

### **CAPP Case Reflection Example:**

This case was originally submitted for CAPP-Pelvic submission in 2012 by author Jenny Kissel-Schiek, PT, DPT, LMT who re-formatted and adapted it to meet the rubric requirements to serve as a website example. It was chosen in part for the obscure nature of its subject, to avoid offering material that could subvert the necessity of authors researching their own literature rationale for evaluation and treatment done for more common subjects such as incontinence or muscular pelvic pain. As such, it includes more literature citations that are over 10 years old than would commonly be expected. This example serves to illustrate formatting, professional language, and content depth expected in a case reflection submission for either the pelvic or the OB CAPP. The SoWH would like to thank Jenny for her generosity and energy in sharing and preparing this example.

## **CAPP CASE REFLECTION EXAMPLE**

Importance of assessing and treating fasciae and scar mobility in patients with pelvic pain: An evidence-based case report

Case Study for CAPP-Pelvic Completion

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### **INTRODUCTION**

Physical therapists who specialize in women's health encounter abnormal conditions of the pelvic floor, including underactivity which may result in incontinence or pelvic organ prolapse, overactivity which may result in pelvic pain or dyspareunia, or a non-functioning pelvic floor which may result in any pelvic floor muscle symptom. Dyspareunia, or pain with attempted vaginal penetration, is a common diagnosis of a woman seeking assistance from a women's health physical therapist specialist due to pelvic pain.<sup>1</sup> Understanding the anatomy of the pelvic floor, how to examine for pelvic floor dysfunction, and determining the differential diagnosis of pelvic pain is vital when treating a woman with dyspareunia and pelvic pain.

The patient in this case reflection is a 53 year-old female referred by her gynecologic surgeon to outpatient physical therapy with primary complaints of abdominal and pelvic pain and dyspareunia four months after an elective laparoscopic hysterectomy due to menorrhagia. The surgeon also excised scar tissue from three previous cesarean section deliveries. Post-operatively, she continued to experience significant pelvic and abdominal pain which prompted a return to her surgeon. After performing appropriate screening tests for other medical diagnoses, he referred the patient to physical therapy for evaluation of the pelvic floor with a diagnosis of pelvic and abdominal pain. Pertinent past medical history included myopathy, hypertension, asthma, and migraines. She had three adult children and was living with her spouse. She worked in a grocery store as a sales representative, setting up products on shelving and display units. This job included a significant amount of bending and lifting, which was problematic for the patient.

At the clinic, the patient reported several different complaints. She described feeling like something was "expanding" throughout her abdominal cavity and reported dyspareunia with deeper penetration. She had pain throughout her lower abdominal and pelvic cavities, rated as 7/10 on the visual/verbal analog scale (VAS), with the right lower quadrant was more painful than the left.<sup>2</sup> Pain was described as achy with instances of sharp, shooting pain in the right lateral lower quadrant when performing lifting movements such as when rearranging shelves with new products at grocery stores. She also had pain (7/10 on the VAS) in her right buttock and sacroiliac joint (SIJ) that radiated into her posterior middle thigh and was chronic in nature. Physical therapy had been attempted for SIJ dysfunction without lasting results several years prior. Pain inhibited the patient from her desired goals of full performance of work activities, staying in one position for longer than 10 minutes, doing cardiovascular exercise or weight

training, participating in pain-free sexual intercourse, and sleeping through the night. While she did have minor urinary frequency and stress incontinence, these were not her primary complaints.

Pain of this nature could be due to visceral pathology. Conditions that were considered in the medical differential diagnosis for this case included appendicitis, endometriosis, gynecologic malignancies, pelvic inflammatory disease, irritable bowel syndrome, interstitial cystitis, abdominal wall myofascial pain, hernias, neuralgias, lumbar disc issues, and psychosocial issues.<sup>3</sup> The patient's doctor had completed several medical tests including magnetic resonance imaging which had ruled out most medical conditions. Due to the fact that the pain occurred primarily with movement, visceral pathology was deemed an unlikely causative factor and thus the musculoskeletal differential diagnosis was pursued. Physical therapy differential diagnosis included consideration of pelvic floor dysfunction, abdominal wall muscle strain, myofascial pain/adhesions, piriformis syndrome, and SIJ dysfunction. Because the patient complained of achy pain with instances of sharp pain, feelings of something "expanding" throughout her abdomen, most difficulty with bending and lifting, and dyspareunia, it was decided that myofascial pain and adhesions would be the primary working differential diagnoses. The purpose of this case study is twofold. First, it is to demonstrate that assessing for fascial restrictions is vital in women who present with complaints of musculoskeletal pain and dyspareunia. Second, it is to show that using manual techniques to release adhesions may be a way for physical therapists to help restore mobility, improve posture, decrease pain, and avoid additional surgery in patients with pain, dyspareunia, and fascial problems after surgery.<sup>4-5</sup>

