

Chapter Sixteen

Surgical Adhesions, Bowel Obstructions

Surgeries save lives and improve function for thousands of people each year. The surgical processes of modern medicine have proven to be miraculous healing procedures for people in need of internal repair. However, surgeries carry risks and can create unwanted side effects.

No matter how skilled the surgeon, the surgical process may leave its recipient with scarring and adhesions. Cross-link formation which occurs in tissues that have been cut or burned during surgery is simply a part of the healing process.

Many patients' bodies seem to easily tolerate the tightening of tissues that occurs in areas where adhesions bind and draw structures together after surgery. But in some people, the scarring and adhesions which originally helped them heal from the surgery continue to lay down in a pattern that causes pain or dysfunction later in life. Depending on how we heal, whether or not we have adhesive problems after surgery, is a bit "the luck of the draw."

Why Adhesions Form After Surgery

Post-surgical adhesions help us heal

Whenever a surgical instrument enters the body, it slices through living human tissue. Then, surgeons may cut or burn other living tissue to perform their intended procedures.

After the surgery, the tissues must recover from the exploration and any repair. Collagenous cross-links lay down to form adhesions or scar tissue as the first step in the healing process. In doing so, they form adhesive blankets or bonds on structures that were cut or burned during the surgery. These primary healing adhesions remain within the body for life, performing a vital function in the repair mechanics of healing.

Surgical adhesions draw structures together

As adhesions form to help the body heal, they sometimes draw nearby structures into their glue-like network. In most cases, the pliability and extensibility of the human body allows for this pull. The muscles, organs, or connective tissues may be pulled toward the area of surgical repair, but for most people, the body is able to accept surgical intervention with relatively few side effects.

In some cases, this drawing together of adhesions can decrease function or cause pain. As these patients heal, they may notice tightness or a pulling sensation in areas near the surgical site that did not exist before. Clinically, we have found that appendectomies, stomach or intestinal surgeries, hysterectomy, gall bladder removal, and back, hip, and other major surgical interventions may create pain and sensations in areas near the surgical site. We find that these tensions are often created by secondary adhesions, pulling structures far away from the scar toward the site of the surgery.

Adhesions sometimes cause inflammation

Months or even years after surgery, inflammation can occur due to the trauma of the original surgery or as a result of direct or indirect pulls into the site of surgical repair.

The body's response to inflammation is to lay down collagenous cross-links, the building blocks of adhesions. The result can include different types or configurations of adhesions. But whether filmy, blanketing, or cord-like, these adhesive formations can attach to

nearby structures. When they do, adhesions may cause pain or decrease function, due to the bonds they create between neighboring structures.

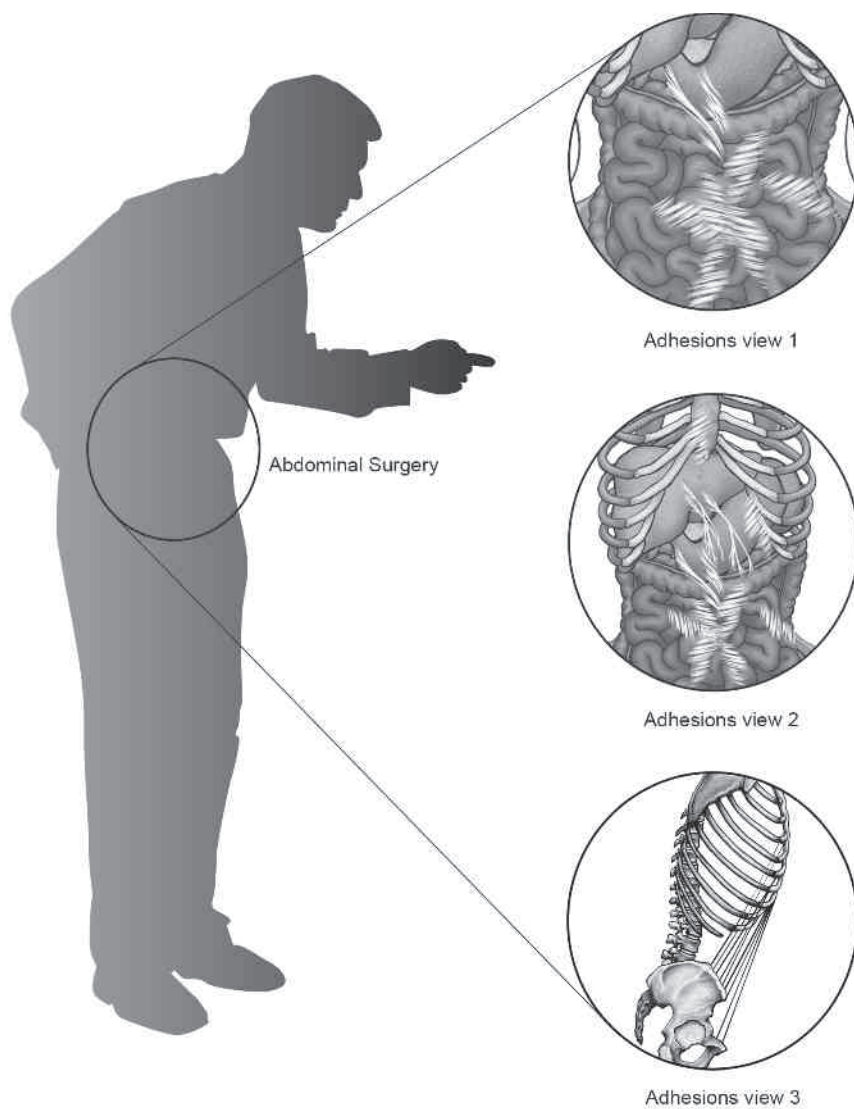


*Adhesions can cause inflammation
due to their attachments between structures.*

Adhesions adjust to posture along lines of tension

After years of palpating our patients, we frequently notice adhesions that appear to be compensatory in structure. This is what we feel happens: As a patient heals from a surgery, certain areas of the body become tightened by surgical scarring. Then compensatory postures form along internal strain patterns as the post-surgical patients stand and move in awkward postures, to avoid the pulling or pain.

Over time, the decreased mobility in some areas coupled with the need to conduct activities of life in unusual postures appears to create an adhesive pattern in the three-dimensional weave of fascia that is arguably the primary structural element of the body. We have found that compensatory adhesions can form wherever one or more muscles have been required to hold static or awkward tension patterns for weeks, months, or years in the case of long-standing chronic pain cases.



Post-surgical adhesions can bend us forward over time, causing pain in the back as we struggle to stay upright.

After surgery to the abdomen or pelvis, adhesions on the front of the body can bend a patient forward. After weeks in a forward-bent posture, the adhesions from the surgical scars can grow to emulate the position the patient takes. This can perpetuate the forward posture by creating more cross-links up into the chest or down into the pelvis or the front of the legs — or both. At the same time, the back fights to keep the patient vertical in space as the head looks forward.

Thus, many post-surgical patients tend to develop adhered tissues at the top and back of the shoulders, the back of the neck, and the base of the skull, due to these muscles firing in a near constant state.

