Wound Healing and Pathogen Kill

Cells and macrophages (positively charged) always migrate toward negatively charged (anionic) surroundings, including cells. This works well in acute wound healing because the wound healing process is immediately initiated by the body's sensors. The signaling sensors convert the wounded area to a negative environment. This negative environment starts attracting the positively charged cells required to fill the wounded area.

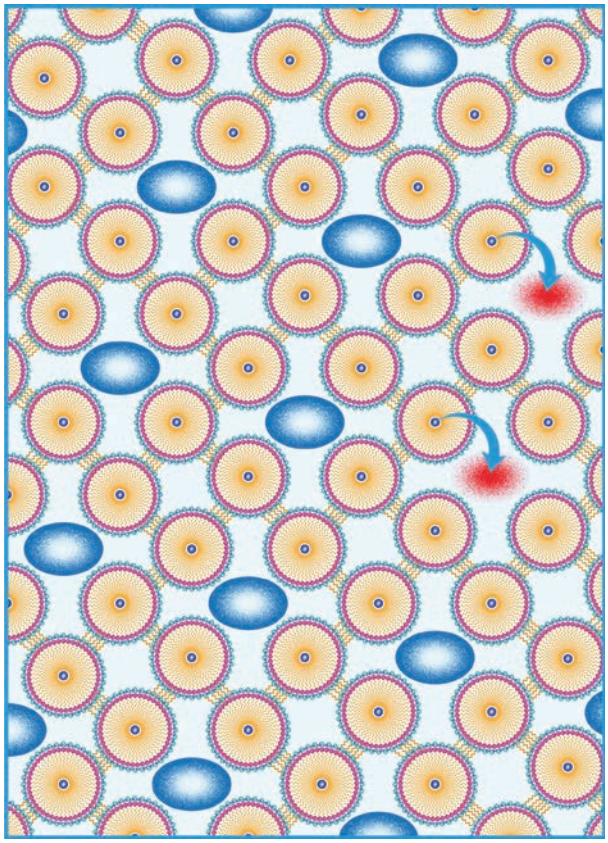
The problem for wound healing starts when pathogens begin to create a quorum, colonize and initiate the release of virulent factors. The pathogens are negatively charged, and the positively charged cells migrate toward the pathogens where they are destroyed. Wounds become larger and until the pathogens are removed the cycle will continue.

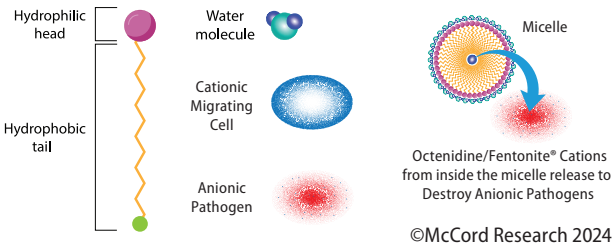
With debridement, pathogens are left behind above and below the wound's surface. The risk of recolonization is great. An effective product must provide for a surface and below surface solution. BioRelese® is thermoreversible. It works effectively below and above the surface. When applied to the wound it is water thin. The product forms a thick gel at body temperature.

Beneath the wound bed, the micellular structure of BioRelese® creates a synthetic extra cellular matrix to facilitate cell migration. The BioRelese® micelles, however, are loaded with cationic atoms that release on an as needed basis. The cationic Octenidine and Fentonite® in BioRelese®, and its companion product AgFresh®, seek out and destroys any passing pathogen due to the pathogen's anionic (negatively charged) state.

The migrating cells use the nonionic synthetic matrix for safe migration. On the other hand, pathogens do not recognize the matrix as "hostile" until they are within the matrix. Inside the matrix, the cations are concealed within the micelle cores and then ionically, released on unsuspecting pathogens. The migrating cells pass undetected.

A single dose of BioRelese®/Fentonite® contains trillions of cations in each micelle. They are activated by pathogens but show little, if any, attraction toward the positively charged migrating cells. Once the wound is normalized, the cells start to release their own extracellular matrix matter and close the wound as primarily intended.

