMD, et al. Biologic versus synthetic mesh in open ventral hernia repair: A systematic review and meta-analysis of randomized controlled trials. *Surgery*. 2023;173(4):1001-1007.
2. DeNoto G, 3rd. Bridged repair of large ventral hernia defects using an ovine reinforced biologic: A case series. *Ann Med Surg (Lond)*. 2022;75:103446.
3. DeNoto G, 3rd, Ceppa EP, Pacella SJ, et al. 24-month results of the BRAVO study: A prospective, multi-center study evaluating the clinical outcomes of a ventral hernia cohort treated with OviTex® 1S permanent reinforced tissue matrix. *Ann Med Surg (Lond)*. 2022;83:104745.
4. Goetz M, Jurczyk M, Junger H, et al. Semiresorbable biologic hybrid meshes for ventral abdominal hernia repair in potentially contaminated settings: Lower risk of recurrence. *Updates Surg*. 2022;74(6):1995-2001.

5. Morales-Conde S, Hernandez-Granados P, Tallon-Aguilar L, et al. Ventral hernia repair in high-risk patients and contaminated fields using a single mesh: Proportional meta-analysis. *Hernia*. 2022;26(6):1459-1471.
6. Parker MJ, Kim RC, Barrio M, et al. A novel biosynthetic scaffold mesh reinforcement affords the lowest hernia recurrence in the highest-risk patients. *Surg Endosc*. 2021;35(9):5173-5178.
7. Sawyer MAJ. New ovine polymer-reinforced bioscaffold in hiatal hernia repair. *JSLs*. 2018;22(4):e2018.00057.
8. Sivaraj D, Fischer KS, Kim TS, et al. Outcomes of biosynthetic and synthetic mesh in ventral hernia repair. *Plast Reconstr Surg Glob Open*. 2022a;10(12):e4707.
9. Sivaraj D, Henn D, Fischer KS, et al. Reinforced biologic mesh reduces postoperative complications compared to biologic mesh after ventral hernia repair. *Plast Reconstr Surg Glob Open*. 2022b;10(2):e4083.
10. Timmer AS, Claessen JJM, de Koning IMB, et al. Clinical outcomes of open abdominal wall reconstruction with the use of a polypropylene reinforced tissue matrix: A multicenter retrospective study. *Hernia*. 2022;26(5):1241-1250.
11. Zhou H, Shen Y, Zhang Z, et al. Comparison of outcomes of ventral hernia repair using different meshes: A systematic review and network meta-analysis. *Hernia*. 2022;26(6):1561-1571.

Pariete Composite (PCO) Mesh

1. Jia X-L, Glazener C, Mowatt G, et al. Systematic review of the efficacy and safety of using mesh or grafts in surgery for uterine or vaginal vault prolapse. Review Body Report. Review Body for Interventional Procedures (ReBIP). Prepared by the Health Services Research Unit, University of Aberdeen for the National Institute for Health, and Clinical Excellence Interventional Procedures Programme. London, UK: NICE; June 2008. Available at: <http://www.nice.org.uk/nicemedia/live/11163/41728/41728.pdf>. Accessed December 26, 2012.
2. U.S. Food and Drug Administration. FDA Safety Communication: Update on serious complications associated with transvaginal placement of surgical mesh for pelvic organ prolapse. FDA: Silver Spring, MD. July 13, 2011.

Parietex for Genitourinary Prolapse

1. Sergent F, Resch B, Loisel C, et al. Mid-term outcome of laparoscopic sacrocolpopexy with anterior and posterior polyester mesh for treatment of genito-urinary prolapse. *Eur J Obstet Gynecol Reprod Biol*. 2011;156(2):217-222.

Pelvicol

1. Abdel-Fattah M, Barrington JW, Arunkalaivanan AS. Pelvicol pubovaginal sling versus tension-free vaginal tape for treatment of urodynamic stress incontinence: A prospective randomized three-year follow-up study. *Eur Urol*. 2004;46(5):629-635.
2. Arunkalaivanan AS, Barrington JW. Randomized trial of porcine dermal sling (Pelvicol implant) vs. tension-free vaginal tape (TVT) in the surgical treatment of stress incontinence: A questionnaire-based study. *Int Urogynecol J Pelvic Floor Dysfunct*. 2003;14(1):17-23; discussion 21-22.

3. Biehl RC, Moore RD, Miklos JR, et al. Site-specific rectocele repair with dermal graft augmentation: Comparison of porcine dermal xenograft (Pelvicol) and human dermal allograft. *Surg Technol Int*. 2008;17:174-180.
4. Dahlgren E, Kjølhede P; RPOP-PELVICOL Study Group. Long-term outcome of porcine skin graft in surgical treatment of recurrent pelvic organ prolapse. An open randomized controlled multicenter study. *Acta Obstet Gynecol Scand*. 2011;90(12):1393-1401.
5. Daraï E, Coutant C, Rouzier R, et al. Genital prolapse repair using porcine skin implant and bilateral sacrospinous fixation: Midterm functional outcome and quality-of-life assessment. *Urology*. 2009;73(2):245-250.
6. David-Montefiore E, Barranger E, Dubernard G, et al. Treatment of genital prolapse by hammock using porcine skin collagen implant (Pelvicol). *Urology*. 2005;66(6):1314-1318.
7. de Boer TA, Gietelink DA, Hendriks JC, Vierhout ME. Factors influencing success of pelvic organ prolapse repair using porcine dermal implant Pelvicol. *Eur J Obstet Gynecol Reprod Biol*. 2010;149(1):112-116.
8. Gomelsky A, Haverkorn RM, Simoneaux WJ, et al. Incidence and management of vaginal extrusion of acellular porcine dermis after incontinence and prolapse surgery. *Int Urogynecol J Pelvic Floor Dysfunct*. 2007;18(11):1337-1341.
9. Guerrero KL, Emery SJ, Wareham K, et al. A randomised controlled trial comparing TVT, Pelvicol and autologous fascial slings for the treatment of stress urinary incontinence in women. *BJOG*. 2010;117(12):1493-1502.
10. Hviid U, Hviid TV, Rudnicki M. Porcine skin collagen implants for anterior vaginal wall prolapse: A randomised prospective controlled study. *Int Urogynecol J*. 2010;21(5):529-534.
11. Khan ZA, Nambiar A, Morley R, et al. Long-term follow-up of a multicentre randomised controlled trial comparing tension-free vaginal tape, xenograft, and autologous fascial slings for the treatment of stress urinary incontinence in women. *BJU Int*. 2015;115(6):968-977.
12. Leboeuf L, Miles RA, Kim SS, Gousse AE. Grade 4 cystocele repair using four-defect repair and porcine xenograft acellular matrix (Pelvicol): Outcome measures using SEAPI. *Urology*. 2004;64(2):282-286.
13. Meschia M, Pifarotti P, Bernasconi F, et al. Porcine skin collagen implants to prevent anterior vaginal wall prolapse recurrence: A multicenter, randomized study. *J Urol*. 2007;177(1):192-195.
14. Morgan DM, Dunn RL, Fenner DE, et al. Comparative analysis of urinary incontinence severity after autologous fascia pubovaginal sling, pubovaginal sling and tension-free vaginal tape. *J Urol*. 2007;177(2):604-608; discussion 608-609.
15. Natale F, La Penna C, Padoa A, et al. A prospective, randomized, controlled study comparing Gynemesh, a synthetic mesh, and Pelvicol, a biologic graft, in the surgical treatment of recurrent cystocele. *Int Urogynecol J Pelvic Floor Dysfunct*. 2009;20(1):75-81.
16. Quiroz LH, Gutman RE, Shippey S, et al. Abdominal sacrocolpopexy: Anatomic outcomes and complications with Pelvicol, autologous and synthetic graft materials. *Am J Obstet Gynecol*. 2008;198(5):557.e1-e5.

17. Salomon LJ, Detchev R, Barranger E, et al. Treatment of anterior vaginal wall prolapse with porcine skin collagen implant by the transobturator route: Preliminary results. *Eur Urol*. 2004;45(2):219-225.
18. Taylor GB, Moore RD, Miklos JR, Mattox TF. Posterior repair with perforated porcine dermal graft. *Int Braz J Urol*. 2008;34(1):84-88; discussion 89-90.

Pelvisoft

1. Dell JR, O'Kelley KR. PelviSoft BioMesh augmentation of rectocele repair: The initial clinical experience in 35 patients. *Int Urogynecol J Pelvic Floor Dysfunct*. 2005;16(1):44-47; discussion 47.
2. Long EL, Rebibo JD, Caremel R, Grise P. Efficacy of Pelvisoft® Biomesch for cystocele repair: Assessment of long-term results. *Int Braz J Urol*. 2014;40(6):828-834.
3. Rehder P, Pinggera GM, Mitterberger M, et al. Urethral support with PelviSoft after artificial urinary sphincter erosion at revision procedures. *Wien Med Wochenschr*. 2007;157(7-8):170-172.