Compensatory adhesions may form slowly over time and build up over the course of our lives. Unless this process is reversed and the adhesions are broken down, the adhesive pattern will spread. Thus the compensatory adhesions that form in our body are often found far from the original site of the surgery. They form to assist muscles to help us maintain functional postures after our tissues have been compromised by surgery.

How Surgical Adhesions Can Lead to Pain

Surgical pain generally passes within the first days or weeks after a surgery. In the most invasive surgeries, pain may take two or three weeks to dissipate. When pain persists several weeks or more after surgery, we suspect that post-surgical adhesions may be causing the symptoms.

Chronic pain caused by adhesions is generally noticed within the first 6 to 12 months after surgery. In some cases, patients notice a pulling immediately after surgery, a pull that never goes away. In other cases, the pull of surgical and secondary adhesions may cause pain weeks or months after surgery. In other instances, the slow formation of compensatory adhesions in the body causes inflammation that begins two or more years after a surgery. These compensatory

adhesions can create pain that increases or spreads geographically over time.

In some cases, pain occurs as a direct response to adhesions attaching to nerves. This is generally experienced as a sharp or piercing pain. In other cases, adhesions can create a pull into broad areas or larger pain-sensitive structures, such as muscles, organs, and their support tissues. In this case, pain may come with certain movements or body positions. This pain may be specific, but is usually duller than with adhesions that have attached more directly to nerves.

Post-surgical adhesion symptoms can range from confusing and annoying to totally debilitating. In the digestive tract, they can decrease the ability to move or digest food. In the case of bowel obstructions, they can become life-threatening. They can close intestines, squeeze arteries and veins, impose upon muscles, nerves, and supporting ligaments. In short, they can glue tissues down, from the strongest to the most delicate structures in the body.

Pain may also radiate into a broad area, or into other areas of the body. When this happens, the pain pattern that evolves can be confusing to the patient and the physician. Patients with post-surgical pain may be sent to specialist after specialist to try to determine the cause of the pain. The tragedy is that beyond the confusion, this steals time and valuable quality of life from the patient who is searching for relief of pain, but cannot even find the cause.

When the Cure is the Cause: Surgery and Adhesions

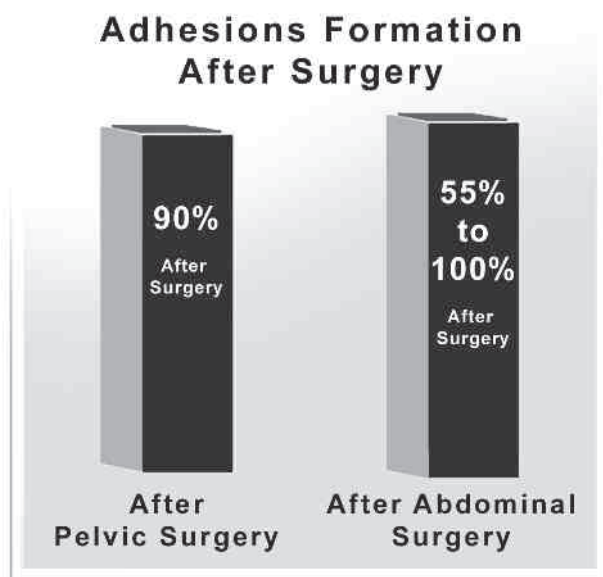
The usual medical solution to post-surgical adhesions is to first administer pharmaceuticals to decrease inflammation, ease the pain, or improve function. If drugs fail to adequately address the symptoms, the physician may suggest a “second look” surgery to help determine the exact cause of the pain. If the surgeon finds more adhesions, the usual response would be to cut the ones which are accessible.

There are several challenges for the surgeon, namely;

- a conscientious surgeon will avoid adhesions on delicate structures that might be damaged by surgery, such as certain parts of the fallopian tube or ovary,
- the surgeon will also avoid areas where cutting might harm the patient, such as parts of the bowel where too deep a cut could spill intestinal contents into the abdomen or pelvis (causing peritonitis), and
- as noted earlier, even the most skilled physician cannot prevent the body's natural healing response from creating additional adhesions, as a natural part of healing after surgery.

Adhesions have always been a big problem for surgeons and their patients. A study published in *Lancet: The British Journal of Surgery* showed that a third of all patients who received open surgery returned for repeat surgery to address adhesions within two years after the original surgery.⁴⁰ As shocking as this statistic is, a large number of these people then went on to have subsequent adhesion removal surgeries over the next several years.

A study in *Digestive Surgery* showed that between 55% and 100% of women who undergo major pelvic surgery develop adhesions, and adhesions occur in more than 90% of patients after abdominal surgery. The study went on to say, "Small-bowel obstruction, infertility, chronic abdominal and pelvic pain, and difficult reoperative surgery are the most common consequences of (the) adhesions."⁴¹



Adhesions form at a high rate after surgery, causing pain, bowel obstruction, infertility, and often reoperative surgery.

In our professional careers, we have met people who have undergone 17, 19, even (in one case) 47 surgeries in their lives — most of which were designed to address post-operative adhesions. In other cases, patients have told us, “I tend to grow a lot of adhesions; I generally have about one surgery a year to help clear out the adhesions that have formed in me.” While this may sound to some like madness, it has too often been the only answer that medical science has been able to offer patients with adhesions that cause pain and dysfunction.

Eight Prior Surgeries

- Ginny's Story

After eight surgeries and two serious falls, my body had become severely adhered and I was in nearly constant pain. The adhesions were so strong that they began to affect my posture; they caused my back and neck to ache and the pain made life very difficult. Adhesions in my abdominal cavity were closing my bowels, preventing waste from moving. After eating, I would be curled up in a ball in severe pain. It was humiliating and extremely painful.

I had already undergone a resection surgery to remove bowel obstructions (essentially adhesions) by cutting, then re-

joining my intestines. I soon found myself in a vicious cycle of pain and hospitalizations. I needed surgery to reduce the adhesions and relieve my pain, but the surgeries would cause more adhesions to form, necessitating more surgeries. So I had to find a more non-invasive way to solve this problem.

I began desperately to search for other treatment options. I worked at an acupuncture clinic at the time, and one of our patients told me that she was receiving treatment to reduce adhesions at a physical therapy clinic called Clear Passage Therapies (CPT). I spoke with my gastroenterologist about the

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therapy and he told me, “It can’t hurt to try it.” I scheduled an appointment immediately.

By the time I found CPT, my health was plummeting. At my initial evaluation, my therapist told me there was very little mobility in my abdominal organs. She was also concerned that I was becoming adhered in the muscles and support structures on the front of my body.

I attended treatment for an hour at a time twice a week and found that my pain reduced markedly. Before long, I stopped experiencing pain in my bowels, neck, and back. Things in life that most people take for granted, but that had been denied to me for so long, slowly began to return. I can still remember the first day I was finally able to have a bowel movement without pain or laxatives, and the first time I was finally able to eat without pain. It was amazing.

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At one point, my insurance decided it would no longer cover the cost of my treatment, and I

was forced to stop attending. I worked relentlessly with my insurance company until they finally agreed to continue covering my treatment, but it was too late. Adhesions had formed again and blocked my intestines. I was back in the hospital with an obstructed bowel for 13 days. I knew I had to return to CPT if I didn’t want another surgery. They helped my body recover and broke down other adhesions that had formed.

