# Cesarean Scar Massage

an online resource

created to accompany

***Pre- and Perinatal Massage Therapy:***

*A Comprehensive Guide to Prenatal, Labor and Postpartum Practice*

**(**Third Edition**)**

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(Handspring Publishing Ltd. 2021)

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# Cesarean Scar Massage

Understanding scar tissue can improve your technique and client education about Cesarean scar massage. The benefits of scar massage potentially include stress reduction, a greater sense of embodiment, improved range of motion, and better quality of life (mood and sleep). Other improvements clients may see include reduced scar height or thickness, increased pliability, and improvement to surface area, texture, pigmentation, and vascularity. In addition, massage can be beneficial for pruritus and lack of feeling at the site of the scar. There is some evidence that suggests working with scars in the late proliferative and remodeling phases is helpful for obtaining complete tissue repair with minimal scarring. Continued research is warranted to further study into the effects that positive pressure, movement, and interoception may have on wound repair.

Although scars may be considered trivial by some, for those who have scars, they can be disfiguring and cause severe itching, tenderness, pain, sleep disturbance, anxiety, depression and disruption of their daily activities. Other residual problems include post-traumatic stress reactions, loss of self esteem, and stigmatization.

In wound repair, the connective tissue's fibroblasts, enmeshed in the collagen matrix, create more collagen to heal and rebuild the tissues. With scar tissue, these extra collagen fibers that have been laid down irregularly in the area of an incision, injury or trauma. Scar tissue contractures can be disabling in their physical deformity and take two to

three years to pale in color and mature.

As massage therapists working with scar tissue, it is essential to know the four phases of tissue repair – 1) homeostasis, 2) inflammatory response, 3) proliferation and 4) remodeling. These phases are not entirely sequential and often overlap one another.

Homeostasis includes two features - clotting to close the wound and create a temporary matrix and chemotaxis[MK1] to attract immune cells to fight infection. Blood vessels constrict to minimize the blood flow while platelets clump together to close the blood vessel wall. Coagulation occurs and reinforces the platelet plug with threads of fibrin acting as a molecular binding agent.

The second phase of inflammation actually also begins right after the injury when the injured blood vessels leak transudate (water, salt, and protein) causing localized swelling. Inflammation both controls bleeding and prevents infection. This fluid engorgement allows healing and repair cells to move to the site. During the inflammatory phase, macrophages and eosinophils remove damaged cells, pathogens and bacteria from the wound area. These white blood cells, growth factors, nutrients and enzymes create the swelling, heat, pain and redness commonly seen during this stage of wound healing. Inflammation is a natural part of the wound healing process preparing the area for rebuilding and only problematic if prolonged or excessive.

In the third proliferative phase, the temporary wound matrix is remodeled and replaced with new tissue made up of collagen and

extracellular matrix, thereby partially restoring the structure and function of the tissue. The wound contracts as new granulation tissues are built. A new network of blood vessels must be created so that the new tissue can be healthy and receive sufficient oxygen and nutrients. Myofibroblasts cause the wound to contract by gripping the wound edges and pulling them together using a mechanism similar to that of smooth muscle cells. In healthy stages of wound healing, granulation tissue is pink or red, uneven in texture, and does not bleed easily. Dark granulation tissue can be a sign of infection, ischemia or poor perfusion. At the end of the proliferative phase, epithelial cells resurface the wound to complete the repair. During this time when a scar is forming, it is useful to provide functional movements to create positive pressures that support the scar tissue's full functionality.

In the final remodeling stage of wound healing, cell density and metabolic activity decrease, and collagen's tensile strength increases. This phase begins when collagen remodels from type III to type I, and the wound fully closes. The cells used to repair the wound are no longer needed and removed by apoptosis. When collagen is laid down during the proliferative stage, it is disorganized, and the wound is thick with granular scar tissue. During the maturation phase, collagen aligns along tension lines while water is reabsorbed so its fibers can lie closer together and cross-link. Cross-linking of collagen reduces scar thickness and makes the skin area of the wound stronger. Remodeling typically begins approximately 21 days after an injury and can continue for a year or more. Even with cross-linking, healed wound areas continue to be weaker than uninjured tissue.

These healing phases are a complex and fragile process. Keep in mind that healing tissue has approximately 25 percent of its original tensile

strength, and it increases slowly over time to a maximum of approximately 80 percent. Failure to progress through these stages can result in chronic wounds. Factors that lead to chronic wounds are venous disease, infection, diabetes and metabolic deficiencies. Diligent wound care can speed wound healing including keeping wounds clean and protected from reinjury and infection.

References and Resources

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