Peri-Guard

1. Hille U, Soergel P, Zardo P, et al. Chest wall resection and reconstruction for locally advanced primary breast cancer. *Arch Gynecol Obstet*. 2013;287(6):1205-1209.
2. Wiegmann B, Zardo P, Dickgreber N, et al. Biological materials in chest wall reconstruction: Initial experience with the Peri-Guard Repair Patch. *Eur J Cardiothorac Surg*. 2010;37(3):602-605.

Peri-Strips and Peri-Strips Dry

1. Angrisani L, Cutolo PP, Buchwald JN, et al. Laparoscopic reinforced sleeve gastrectomy: Early results and complications. *Obes Surg*. 2011;21(6):783-793.
2. Angrisani L, Lorenzo M, Borrelli V, et al. The use of bovine pericardial strips on linear stapler to reduce extraluminal bleeding during laparoscopic gastric bypass: Prospective randomized clinical trial. *Obes Surg*. 2004;14(9):1198-1202.
3. Fischel RJ, McKenna RJ Jr. Bovine pericardium versus bovine collagen to buttress staples for lung reduction operations. *Ann Thorac Surg*. 1998;65(1):217-219.
4. Rathinam S, Naidu BV, Nanjaiah P, et al. BioGlue and Peri-strips in lung volume reduction surgery: Pilot randomised controlled trial. *J Cardiothorac Surg*. 2009;4:37.
5. Shah SS, Todkar JS, Shah PS. Buttressing the staple line: A randomized comparison between staple-line reinforcement versus no reinforcement during sleeve gastrectomy. *Obes Surg*. 2014;24(12):2014-2020.
6. Stammberger U, Klepetko W, Stamatis G, et al. Buttressing the staple line in lung volume reduction surgery: A randomized three-center study. *Ann Thorac Surg*. 2000;70(6):1820-1825.
7. Stamou KM, Menenakos E, Dardamanis D, et al. Prospective comparative study of the efficacy of staple-line reinforcement in laparoscopic sleeve gastrectomy. *Surg Endosc*. 2011;25(11):3526-3530.

8. Yu S, Jastrow K, Clapp B, et al. Foreign material erosion after laparoscopic Roux-en-Y gastric bypass: Findings and treatment. *Surg Endosc.* 2007;21(7):1216-1220.

Permacol Biologic Implant

1. Abdelfatah MM, Rostambeigi N, Podgaetz E, Sarr MG. Long-term outcomes (>5-year follow-up) with porcine acellular dermal matrix (Permacol™) in incisional hernias at risk for infection. *Hernia.* 2015;19(1):135-140.
2. Abhinav K, Shaaban M, Raymond T, et al. Primary reconstruction of pelvic floor defects following sacrectomy using Permacol graft. *Eur J Surg Oncol.* 2009;35(4):439-443.
3. Al-Abed YA, Ayers J, Ayantunde A, Praveen BV. Safety and efficacy of Permacol injection in the treatment of fecal incontinence. *Ann Coloproctol.* 2016;32(2):73-78.
4. Armellino MF, De Stefano G, Scardi F, et al. [Use of Permacol in complicated incisional hernia] *Chir Ital.* 2006;58(5):627-630.
5. Balayssac D, Poinas AC, Pereira B, Pezet D. Use of permacol in parietal and general surgery: A bibliographic review. *Surg Innov.* 2013;20(2):176-182.
6. Bano F, Barrington JW, Dyer R. Comparison between porcine dermal implant (Permacol) and silicone injection (Macroplastique) for urodynamic stress incontinence. *Int Urogynecol J Pelvic Floor Dysfunct.* 2005;16(2):147-150; discussion 150.
7. Barber MD, Williams L, Anderson ED, et al. Outcome of the use of acellular-dermal matrix to assist implant-based breast reconstruction in a single centre. *Eur J Surg Oncol.* 2015;41(1):100-105.
8. Beale EW, Hoxworth RE, Livingston EH, Trussler AP. The role of biologic mesh in abdominal wall reconstruction: A systematic review of the current literature. *Am J Surg.* 2012;204(4):510-517.
9. Belcher HJ, Zic R. Adverse effect of porcine collagen interposition after trapeziectomy: A comparative study. *J Hand Surg Br.* 2001;26(2):159-164.
10. Chand B, Indeck M, Needleman B, et al. A retrospective study evaluating the use of Permacol™ surgical implant in incisional and ventral hernia repair. *Int J Surg.* 2014;12(4):296-303.
11. Cheng AW, Abbas MA, Tejirian T. Outcome of abdominal wall hernia repair with biologic mesh: Permacol™ versus Strattice™. *Am Surg.* 2014;80(10):999-1002.
12. Cheng AW, Abbas MA, Tejirian T. Outcome of abdominal wall hernia repair with Permacol™ biologic mesh. *Am Surg.* 2013;79(10):992-996.
13. Covidien. Permacol Biologic Implant [website]. Mansfield, MA: Covidien; 2009. Available at: www.covidien.com/hernia. Accessed July 7, 2009.
14. Ditzel M, Deerenberg EB, Grotenhuis N, et al. Biologic meshes are not superior to synthetic meshes in ventral hernia repair: An experimental study with long-term follow-up evaluation. *Surg Endosc.* 2013;27(10):3654-3662.
15. Giordano P, Pullan RD, Ystgaard B, et al. The use of an acellular porcine dermal collagen implant in the repair of complex abdominal wall defects: A European multicentre retrospective study. *Tech Coloproctol.* 2015;19(7):411-417.

16. Giordano P, Sileri P, Buntzen S, et al. A prospective multicentre observational study of Permacol collagen paste for anorectal fistula: Preliminary results. *Colorectal Dis.* 2016;18(3):286-294.
17. Hammond TM, Porrett TR, Scott SM, et al. Management of idiopathic anal fistula using cross-linked collagen: A prospective phase 1 study. *Colorectal Dis.* 2011;13(1):94-104.
18. Harries RL, Luhmann A, Harris DA, et al. Prone extralevator abdominoperineal excision of the rectum with porcine collagen perineal reconstruction (Permacol™): high primary perineal wound healing rates. *Int J Colorectal Dis.* 2014;29(9):1125-1130.
19. Harth KC, Rosen MJ. Major complications associated with xenograft biologic mesh implantation in abdominal wall reconstruction. *Surg Innov.* 2009;16(4):324-329.
20. Hsu PW, Salgado CJ, Kent K, et al. Evaluation of porcine dermal collagen (Permacol) used in abdominal wall reconstruction. *J Plast Reconstr Aesthet Surg.* 2008.
21. Iacco A, Adeyemo A, Riggs T, Janczyk R. Single institutional experience using biological mesh for abdominal wall reconstruction. *Am J Surg.* 2014;208(3):480-484; discussion 483-484.
22. Inan I, Gervaz P, Hagen M, Morel P. Multimedia article. Laparoscopic repair of parastomal hernia using a porcine dermal collagen (Permacol) implant. *Dis Colon Rectum.* 2007;50(9):1465.
23. Jensen KK, Rashid L, Pilsgaard B, et al. Pelvic floor reconstruction with a biological mesh after extralevator abdominoperineal excision leads to few perineal hernias and acceptable wound complication rates with minor movement limitations: Single-centre experience including clinical examination and interview. *Colorectal Dis.* 2014;16(3):192-197.
24. Kissane NA, Itani KM. A decade of ventral incisional hernia repairs with biologic acellular dermal matrix: What have we learned? *Plast Reconstr Surg.* 2012;130(5 Suppl 2):194S-202S.
25. Koutsougeras G, Nicolaou P, Karamanidis D, et al. Effectiveness of transvaginal colporrhaphy with porcine acellular collagen matrix in the treatment of moderate to severe cystoceles. *Clin Exp Obstet Gynecol.* 2009;36(3):179-181.
26. Liyanage SH, Purohit GS, Frye JN, Giordano P. Anterior abdominal wall reconstruction with a Permacol implant. *J Plast Reconstr Aesthet Surg.* 2006;59(5):553-555.
27. Mitchell IC, Garcia NM, Barber R, et al. Permacol: A potential biologic patch alternative in congenital diaphragmatic hernia repair. *J Pediatr Surg.* 2008;43(12):2161-2164.
28. Parker DM, Armstrong PJ, Frizzi JD, North JH Jr. Porcine dermal collagen (Permacol) for abdominal wall reconstruction. *Curr Surg.* 2006;63(4):255-258.
29. Rosen MJ. Biologic mesh for abdominal wall reconstruction: A critical appraisal. *Am Surg.* 2010;76(1):1-6.
30. Saray A. Porcine dermal collagen (Permacol) for facial contour augmentation: Preliminary report. *Aesthetic Plast Surg.* 2003;27(5):368-375.
31. Satterwhite TS, Miri S, Chung C, et al. Abdominal wall reconstruction with dual layer cross-linked porcine dermal xenograft: The "Pork Sandwich" herniorrhaphy. *J Plast Reconstr Aesthet Surg.* 2012;65(3):333-341.