Fascial adhesions and abnormal scar tissue formations have been shown to be a significant side effect of surgery and physical trauma.<sup>6-10</sup> Cesarean sections and hysterectomies are the two most common surgeries for women, with reports of 1.4 million and 600,000 performed every year in the United States, respectively.<sup>11</sup> A study performed by the Surgical and Clinical Adhesion Research (SCAR) group found that one in every three patients who had undergone an abdominal or pelvic procedure had 2.2 readmissions within 10 years for adhesion-related complications.<sup>9</sup> The incidence of adhesions that subsequently develop after surgery has been reported to be as great as 95% after one surgical procedure and as great as 100% after a second surgical procedure.<sup>7, 12</sup> While adhesions can develop in any part of the body, abdominal adhesions can also develop due to acute appendicitis, radiation, intrauterine devices, or other

inflammatory processes.<sup>6, 10, 13</sup> However, the majority of these, approximately 90%, are formed after abdominal or pelvic surgery.<sup>7</sup> Untreated adhesions are of significant concern. They can lead to bowel obstructions, decreased fertility, pain and dysfunction, additional surgeries, and death.<sup>4, 6-7, 9, 14</sup>

Fascia is a type of connective tissue that surrounds and supports every part of the body including muscles, muscle fibers, bones, nerves, blood vessels, and organs.<sup>15-17</sup> It is made of both a superficial and deep layer that allows for transmission of forces and gliding of the structures within the body, allowing them to work independently of one another.<sup>15, 17</sup> While it is normal for fasciae to be present throughout the body, the fascial tissue can become abnormal. Adhesions occur when abnormal fascial tissue forms due to injury, surgery, infection, or introduction of foreign material. This causes not only a decreased ability for the surfaces to glide with each other, but also the potential for pain and dysfunction.<sup>10, 13</sup> After a surgical procedure the body's normal response is to coagulate the area with fibrin, an agglutinative substance that is temporarily deposited in the area to make a clot between the damaged surfaces, developing as soon as three hours after the event.<sup>16</sup> The main fibrinolytic stimulator in the blood, tissue-type plasminogen activator (tPA), is lowered to allow for clotting by the plasminogen activator inhibitor type 1 (PAI-1).<sup>18</sup> Patients with pathologic adhesions may have either excessive PAI-1 which prevents the fibrin from resolving, have excessive fibrin formations, or have immobility among the tissues.<sup>4, 10, 13, 18</sup> With time adhesions develop between structures in the body and normal movement of organs and musculoskeletal system may not occur.<sup>5-6, 19</sup> Hedley states, "Adhesions beget adhesions, as the initial limitation of normal motion extends like a growing cloud of stillness in the immediate tissues."<sup>5</sup>

In attempts to decrease the incidence of adhesions, surgical techniques and products have been developed. Intra-operatively, surgeons may use techniques such as minimizing handling the tissues, keeping the tissues moist, reducing cautery time, reducing surgery time, using frequent irrigation, and avoiding suturing the peritoneum.<sup>8</sup> Other methods of decreasing adhesions include using different types of barriers such as gels, oils, grafts, or membranes to place between two traumatized surfaces to prevent union.<sup>8, 10</sup> While some sources report that the best way to treat adhesions effectively is through surgical adhesiolysis, it must be remembered that surgical intervention can potentially bring about more adhesions.<sup>10, 12</sup> Because 90-100% of patients who receive a second surgery develop adhesions, minimizing the need for adhesiolysis,

or surgical excision of adhesions, is vital.<sup>4,7,12</sup> Adhesions may eventually tighten and pull the skeleton out of alignment, subsequently causing musculoskeletal pain and dysfunction.<sup>5,14</sup> Physical therapists must be aware of these possibilities when assessing patients with pelvic, abdominal, leg, or low back pain, as the primary source of their pain may not be musculoskeletal, but instead due to fascial disruption.<sup>6,14</sup>

### **Examination**

During the review of systems, no “red flags” were identified that would deem physical therapy inappropriate or warrant referral to another healthcare practitioner so the physical examination was continued.<sup>20</sup> As an outpatient physical therapist, it is important to perform a thorough evaluation to find the primary source of a patient’s pain. Due to their potential impact in the body, physical therapists must consider that adhesions could be primary sources of the musculoskeletal dysfunction in the differential diagnosis. Adhesions may not cause problems initially after surgery but can accumulate over time.<sup>10</sup> Physical therapists should always ask about prior surgeries and assess scars for potential contributions to pain.

