

## Post-surgery Relief for Pain

There is increasing evidence that massage therapy can help manage issues related to post-surgical scars, such as pain and reduced range of motion.

By Marcella Durand, February 1, 2020



Scar formation is an important part of how the body heals itself after surgery. But scars can also contribute to a range of post-surgical issues such as pain and reduced range of motion. “Often, people will have symptoms that seem unrelated to their surgery or to scar tissue,” says Jenice Mattek, LMT, who is based in Chicago. “When you explain how those symptoms could potentially be related and how you can treat them, they can understand how massage therapy might help them.”

## How Scars Form

The process of wound healing is generally divided into three stages: inflammation, proliferation and remodeling. During the remodeling phase, which lasts approximately from three weeks to six months after surgery, collagen fibers harden to form the scar.<sup>1</sup>

The type and severity of scarring depends on the type of surgery, how and where incisions are made, and on individual factors. A 2014 study found that the single most important modifiable factor in scar formation is wound tension, which is related to the underlying orientation of the skin's collagen fibers.<sup>2</sup> Some surgical incisions may follow relaxed skin tension lines, but others can impact high-tension areas that may increase the likelihood of scarring.<sup>3</sup> In a 2016 overview of current therapies for scar prevention and management,<sup>4</sup> researchers say that the degree of tension across wound edges and speed of cell growth play central roles.

“The effects of surgery depend on which area of the body [experienced surgery], but even more so on how invasive the surgery was,” says Rachel Richards, LMT, who practices in New York City. She works closely with clients' health care teams, which can include surgeons and physical therapists. “I wait until I have clearance from the surgeon before I do any massage at all—that is number one.”

## Recent Research

A 2019 review<sup>5</sup> of the effects of soft-tissue mobilization (STM) on both surgical and nonsurgical abdominal adhesion-related symptoms in the *Journal of Bodywork and Movement Therapies* found that pain was decreased after treatment. There were also improvements seen in scar mobility, reduction in medication and increased pressure tolerance. The researchers noted that there was strong preliminary evidence for the benefits of STM related to acute post-surgical

adhesions and moderate evidence for the benefits of STM on symptoms related to chronic post-surgical adhesions.

With the recent attention to the overuse of opioids, often prescribed as part of post-surgical pain management, many researchers are turning their attention to nonpharmacological alternatives, such as massage therapy.

A 2019 “evidence map” looking at existing literature<sup>6</sup> found that massage holds promise for treating multiple types of chronic pain. And a 2019 pilot study on the impact of massage and reading on children’s pain and anxiety after cardiovascular surgery found decreased anxiety scores at time of discharge, leading to lower total exposure to benzodiazepines.<sup>7</sup>

The Mayo Clinic began incorporating massage therapy as part of post-surgical recovery in 2007 after positive results from a study using massage to treat patients recuperating from open heart surgery. Subsequent studies at the Mayo Clinic have continued to support its use.<sup>8</sup>

“We know that opioids are often necessary to deal with the severe, acute pain following surgery,” says Brent Bauer, M.D., director of the Mayo Clinic Complementary and Integrative Medicine Program in Rochester, Minnesota. “But the more modalities we can bring alongside the opioids (e.g., massage, acupuncture, mind-body practices, etc.), the more likely we are to keep the patient comfortable while using the least amount of opioid medication possible.”

## When to Start

It’s essential to get clearance from a client’s doctor before working on a surgical site. It’s also important to check in thoroughly with clients themselves. “What may be OK with one client may not be OK with another,” says Richards. “Some clients are ready to get back on their

feet ASAP, while others are really scared of re-injuring the surgery site.”

Six weeks is the standard time massage therapists wait before working on or near post-operative incision sites. However, researchers at a Veterans Administration hospital in Ann Arbor, Michigan, found that massage therapy used on patients almost immediately after surgery had measurable benefits. “We demonstrated that people got to a lower pain level about a day earlier [than the control group] and experienced a short-term improvement in their pain and anxiety” when they were given therapy as early as one day after coronary bypass surgeries, says Allison Mitchinson, MPH, LMT.

She emphasizes that the therapists did not massage incision sites directly. In addition, people were often positioned in a chair or lying on their side in bed. “Because their incisions were in the front, it would not have been comfortable for them to lie down on their stomachs.”

“Avoiding the vicinity of the incision was a critical component,” says Daniel Hinshaw, M.D., professor of surgery at University of Michigan School of Medicine. “If you wait six weeks, you could gently start to do massage near the incision.” Again, it’s important to first obtain a release to begin therapy from the client’s doctor.

Mattek feels earlier intervention around the area of the scar might have “huge benefits” for promoting mobility and healing. “The largest thing manipulation or massage therapy can do is help decrease the stress and pressure that scar tissue is causing in an area,” she says.

Again, a lot depends on the clients themselves. “They may not be ready to be touched in the area where the surgery was performed,” says Isabel Spradlin, LMT, who practices in Portland, Oregon. For instance, cesarean scarring may be particularly sensitive. “Cesareans can cause a strange combination of numbness, tingling and pain,” she

says. “But there is a lot that can be done to help bring back fuller function.”

## Techniques to Try

Richards varies her approach depending on the type of surgery. For instance, with spinal fusions, “you want any tissue mobility you can get,” she says, so she may directly work the scar tissue. With hip and knee surgeries, her goal is to get back as much range of movement as possible while being careful not to damage the surgical area. “At each stage of the healing process, you’re able to go a little farther.” She uses slow movements to lubricate joints, which, depending on the client, can either be done passively or with client engagement.

With shoulder surgery, she warns that the shoulder joint is more mobile than the hips or the knees, making it easy to overstretch. “There can be a lot of protective muscle guarding,” she notes. “Usually my first act is just to win clients’ trust and get them to relax.”

She studies the incision site and surrounding tissue, as well as seeing how clients stand, checking for leg length discrepancies caused by knee or hip replacements. When she begins work, she uses a “really slow, gentle, myofascial release, moving toward the scar.”

Skin rolling can help release the scar’s attachment to deeper skin layers, says Mattek, while indirect myofascial release can help ease the nervous system through easing the scar’s pressure. The bowing technique can also help release more aggressive keloid scars. Neurodermal techniques tend to be gentler and may be used to address the scar, deeper skin tissues and nerves that may be affected by scarring, and scar tissue.

Look for any redness or inflammation when inspecting the incision site, in which case it’s advisable to refer the client to their doctor to rule out infection.

## Setting Goals

Mattek points out that even minor surgery can have aftereffects. “Clients [who had minimally invasive surgeries] may not have had the same follow-up therapy as major surgery,” such as physical therapy, she says. In those cases, she emphasizes the importance of a thorough and proper assessment. “They may have had minor shoulder surgery, but they still could be compensating for inhibitions caused by scar tissue.”

Mattek prefers to develop a plan of action and identify goals with a client as a way to raise their awareness of how post-surgical scar tissue may be affecting their quality of life. “They might not truly understand scar tissue and the impact it is having, but I can explain, ‘We are going to do this treatment on this scar because it is impeding your ability to achieve the goal you have.’”