32. Shah BC, Tiwari MM, Goede MR, et al. Not all biologics are equal! *Hernia*. 2011;15(2):165-171.
33. Shaikh FM, Giri SK, Durrani S, et al. Experience with porcine acellular dermal collagen implant in one-stage tension-free reconstruction of acute and chronic abdominal wall defects. *World J Surg*. 2007;31(10):1966-1972; discussion 1973-1974, 1975.
34. Slater NJ, van der Kolk M, Hendriks T, et al. Biologic grafts for ventral hernia repair: A systematic review. *Am J Surg*. 2013;205(2):220-230.
35. Smart NJ, Marshall M, Daniels IR. Biological meshes: A review of their use in abdominal wall hernia repairs. *Surgeon*. 2012;10(3):159-171.
36. Smart NJ, Velineni R, Khan D, Daniels IR. Parastomal hernia repair outcomes in relation to stoma site with diisocyanate cross-linked acellular porcine dermal collagen mesh. *Hernia*. 2011;15(4):433-437.
37. U.S. Food and Drug Administration (FDA). Permacol Surgical Implant T-piece and Permacol Surgical Implant Rectocele-piece. 510(k) Summary. K050355. Tissue Science Laboratories PLC, Covington, GA. Rockville, MD: FDA; March 9, 2005. Available at: http://www.accessdata.fda.gov/cdrh_docs/pdf5/K050355.pdf. Accessed July 7, 2009.
38. Wahed S, Ahmad M, Mohiuddin K, et al. Short-term results for laparoscopic ventral rectopexy using biological mesh for pelvic organ prolapse. *Colorectal Dis*. 2012;14(10):1242-1247.

Placental Tissue Matrix Allograft (e.g., Viaflow and Viaflow C Flowable Placental Tissue Matrices)

1. Lullove E. A Flowable Placental tissue matrix allograft in lower extremity injuries: A pilot study. *Cureus*. 2015;7(6):e275.
2. Schneider KH, Aigner P, Holnthoner W, et al. Decellularized human placenta chorion matrix as a favorable source of small-diameter vascular grafts. *Acta Biomater*. 2016;29:125-134.

Platelet Gel

1. Carter MJ, Fyelling CP, Li WW, et al. Analysis of run-in and treatment data in a wound outcome's registry: Clinical impact of topical platelet-rich plasma gel on healing trajectory. *Int Wound J*. 2011;8(6):638-650.
2. Crovetti G, Martinelli G, Issi M, et al. Platelet gel for healing cutaneous chronic wounds. *Transfus Apher Sci*. 2004;30(2):145-151.
3. de Leon JM, Driver VR, Fyelling CP, et al. The clinical relevance of treating chronic wounds with an enhanced near-physiological concentration of platelet-rich plasma gel. *Adv Skin Wound Care*. 2011;24(8):357-368.
4. Driver VR, Hanft J, Fyelling CP, Beriou JM; Autogel Diabetic Foot Ulcer Study Group. A prospective, randomized, controlled trial of autologous platelet-rich plasma gel for the treatment of diabetic foot ulcers. *Ostomy Wound Manage*. 2006;52(6):68-70, 72, 74 passim.
5. Mazzucco L, Medici D, Serra M, et al. The use of autologous platelet gel to treat difficult-to-heal wounds: A pilot study. *Transfusion*. 2004;44(7):1013-1018.
6. Waters JH, Roberts KC. Database review of possible factors influencing point-of-care platelet gel manufacture. *J Extra Corpor Technol*. 2004;36(3):250-254.

Platelet-Rich Plasma

1. Boyapati L, Wang HL. The role of platelet-rich plasma in sinus augmentation: A critical review. *Implant Dent.* 2006;15(2):160-170.
2. Eppley BL, Pietrzak WS, Blanton M. Platelet-rich plasma: A review of biology and applications in plastic surgery. *Plast Reconstr Surg.* 2006;118(6):147e-159e.
3. Everts PA, Knape JT, Weibrich G, et al. Platelet-rich plasma, and platelet gel: A review. *J Extra Corpor Technol.* 2006;38(2):174-187.
4. Freymiller EG, Aghaloo TL. Platelet-rich plasma: Ready or not? *J Oral Maxillofac Surg.* 2004;62(4):484-488.
5. Grageda E. Platelet-rich plasma and bone graft materials: A review and a standardized research protocol. *Implant Dent.* 2004;13(4):301-309.
6. Huang LH, Neiva RE, Soehren SE, et al. The effect of platelet-rich plasma on the coronally advanced flap root coverage procedure: A pilot human trial. *J Periodontol.* 2005;76(10):1768-1777.
7. Kassolis JD, Reynolds MA. Evaluation of the adjunctive benefits of platelet-rich plasma in subantral sinus augmentation. *J Craniofac Surg.* 2005;16(2):280-287.
8. Marx RE. Platelet-rich plasma: Evidence to support its use. *J Oral Maxillofac Surg.* 2004;62(4):489-496.
9. Pichon Riviere A, Augustovski F, Ferrante D, et al. Usefulness of autologous growth factors in orthopaedic surgery. Report IRR No. 32. Buenos Aires, Argentina: Institute for Clinical Effectiveness and Health Policy (IECS); 2004.
10. Raghoobar GM, Schortinghuis J, Liem RS, et al. Does platelet-rich plasma promote remodeling of autologous bone grafts used for augmentation of the maxillary sinus floor? *Clin Oral Implants Res.* 2005;16(3):349-356.
11. Sanchez AR, Sheridan PJ, Kupp LI. Is platelet-rich plasma the perfect enhancement factor? A current review. *Int J Oral Maxillofac Implants.* 2003;18(1):93-103.
12. Sheth U, Simunovic N, Klein G, et al. Efficacy of autologous platelet-rich plasma use for orthopaedic indications: A meta-analysis. *J Bone Joint Surg Am.* 2012;94(4):298-307.

PriMatrix Acellular Dermal Tissue Matrix

1. Gapski R, Parks CA, Wang HL. Acellular dermal matrix for mucogingival surgery: A meta-analysis. *J Periodontol.* 2005;76(11):1814-1822.
2. Hayn E. Successful treatment of complex traumatic and surgical wounds with a foetal bovine dermal matrix. *Int Wound J.* 2014;11(6):675-680.
3. Karr JC. Retrospective comparison of diabetic foot ulcer and venous stasis ulcer healing outcome between a dermal repair scaffold (PriMatrix) and a bilayered living cell therapy (Apligraf). *Adv Skin Wound Care.* 2011;24(3):119-125.
4. Kavros S, Dutra T, Gonzalez-Cruz R, et al. The use of PriMatrix, a fetal bovine acellular dermal matrix, in healing chronic diabetic foot ulcers: A prospective multicenter study. *Adv Skin Wound Care.* 2014;27(8):356-362.

5. Kavros SJ. Acellular fetal bovine dermal matrix for treatment of chronic ulcerations of the midfoot associated with Charcot neuroarthropathy. *Foot Ankle Spec.* 2012;5(4):230-234.
6. Kosutic D, Biraima AM, See M, James M. Posterior, and anterior tibialis turn-over muscle flaps with primatrix for salvage of lower extremity after free-flap failure. *Microsurgery.* 2013;33(1):77-78.
7. Lullove E. Acellular fetal bovine dermal matrix in the treatment of nonhealing wounds in patients with complex comorbidities. *J Am Podiatr Med Assoc.* 2012;102(3):233-239.
8. Neill J, James K, Lineaweaver W. Utilizing biologic assimilation of bovine fetal collagen in staged skin grafting. *Ann Plast Surg.* 2012;68(5):451-456.
9. Parcels AL, Karcich J, Granick MS, Marano MA. The use of fetal bovine dermal scaffold (PriMatrix) in the management of full-thickness hand burns. *Eplasty.* 2014;14:e36.
10. Strong AL, Bennett DK, Spreen EB, et al. Fetal bovine collagen matrix in the treatment of a full thickness burn wound: A case report with long-term follow-up. *J Burn Care Res.* 2016;37(3):e292-e297.
11. Wainwright D, Madden M, Luterman A, et al. Clinical evaluation of an acellular allograft dermal matrix in full-thickness burns. *J Burn Care Rehabil.* 1996;17(2):124-136.

Promogan

1. Cervigni M, Natale F, La Penna C, et al. Collagen-coated polypropylene mesh in vaginal prolapse surgery: An observational study. *Eur J Obstet Gynecol Reprod Biol.* 2011;156(2):223-227.
2. Culligan PJ, Littman PM, Salamon CG, et al. Evaluation of a transvaginal mesh delivery system for the correction of pelvic organ prolapse: Subjective and objective findings at least 1 year after surgery. *Am J Obstet Gynecol.* 2010;203(5):506.e1-e6.
3. Veves A, Sheehan P, Pham HT. A randomized, controlled trial of Promogran (a collagen/oxidized regenerated cellulose dressing) vs standard treatment in the management of diabetic foot ulcers. *Arch Surg.* 2002;137(7):822-827.
4. Vin F, Teot L, Meaume S. The healing properties of Promogran in venous leg ulcers. *J Wound Care.* 2002;11(9):335-341.
5. Wollina U, Schmidt WD, Krönert C, et al. Some effects of a topical collagen-based matrix on the microcirculation and wound healing in patients with chronic venous leg ulcers: Preliminary observations. *Int J Low Extrem Wounds.* 2005;4(4):214-224.