Physical examination of the patient revealed many significant findings. Assessment of posture was first performed despite lack of conclusive evidence as to significant reliability and accuracy of palpatory techniques and using bodily landmarks for assessment.<sup>21</sup> Standing posture assessment demonstrated a forward head, forward shoulders, decreased lumbar lordosis, posterior pelvic tilt, right superior iliac crest, and right anteriorly rotated innominate.<sup>22</sup> Leg length measurement was insignificant with the right being 3 millimeters longer than the left.<sup>23</sup> While minimal to no sensitivity or specificity values have been noted for the Fortin finger sign, it was considered for this patient when she pointed directly to her SIJ three separate times as a location of pain during the evaluation.<sup>24</sup> The patient’s lumbar spine, knees, ankles, and hips were cleared for contribution to impairments. Lower abdominal strength was scored as 4-/5, indicating that the patient could lower her legs to a 45° angle while maintaining a posterior pelvic tilt.<sup>22</sup> Range of motion, strength, neurologic function, and movement patterns were all unremarkable.

Upon visual inspection of the abdomen, a scar from a Pfannenstiel incision was noted, stretching transversely just superior to the pubic bone, along with two laparoscopic incisions from the recent hysterectomy on each side of the abdomen approximately 3 centimeters superior

to the lateral sides of the Pfannenstiel incision. While both were healed, the right laparoscopic incision had slight erythema but was not warm to the touch, leaking exudate, or edematous which may have indicated infection. When first assessing an incision, evaluating the mobility of the incision and adhesion to surrounding structures is imperative. This is accomplished by applying slight pressure to the site and assessing for movement of the skin in superior/inferior, medial/lateral, and clockwise/counterclockwise directions.<sup>15</sup> Areas of restriction or decreased mobility should be noted. The Vancouver Scar Scale is a tool for assessment of burn scars, but it has recently been validated for assessment of surgical scars.<sup>14</sup> The patient's Pfannenstiel incision was rated as 4/13 on the scale, with 1 point for hypopigmentation, 0 for normal color of vascularity, 3 for the pliability being firm and inflexible, and 0 for normal height. The incision was significantly immobile and appeared as if it were attached to the pubic bone. The right laparoscopic incision was rated 4/13, with 0 points for pigmentation, 1 point for pink vascularity, 2 points for yielding pliability, and 0 for normal height. The left laparoscopic incision was rated as 2/13 with 0 points for pigmentation, 0 for normal vascularity, 2 for yielding pliability, and 0 for normal height.<sup>14</sup>

Palpation of the abdomen gave significant information regarding the patient's pain source. The right laparoscopic incision was the most painful, followed by the left laparoscopic incision, followed by the right lateral aspect of the Pfannenstiel incision. Palpation of all incisions reproduced the patient's "usual" pain. Upon further palpation, adhesions were found to continue laterally into the right rib cage, as evidenced by the patient reporting complaints of "pulling" in the lower left abdomen with gentle palpation around the right ribs. Palpation of the entire Pfannenstiel incision reproduced the pain and "pulling" felt at the right SIJ.

A scale for assessment of the pelvic floor (PF) musculature was developed by Jo Laycock called the "PERFECT Scale" which describes the power, endurance, repetitions of maximum voluntary contractions, fast twitch full contractions and relaxations, elevation of the posterior vaginal wall with PF contraction, proper co-contraction of the abdominal muscles during PF contraction, and presence of an involuntary PF contraction with cough.<sup>25</sup> This patient was found to have pelvic floor muscle strength of 4/5 endurance of 6 seconds, ability to perform 8 maximum voluntary contractions, ability to perform 7 repetitions of full contractions and full relaxations in 10 seconds, a presence of elevation of the posterior vaginal wall, appropriate co-contraction of the transversus abdominis, and presence of involuntary pelvic floor muscle

contraction with coughing.<sup>22, 25-26</sup> Pelvic floor examination was significant for tenderness with palpation throughout the proximal half of the vagina, with the left side being more painful than the right. Pain was diffuse in all quadrants and not reproducible with palpation of the levator ani or obturator internus.

