

## Collagen Dressings: The Foundation of Wound Healing

Collagen dressings are not all the same. When selecting an advanced wound care collagen dressing, consider the type and source of collagen, manufacturing process, cost-effectiveness, user-friendliness, and bioactive technology of the dressing. Bioactive collagen materials help stimulate different cells, provide an optimal moist wound healing environment while moving wounds towards healing trajectory. Clinical data indicates collagen-based dressings may be capable of manipulating the wound biochemistry and targeting imbalances in wound chronicity.

Collagen plays a crucial role in every wound healing phase and is the novel triple helix protein molecule that forms the vital fragment within the extracellular matrix (ECM). In a perfect wound environment, these healing phases occur in an organized fashion (hemostasis, inflammatory, proliferative, remodeling). During wound healing, collagen attracts cells like fibroblasts and keratinocytes to the wound, stimulating debridement, creating angiogenesis, and reepithelialization. Therefore, providing a natural scaffolding for newly formed collagen fibers and granulation tissue within the wound bed.

### **Collagen Dressing Technologies**

There are various collagen technologies and dressing features available globally. The goal of collagen technology dressings is to regulate elevated levels of matrix metalloproteinases (MMPs) found within the extracellular matrix (ECM), which degrade both viable and non-viable tissues. These bioactive dressings chemically bind to the MMPs giving the collagen dressing another collagen source, therefore parting from the body's natural collagen.

### **What is in your Collagen Dressing?**

When choosing a collagen dressing, consider the collagen type, processing during manufacturing, conformability, multifunctionality in reducing proteolytic enzymes and building the scaffold for healing. Collagen dressings can provide anti-infective, anti-inflammatory, antifibrotic, and analgesic properties and promote angiogenesis, returning the body to its normal state and function and providing a foundation for wound healing.

## Collagen Dressing Formulations

Various collagen advanced wound care dressing formulations are available to be most effective, depending on the wound depth and macroenvironment. Numerous product formulations include gels, pads, sheets, particles, powders, and pastes with or without antimicrobial, alginate formats.

## Derived Sources of Collagen

Collagen can be derived from any animal, but most derived sources include bovine, porcine, avian, piscine, ovine, and equine. Do not use collagen dressings in patients with sensitivities.

## Product Features

There is an array of product features such as dressing size, dressing packing, various additives, and bioactive properties. These include rope, cuttable, flexible, powder, gelling on contact, silicone adhesive, size variety, antimicrobials, and absorbent materials.

## Indications for Collagen Dressings

- *Always follow manufacturer directions and recommendations.*



## Contraindications

- Do not use on third-degree burns
- Do not use in patients with sensitivities to derived sources (avian, bovine, porcine, piscine, ovine, and equine).

## Application

Always follow manufacturer directions and recommendations. There are various application instructions to be considered due to different biochemical processes of dressings aiming at the wound microenvironment.

The dressing change frequency is based on the wound assessment, physician order, and dressing manufacturer guidelines. Depending on the dressing, the product may have different wear times available, i.e. 1-7 days. Most collagen dressings require a secondary dressing.

## Conclusion

A complete wound assessment is imperative in the clinical rationale and justification of appropriate dressing usage. Healthcare clinicians should be familiar with their facility formulary, dressing categories, indications, and contraindications.

Advanced wound care dressing availability is often driven by insurance payor (Medicare Part B, private). Consider the patients' insurance and that documentation of medical necessity in dressing reimbursement is vital. Direct purchase options are usually available online for lower-cost alternatives.

## References

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