Provant Wound Closure System

1. Conner-Kerr T, Isenberg RA. Retrospective analysis of pulsed radiofrequency energy therapy use in the treatment of chronic pressure ulcers. *Adv Skin Wound Care.* 2012;25(6):253-260.
2. Cullum N, Petherick E. Pressure ulcers. In: *BMJ Clinical Evidence.* London, UK: BMJ Publishing Group; February 2007.
3. George FR, Lukas RJ, Moffett J, et al. In-vitro mechanisms of cell proliferation induction: A novel bioactive treatment for accelerating wound healing. *Wounds.* 2002;14(3):107-115.

4. Gilbert TL, Griffin N, Moffett J, et al. The Provant Wound Closure System induces activation of p44/42 MAP kinase in normal cultured human fibroblasts. *Ann N Y Acad Sci.* 2002;961:168-171.
5. Olyaei Manesh A, Flemming K, Cullum NA, Ravaghi H. Electromagnetic therapy for treating pressure ulcers. *Cochrane Database Syst Rev.* 2006;(2):CD002930.
6. Ravaghi H, Flemming K, Cullum NA, Olyaei Manesh A. Electromagnetic therapy for treating venous leg ulcers. *Cochrane Database Syst Rev.* 2006;(2):CD002933.
7. Ritz MC, Gallegos R, Canham MB, et al. PROVANT Wound-Closure System accelerates closure of pressure wounds in a randomized, double-blind, placebo-controlled trial. *Ann N Y Acad Sci.* 2002;961:356-359.

PTFE Felt

1. Borst HG. Dire consequences of the indiscriminate use of Teflon felt pledgets. *J Thorac Cardiovasc Surg.* 1987;94(3):442-443.
2. Chen J, Lee S, Lui T, et al. Teflon granuloma after microvascular decompression for trigeminal neuralgia. *Surg Neurol.* 2000;53(3):281-287.
3. Huang H, Kitano K, Nagayama K, et al. Results of bony chest wall reconstruction with expanded polytetrafluoroethylene soft tissue patch. *Ann Thorac Cardiovasc Surg.* 2015;21(2):119-124.
4. Matsushima T, Yamaguchi T, Inoue TK, et al. Recurrent trigeminal neuralgia after microvascular decompression using an interposing technique. Teflon felt adhesion and the sling retraction technique. *Acta Neurochir (Wien).* 2000;142(5):557-561.
5. Strauch JT, Spielvogel D, Lansman SL, et al. Long-term integrity of teflon felt-supported suture lines in aortic surgery. *Ann Thorac Surg.* 2005;79(3):796-800.
6. Tenholder M, Davids JR, Gruber HE, Blackhurst DW. Surgical management of juvenile amputation overgrowth with a synthetic cap. *J Pediatr Orthop.* 2004;24(2):218-226.

Puracol

1. Karr JC, Taddei AR, Picchiotti S, et al. A morphological and biochemical analysis comparative study of the collagen products Biopad, Promogram, Puracol, and Colactive. *Adv Skin Wound Care.* 2011;24(5):208-216.

RECELL Autologous Cell Harvesting Device (RECELL)

1. American Burn Association. Cell suspension autograft CPT coding recommendation. *Burn News.* September 27, 2018.
2. Bairagi A, Griffin B, Banani T, et al. A systematic review and meta-analysis of randomized trials evaluating the efficacy of autologous skin cell suspensions for re-epithelialization of acute partial thickness burn injuries and split-thickness skin graft donor sites. *Burns.* 2021;47(6):1225-1240.
3. Bairagi A, Griffin B, Banani T, et al. Letter to the Editor and Author Response for 'A systematic review and meta-analysis of randomized trials evaluating the efficacy of autologous skin cell suspensions for re-epithelialization of acute partial thickness burn injuries and split-thickness skin graft donor sites' by Bairagi, et al. *Burns.* 2022;48(2):464-467.

4. Bairagi A, Tyack Z, Kimble R, et al. A pilot randomised controlled trial evaluating a regenerative epithelial suspension for medium-size partial-thickness burns in children: The BRACS Trial. *Eur Burn J*. 2023;4(1):121-141.
5. Carson JS, Carter JE, Hickerson WL, et al. Analysis of real-world length of stay data and costs associated with use of autologous skin cell suspension for the treatment of small burns in U.S. centers. *Burns*. 2023;49(3):607-614.
6. Foster K, Amani A, Carter D. Evaluating health economic outcomes of autologous skin cell suspension for definitive closure in US burn care using contemporary real-world burn center data. *J Cur Med Res Opin*. 2021;4(11):1042-1054.
7. Gravante G, Di Fede MC, Araco A, et al. A randomized trial comparing RECELL system of epidermal cells delivery versus classic skin grafts for the treatment of deep partial thickness burns. *Burns*. 2007;33(8):966-972.
8. Hayes PD, Harding KG, Johnson SM, et al. A pilot multi-centre prospective randomised controlled trial of RECELL for the treatment of venous leg ulcers. *Int Wound J*. 2020;17(3):742-752.
9. Holmes JH 4th, King BT, Smith DJ, Shupp JW. A response to 'A systematic review and meta-analysis of randomized trials evaluating the efficacy of autologous skin cell suspensions for re-epithelialization of acute partial thickness burn injuries and split-thickness skin graft donor sites' by Bairagi, et al. *Burns*. 2022;48(2):463-464.
10. Holmes JH, IV, Molnar JA, Carter JE, et al. A comparative study of the ReCell® device and autologous spit-thickness meshed skin graft in the treatment of acute burn injuries. *J Burn Care Res*. 2018;39(5):694-702.
11. Holmes JH, 4th, Molnar JA, Shupp JW, et al. Demonstration of the safety and effectiveness of the RECELL® System combined with split-thickness meshed autografts for the reduction of donor skin to treat mixed-depth burn injuries. *Burns*. 2019;45(4):772-782.
12. Kowal S, Kruger E, Bilir P, et al. Cost-effectiveness of the use of autologous cell harvesting device compared to standard of care for treatment of severe burns in the United States. *Adv Ther*. 2019;36(7):1715-1729.
13. Manning L, Ferreira IB, Gittings P, et al. Wound healing with "spray-on" autologous skin grafting (ReCell) compared with standard care in patients with large diabetes-related foot wounds: An open-label randomised controlled trial. *Int Wound J*. 2022;19(3):470-481.
14. Peirce SC, Carolan-Rees G. ReCell(®) spray-on skin system for treating skin loss, scarring and depigmentation after burn injury: A NICE medical technology guidance. *Appl Health Econ Health Policy*. 2019;17(2):131-141.
15. U.K. National Health Service (NHS), Centre for Healthcare Evaluation, Device Assessment and Research (CEDAR). ReCell RCT - Complete. Cardiff, UK: NHS Wales; 2018.
16. U.S. Food and Drug Administration (FDA). RECELL Autologous Cell Harvesting Device. Summary of safety and effectiveness – RECELL Autologous Cell Harvesting Device. Silver Spring, MD: FDA; September 21, 2018.

17. Willits I, Cole H. The ReCell Spray-On Skin system for treating skin loss, scarring and depigmentation after burn injury. Evidence Review Report. London, UK: National Institute for Health and Care Excellence; February 26, 2020.

Repriza

1. Solomon MP, Komlo C, Defrain M. Allograft materials in phalloplasty: A comparative analysis. *Ann Plast Surg.* 2013;71(3):297.

