

Manual Therapy

Applications to Abdominal Surgery: a 3-part series

The ubiquity of surgical procedures, both inpatient and outpatient, is undeniably on the rise. This article series will discuss abdominal surgery, specifically, and how manual therapy can help optimize function, reduce pain, and improve outcomes.

This working thesis is predicated on my belief that the same physiological effects created with muscle-focused massage - changes in fluid dynamics, muscle tonus, fascial adhesion, and the autonomic nervous system - can be replicated by working in the abdomen to aid in surgery recovery.

The application of manual techniques to the abdomen post-surgery is not new, especially from lymphatic therapy and light touch modalities. However, because of many factors including fear and concern about creating harm, many manual therapists still do not work here.

This first article will discuss how manual therapy can help patients who have undergone abdominal surgery. There is a large client base that does not know how useful our work can be!

The second article will describe some of the most frequent abdominal surgery procedures from the perspective of the layers of tissue intervened and a basic manual therapy treatment plan.

The third article will investigate the emotional aspects of abdominal surgery and provide guidelines for managing the time line of surgery from diagnosis to post-operative care.

Top six most prevalent abdominal surgeries, in the US and UK, are:

- ☉ Caesarean section
- ☉ Hernia repair / inguinal and midline (ventral)
- ☉ Uterus removal / hysterectomy
- ☉ Gall bladder removal / cholecystectomy
- ☉ Plastic surgery interventions for the abdomen - liposuction / abdominoplasty (tummy tuck)
- ☉ Bariatric interventions - gastric banding / stomach stapling / gastric bypass [1]

Change fluid dynamics

It is well established that manual therapy supports and enhances the local circulation of blood and lymph. After abdominal surgery, fluid congestion occurs because blood and lymph capillaries are cut at the belly wall, peritoneum layers, and various organs.

Without manual therapy intervention, congested circulation eventually improves via the re-routing of blood and lymph capillaries but manual therapy can improve outcomes and help tissue heal faster by mechanically moving fluid to change smooth muscle contracture around traumatized tissues. The improvement in fluid dynamics helps feed and nourish tissues challenged from surgical trauma, post-surgical inflammation, and scar tissue.

Improve elasticity of scar tissue

We are all familiar with superficial scars including burns, cuts and scrapes, or the entry point of a surgical procedure. Depending on many factors, these scars can present as thick, pulled tight, puckered and lumpy, tender, numb, or tingling to the touch.

One of the inevitable side effects of abdominal surgery is scar tissue at the belly wall. The surgeon gains access to the abdominal viscera through the belly wall with either a long open incision, or small puncture-style incisions at the navel and other sites on the belly wall (laparoscopic).

Both of these access styles create scarring that change the continuity of the skin, the superficial fascia matrix, the skeletal muscle layers, and the peritoneum. Patients report their belly wall now feels twisted and tight, like wearing

a sweater that does not fit well after being sent through the tumble dryer.

Many manual therapy modalities intend to change the elasticity and mobility of soft tissue. This is one of the first physiological effects of massage therapy we learn in school. This therapy can be well applied to scar tissue in the abdomen by stretching, creating slack, lifting and holding this tissue. The changes that can occur here are remarkable!



surgery. [2,3]

A good example of internal scarring is the stickiness, density and commensurate pain felt in the pelvis with endometriosis. Another example is small bowel obstruction, which twists and constricts the lumen of the small intestine and sometimes requires another surgery to repair. The frozen shoulder syndrome is a good example of internal scarring in the orthopaedic massage world.



Decrease internal adhesions

Internal scarring and adhesion also form as damaged tissues heal. While internal scar tissue acts and feels different than surface level scar tissue, it is a normal part of the physiology of healing tissue. The cut edges of the peritoneum layers, serous membrane layers, or re-joined sections of intestine become sticky and less mobile as it heals. The stickiness will limit movement, hook and twist various tubes, or even obstruct large passageways in the bowel. This is a 'normal' consequence of tissue repair post-

Relax the nervous system

The tissue trauma of surgery creates its own unique nervous system and metabolic signatures - inflammation, oedema, vasoconstriction, skeletal and smooth muscle guarding, and changes in breathing patterns. There is much to do here with our hands that will positively support tissue healing, decrease contracture, and create more body awareness in damaged areas. We will discuss this idea more thoroughly in the third article in this series.

Decrease smooth muscle-holding patterns

Skeletal muscle attaches to bone and soft tissues via tendons and creates movement. Smooth muscle manages peristalsis by wrapping the various tubes of the body - blood vessels, bile duct and uterine tube, and the entire GI tract. Newer research is discovering that smooth muscle is also an integral component of the superficial and deep fascial matrix. [4] Time and again, I've seen manual therapy create smooth muscle relaxation just like it creates skeletal muscle relaxation.

In closing, working skilfully with abdominal surgery patients requires a solid palpatory

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of the time. So if you feel bad you can take it as read that your thoughts are creating that feeling. To jumpstart your thoughts from negative to positive, to move you away from negative resistant thinking and to put you in a happier frame of mind try using the "Wouldn't It Be Nice If..." strategy. This is very simple and works on the premise that when we think "I want" or "I wish I had" we activate the vibration of desire, which although is positive it is coupled with the negative vibration of lacking, of not having what it is you want.

Therefore, the positive vibration of "desire" is cancelled out by the negative vibration of "not having". When we use the words "Wouldn't It Be Nice If..." we are open to opportunity and our mind is imagining a positive outcome, which radiates a much more positive feeling than being in a state of constant wanting.

Keep clutter to a minimum with a big Spring clean, in order to move forward you mind needs clear horizons and if your environment is cluttered so your mind will be too. Clear out the clutter and get those creative juices flowing in the newly made space. The more you cling onto, the less space you have available to bring the new into your life. So out with the old and in with the new has never been more apt. **CHW**

© Sue Murkin
Course Director - International
Coaching Alliance (ICA) Ltd
Mob: +44 (0) 7843 679 419
Office +44 (0) 8453 567 668

anatomy skill set, the knowledge of what happens during and after surgery, and the willingness to work in an area that has been traumatized. Stay tuned for more! **CHW**

References

- 1 Precise statistics regarding the number of abdominal surgery procedures in the US and the UK are hard to pin down. Sources such as the **Centres for Disease Control, American College of Surgeons**, and the **Royal College of Surgeons** of England either do not cite an annual tally, rounded to the nearest 100,000 events, quote 4-10-year-old statistical data, or lump all outpatient and inpatient procedures together to report 1 surgical procedures number.
- 2 Liakakos T, et al. Peritoneal Adhesions: Etiology, Pathophysiology, and Clinical Significance. *Dig Surg.* 2001; 18: 260-273.
- 3 Ellis H, et al. Adhesion-related hospital readmissions after abdominal and pelvic surgery: a retrospective cohort study. *Lancet Br J Med.* 1999; 353: 1476-80.
- 4 See various Fascia Research Congress presenters - www.fasciacongress.org

© Written by Marty Ryan
Marty's massage practice specializes in digestive and reproductive system optimization. He also teaches manual therapy for the abdomen and pelvis in the US and UK.

Marty can be reached via email - info@loveyourguts.net. Register for classes in the UK @ www.bodyworkcpd.co.uk and in the US @ www.advancededucators.com