Over the time I have attended therapy at CPT, I have met many patients. After therapy, most people tell me that their pain is relieved, their adhesions are reduced, and they never have to return again.

My body, on the other hand, is different from most. For one reason or another, my body continually forms adhesions. My doctor says my body is an “adhesion factory.”

Because my body continually produces adhesions, I choose to return to CPT for treatment. The therapists not only help reduce any pain I experience, they also prevent other adhesions from forming by increasing the mobility and flexibility of my organs and tissues. I know that if I didn't have CPT, I would end up back in the hospital.

I cannot say enough about CPT. I would recommend them 250%. I even had my husband attend after a serious car accident. He was in so much pain that it hurt for him to even be touched. But today, he's out working in the garden.

If they were able to help someone described as an “adhesion factory,” I know they will be able to help others who experience pain or adhesion formation as a normal response to healing.

Twenty Years of Surgeries after Partial Hysterectomy

- Katrina's Story

Some women have experienced so many surgeries in their lifetimes that their bodies continue to form adhesions, even years after the surgeries end. Ginny shared her personal journey through years of surgeries and the subsequent pain and dysfunction she experienced. Because her body was so traumatized by her surgeries, her doctor said that her body continues to form adhesions.

Katrina, one of our former patients, is much like Ginny. In fact, when Katrina called our clinic to see if treatment would be appropriate for her, we discussed former patients like Ginny, who had experienced similar problems.

After speaking with a CPT therapist, Katrina knew she wanted to come for treatment. Although she felt she was coming on blind faith, Katrina had high hopes that this alternative option for the breakdown of her adhesions would work, and she was very optimistic.

***It gets to the point
where it never goes
away and the pain
overrides your thoughts.***

Her pain and dysfunction had started almost 20 years earlier. After a partial hysterectomy, Katrina began experiencing pain and had to undergo a subsequent surgery to remove her ovaries and a partial bowel obstruction.

Just two years later, she had to have another surgery to remove adhesions that formed beneath her previous incision, causing her bowel to become partially obstructed again.

Over the next 14 years, Katrina endured eight more surgeries and procedures to treat adhesions, bowel obstructions, and numerous other dysfunctions that had resulted from her devastating cycle of surgeries.

Katrina told us, “I was in a lot of pain during those years, but I had to keep working. You just take as little pain medication as you can and deal with the pain until it becomes too much, and you need another surgery.”

Over the next 14 years, Katrina endured eight more surgeries and procedures to treat adhesions, bowel obstructions, and numerous other dysfunctions.

After surgery to remove adhesions in May of 2004, Katrina knew she needed to find another option. As each week progressed, she experienced more and more pain. “It’s hard to explain the pain unless you have had it,” Katrina told us. “You get a lot of abdominal swelling and localized pain in certain spots. The swelling gets really bad and your clothes don’t fit. At night, your body throbs. It just gets to the point where it never goes away and the pain overrides your thoughts. You can’t even walk properly because you are in so much pain and you feel your body drawing up.”

It was out of her pain and desperation that Katrina searched for other options on the Internet and found our clinic.

Katrina noticed changes almost immediately after treatment with us and told us, “The therapists worked on my rectum one time and the next day I had a normal bowel movement! By the end of the week, intercourse pain was completely gone — it was amazing. Some of the scars felt thinner or had disappeared.”

Once her treatment was finished, we explained to Katrina that her body would make adjustments over the following months as her organs and systems learned to function without the adhesions. Katrina was happy to find that her body kept improving over time and told us, “I had more energy and people told me I looked healthier.”

As time passed though, Katrina began to notice some pain gradually increasing in her body. Although our treatment successfully reduced many of the adhesions that existed in her body, we could not prevent her body’s natural process of building more adhesions.

The majority of the people we treat never have to return to us for treatment. However, there are some, like Katrina and Ginny, whose bodies continue to form adhesions. Although patients who need ongoing care with us are rare, we can at least provide them with an alternative to cyclical surgery.

When Katrina’s body started to produce more adhesions again, she was faced with a choice: either more surgery or returning to us for treatment. She was happy to return to us for a natural treatment. We were once again able to reduce

the new adhesions that formed and reduce the pain and symptoms she was experiencing.

Although we genuinely hope that Katrina will not have to return again, we cannot control how her body produces adhesions. If she needs us again, we will be here as a safe and natural alternative to surgery.

The Formation of Bowel Obstructions

Once food has passed through the stomach and duodenum, it proceeds to the small intestines, or “bowel”. This long tubular organ fills the lower abdomen in a sinuous course over its 7½ to 12 foot length.⁴²

Since it is not located within the rib cage which encases or partially protects many of the upper abdominal organs (stomach, pancreas, and spleen), the bowel is more exposed to trauma than many other organs. Whether it receives the blow of a steering wheel or air bag in a car accident, or a more indirect trauma, such as absorbing the shock of a fall, the bowel may be more susceptible to trauma than neighboring organs above it.

The bowel is also close to and adjacent to the pelvic organs. These structures are even more susceptible to tissue damage from infections, inflammation, and surgery. These organs are often deeply involved in cases of endometriosis, infections such as Chlamydia and pelvic inflammatory disease, and traumas such as a fall onto the back, hip or tailbone.

Finally, the bowels themselves are often diagnosed with inflammatory conditions such as diverticulitis, appendicitis, irritable bowel syndrome, and Crohn’s disease.

Any and all of these conditions may cause an adhesive response, as the body sends out thousands of tiny but powerful collagenous cross-links to begin the healing process. Adhesions begin to form first at the site of greatest tissue damage, and then at other areas of inflammation.

In the best event, adhesions confine themselves to a small area on the surface of a single organ, the tissues below heal, and the body returns to normal function.

But when the geography of healing is more extensive, adhesions may spread more deeply into the organ, to support structures, or to neighboring organs. The subtle geographical shift between structures can set up a pattern of increased adhesion growth that may become problematic. The pull between structures tends to cause additional inflammation as the body participates in the activities of life. The inflammation begets more adhesions, and new adhesions can cause further inflammation. This can create a spiral of adhesion formation within the delicate folds of the bowels.

These adhesions can create a weave of occlusion within the bowel, constricting its inner walls. slowly decreasing its ability to allow food and nutrients to pass. Adhesions may be found on the outer walls of the bowel, kinking them like a garden hose or binding them to other structures in the abdomen or pelvis. The recurrent build-up of adhesions can lead to a partial or total bowel occlusion (or obstruction). Adhesions may also form within the tube-like bowel, much as they do in fallopian tubes.

Total Bowel Obstructions

Bowel adhesions or spasm can become so severe that they totally block the small intestines in a life-threatening condition called total small bowel obstruction (SBO). We became all too familiar with this when 20 years after Belinda's pelvic surgery and radiation therapy, she suffered a total bowel obstruction on her 53rd birthday.

The onset was unexpected, sudden, and severe. She began vomiting and couldn't keep food down. She also could not have any bowel movements. We rushed her to the hospital where physicians inserted an NG (nasogastric) tube through her nose into her stomach to relieve pressure in the digestive tract. They hoped that by doing so the bowel would untwist, allowing food to pass. They also inserted IV (intravenous) tubes into her arms to give her nutrients because without them she would literally starve to death, and fluids so she would not become dehydrated. This is standard procedure for women and men with small bowel obstruction.