Seamguard

1. Albanopoulos K, Alevizos L, Flessas J, et al. Reinforcing the staple line during laparoscopic sleeve gastrectomy: Prospective randomized clinical study comparing two different techniques. Preliminary results. *Obes Surg.* 2012;22(1):42-46.
2. Ayabe T, Shimizu T, Tomita M, et al. Bronchoscopic removal of staple-line reinforcement material. *J Bronchology Interv Pulmonol.* 2011;18(3):274-277.
3. Dapri G, Cadière GB, Himpens J. Reinforcing the staple line during laparoscopic sleeve gastrectomy: Prospective randomized clinical study comparing three different techniques. *Obes Surg.* 2010;20(4):462-467.
4. de la Portilla F, Rada R, Vega J, et al. Transanal rectocele repair using linear stapler and bioabsorbable staple line reinforcement material: Short-term results of a prospective study. *Dis Colon Rectum.* 2010;53(1):88-92.
5. Durmush EK, Ermerak G, Durmush D. Short-term outcomes of sleeve gastrectomy for morbid obesity: Does staple line reinforcement matter? *Obes Surg.* 2014;24(7):1109-1116.
6. Fajardo AD, Amador-Ortiz C, Chun J, et al. Evaluation of bioabsorbable seamguard for staple line reinforcement in stapled rectal anastomoses. *Surg Innov.* 2012;19(3):288-294.
7. Guzman EA, Nelson RA, Kim J, et al. Increased incidence of pancreatic fistulas after the introduction of a bioabsorbable staple line reinforcement in distal pancreatic resections. *Am Surg.* 2009;75(10):954-957.
8. Hamilton NA, Porembka MR, Johnston FM, et al. Mesh reinforcement of pancreatic transection decreases incidence of pancreatic occlusion failure for left pancreatectomy: A single-blinded, randomized controlled trial. *Ann Surg.* 2012;255(6):1037-1042.
9. Hawkins WG. To mesh or not to mesh, that is the question: Comment on "Use of Seamguard to prevent pancreatic leak following distal pancreatectomy". *Arch Surg.* 2009;144(10):899.
10. Hope WW, Zerey M, Schmelzer TM, et al. A comparison of gastrojejunal anastomoses with or without buttressing in a porcine model. *Surg Endosc.* 2009;23(4):800-807.
11. Lopez-Monclova J, Targarona E, Balague C, et al. Pilot study comparing the leak pressure of the sleeved stomach with and without reinforcement. *Surg Endosc.* 2013;27(12):4721-4730.
12. Mari FS, Masoni L, Cosenza UM, et al. The use of bioabsorbable staple-line reinforcement performing stapled hemorrhoidopexy to decrease the risk of postoperative bleeding. *Am Surg.* 2012;78(11):1255-1260.
13. Portillo G, Franklin ME Jr. Clinical results using bioabsorbable staple-line reinforcement for circular stapler in colorectal surgery: A multicenter study. *J Laparoendosc Adv Surg Tech A.* 2010;20(4):323-327.

14. Pugliese R, Maggioni D, Sansonna F, et al. Efficacy and effectiveness of suture bolster with Seamguard. *Surg Endosc.* 2009;23(6):1415-1416.
15. Salgado W Jr, Rosa GV, Nonino-Borges CB, Ceneviva R. Prospective and randomized comparison of two techniques of staple line reinforcement during open Roux-en-Y gastric bypass: Oversewing and bioabsorbable Seamguard®. *J Laparoendosc Adv Surg Tech A.* 2011;21(7):579-582.
16. Scott JD, Cobb WS, Carbonell AM, et al. Reduction in anastomotic strictures using bioabsorbable circular staple line reinforcement in laparoscopic gastric bypass. *Surg Obes Relat Dis.* 2011;7(5):637-642.
17. Sepesi B, Moalem J, Galka E, et al. The influence of staple size on fistula formation following distal pancreatectomy. *J Gastrointest Surg.* 2012;16(2):267-274.
18. Simon TE, Scott JA, Brockmeyer JR, et al. Comparison of staple-line leakage and hemorrhage in patients undergoing laparoscopic sleeve gastrectomy with or without Seamguard. *Am Surg.* 2011;77(12):1665-1668.
19. Wallace CL, Georgakis GV, Eisenberg DP, et al. Further experience with pancreatic stump closure using a reinforced staple line. *Conn Med.* 2013;77(4):205-210.
20. Yamamoto M, Hayashi MS, Nguyen NT, et al. Use of Seamguard to prevent pancreatic leak following distal pancreatectomy. *Arch Surg.* 2009;144(10):894-899.

Silver-Coated Wound Dressings (e.g., Acticoat, Actisorb, Mepitel Ag)

1. Aziz Z, Abu SF, Chong NJ. A systematic review of silver-containing dressings and topical silver agents (used with dressings) for burn wounds. *Burns.* 2012;38(3):307-318.
2. Bergin SM, Wraight P. Silver based wound dressings and topical agents for treating diabetic foot ulcers. *Cochrane Database Syst Rev.* 2006;(1):CD005082.
3. Canadian Agency for Drugs and Technologies in Health (CADTH). Silver dressings for the treatment of patients with infected wounds: A review of clinical and cost-effectiveness. Ottawa, ON: Canadian Agency for Drugs and Technologies in Health (CADTH); 2010.
4. Choi YM, Campbell K, Levek C, et al. Antibiotic ointment versus a silver-based dressing for children with extremity burns: A randomized controlled study. *J Pediatr Surg.* 2019;54(7):1391-1396.
5. Ek AC, Lindgren M, Melhus A, et al. Silver-releasing dressings in treating chronic wounds. Summary. *SBU Alert.* Stockholm, Sweden: The Swedish Council on Health Technology Assessment (SBU); 2010.
6. Fraser JF, Bodman J, Sturgess R, et al. An in vitro study of the anti-microbial efficacy of a 1% silver sulphadiazine and 0.2% chlorhexidine digluconate cream, 1% silver sulphadiazine cream and a silver coated dressing. *Burns.* 2004; 30(1):35-41.
7. Lansdown AB, Williams A, Chandler S, Benfield S. Silver absorption and antibacterial efficacy of silver dressings. *J Wound Care.* 2005;14(4):155-160.
8. O'Meara S, Cullum N, Majid M, Sheldon T. Systematic reviews of wound care management: (3) antimicrobial agents for chronic wounds; (4) diabetic foot ulceration. *Health Technol Assess.* 2000;4(21):1-237.

9. Rouleau G, Erickson LJ. Acticoat for the treatment of severe burns. AETMIS 06-08. Montreal, QC: Agence d'Evaluation des Technologies et des Modes d'Intervention en Sante (AETMIS); 2006.
10. Silver S, Phung le T, Silver G. Silver as biocides in burn and wound dressings and bacterial resistance to silver compounds. *J Ind Microbiol Biotechnol*. 2006;33(7):627-634.
11. Thomas S, McCubbin P. A comparison of the antimicrobial effects of four silver-containing dressings on three organisms. *J Wound Care*. 2003;12(3):101-107.
12. Topfer L, Hailey D. Over-the-counter antimicrobial bandages (Acticoat). Emerging Device List No. 2. Ottawa, ON: Canadian Coordinating Office for Health Technology Assessment (CCOHTA); June 2001.
13. Tredget EE, Shankowsky HA, Groeneveld A, et al. A matched-pair, randomized study evaluating the efficacy and safety of Acticoat silver-coated dressing for the treatment of burn wounds. *J Burn Care Rehabil*. 1998;19(6):531-537.
14. Trop M, Novak M, Rodl S, et al. Silver-coated dressing acticoat caused raised liver enzymes and argyria-like symptoms in burn patient. *J Trauma*. 2006;60(3):648-652.
15. Varas RP, O'Keeffe T, Namias N, et al. A prospective, randomized trial of Acticoat versus silver sulfadiazine in the treatment of partial-thickness burns: which method is less painful? *J Burn Care Rehabil*. 2005;26(4):344-347.
16. Vermeulen H, van Hattem JM, Storm-Versloot MN, Ubbink DT. Topical silver for treating infected wounds. *Cochrane Database Syst Rev*. 2007;(1):CD005486.
17. Yin HQ, Langford R, Burrell RE. Comparative evaluation of the antimicrobial activity of ACTICOAT antimicrobial barrier dressing. *J Burn Care Rehabil*. 1999;20(3):195-200.

Sportmesh

1. Barber FA, Aziz-Jacobo J. Biomechanical testing of commercially available soft-tissue augmentation materials. *Arthroscopy*. 2009;25(11):1233-1239.
2. Petriccioli D, Bertone C, Marchi G, Mujahed I. Open repair of isolated traumatic subscapularis tendon tears with a synthetic soft tissue reinforcement. *Musculoskelet Surg*. 2013;97 Suppl 1:63-68.

Stratagraft

1. Mallinckrodt Pharmaceuticals. StrataGraft (allogeneic cultured keratinocytes and dermal fibroblasts in murine collagen-dsat), for topical use. Prescribing Information. Madison, WI: Mallinckrodt; revised June 2021.
2. U.S. Food and Drug Administration (FDA). FDA approves StrataGraft for the treatment of adults with thermal burns. FDA News Release. Silver Spring, MD: FDA; June 15, 2021.

Strattice

1. Bellows CF, Shadduck P, Helton WS, et al. Early report of a randomized comparative clinical trial of Strattice™ reconstructive tissue matrix to lightweight synthetic mesh in the repair of inguinal hernias. *Hernia*. 2014;18(2):221-230.
2. Cheng AW, Abbas MA, Tejirian T. Outcome of abdominal wall hernia repair with biologic mesh: Permacol™ versus Strattice™. *Am Surg*. 2014;80(10):999-1002.