The Pain Disability Index (PDI) was chosen as a functional outcome measure for this patient due to high validity and reliability, easy administration, and its ability to address multiple facets of the patient's life.<sup>27</sup> With this test patients rate how much the pain interferes with function in seven different areas of life including family/home responsibilities, recreation, social activity, occupation, sexual behavior, self-care, and life-support activity. Each response is then given a score ranging from 0 (no disability) to 10 (total disability). Scores for the PDI range from 0-70. The higher the score is the greater the patient's perception of disability due to pain. At the initial evaluation the patient scored 33.

### **Evaluation and Diagnosis**

The initial clinical hypothesis from the therapist was that scar tissue had adhered from the Pfannenstiel and laparoscopic incisions to the abdominal wall, lower right ribs, right iliac crest, right SIJ, pubic bone, and into the anterior aspect of the right hip.<sup>28</sup> Although some of the scar tissue had been excised during the recent surgery, it may not have been enough to decrease pain and the surgery may have caused additional adhesions.<sup>6, 19</sup> The adhesions from the hysterectomy may have attached to the proximal vaginal walls causing dyspareunia or pain due to entrapment of the iliohypogastric or ilioinguinal nerves.<sup>29</sup> Scar tissue may have also been contributing to the patient's SIJ pain which had been present for several years. This could explain why the patient did not respond to traditional orthopedic physical therapy interventions several years ago.<sup>15</sup> Pelvic floor muscle dysfunction did not seem to be a major component of this patient's problems, although some weakness was noted that could contribute to pelvic instability. This hypothesis was used to develop the appropriate interventions for the presented impairments.



## **Prognosis and Plan of Care**

Prognosis was deemed to be good due to the patient being motivated to participate in therapy, the patient being an active individual, and good evidence of efficacy of manual techniques for scar tissue and soft tissue mobility.<sup>4, 28</sup> Duration of the plan of care is ultimately determined by how the patient tolerates the manual work and difficult to determine at the initiation of physical therapy. It was hypothesized that the patient would need between 15-30 visits due to the extensive nature of the adhesions and per the Guide to Physical Therapy.<sup>4, 30</sup> The patient was initially seen two times a week for five weeks for sixty minute sessions, but then was decreased to once a week for three weeks to help transition the patient to full independence.

The plan of care was set at two times a week initially due to therapist experience with this type of patient. Manual work for adhesions has been found to be so effective that seeing the patient more frequently can cause low back pain. A hypothesis to explain this pain is that the adhesions create an internal infrastructure, giving postural or abdominal support to the patient in cases of significant adhesion. The abdominal muscles may not have to work as effectively and subsequently weaken. With manual work, the infrastructure of adhesions is being broken down, causing the patient to rely on the weakened abdominal muscles for lumbar support. Patients often experience back pain when manual work is effective and abdominal muscles are weak. Seeing the patient twice a week allows the body time to adjust and strengthen with the therapeutic exercises given during the sessions. However, in some cases of patients who are not physically active, sessions may need to be decreased to once a week to allow an even longer time for the body to adjust and strengthen. In minimally active or sedentary patients, it may be beneficial for the patient to begin lumbar stabilization exercises before manual work is even started to improve the chance that low back pain is avoided.

Patient goals included being able to perform all work activities with pain no greater than 2/10, stay in one position for longer than 10 minutes with pain no greater than 2/10, do cardiovascular exercise or weight training for 30 minutes with pain no greater than 2/10, participate in pain-free sexual intercourse, and sleep for 6 – 8 hours without waking due to pain. These goals were set to be met within two months of starting treatment.

## **Intervention**

Fascial and myofascial release (MFR) are manual therapy techniques often used in physical therapy, massage therapy, and other types of bodywork clinics to help improve function and pain.<sup>15</sup> There are many different techniques of release, but all typically involve a low load, long duration, three dimensional stretch within the fascial tissues to restore the length and position of the tissues, to improve tissue motion, and decrease pain.<sup>15-16, 31</sup> MFR applies a gentle traction force to stimulate heat production, increase blood flow to the area, assist in lymphatic draining, and assist the body in relearning appropriate proprioceptive sensory mechanisms.<sup>15</sup> The subsequent “release” that is felt under the hands feels like a sinking/softening as the hand moves deeper into the area. Releases can continue along the adhesion, as evidenced by feeling sinking of the tissues in a certain direction or an increase in space underneath a specific part of the hand that is performing the release.<sup>15</sup> Through mechanoreceptors there is a “neuroreflexive change” in which afferent stimulation at the spinal cord, brainstem, and cerebral cortex results in an efferent alpha motor neuron change.<sup>16</sup> Bouffard states that stretching tissues with this treatment decreases transforming growth factor (TGF)-beta 1, a protein responsible for wound healing and cell growth which can become overstimulated and cause adhesions.<sup>32</sup> This may explain why manual therapy techniques reduce adhesion development.<sup>5, 17, 32</sup> In a study by Bove and Chapelle, manual mobilization of fascial adhesions resulting from abdominal trauma was used to not only resolve adhesions but to also prevent further abdominal adhesions from forming.<sup>4</sup>