Belinda waited in the hospital bed for three days, rolling back and forth, with Larry treating her as he could. Unfortunately, the damage to her bowels from the over-spray of radiation therapy had apparently finally collapsed part of her small intestine. The same radiation therapy had made her tissues friable – which means they could fall apart and bleed easily with deep touch, thus limiting the amount of manual therapy she could receive. Once again her early cancer treatment was coming back to haunt us in an unexpected way – 20 years later.

In the end, her physician cut Belinda's gut in an open surgery (laparotomy). The surgeon removed 30 inches of her small bowel, and resected (re-attached) the two ends of the bowel that remained.

During the recovery process, we had the opportunity to ask the surgeon about the amount of adhesions present in Belinda's bowel. She told us that when she opened Belinda's abdominal cavity, there were no adhesions, although moderate to severe tissue damage from the radiation therapy was evident throughout the bowels, abdomen and pelvis. When the doctor inquired further about Belinda's history, we related the extent of radiation therapy she had received.

The surgeon shook her head, "It's amazing," she said. "You received so much radiation therapy 20 years ago, and yet your abdomen was essentially free of adhesions when I opened you up. Given your

history, I would have expected massive adhesions and a bowel obstruction within two years of your radiation therapy.”

Unfortunately the healing process did not go well. Either because of a spill from her bowel or other contamination during surgery, a deep internal infection (peritonitis) followed the surgery. The physicians re-opened the surgical site by removing two-thirds of the stitches, inserted a drainage tube, then left the site open, so it would “heal from the inside out”, the doctor said.

Naturally, the scarring and adhesions from this surgery, subsequent infection and open healing were massive.

Thinking back, we wish we would have spent more time treating Belinda’s small bowels, because the radiation therapy had a “spill-over” effect which destroyed the integrity of much of those organs. Twenty years ago, our sole focus was on her pelvis (below her navel) where Belinda was experiencing so much pain. But twenty years ago, we were just starting on this quest, and just beginning to understand the “whole body” nature of fascia and adhesion formation. At the time, our exploration into treating Belinda was solely focused on her areas of pain. We had since learned to look further in our patients’ bodies, but had never considered that spill-over radiation might have damaged Belinda’s bowels, which were relatively far from the focus of her original surgery and radiation, at her cervix (in her pelvis).

This proved to be an expensive lesson for the both of us, one written in Belinda’s body. This lesson reconfirmed the need to assess and treat the whole body with every patient.

The physician’s decision to leave the surgical site open to help reverse the post-surgical infection left massive adhesions in Belinda’s abdomen. She nursed that open wound for eight weeks and was given several antibiotics (intravenous and oral) to try to cure the infection. Slowly, the wound healed, but the infection never totally resolved – a fact we were to discover on a delayed honeymoon trip to India, six months later.

Emergency Bowel Surgery in India

- Belinda's Ongoing Story

(told by Larry)

Although we had been married twenty years, we never had the time to take the honeymoon I had promised my bride two decades earlier. Belinda wanted to visit India and Nepal, countries I had visited in my 20's courtesy of a photo and book assignment I had done for an art museum.

Nepal was presently inaccessible to Westerners due to a heavy-handed Chinese invasion and resulting instability in the capital city, Kathmandu. Instead, we visited nearby Bhutan (a country dubbed "Shangri-La" due to its mountainous vistas and it's King's avowed focus on "Gross National Happiness" over "Gross National Product.")

After a week in Bhutan, we moved down into India. It had always been Belinda's dream to see the Taj Mahal, so after a short visit to Delhi, we drove down to Agra, the site of that magnificent edifice. The four hours of traffic surrounded us with every method of transport imaginable: ancient, hand carved ox-carts, camels, elephants, cows and monkeys wandered among the cars, tractor-trailer trucks, and three wheeled vehicles of every description; it was both slow-moving and remarkable. Belinda and I have always enjoyed expanding our minds by immersing ourselves in either nature, or in totally different cultures from our own, from time to time. We find the experience both challenging and enriching to our bodies, minds and souls. Along the way, we passed numerous medical clinics.



*Medical clinics along the road
felt a bit primitive*

Unfortunately, that night brought problems. Belinda found herself unable to eat or pass foods — both classic signs of another total bowel obstruction. A physician who came to our hotel room inserted an NG tube into her stomach through her nose, then hooked her up to intravenous feeding, fluids and pain medication. Belinda rolled back and forth trying to get food to pass through. I treated her, but this time things went very differently. During treatment both of my hands were being pulled toward a single point in her intestines that felt hard, and hot; it felt like an infection.

This presented a major problem. While we felt our work might help open a bowel obstruction, our therapy is contraindicated in cases of active infection. Since we are treating fascia that includes the interstitial spaces (between muscles and

organs), we avoid treating infected areas, lest we create an opportunity for the infection to spread.

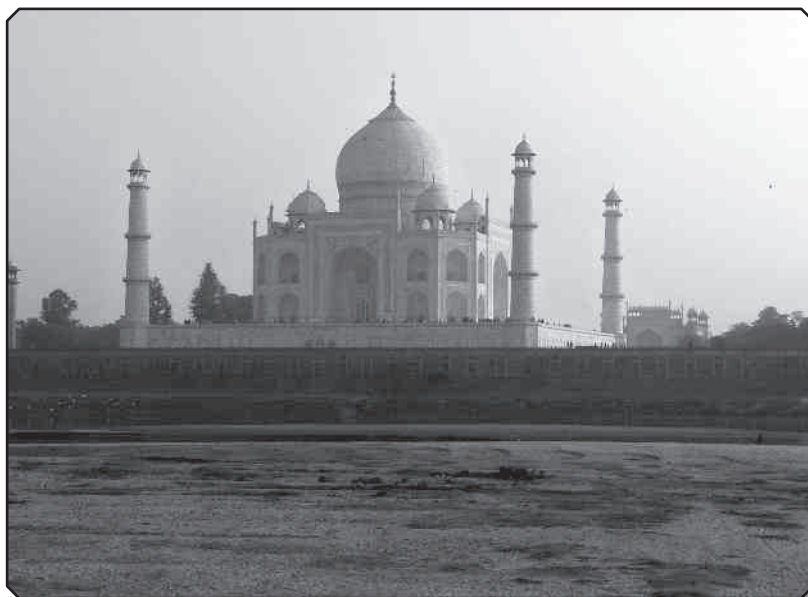
Belinda lay there for three days, hoping that the occlusion might just be a spasm that would release, allowing food to pass. With each day, she was becoming weaker. Finally, we made the decision to move her to a hospital.



Our honeymoon was not going exactly as planned

We made the decision to life-flight Belinda to Delhi, where we hoped to find a modern hospital. Agra did not have a facility to handle her complex situation.

On the way to the airport, the ambulance driver was kind enough to divert his route to a promontory across the river from the Taj Mahal so Belinda could fulfill part of her childhood dream to see this lovely edifice – a testament to another husband’s deep love for his wife centuries ago. I began to softly cry thinking of our life journey and the love that has persisted through all of the trials and traumas of our lifetime adventure. With all of the traumas Belinda has undergone, we both still feel very blessed by the gift of our lives, the therapists, patients, physicians, and scientists we worked with – so many of whom have become friends, or touched our lives deeply, as we have touched theirs.