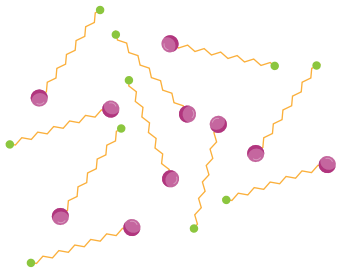




Thermo-Reversible Characteristics of BioRelese®

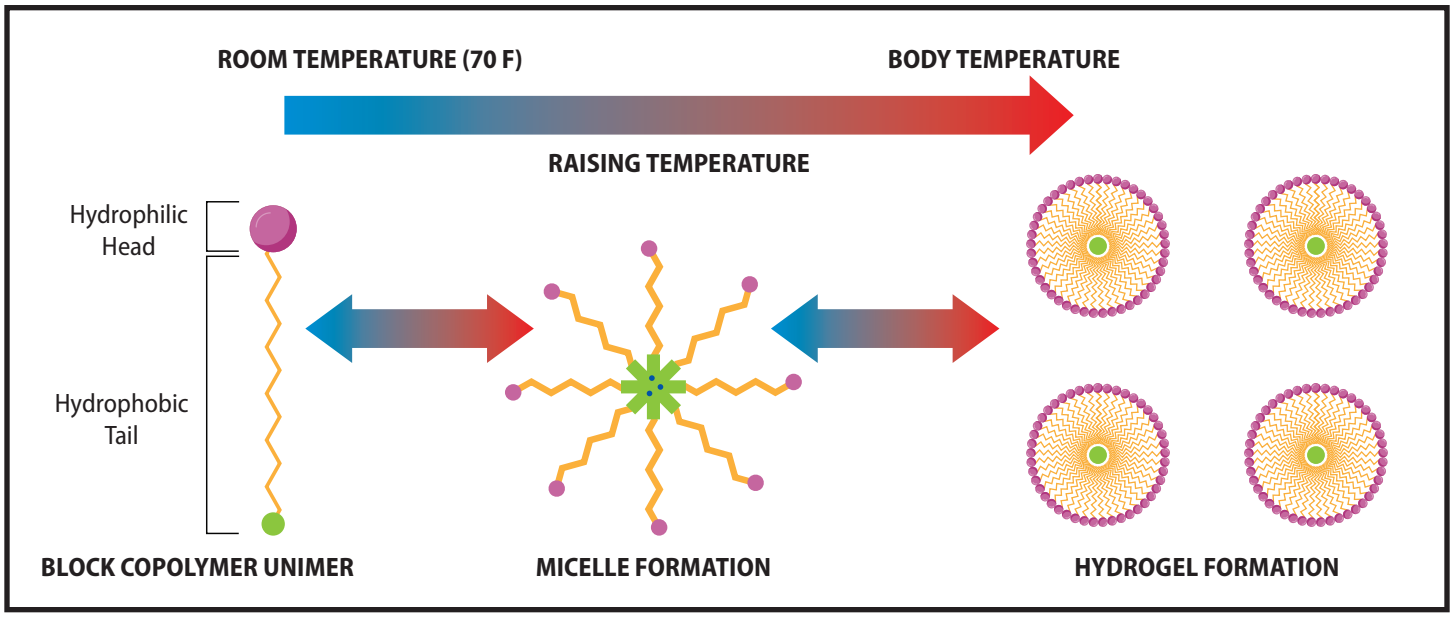
For a hydrogel to be effective at removing biofilms, the molecular weight of the polymers must exceed 12,000 g/mol. BioRelese® is the only hydrogel that meets this threshold with a molecular weight exceeding 14,000 g/mol. The competing biofilm product has a molecular weight with just over 8,000 g/mol and is therefore incapable of removing biofilm.

The product's Thermo-Reversibility changes the viscosity of the hydrogel at body temperature. The hydrogel is water thin in the bottle. Once the hydrogel is dispensed into the wound, it quickly becomes a thick, stretchable and moldable hydrogel that *form-fits the wound and fills in tunnels* that would otherwise have to be packed This proprietary technology saves time, money and ensures a perfect form-fitting wound bed moisture system. BioRelese® forms millions of micelles that contain a unique preservative system and a time-released antimicrobial that travels deep into the biofilm.



BLOCK COPOLYMER UNIMERS

Image of isomers in the wound bed after dehydration. The isomers form a protective sebum-like coating on the wound bed. The isomers can be rehydrated with the addition of moisture.



PRODUCT INFORMATION

PART NUMBER	NAME	SIZE	DESCRIPTION	CASE UPC	CARTON UPC	CARTON QTY	CASE QTY
MC601530B	BioRelese®	1oz	Wound and Burn Dressing	614409567851	614409567868	1 EA	24 CARTON
MC601550B	BioRelese®	1.7oz	Wound and Burn Dressing	614409567875	614409567882	1 EA	24 CARTON
MC601650B	BioClense™	1.7oz	Sprayable Wound and Burn Dressing	614409567899	614409567905	1 EA	24 CARTON
MC601670B	BioClense™	3oz	Sprayable Wound and Burn Dressing	614409567912	614409567929	1 EA	24 CARTON
MC603508S	AgFresh®	8mL	Silver Wound and Burn Dressing	614409567936	614409567943	5 EA	5 CARTON
MC603530S	AgFresh®	30mL	Silver Wound and Burn Dressing	614409567950	614409567967	5 EA	5 CARTON

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