Intervention details for this case are detailed in Table 1. Treatment was first focused on resolving anterior right lower quadrant abdominal pain at the laparoscopic site due to the patient reporting the most pain (7-8/10 on the VAS) with palpation at that site. Indirect fascial release was first attempted, using techniques of sinking and softening and a gentle cross hand pull of the skin around the incision as restrictions released.<sup>15-16</sup> Lateral incision pain after a Pfannenstiel’s incision has been shown to be common and likely due to either nerve entrapment or adhesions, which may have been what this patient was experiencing.<sup>29</sup> Direct fascial release was initiated primarily on the right side of the Pfannenstiel incision, with applying pressure and waiting for the softening of the tissues. It was mobilized in all directions until tenderness or a barrier was felt. Pressure was applied in the direction of the barrier, or the direction in which the incision did not move, and held until it softened. The natural motion was followed as each new barrier was encountered until no further barriers were felt.<sup>15</sup> For this patient, fascial restrictions released

through the abdominal cavity, traveling up into her lower right ribs and posterior lower back. Care was taken during MFR to avoid overly aggressive pressure and pull during treatment as breaking fibrous adhesions abruptly can cause small wounds to the surrounding tissues, which may actually increase the adhesion as the body attempts to repair itself.<sup>5</sup>

In addition to manual work, pelvic floor strengthening exercises in supine and sitting were given for her home exercise program starting at two sets of ten repetitions, two to three times a day. She was instructed in stretching the abdomen gently through lying prone on the elbows and with lateral trunk rotation for four repetitions of thirty seconds each, two to three times a day. Diaphragmatic breathing was incorporated as restrictions were encountered that were not releasing with manual pressure alone.<sup>5, 16</sup> The patient was also instructed in scar massage and asked to perform daily.<sup>19</sup>

As the adhesions released, the patient reported less abdominal and pelvic pain, decreasing to 2-3/10 on the VAS. Therapeutic exercises were initiated at the third visit when the pain was more controlled (see Table 1), typically in increments of 10 repetitions and one to two sets. Exercises were aimed at reeducation of the abdominal muscles and strengthening of the pelvic floor to improve overall pelvic stability. By the fourth visit, the patient's abdominal and pelvic pain had nearly resolved. She continued to complain of SIJ and buttock pain that appeared to be more musculoskeletal in nature and subsequently treatment was shifted to address the pain with a more typical orthopedic approach. Muscle energy techniques (MET) such as the "pubic shotgun" were performed to assist in realignment of the right anterior innominate and superior right iliac crest as the adhesions that were holding them in that position were released.<sup>15-16</sup> Stabilization exercises were continued and progressed as the patient was able. Lumbar stabilization exercises included isometric abdominals with upper extremity lift, lower extremity lift, and alternate upper extremity and lower extremity lift, all starting at one set of ten repetitions and increasing by five to ten repetitions as the patient was able. Additional manual work was performed based on the patient's symptoms including releases of the gluteals, tensor fasciae latae, iliotibial band, and iliopsoas.<sup>15</sup>

Despite treating the patient with this more traditional orthopedic approach, her pain persisted. Because the pain did not resolve with the typical orthopedic approach but did with manual work for adhesions, her condition was believed to be primarily fascial and the original hypothesis was reinforced. Manual work was therefore continued on the abdomen, using direct

myofascial release on the left and middle Pfannenstiel incision which gave the patient significant improvement, being able to sleep for 5 hours without waking due to pain. The additional laparoscopic surgery likely caused additional adhesions in an abdominal cavity that was already limited. This would explain why the sharp right lower quadrant pain and dyspareunia resolved rather quickly in the plan of care but the SIJ and low back pain took additional treatments since it was a more chronic condition.