The ambulance stopped across the river so we could see the Taj Mahal, one man’s testament to his love of his wife

The flight helped us avoid the elephants, camels, ox-carts, and large potholes in the road between Agra and Delhi. Still, the physician who accompanied us had the pilot maintain a low altitude “so your wife doesn’t explode from the low pressure at high altitudes,” she said. That was when we realized that this particular situation would resolve in India – not at home with our own physicians and modern hospitals.



The drive to Belinda’s life-flight was hampered by the usual traffic

After the emergency flight to Delhi, we were transported to a disgusting and filthy facility that was reported to have excellent physicians. I moved Belinda to the Apollo Hospital, which was much cleaner and more modern. The Boston-trained physician was aware of our work, and was patient as I continued to try to clear the blockage. Still, we continued to feel a single

site with increased temperature. Remembering Belinda's difficulty with the previous post-surgical infection, it made sense that the culprit was likely a persistent infection from that surgery. In the end, Belinda elected to undergo her second bowel resection surgery.

They took Belinda to the operating room at 5:30 in the morning. I was not allowed to join her, but at 8:30, an orderly came in to fetch me. He spoke only Hindi, even though English is the common language that unites India, but he was very animated, gesturing for me to follow him. His only explanation (and apparently his only English) was "come sir."

The trip downstairs was other-worldly and sometimes nightmarish. As we arrived at the ground floor, we kept following two arrow signs, always going in the same direction. One read "Surgery;" the other read "Morgue."

As we finally reached a very long corridor, they were wheeling a dead body from the area, covered by a sheet. Part of me wanted to lift the sheet to see if it was Belinda; another part of me didn't want to know...

Like being in an "Alice in Wonderland" dream, we passed a small wing of the hospital whose entrance sign read: "Test Tube Baby Unit." I am sure they have good doctors there, but the wording of the sign and the feelings it evoked in me seemed strange to my western mind.

At last, we arrived at the end of the hall where we faced the (now familiar) two signs, now giving very different directions. The "Surgery" sign pointed to the left and the "Morgue" sign to the right.

My guide picked this moment to stop, breathe, and catch his breath from our long trek. It was the longest moment of my life...

At last, he stepped to the right, turned and put out his hand indicating that I should go left, into the surgical suite. I began to breathe again.

He had me scrub in, put on a surgical cap, gown, and booties, and enter the main surgery room. The room was wide open, about 30 feet square with eight people being operated on simultaneously. Looking around at this scene in awe, I saw someone gesturing to me from the third table on the right. It was Belinda's surgeon.

Slowly I approached the table. There was my love, totally anesthetized on her back, with a mound of bright red intestines piled up on her rib cage. The doctor started moving her bowels around with his hands to show me what he found. "See," he said, "No adhesions. You did your job well. But this, here is the culprit."

He lifted a section of the intestines for me to see. There, like a wedding band or the gold label on a cigar, a tight infected band encircled her intestines in a vice-like grasp, decreasing the 1½ inch diameter of her intestines to a tightly banded closure about a half-inch in diameter. The yellow-green color of the band indicated a state of severe infection.

"Good we operated now," the surgeon told me. "Otherwise this would have burst, causing infection to spread throughout the abdomen and pelvis." He proceeded to cut out the infected area and rejoin the cut sections.

As it happened, Belinda's physician was an excellent surgeon. She healed without infection this time, despite the

proximity of seven other open surgeries of various types that surrounded us.

When Belinda and I met with the surgeon afterwards, he offered some words of wisdom. “There is nothing you could have done to treat the infection, but you really did a remarkable job clearing adhesions in Belinda’s abdomen and pelvis. The fact that you could clear all of the adhesions that must have been there considering her history, leads me to believe that you can delay or prevent surgery in people with partial bowel obstructions. I encourage you to explore that area; you may be able to relieve much suffering and hardship.”

Post-script to the story:

After spending a couple of weeks recovering in the hospital, and having totally missed most of our delayed honeymoon, Belinda and I asked permission to move to a different hospital. “We’d like to be near a historic site, or a beach,” we said. “Do you have a sister hospital to which we could move for our final days in India before our flight home?”

“Oh yes,” the Administrator said. “We have an affiliate hospital on the Southeast coast, in Chennai. I could move you there Monday.” It was Friday night, Christmas eve. Christmas was coming Saturday, and there was no flight Sunday so we arranged for the first flight out to Chennai, on Monday morning.

Sunday (the day before our flight), the Tsunami hit India, making its greatest landfall at Chennai. I would have been on the beach when it hit at 9:30 that morning, since I always rise early and go to the beach when we are near one. Belinda would have

become a very low priority patient among the survivors of the 53,000 people who died there, that day.



We escaped the Tsunami and moved to a nice hotel in Mumbai, a few years before terrorists attacked western tourists there.

Blessed as we were to avoid that massive tragedy, a catastrophe of global proportions, we moved on to the city of our departure, Mumbai. After having Belinda in the hospital for over three weeks, I splurged and got us a room at the Taj Mahal Hotel in Mumbai. This hotel was a magnificent edifice — one that was recently attacked and burned as a target of terrorists using automatic weapons and hand grenades. Over 200

people died in the Mumbai attacks, which targeted western tourists.

I guess you just have to live your life each day knowing that “this is it.” The moments that we spend in life are all that we have, each of us. Each of us needs to make the best of the time we have here on earth. Life is not a dress rehearsal.

As noted earlier, adhesion formation is a process that occurs over time, and can continue for months, years, or even decades. Surgery to decrease abdominal adhesions can create an immediate improvement, but nearly always causes more adhesions to form. Thus for many patients, that first surgery begins a cycle of surgeries and adhesions. These are followed by more surgeries and more adhesions in a process that continues for a lifetime, for many people.

Unfortunately, surgery has been the only effective procedure to treat abdominal adhesions or small bowel obstruction, until we started using and testing the Wurn Technique®.

We first discovered the effectiveness of this manual therapy when we started opening fallopian tubes blocked by adhesions, using only our hands. Once we realized that we could open the spaghetti-thin fallopian tubes in the deepest part of the pelvis, we knew we could help open intestines which are larger and generally much more accessible to our hands.

We knew the results of our therapy on fallopian tubes lasted for years; many of our patients had experienced successive full-term pregnancies several years after we opened their tubes. How logical was it then, and how wonderful to think that we could reverse a threatened bowel occlusion in patients with partial intestinal obstruction?

The principles are the same, the therapy is the same, and the affected organs are larger and more accessible.

Breast Surgery, Inguinal Surgery and Six Abdominal Surgeries

- Reese's Story

I am sure it was destiny that I would speak to Belinda; I just “knew” that wherever this woman was, was where I was headed. We instantly connected and I felt as if I had known her all my life.

Besides that, I had never met anyone who could really understand what I was going through, the pain and agony I had felt, and the despair that I was facing. I was at my wit's end and had given up on finding some way to defeat these ever persistent abdominal adhesions that had taken hold of my poor weakening body.

I left his office more broken than I had ever felt in my life.