3. Itani KM, Rosen M, Vargo D, et al.; RICH Study Group. Prospective study of single-stage repair of contaminated hernias using a biologic porcine tissue matrix: The RICH Study. *Surgery*. 2012;152(3):498-505.
4. Lombardi J, Stec E, Edwards M, et al. Comparison of mechanical properties and host tissue response to OviTex™ and Strattice™ surgical meshes. *Hernia*. 2023;27:987-997.
5. Parra MW, Rodas EB, Niravel AA. Laparoscopic repair of potentially contaminated abdominal ventral hernias using a xenograft: A case series. *Hernia*. 2011;15(5):575-578.
6. Patel KM, Albino FP, Nahabedian MY, Bhanot P. Critical analysis of Strattice performance in complex abdominal wall reconstruction: Intermediate-risk patients and early complications. *Int Surg*. 2013;98(4):379-384.
7. Patel KM, Nahabedian MY, Gatti M, Bhanot P. Indications and outcomes following complex abdominal reconstruction with component separation combined with porcine acellular dermal matrix reinforcement. *Ann Plast Surg*. 2012 Oct;69(4):394-398.
8. Rosen MJ, Denoto G, Itani KM, et al.; RICH Study Group. Evaluation of surgical outcomes of retro-rectus versus intraperitoneal reinforcement with bio-prosthetic mesh in the repair of contaminated ventral hernias. *Hernia*. 2013;17(1):31-35.
9. Schardey HM, Di Cerbo F, von Ahnen T, et al. Delayed primary closure of contaminated abdominal wall defects with non-crosslinked porcine acellular dermal matrix compared with conventional staged repair: A retrospective study. *J Med Case Rep*. 2014;8:251.
10. Shah BC, Tiwari MM, Goede MR, et al. Not all biologics are equal! *Hernia*. 2011;15(2):165-171.
11. Singh DP, Zahiri HR, Gastman B, et al. A modified approach to component separation using biologic graft as a load-sharing onlay reinforcement for the repair of complex ventral hernia. *Surg Innov*. 2014;21(2):137-146.
12. Zerbib P, Caiazzo R, Piessen G, et al. Outcome in porcine acellular dermal matrix reinforcement of infected abdominal wall defects: A prospective study. *Hernia*. 2015;19(2):253-257.

Suprathel

1. Baartmans MG, Dokter J, den Hollander JC, et al. Use of skin substitute dressings in the treatment of staphylococcal scalded skin syndrome in neonates and young infants. *Neonatology*. 2011;100(1):9-13.
2. Blome-Eberwein SA, Amani H, Lozano DD, Gogal C, Boorse D, Pagella P. A bio-degradable synthetic membrane to treat superficial and deep second degree burn wounds in adults and children - 4-year experience. *Burns*. 2021 Jun;47(4):838-846.
3. Highton L, Wallace C, Shah M. Use of Suprathel® for partial thickness burns in children. *Burns*. 2013;39(1):136-141.
4. Hundeshagen G, Collins VN, Wurzer P, et al. A prospective, randomized, controlled trial comparing the outpatient treatment of pediatric and adult partial-thickness burns with Suprathel or Mepilex Ag. *J Burn Care Res*. 2018;39(2):261-267.

5. Kaartinen IS, Kuokkanen HO. Suprathel(®) causes less bleeding and scarring than Mepilex(®) Transfer in the treatment of donor sites of split-thickness skin grafts. *J Plast Surg Hand Surg*. 2011;45(4-5):200-203.
6. Keck M, Selig HF, Lumenta DB, et al. The use of Suprathel(®) in deep dermal burns: first results of a prospective study. *Burns*. 2012;38(3):388-395.
7. Lindford AJ, Kaartinen IS, Virolainen S, Vuola J. Comparison of Suprathel(®) and allograft skin in the treatment of a severe case of toxic epidermal necrolysis. *Burns*. 2011;37(7):e67-e72.
8. Mądry R, Strużyna J, Stachura-Kułach A, et al. Effectiveness of Suprathel(®) application in partial thickness burns, frostbites, and Lyell syndrome treatment. *Pol Przegl Chir*. 2011;83(10):541-548.
9. Markl P, Prantl L, Schreml S, Babilas P, et al. Management of split-thickness donor sites with synthetic wound dressings: Results of a comparative clinical study. *Ann Plast Surg*. 2010;65(5):490-496.
10. Mueller E, Haim M, Petnehazy T, et al. An innovative local treatment for staphylococcal scalded skin syndrome. *Eur J Clin Microbiol Infect Dis*. 2010;29(7):893-897.
11. Pfuertscheller K, Zobel G, Roedl S, Trop M. Use of Suprathel dressing in a young infant with TEN. *Pediatr Dermatol*. 2008;25(5):541-543.
12. Radu CA, Gazyakan E, Germann G, et al. Optimizing Suprathel(®)-therapy by the use of Octenidine-Gel(®). *Burns*. 2011;37(2):294-298.
13. Rahmanian-Schwarz A, Beiderwieden A, Willkomm LM, et al. A clinical evaluation of Biobrane(®) and Suprathel(®) in acute burns and reconstructive surgery. *Burns*. 2011;37(8):1343-1348.
14. Ryssel H, Andreas Radu C, et al. Suprathel-antiseptic matrix: in vitro model for local antiseptic treatment? *Adv Skin Wound Care*. 2011;24(2):64-67.
15. Ryssel H, Germann G, Riedel K, et al. Suprathel-acetic acid matrix versus acticoat and aquacel as an antiseptic dressing: An in vitro study. *Ann Plast Surg*. 2010;65(4):391-395.
16. Sari E, Eryilmaz T, Tetik G, et al. Suprathel(®) -assisted surgical treatment of the hand in a dystrophic epidermolysis bullosa patient. *Int Wound J*. 2014;11(5):472-475.
17. Schiefer JL, Rahmanian-Schwarz A, Schaller HE, Manoli T. A novel hand-shaped suprathel simplifies the treatment of partial-thickness burns. *Adv Skin Wound Care*. 2014;27(11):513-516.
18. Schwarze H, Kuntscher M, Uhlig C, et al. Suprathel, a new skin substitute, in the management of donor sites of split-thickness skin grafts: Results of a clinical study. *Burns*. 2007;33(7):850-854.
19. Schwarze H, Kuntscher M, Uhlig C, et al. Suprathel, a new skin substitute, in the management of partial-thickness burn wounds: Results of a clinical study. *Ann Plast Surg*. 2008;60(2):181-185.
20. Uhlig C, Rapp M, Hartmann B, et al. Suprathel-an innovative, resorbable skin substitute for the treatment of burn victims. *Burns*. 2007;33(2):221-229.

1. Cheng A, Saint-Cyr M. Comparison of different ADM materials in breast surgery. *Clin Plast Surg.* 2012;39(2):167-175.
2. Craft RO, May JW Jr. Staged nipple reconstruction with vascularized SurgiMend acellular dermal matrix. *Plast Reconstr Surg.* 2011;127(6):148e-149e.
3. Gaster RS, Berger AJ, Monica SD, et al. Histologic analysis of fetal bovine derived acellular dermal matrix in tissue expander breast reconstruction. *Ann Plast Surg.* 2013;70(4):447-453.
4. Janfaza M, Martin M, Skinner R. A preliminary comparison study of two noncrosslinked biologic meshes used in complex ventral hernia repairs. *World J Surg.* 2012;36(8):1760-1764.
5. TEI Biosciences. SurgiMend. Collagen matrix for soft tissue reconstruction [website]. Boston, MA: Integra TEI Biosciences; 2008. Available at: <http://www.teibio.com/SurgiMend.aspx>. Accessed June 30, 2008.
6. U.S. Food and Drug Administration (FDA). SurgiMend. 510(k) Summary. K071807. TEI Biosciences Inc. Boston, MA. Rockville, MD: FDA; August 6, 2007. Available at: <http://www.fda.gov/cdrh/pdf7/K072113.pdf>. Accessed June 30, 2008.

Surgisis

1. Ansaloni L, Catena F, Coccolini F, et al. Inguinal hernia repair with porcine small intestine submucosa: 3-year follow-up results of a randomized controlled trial of Lichtenstein's repair with polypropylene mesh versus Surgisis Inguinal Hernia Matrix. *Am J Surg.* 2009;198(3):303-312.
2. Ansaloni L, Catena F, Gagliardi S, et al. Hernia repair with porcine small-intestinal submucosa. *Hernia.* 2007;11(4):321-326.
3. Armitage S, Seman EI, Keirse MJ. Use of surgisis for treatment of anterior and posterior vaginal prolapse. *Obstet Gynecol Int.* 2012;2012:376251.
4. Champagne BJ, O'Connor LM, Ferguson M, et al. Efficacy of anal fistula plug in closure of cryptoglandular fistulas: Long-term follow-up. *Dis Colon Rectum.* 2006;49(12):1817-1821.
5. Chan S, McCullough J, Schizas A, et al. Initial experience of treating anal fistula with the Surgisis anal fistula plug. *Tech Coloproctol.* 2012;16(3):201-6. doi:
6. Christoforidis D, Etzioni DA, Goldberg SM, et al. Treatment of complex anal fistulas with the collagen fistula plug. *Dis Colon Rectum.* 2008;51(10):1482-1487.
7. Cintron JR, Abcarian H, Chaudhry V, et al. Treatment of fistula-in-ano using a porcine small intestinal submucosa anal fistula plug. *Tech Coloproctol.* 2013;17(2):187-191.
8. Edelman DS, Hodde JP. Bioactive prosthetic material for treatment of hernias. *Surg Technol Int.* 2006;15:104-108.
9. Franklin ME Jr, Gonzalez JJ Jr, Glass JL. Use of porcine small intestinal submucosa as a prosthetic device for laparoscopic repair of hernias in contaminated fields: 2-year follow-up. *Hernia.* 2004;8(3):186-189.
10. Franklin ME Jr, Trevino JM, Portillo G, et al. The use of porcine small intestinal submucosa as a prosthetic material for laparoscopic hernia repair in infected and potentially contaminated fields: Long-term follow-up. *Surg Endosc.* 2008;22(9):1941-1946.