### **Outcomes**

After 13 visits the patient reported a dramatic improvement in abdominal and pelvic pain. Pain and “burning” with sexual intercourse had totally resolved. She continued to have an occasional sharp pain in her right lower quadrant which lasted no more than 1-2 seconds but typically was no higher than 1/10. Her average VAS had decreased from 7/10 at the initial evaluation to 1-2/10 at her thirteenth visit. The patient was able to perform all work duties with pain no greater than 2/10 and did not have any limitations in daily activity, although she had not attempted to return to cardiovascular exercise. The Pfannenstiel incision received a score on the Vancouver Scar Scale of 2/13 (down from 4/13) with 2 points referring to the pliability of the incision as yielding and giving way to pressure. The patient’s only residual complaint was that SI pain at night persisted, although it had gotten much better. She had been able to sleep for 5 hours without waking due to pain but still had difficulty finding a comfortable position. Compliance with her home exercise program was not as prescribed due to significant family and work issues; therefore, progress did not occur as quickly with low back/buttock pain. PDI results decreased from 33 at the initial evaluation to 13 at the eleventh visit indicating an overall improvement in her perception of how the pain was affecting her life.

### **Case Reflection**

Overall this case had excellent results. However, there are some aspects of the case that may have been performed differently if given a chance. Use of an Adheremeter may have been beneficial to measure the adherence of the scar and give better objective reporting of progress.<sup>33</sup> Abdominal and lumbar stabilization exercises would have been initiated sooner and performed with greater intensity in order to stabilize the lumbar spine as adhesions were being released. While the patient did not have significant complaints of low back pain during her sessions, this type of strengthening may have decreased the SIJ pain by giving increased stability. Internal MFR was not regularly performed, but it may have been beneficial to do it more frequently during her sessions to achieve quicker results with resolving her dyspareunia. Compliance to her home exercise program was a barrier to the overall progress during treatment. Greater compliance may have resulted in more advanced exercises to further address and even resolve remaining deficits.

This case has demonstrated that as a women's health physical therapist, it is important to perform a thorough evaluation to find the primary source of a patient's pain. Being able to thoroughly assess the pelvic floor muscles is vital to the differential diagnosis of pelvic pain. Due to their potential impact in the body, physical therapists must consider that adhesions could be primary sources of the musculoskeletal dysfunction. Adhesions may not cause problems initially after surgery but can accumulate over time.<sup>6</sup> Because gynecological surgeries are one of the main sources of adhesions, women's health physical therapists are likely to encounter this type of issue frequently in practice.<sup>7</sup> Therefore, women's health physical therapists should always ask about prior surgeries and assess scars for potential contributions to pain, especially with pelvic pain and dyspareunia.

Treatment Number		1	2	3	4	5	6	7	8	9	10	11	12	13	
Myofascial Release	Right Laparoscopic Incision	Initial Evaluation	x <sup>i</sup>	x <sup>i</sup>		x <sup>i</sup>		x <sup>i</sup>			x <sup>i</sup>				
	Left Laparoscopic Incision							x <sup>i</sup>			x <sup>i</sup>		x <sup>i</sup>		
	Right Pfannenstiel		x	x	x	x		x		x		x			
	Middle Pfannenstiel									x		x	x		
	Left Pfannenstiel				x			x		x		x	x		
	Iliopsoas			x	x			x		x					
	Gluteals				x	x	x	x				x			
	Iliotibial Band					x	x	x	x	x					
	Piriformis				x	x		x							
	Left Ovary													x	x
	Pelvic Diaphragm		x												x
	Sacral Decompression														x
	Right Lower Ribs/Trunk				x	x	x	x	x						
	General Abdominal			x <sup>ch</sup>	x										
Thoracolumbar Fascia											x				
Therapeutic Exercise	Pelvic Floor Contractions	x	HEP												
	Prone on Elbows	x	HEP												
	Lower Trunk Rotation		x	x	HEP										
	Deep Breathing	x	HEP												
	Isometric Abdominals			x	HEP										
	Transversus Abdominis				x		HEP								
	Clamshell–Gluteus Medius			x	HEP										
	Lumbar Stabilization				x	x	HEP								
	Iliopsoas Stretch			x	HEP										
	Piriformis Stretch						HEP								
Anterior/Posterior Pelvic Tilt													x		
Muscle Energy Techniques	Leg Pull			x	x										
	R Anterior Innominate				x									x	
	R Superior Iliac Crest				x									x	
	Sacral Mobilizations										x				

Table 1 x<sup>i</sup> = indirect technique, x<sup>ch</sup> = cross hand technique

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