Eight days before heading to Clear Passages Therapies (CPT), I had learned from my surgeon that abdominal adhesions had grown back for the 7th time. He wanted to put a tube into my stomach to help release some pressure and evaluate my situation. I chose not to be hospitalized and left his office more broken than I had ever felt in my life.

I could not understand why my body was doing this! I just had surgery to save my life not 12 weeks before and at that time, the adhesions were strangulating my stomach in half and I had eight to ten adhered kinks in my small intestine. The adhesions also devastated my female organs, which had to be removed.

Thank God, I had found Sanoviv Medical Institute in Rosario, Mexico. For the last year they treated me integratively, cleansing mycoplasma from my body. This saved me from having parts of my organs removed during my surgery in July of 2008. Although Sanoviv was awesome and helped me greatly, they could not stop the adhesions from taking me over after surgery.

Needless to say, I was devastated and sat in my car and cried my eyes out. How could I tell my husband? What would become of the quality of my life?

How could I tell my husband? What would become of the quality of my life?

Talking with Belinda that day changed my life forever. But, I am getting ahead of myself so, let's start with some facts.

I was a typical tomboy and have all the scars to prove it. I have had many falls, accidents and illnesses. Just to name a few; I was bit by a brown recluse spider twice, developed SLE (Lupus) because of it, suffered several miscarriages, I was rear-ended with severe whiplash and chest bruising, swallowed a fish bone and had throat surgery to remove it, had malignant breast surgery – and then all hell broke loose with my abdominal adhesions. I had to close my business and stop my professional singing career.

Within two weeks of the breast surgery in June 2006, my abdomen swelled up like I was eight months pregnant. I was hospitalized and no tests of any kind showed anything was wrong. After six days of suffering in the hospital, I had explor-

atory surgery. The surgeons found adhesions, cysts, and tumors growing out of control.

I had no idea that my life had been at risk until I awoke in the hospital with tubes coming out of me, and I could not move. It was a wonder I did not pop from all the pressure. But, I really did pop as tissues tore in my abdominal wall and both inguinal walls (in my groin) from all the pressure inside of me.

To shorten a long torturous story, I had six full abdominal surgeries, appendicitis, a 6x8 patch holding my intestines in, one left breast surgery, and a double inguinal hernia repair with two 4x4 patches holding my lower abdomen wall together, all in the course of two and a half years.

Now, once more, I was facing yet another surgery; the scariest part was these abdominal adhesions were growing back faster and faster... I just had surgery 12 weeks ago! How could this be?

I heard it from more doctors I can list that there is no cure... abdominal adhesions were killing me slowly and there was nothing I could do about it. I tried all the great hospitals and clinics that I could find in those two plus years to help me... they all said the same thing.

Abdominal adhesions were killing me slowly and there was nothing I could do about it.

“Your surgeon knows you best and our protocol are the same as his. Just go back home and have him surgically remove them again.”

I was horrified to think I would have to live this way.

My surgeon saved my life more than once and I am so grateful for him, but I did NOT want to live this way, having surgery after surgery just to stay alive.

I was backed into a corner with no time to lose; the adhesions were clogging up my system, affecting my breathing, and strangulating my intestines so I could not eat any food and could barely drink liquids without throwing up. I knew my time was running out before I would need surgery to release the armored grip on my internal organs strangulating the life out of me.

My life was great outside of this disease. Awesome husband, a thriving antique/photography business, and a great singing career. I wasn't going to give it all up now! I was hell-bent on beating this disease but, I was so tired and weak and felt so defeated.

Then I got a return call from Belinda at Clear Passage Therapies (CPT). After that conversation, I knew what I had to do; I began to pack my bags and plan my recovery.

Before I knew it, I was on a plane heading to Gainesville, FL. I could barely get through the airport with my luggage

I will never forget limping into the clinic that first day, holding and rubbing my abdomen in so much pain.

in tow, cringing in pain and breathing heavily with each step I took. I was so determined and focused.

I will never forget limping into the clinic that first day, holding and rubbing my abdomen in so much

pain. But, from that moment on, as the day progressed, I knew I would be taken care of. Unlike most of the doctors I had been to, this place actually WANTED to hear of all my pains and aches and problems! They were gentle and loving and very considerate each step of the way. They explained every technique they performed and why it would help me. This place was like an oasis of hope in a desert of despair for me. Was this treatment for real? Why do I say that? Because two miracles happened to my body that first day of treatment.

Focusing on the most urgent of needs for me, they immediately went to work on my abdominal obstructions. The therapists, with their talented hands manually performing the Wurn Technique® movements released the strangulating, burning, and stabbing pain right below my diaphragm that I had suffered from since all this began – over two years ago! I could barely wrap my mind around what had happened. I could feel it happening deep inside my body, but could I dare to believe that this would work? I was fearful of jinxing it! But, as I took my walks and went through the day, I could barely believe how much better I felt. I was no longer near tears in pain with each breath and step I took! I had a total of five bowel movements that night and the next morning. I was beside myself! I literally felt my body give in and let go!

The second miracle happened when Larry worked the outside calf of my right leg. I had chronic stabbing pain that never went away and had been there since 1992 when I got the bit by the brown recluse spiders and had caused me to limp all those years. No doctors could ever tell me why I had it. They called it a “mystery pain” that I would just have to live with. Larry worked hard and released that burning, debilitating, deep painful pulling sensation that had bound me! I could feel him

free the adhesions as he worked layer by layer. I was in total disbelief because I was not limping when I left that first day and have not limped since! That burning pain in my abdomen has not returned either.

Oh, I must mention this... I am a rock and roll singer and since having so many tubes down my throat, scar tissue had formed, causing my throat to close when I sang, and it felt horrible. Larry worked his magic all down the front and sides of my neck, voice box, and upper chest. I now can sing stronger and with more ease than I have in years. Larry gave me back my singing voice!

Session after session, day after day...my body was slowly and methodically worked on. As each hour passed, my body was loosening up and moving with less effort, and with less and less pain. I slowly began to eat soft foods and soups...no problem! My system was working just fine! On my fourth day of treatment, my 50th birthday, I enjoyed baked salmon and mashed potatoes! It was the best meal of my life!

I have shocked my surgeon! He wanted to know what was done and how it was done. He had tears in his eyes and was so happy for me. He truly did not want to cut into me again. My husband is just so happy to see me out of pain and to have his wife back. I am bouncing off the walls with energy and gratefulness. I truly feel like I had a full body renovation from the tip of my toes to

***I have shocked
my surgeon.
He wanted to know
what was done and
how it was done.***

the top of my head. Long gone are those migraines and waking up feeling 80 years old.

The only side effect was some tenderness in areas worked on and way too many positive effects to list. Imagine that? 95% less pain, ease of movement, better mobility, able to eat and drink with proper digestive health, loads of energy, no more migraines, a bounce in my walk, a smile on my face and hope and song in my heart. What more can a girl ask for? CPT manual physical therapy makes sense – and it works. It is as simple as that.

Complications and Bowel Obstruction after Abdominal Surgery

- Mae's Story

As a woman in my fifties, I love to feel good, embrace life and live it to its maximum. My great-grandfather rode his bicycle every day until he died in his nineties, and I'd like to do the same.

I have been extremely healthy and athletic throughout most of my life; in fact, I was a gymnast and ballerina during school, and a physical fitness devotee afterwards. I had some fleeting abdominal problems in my forties, which were diagnosed as probably Candida or ulcer related, but I was still going strong.