11. Gabriel A, Gollin G. Management of complicated gastroschisis with porcine small intestinal submucosa and negative pressure wound therapy. *J Pediatr Surg*. 2006;41(11):1836-1840.
12. Gupta A, Zahriya K, Mullens PL, et al. Ventral herniorrhaphy: experience with two different biosynthetic mesh materials, Surgisis and Alloderm. *Hernia*. 2006;10(5):419-425.
13. Helton WS, Fisichella PM, Berger R, et al. Short-term outcomes with small intestinal submucosa for ventral abdominal hernia. *Arch Surg*. 2005;140(6):549-560; discussion 560-562.
14. Jacobs M, Gomez E, Plasencia G, et al. Use of surgisis mesh in laparoscopic repair of hiatal hernias. *Surg Laparosc Endosc Percutan Tech*. 2007;17(5):365-368.
15. Knoll LD. Use of small intestinal submucosa graft for the surgical management of Peyronie's disease. *J Urol*. 2007;178(6):2474-2478; discussion 2478.
16. Ky AJ, Sylla P, Steinhagen R, et al. Collagen fistula plug for the treatment of anal fistulas. *Dis Colon Rectum*. 2008;51(6):838-843.
17. Sarr MG, Hutcher NE, Snyder S, et al. A prospective, randomized, multicenter trial of Surgisis Gold, a biologic prosthetic, as a sublay reinforcement of the fascial closure after open bariatric surgery. *Surgery*. 2014;156(4):902-908.
18. Schnoeller TJ, de Petriconi R, Hefty R, et al. Partial nephrectomy using porcine small intestinal submucosa. *World J Surg Oncol*. 2011;9:126.
19. Schwandner T, Roblick MH, Kierer W, et al. Surgical treatment of complex anal fistulas with the anal fistula plug: A prospective, multicenter study. *Dis Colon Rectum*. 2009;52(9):1578-1583.
20. St Peter SD, Ostlie DJ, Holcomb GW 3rd. The use of biosynthetic mesh to enhance hiatal repair at the time of redo Nissen fundoplication. *J Pediatr Surg*. 2007;42(7):1298-1301.
21. Thekkinkattil DK, Botterill I, Ambrose NS, et al. Efficacy of the anal fistula plug in complex anorectal fistulae. *Colorectal Dis*. 2009;11(6):584-587.

Talymed

1. Hankin CS, Knispel J, Lopes M, et al. Clinical and cost efficacy of advanced wound care matrices for venous ulcers. *J Manag Care Pharm*. 2012;18(5):375-384.
2. Kelechi TJ, Mueller M, Hankin CS, et al. A randomized, investigator-blinded, controlled pilot study to evaluate the safety and efficacy of a poly-N-acetyl glucosamine-derived membrane material in patients with venous leg ulcers. *J Am Acad Dermatol*. 2012;66(6):e209-e215.
3. Maus EA. Successful treatment of two refractory venous stasis ulcers treated with a novel poly-N-acetyl glucosamine-derived membrane. *BMJ Case Rep*. 2012 Jul 9;2012.

TenoGlide

1. Integra LifeSciences Corp. TenoGlide tendon protector sheet [website]. Plainsboro, NJ: Integra Life Sciences; 2008. Available at: <http://www.integra-ls.com/products/?product=274>. Accessed June 30, 2008.
2. U.S. Food and Drug Administration (FDA). Tendon wrap tendon protector. 510(k) Summary. K053655. Integra LifeSciences Corp, Plainsboro, NJ. Rockville, MD: FDA; February 3, 2006.

TheraSkin

1. Armstrong DG, Galiano RD, Orgill DP, et al. 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. *Int Wound J.* 2022;19(4):932-944.
2. Barbul A, Gelly H, Masturzo A. The health economic impact of living cell tissue products in the treatment of chronic wounds: A retrospective analysis of Medicare claims data. *Adv Skin Wound Care.* 2020b;33(1):27-34.
3. Barbul A, Gurtner GC, Gordon H, et al. Matched-cohort study comparing bioactive human split-thickness skin allograft plus standard of care to standard of care alone in the treatment of diabetic ulcers: A retrospective analysis across 470 institutions. *Wound Repair Regen.* 2020a;28(1):81-89.
4. Budny AM, Ley A. Cryopreserved allograft as an alternative option for closure of diabetic foot ulcers. This human-derived product offers many advantages in wound healing. *Podiatr Manag.* 2013 Aug;131-136.
5. DiDomenico L, Emch KJ, Landsman AR. A prospective comparison of diabetic foot ulcers treated with either a cryopreserved skin allograft or a bioengineered skin substitute. *Wounds.* 2011;23(7):184-189.
6. Gurtner GC, Garcia AD, Bakewell K, Alarcon JB. A retrospective matched-cohort study of 3994 lower extremity wounds of multiple etiologies across 644 institutions comparing a bioactive human skin allograft, TheraSkin, plus standard of care, to standard of care alone. *Int Wound J.* 2020;17(1):55-64.
7. Landsman A, Rosines E, Houck A, et al. Characterization of a cryopreserved split-thickness human skin allograft - TheraSkin. *Adv Skin Wound Care.* 2016;29(9):399-406.
8. Landsman AS, Cook J, Cook E, et al. A retrospective clinical study of 214 consecutive patients to examine the effectiveness of a biologically active cryopreserved human skin allograft (Theraskin) on the treatment of diabetic foot ulcers and venous leg ulcers. *Foot Ankle Spec.* 2011;4(1):29-41.
9. Lin Q, Rosines E, Taylor BM, Clagett J. TheraSkin analysis, stage 1 findings: Identification of key growth factors, cytokines, and collagen in TheraSkin. Study conducted at Albany Medical Center and the University of Maryland, Institute of Human Virology through funding from Skin and Wound Allograft Institute, A Subsidiary of Lifenet Health. Scientific Data Series SDS 20-00. Newport News, VA: Soluble Systems; revised April 22, 2011.
10. National Institute for Health and Clinical Excellence (NICE). Diabetic foot problems: Inpatient management of diabetic foot problems (Draft). NICE clinical guideline. London, UK: NICE; November 2011. Available at: <http://www.nice.org.uk/nicemedia/live/11989/52429/52429.pdf>. Accessed March 2, 2012.
11. Sanders L, Landsman AS, Landsman A, et al. A prospective, multicenter, randomized, controlled clinical trial comparing a bioengineered skin substitute to a human skin allograft. *Ostomy Wound Manage.* 2014;60(9):26-38.
12. Soluble Systems, TheraSkin. The Real Skin Wound Therapy with Living Cells. 4.9x More Total Living Cells than claimed by Dermagraft. 32-LCT-01. Newport News, VA: Soluble Systems; revised August 10, 2011.

13. Towler MA, Rush EW, Richardson MK, Williams CL. Randomized, prospective, blinded-enrollment, head-to-head venous leg ulcer healing trial comparing living, bioengineered skin graft substitute (Apligraf) with living, cryopreserved, human skin allograft (TheraSkin). *Clin Podiatr Med Surg*. 2018;35(3):357-365.
14. Treadwell T. A prospective comparison of diabetic foot ulcers treated with either cryopreserved skin allograft or bioengineered skin substitute. *Commentary. Wounds*. 2011;23(7):190-191.
15. Wilson TC, Wilson JA, Crim B, Lowery NJ. The use of cryopreserved human skin allograft for the treatment of wounds with exposed muscle, tendon, and bone. *Wounds*. 2016;28(4):119-125.

TissueMend

1. Barber, F. A., Herbert, M. A., & Coons, D. A. (2006). Tendon augmentation grafts: biomechanical failure loads and failure patterns. *Arthroscopy : the journal of arthroscopic & related surgery : official publication of the Arthroscopy Association of North America and the International Arthroscopy Association*, 22(5), 534–538.
2. Derwin, K. A., Baker, A. R., Spragg, R. K., Leigh, D. R., & Iannotti, J. P. (2006). Commercial extracellular matrix scaffolds for rotator cuff tendon repair. Biomechanical, biochemical, and cellular properties. *The Journal of bone and joint surgery. American volume*, 88(12), 2665–2672.
3. Magnussen, R. A., Glisson, R. R., & Moorman, C. T., 3rd (2011). Augmentation of Achilles tendon repair with extracellular matrix xenograft: a biomechanical analysis. *The American journal of sports medicine*, 39(7), 1522–1527.
4. U.S. Food and Drug Administration (FDA). (May 15, 2006). TissueMend soft tissue repair matrix. 510(k) Summary. K060989. TEI Biosciences Inc.