While visiting Italy three years ago, I began to experience serious complications with my health: I suddenly began

to lose my breath, and then I lost consciousness. Later I discovered that my husband had first tried to wake me by pouring water over me. When that didn't work, he desperately slapped me and shook me until I finally came back to my senses.

When I fainted again four hours later, someone called an ambulance. Meanwhile, my husband frantically performed CPR and almost fractured a rib to revive me. That time, I was unconscious for almost four minutes.

I was hospitalized for tests for seven days, but all the tests came back negative or inconclusive. Suspecting a small bowel obstruction, the physicians would not allow me to eat solid food. My weight dropped to 98 pounds (I'm 5'2" and normally weigh about 110 or 112).

When I was finally released, I wondered if the cause of this unexplainable event was air pollution since, during this time, I had heard that several people had suddenly lost consciousness throughout Italy. Still, I had an early history of bowel problems, and I remembered the hospital physician restricting my food intake, due to his concerns about my bowels.

I suddenly began to lose my breath, then I lost consciousness.

Three years later, in September of 2008, I began experiencing something that felt similar to a bowel obstruction, with pressure on my rectum. As the month neared its end, I started to feel unusually weak. Then once again, I fainted, and again my husband forcefully revived me (this time with my son). My memory took me back to my terrifying experience in Italy; then

fear set in. Because of the recurrence, I knew it had to be something serious.

I went to my doctor immediately, and requested a prescription for oxygen. In the past, oxygen enabled me to feel better when I knew I was close to fainting.

I could always tell when I was going to faint: I would get a terrible pain on my right side, by my colon, in the morning or evening. My legs and feet would become ice cold, I would feel extremely weak and have to lie down. Then my intestines would rumble and they would feel very weird, almost as if worms were slowly slithering through them. My abdomen would then distend

My abdomen would distend and I would have to change into pants without a belt so that I could breathe better.

and I would have to change into pants without a belt so that I could breathe better. Gradually, my breath would slowly slip away from me and my

tongue would turn white. It wouldn't feel as if I were being strangled; it would feel as if my breath were going away, never to return. It was the worst feeling imaginable. It felt like imminent death.

During these times, I was often unable to eliminate. I sought help by having a few colonics, visiting more doctors and completing more medical tests.

After I fainted another time, I decided to go to a different hospital where I hoped they might provide us with some answers.

After four days, a colonoscopy, a barium swallow test to see if my small intestines were working properly, and many other of tests, I was informed that I was perfectly healthy. The doctor never told me that adhesions cannot actually be seen by diagnostic tests – only by surgery.

Having no further reason to hold me in the hospital, the doctors became somewhat verbally disrespectful and treated me as if I were a hypochondriac. For example, when I awoke in the middle of the night

It was the worst feeling imaginable. It felt like like imminent death.

feeling the onset of the symptoms that generally preceded my unconsciousness, I asked the nurses for oxygen. After numerous pleas, they very reluctantly gave it to me, at last. The next morning, the doctor was furious with me for “hassling” his nursing staff. I was “being ridiculous and needed to leave,” he said to me. I think he truly believed I was just trying to fool them, for some reason. However, he allowed me to remain because it was the weekend, and I had the “right” to meet with the gastroenterologist to discuss my test on Monday.

In the meantime, my husband continued to research about small bowel obstructions online, and found valuable information. He learned there was a Catch-22 with bowel obstructions and surgery. Surgery could remove the obstruction, but it would often cause another one to form.

We shared this information with the gastroenterologist, and he agreed. He suggested I change to a liquid diet and start taking a mild laxative daily. I asked him if I could return to the

healthy state my body was in before the obstruction, and I was dismayed to hear him say that would be impossible.

After all of these experiences, I was terrified to ingest anything but liquids, so I slowly became very weak. As my weight continued to decrease, I lived in fear of another fainting episode. I dreaded the night, scared to close my eyes. I didn't want to sleep. I wanted to stay awake and be vigilant of all of my symptoms. I felt absolutely helpless and couldn't imagine continuing my life this way.

Through lengthy research, my husband found Clear Passage Therapies (CPT) and, within a week, I flew to Florida. I had no strength, and I was scared, but it didn't matter. I had hope and faith that I was going to be well.

When the therapists examined me, they noticed that my initial bowel symptoms started after I had several bladder infections following an early appendectomy and (more recent) C-section surgeries. When they felt my pelvis and abdomen, they immediately found extensive adhesions in these areas. They told me that some of the adhesions at my surgical sites felt three inches thick.

They slowly began peeling these adhesions apart, layer by layer. Though it felt uncomfortable and painful at times, I was happy to notice positive results, almost immediately. In the end, my adhesions were so extensive that I stayed at CPT for two weeks. At four hours

I don't want to live thinking about death, or to deal with physicians who become abusive when they can't provide answers.

a day, that was a very intense schedule, but I could feel the changes in my body. I felt that they were saving my life.

Over the course of therapy, I started to regain my strength. My belly went from feeling like an inflated ball of steel to feeling like soft skin again. A few days into therapy, I was finally able to have a bowel movement again – this time, without any pressure in my rectum. My body began to function better; my energy began to return.

I started eating solid foods again. In the weeks following therapy, I gained 12 pounds. It was incredible to eat something crunchy and fearlessly enjoy it.

When I left CPT, I told them they saved my life, for I really believe they did. I remember the feeling of helplessness before I went to CPT, and I never want to relive that again. I don't want to live thinking about death, or to deal with physicians who become abusive when they can't provide answers. I was given a healthy body to use and feel great. That body was slowly taken from me because of adhesions, but I now have it back.

Multiple Surgeries for Bowel Obstructions

- Teena's Story

When I woke after surgery and looked down at my stomach, I could see staples cinching my abdomen. Although I was only 19, I knew the staples meant my doctors had decided to perform a hysterectomy.

From the time I was 15, I had recurring ovarian cysts and severe pain. The pain became so awful that my doctors suspected I had endometriosis — a condition in which the lining of the uterus grows in places outside of the uterus. They told me that they would have to perform surgery to diagnose and remove the endometriosis. They also warned me that they would have to perform a hysterectomy if the endometriosis was severe.

So, at age 19, I underwent the surgery. As I stared at my stomach in disbelief, the doctor came in to inform me that the staples in my stomach were not from a hysterectomy. I breathed a sigh of relief. They told me that during the surgery, they discovered my bowels were almost completely blocked from adhesions. They removed the adhered area and were optimistic that my pain would decrease.

During the surgery, they discovered my bowels were almost completely blocked from adhesions.

However, not even a year later, I began vomiting regularly with severe pain. For nine months, I could barely keep food down. My doctors finally discovered I had appendicitis and I underwent surgery. The physicians suspected the chronic appendici-

tis had also created adhesions near my bowels, and they hoped that removing my appendix would prevent further adhesions.

I remained relatively pain- and symptom-free for a couple of years. I was even fortunate enough to become pregnant and deliver a beautiful son.

After his birth, I began experiencing pain in my uterus. Over the next few years, my pain increased and I started to have problems with constipation. Given my history, my doctors suspected I had another blockage and performed surgery. Sure enough, they found adhesions blocking my bowels.