TransCyte

1. Amani, H., Dougherty, W. R., & Blome-Eberwein, S. (2006). Use of Transcyte and dermabrasion to treat burns reduces length of stay in burns of all size and etiology. *Burns : journal of the International Society for Burn Injuries*, 32(7), 828–832.
2. Barber, C., Watt, A., Pham, C., Humphreys, K., Penington, A., Mutimer, K., Edwards, M., & Maddern, G. (2008). Influence of bioengineered skin substitutes on diabetic foot ulcer and venous leg ulcer outcomes. *Journal of wound care*, 17(12), 517–527.
3. Demling, R. H., & DeSanti, L. (1999). Management of partial thickness facial burns (comparison of topical antibiotics and bio-engineered skin substitutes). *Burns : journal of the International Society for Burn Injuries*, 25(3), 256–261.
4. Johnson, P. A., Chavanu, K. E., & Newman, K. D. (2002). Guiding practice improvements in pediatric surgery using multidisciplinary clinical pathways. *Seminars in pediatric surgery*, 11(1), 20–24.
5. Kumar, R. J., Kimble, R. M., Boots, R., & Pegg, S. P. (2004). Treatment of partial-thickness burns: a prospective, randomized trial using Transcyte. *ANZ journal of surgery*, 74(8), 622–626.
6. Lukish, J. R., Eichelberger, M. R., Newman, K. D., Pao, M., Nobuhara, K., Keating, M., Golonka, N., Pratsch, G., Misra, V., Valladares, E., Johnson, P., Gilbert, J. C., Powell, D. M.,

& Hartman, G. E. (2001). The use of a bioactive skin substitute decreases length of stay for pediatric burn patients. *Journal of pediatric surgery*, 36(8), 1118–1121.

7. Noordenbos, J., Doré, C., & Hansbrough, J. F. (1999). Safety and efficacy of TransCyte for the treatment of partial-thickness burns. *The Journal of burn care & rehabilitation*, 20(4), 275–281.
8. Pham, C., Greenwood, J., Cleland, H., Woodruff, P., & Maddern, G. (2007). Bioengineered skin substitutes for the management of burns: a systematic review. *Burns : journal of the International Society for Burn Injuries*, 33(8), 946–957.
9. Tenenhaus, M., Bhavsar, D., & Rennekampff, H. O. (2007). Treatment of deep partial thickness and indeterminate depth facial burn wounds with water-jet debridement and a biosynthetic dressing. *Injury*, 38 Suppl 5, S39–S45.

Unite

1. Fleischli, J. G., Laughlin, T. J., & Fleischli, J. W. (2009). Equine pericardium collagen wound dressing in the treatment of the neuropathic diabetic foot wound: a pilot study. *Journal of the American Podiatric Medical Association*, 99(4), 301–305.
2. Mulder, G., & Lee, D. K. (2009). A retrospective clinical review of extracellular matrices for tissue reconstruction: equine pericardium as a biological covering to assist with wound closure. *Wounds : a compendium of clinical research and practice*, 21(9), 254–261.
3. Mulder, G., & Lee, D. K. (2009). Case presentation: xenograft resistance to protease degradation in a vasculitic ulcer. *The international journal of lower extremity wounds*, 8(3), 157–161.

Vendaje, VIM Human Amniotic Membrane, and Zenith Amniotic Membrane

1. Abul, A., Karam, M., & Rahman, S. (2020). Human Amniotic Membrane: A New Option for Graft Donor Sites - Systematic Review and Meta-analysis. *International wound journal*, 17(3), 547–554.
2. Kogan, S., Sood, A., & Granick, M. S. (2018). Amniotic Membrane Adjuncts and Clinical Applications in Wound Healing: A Review of the Literature. *Wounds : a compendium of clinical research and practice*, 30(6),
3. Thompson, P., Hanson, D. S., Langemo, D., & Anderson, J. (2019). Comparing Human Amniotic Allograft and Standard Wound Care When Using Total Contact Casting in the Treatment of Patients with Diabetic Foot Ulcers. *Advances in skin & wound care*, 32(6), 272–277.

Veritas Collagen Matrix

1. Connolly R. J. (2006). Evaluation of a unique bovine collagen matrix for soft tissue repair and reinforcement. *International urogynecology journal and pelvic floor dysfunction*, 17 Suppl 1, S44–S47.
2. Limpert, J. N., Desai, A. R., Kumpf, A. L., Fallucco, M. A., & Aridge, D. L. (2009). Repair of abdominal wall defects with bovine pericardium. *American journal of surgery*, 198(5), e60–e65.

3. Rocco, G., Serra, L., Fazioli, F., Mori, S., Mehrabi-Kermani, F., Capasso, A., Martucci, N., La Rocca, A., & Apice, G. (2011). The use of veritas collagen matrix to reconstruct the posterior chest wall after costovertebrectomy. *The Annals of thoracic surgery*, 92(1), e17–e18.
4. Shah, S. S., Todkar, J. S., & Shah, P. S. (2014). Buttressing the staple line: a randomized comparison between staple-line reinforcement versus no reinforcement during sleeve gastrectomy. *Obesity surgery*, 24(12), 2014–2020.
5. Synovis Surgical Innovations. (2008). Veritas® Collagen Matrix. [website]. Available at: <http://www.synovissurgical.com/>
6. U.S. Food and Drug Administration (FDA). (December 6, 2006). Veritas® collagen matrix. 510(k) Summary. K062915.

Vitagel

1. Rousou J. A. (2013). Use of fibrin sealants in cardiovascular surgery: a systematic review. *Journal of cardiac surgery*, 28(3), 238–247.

WoundEx Flow

1. Centers for Medicare & Medicaid Services (CMS). (May 18, 2017). Healthcare Common Procedure Coding System (HCPCS). Public Meeting Agenda. Drugs, Biologicals and Radiopharmaceuticals.

XCM Biologic Tissue Matrix

1. Berthet, J. P., Wihlm, J. M., Canaud, L., Joyeux, F., Cosma, C., Hireche, K., Alric, P., & Marty-Ané, C. H. (2012). The combination of polytetrafluoroethylene mesh and titanium rib implants: an innovative process for reconstructing large full thickness chest wall defects. *European journal of cardio-thoracic surgery : official journal of the European Association for Cardio-thoracic Surgery*, 42(3), 444–453.
2. George, R. S., Kostopanagiotou, K., & Papagiannopoulos, K. (2014). The expanded role of extracellular matrix patch in malignant and non-malignant chest wall reconstruction in thoracic surgery. *Interactive cardiovascular and thoracic surgery*, 18(3),
3. Hurwitz, Z. M., Igotz, R. A., Rowin, C., Freniere, B. B., Lalikos, J. F., & Dunn, R. M. (2015). Seroma Formation in Rat Latissimus Dorsi Resection in the Presence of Biologics: The Role of Quilting. *Annals of plastic surgery*, 75(3), 338–342.

Xelma

1. Bond, E., Barrett, S., & Pragnell, J. (2009). Successful treatment of non-healing wounds with Xelma(R). *British journal of nursing (Mark Allen Publishing)*, 18(22), 1404–1409.
2. Chadwick, P., & Acton, C. (2009). The use of amelogenin protein in the treatment of hard-to-heal wounds. *British journal of nursing (Mark Allen Publishing)*, 18(6).
3. Renner, R., & Simon, J. C. (2012). New insights into therapy by mathematical analysis: recalcitrant granulated improved more than sclerotic venous leg ulcers with amelogenin treatment. *Journal of dermatological science*, 67(1), 15–19.
4. Romanelli, M., Dini, V., Vowden, P., & Agren, M. S. (2008). Amelogenin, an extracellular matrix protein, in the treatment of venous leg ulcers and other hard-to-heal wounds: experimental and clinical evidence. *Clinical interventions in aging*, 3(2), 263–272.

5. Vowden, P., Romanelli, M., Peter, R., Boström, A., Josefsson, A., & Stege, H. (2006). The effect of amelogenins (Xelma) on hard-to-heal venous leg ulcers. *Wound repair and regeneration : official publication of the Wound Healing Society [and] the European Tissue Repair Society*, 14(3), 240–246.

Xenmatrix

1. Byrnes, M. C., Irwin, E., Carlson, D., Campeau, A., Gipson, J. C., Beal, A., & Croston, J. K. (2011). Repair of high-risk incisional hernias and traumatic abdominal wall defects with porcine mesh. *The American surgeon*, 77(2), 144–150.

X-Repair

1. McCarron, J. A., Milks, R. A., Chen, X., Iannotti, J. P., & Derwin, K. A. (2010). Improved time-zero biomechanical properties using poly-L-lactic acid graft augmentation in a cadaveric rotator cuff repair model. *Journal of shoulder and elbow surgery*, 19(5), 688–696.
2. Wu, X. L., Briggs, L., & Murrell, G. A. (2012). Intraoperative determinants of rotator cuff repair integrity: an analysis of 500 consecutive repairs. *The American journal of sports medicine*, 40(12), 2771–2776.

Appendix

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Next review: 1/1/2026

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Author(s):

Depts.: Health Services

Applicable regulation(s): OAR 410-141-3820 through 3830, 410-151-0000 through 0003.

Commercial OPs: 5/2024

Government OPs: 6/2024