Although the surgery relieved my constipation symptoms, a few months after surgery, my health decreased again and I found myself vomiting after meals. I had to undergo another surgery and they found that, yet again, adhesions had blocked my intestines. The doctors were puzzled; they couldn't understand why adhesions continued to form in my body.

I became pregnant later that year, and gave birth to a second son. Because I had experienced some pain after the birth of my first son, I knew to expect some pain after my second delivery. However, the pain was far more than I had imagined. My uterus was so swollen that it felt like it was going to fall out.

My doctors decided to perform a hysterectomy. During the surgery, they found that my uterus was covered in adhesions. They decided to only remove my uterus and leave my ovaries — in hopes of sparing me early menopause. But nine months later, they had to remove my ovaries as well, because they too were being strangled by adhesions.

Over the next four years, adhesions continued to form and I had to undergo two more surgeries for intestinal blockages. I was so familiar with the symptoms of intestinal blockage that I could even tell where the blockage was. If the blockage was lower, I had problems with constipation and feeling full all of the time. If the blockage was higher, I would uncontrollably vomit after I ate.

Over the next four years, adhesions continued to form. I had to undergo two more surgeries for intestinal blockages.

After all of these surgeries, my stomach looked like a war zone. Scars stretched across my stomach and I literally had skin hanging down. Because they had to cut through my abdominal muscles so many times, my stomach also seemed to just hang. The damage from the surgery was so extensive that my insurance agreed to cover the cost of surgery to repair the area.

I remained relatively free of symptoms for a number of years after that surgical repair, but then I began experiencing the tell-tale signs of intestinal blockage again. I spent eight to nine months trying to find any other treatment besides surgery. I was desperate to find a natural treatment that wouldn't cause more adhesions to form. However, nothing seemed to work.

My husband couldn't understand why I didn't just have the surgery and kept urging me to have it. On the other hand, I faced perplexed and confused doctors who did not want to touch me because of my extensive history. Furthermore, because adhesions do not show up on tests, they could not see

the blockages before surgery. One doctor suggested I had irritable bowel syndrome, even though extensive testing had shown I did not have that condition. One doctor even surmised I was addicted to surgery!

I felt like I was being torn apart by the various opinions. My husband wanted me to have the surgery so he could have his wife back, but my doctors were hesitant to pursue another surgery. In the meantime, I continued to experience severe side effects. I had to reduce my eating to extremely small portions. All day long I would feel full and usually vomit in the middle of the night.

I finally underwent surgery and sure enough, I had adhesions blocking my bowels.

As usual, my body remained symptom-free for a few months after surgery. I began seeing a nutritionist, and after reviewing my history, she casually mentioned a manual physical therapy clinic, Clear Passage Therapies (CPT), that treats adhesions. I was dumbfounded. After all the time I spent searching for a treatment option, she just casually mentioned the clinic like it was no big deal. I knew it was something to consider if my symptoms returned. Luckily though, I was able to stay on top of my health for a few years.

Then two years after my surgery, I was brutally raped. The physical, emotional, and psychological damage ran my body completely down. One of my doctors before had suggested that stress could cause adhesion formation. Although it has

The physical, emotional, and psychological damage ran my body completely down.

never been proven scientifically, I thought back about my life and realized that some of my adhesions had formed right after extremely stressful times.

Whether it was mere coincidence or a direct cause, about a year later, I started experiencing symptoms that I knew were indicative of adhesion formation. I first experienced spasms in my intestine, and then after a few months, I began vomiting again after meals.

I remembered the therapy my nutritionist had told me about and contacted CPT. I was cautious to get my hopes up and I certainly had my doubts, but I knew I had to try the therapy before another surgery.

I went for one week of intensive therapy. Each day, I was treated for four hours. Halfway through the week, I ate breakfast and I didn't get sick afterwards. I had lunch later and I didn't get sick either. I can't tell you how unusual that was — I virtually always got sick after eating when I had a blockage. I couldn't believe they had broken down the adhesions that had caused my blockage, but there it was — I could feel the results in my body!

By the end of treatment, it just felt like everything was the way it should be. Before CPT, the tightness in my abdomen pulled so much that sometimes I felt like I was being pulled over. After therapy, I could stand straight and everything felt looser.

It has been six months since my treatment at CPT and I am still symptom free. I don't know if adhesions will form again, but if they do, I know I will not have to pursue surgery again. I wish I had known a treatment like this existed long before I had so many surgeries.

We are naturally pleased to find that we have been able to reverse partial bowel obstruction for patients we have treated with this condition, and end the cycle of occlusion – surgery – occlusion for them. It is especially gratifying for our therapists to find they can delay or reverse a life-threatening condition.

Breaking the Cycle of Surgery-Adhesions-Surgery

Our non-surgical treatment of adhesions is proving to be a viable and appropriate answer for many women and men who have undergone multiple surgeries to remove adhesions.

The primary goals of the Wurn Technique® are to find the adhered areas of the body, places where the body has healed, then break the bonds that hold our patients in these organic straight-jackets.

As noted earlier, the structure of adhesions may be likened to strong nylon rope. At 2,000 pounds per square inch, naturally occurring adhesions can be strong enough to lift a horse. In fact, physicians often tell us that they have difficulty cutting through or burning some of these adhesions. How can manual physical therapy possibly address these?

In our example, the nylon rope is made of thousands of small strands, each of which is composed of even smaller fibers, running roughly parallel. The rope's incredible strength comes from all of these strands working together.

The tiniest fibers that compose a nylon rope are each individually detachable with very little effort. Like nylon strands, adhesions are made of very tiny, molecularly-bonded strands of collagen. When they attach to each other, these collagen fibers create a tremendous tensile strength.

With this manual therapy, we are apparently able to detach the fibers of this adhesive collagen rope strand by strand, then group by group. When we do so, the therapy seems to reduce and even eliminate very strong adhesions, without creating new ones.

As we treat, we can feel the groups of tiny collagenous cross-links that form adhesions begin to detach from their neighbors. As they detach, we believe these fibers simply fold into the collagen wall of the structure to which they are still attached (at the other end of the strand). Thus, they become a harmless part of the existing collagenous wall of that structure. No longer bound to its neighbors, the structure can move freely again, as it did earlier in life.

In a sense, it's like we are turning back time for that part of the body. As the adhesions that formed over years or decades begin to unravel, their collagen attachments release their grip on internal structures, leaving them more mobile, functional, and relieved from pain.

There is no question that surgery saves lives and lifestyles daily, and that surgical skills are among the miracles of modern medicine. Unfortunately, surgeons and patients are too often stymied by adhesion formation that occurs after surgery. This process occurs with many surgical patients throughout the U.S. and around the world, as surgeries generate adhesions time and again.

We hope and believe that non-surgical treatment for patients who are now sent to surgery (such as for extensive adhesions)

Results came fast. Within two days, Joseph and I began to see visible changes in (my surgical) scarring. My incision site began to flatten and I had a belly button ...wow!

– Gabriel, mother of one who struggled with infertility after surgery to remove an ectopic pregnancy

will be a future treatment of choice. Happily, that treatment is becoming available now to those who do not wish to undergo another surgery, and for those who wish to break the cycle of adhesions-surgery-adhesions.