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The Significance of Time Intervals Between Neuromuscular Treatments to Reduce Groin/Pubic pain and Improve Quality of Life in 63 Year Old Female with History of Abdominal surgeries

There are several options today to relieve groin pain. In many cases analgesics, muscle relaxers, antidepressants, anti-inflammatory, physical therapy and injections are prescribed, as well as surgical intervention. Neuromuscular intervention is a conservative approach that can help relieve groin and pubic pain for clients who have a history of abdominal surgery. This conservative approach may prevent other invasive treatments or side effects from medication. There are multiple origins of pubic and groin pain; I started with the client's history of surgeries to find the cause.

Abdominoplasty refers to a cosmetic surgery also known as a tummy tuck this can be performed by removing excess fat, and or making an incision into the abdominal muscles and tightening them down to the pubic bone [8](#). There were 117,158 tummy tucks performed in 2014 [1](#). Pooled data showed that 1.94% of patients sustained specific nerve injury, and 1.02% of patients sustained permanent injury after abdominoplasty. In addition, 7.67% experienced decreased sensation, 1.07% reported chronic pain, and 0.44% reported temporary weakness or paralysis. Nerves directly injured were the lateral femoral cutaneous (1.36% of patients) and iliohypogastric (0.10%) nerves. Nerves injured from surgical positioning were the brachial plexus (0.10%), musculocutaneous (0.10%), radial (0.05%), sciatic (0.19%), and common peroneal (0.05%) nerves [7](#).

Hysterectomy is a surgical procedure to remove all or part of the uterus. The CDC recorded that there are 600,00 women in America who undergo a hysterectomy annually, making it the 2nd most frequent surgery in women who are of the reproduction age in the U.S. [2](#). According to a nationwide questionnaire in published in 2007 31.9% of women have pelvic pain 1 year after a hysterectomy [13](#).

Osteitis pubis represents a non-infectious inflammation of the pubic symphysis causing varying degrees of lower abdominal and pelvic pain. Although, the disease is believed to affect mainly young athletic patients, it is also encountered in other specific patient groups [5](#). Osteitis Pubis is typically described as pain over pubic area, or inguinal region and is acutely tender.

Key words searched were; groin pain, pubic pain, hysterectomy, abdominoplasty, osteitis pubis. The most relevant articles I found were: Delayed Onset of transverse abdominus in long standing Groin Pain [9](#), Longstanding Adduction Related Groin Pain in Athletes [10](#), The Role of Abdominal Recruitment in Athletes with Longstanding Adductor Related Groin Pain [14](#), Groin Pain and Injury [11](#), Osteitis Pubis: A Diagnosis for the Family Physician [4](#), Osteitis pubis in a 78 year old female [6](#), Conservative Interventions for Treating Exercise-Related Musculotendinous, Ligamentous and Osseous Groin Pain [12](#), The Nationwide Hysterectomy Questionnaire [13](#), Nerve entrapment in abdominal aponeurosis [15](#).

These articles shed light on the appropriate muscles to consider in treatment and understanding of the possible dysfunctions that can occur at this site as well as statistics of how many are affected by groin pain. These articles were informative to possible dysfunctions such as nerve injuries, nerve entrapment, or a kinetic chain dysfunc-

tion. They helped me realize there are multiple origins for groin pain and some have basic tests that can help to rule out possibilities. This research has helped clarify the kinetic chain dysfunction that can occur in the pelvic region involving the abdominal/low back and adductors and the role they play on the position of the pelvis, specifically the pubic bones and pubic symphysis. These articles opened my eyes to the large amount of post surgical population who still have pain.

This study is about a 63 year old female who has High Blood Pressure, Diabetes, IBS, Visual Impairment, and has had bladder infections for the past 3 months, currently taking insulin and antibiotics, blood pressure medications. The client has had a history of cyst removal (2) on ovaries, removal of one ovary, hysterectomy (removal of 2nd ovary), a tummy tuck (2002), gall bladder removal (2005), appendectomy (2002), removal of adhesions, hematoma around naval area, follow up surgery on naval area due to infection contracted staph infection. Uncertain why she was in pain she turned to her doctor describing the abdominal pain as severe and similar to labor pains on her abdominal area, pelvis and groin. This was preventing her from being able to walk for more than a few minutes at a time, and from being able to balance while standing. She was prescribed Hydro-codeine for pain relief and underwent several tests to rule out serious conditions including; colonoscopy, endoscopy, cystoscopy, and she saw a gynecologist. All of these were unable to find a cause for the severe pain. She was eventually referred to the local Pain Clinic and was not accepted as a patient due the inability to discover the cause of the pain.

This subject's goals were to have less pain and pressure in lower abdomen and pubic bone, be able to walk with no pain. This pain started Summer of 2014 had eased

up for a few months and became irritated for an unknown reason recently. Client reports that she must prop pillows under her legs and lie on her side to be able to get relief. VAS was used to measure the level of pain, she also kept a pain journal between sessions. Client was encouraged each session to draw the areas of pain/pressure on a Pain Diagram. Upon visual assessment client presents with several scars on the abdomen, naval and inguinal area, very tight tissue found throughout the abdomen, all abdomen tissues were non compliant upon palpation. Client states she had fallen a few weeks ago, this was after the pain had began and had some bruising on abdomen as a result of the fall.

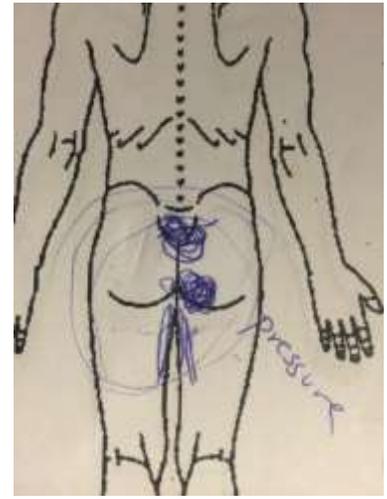


Lines/dots = scars

X = pain

2 circles are discolorations of skin
(bruising)

colored = discomfort/bressure



Treatment: 9-10-15

Duration: 40 minutes

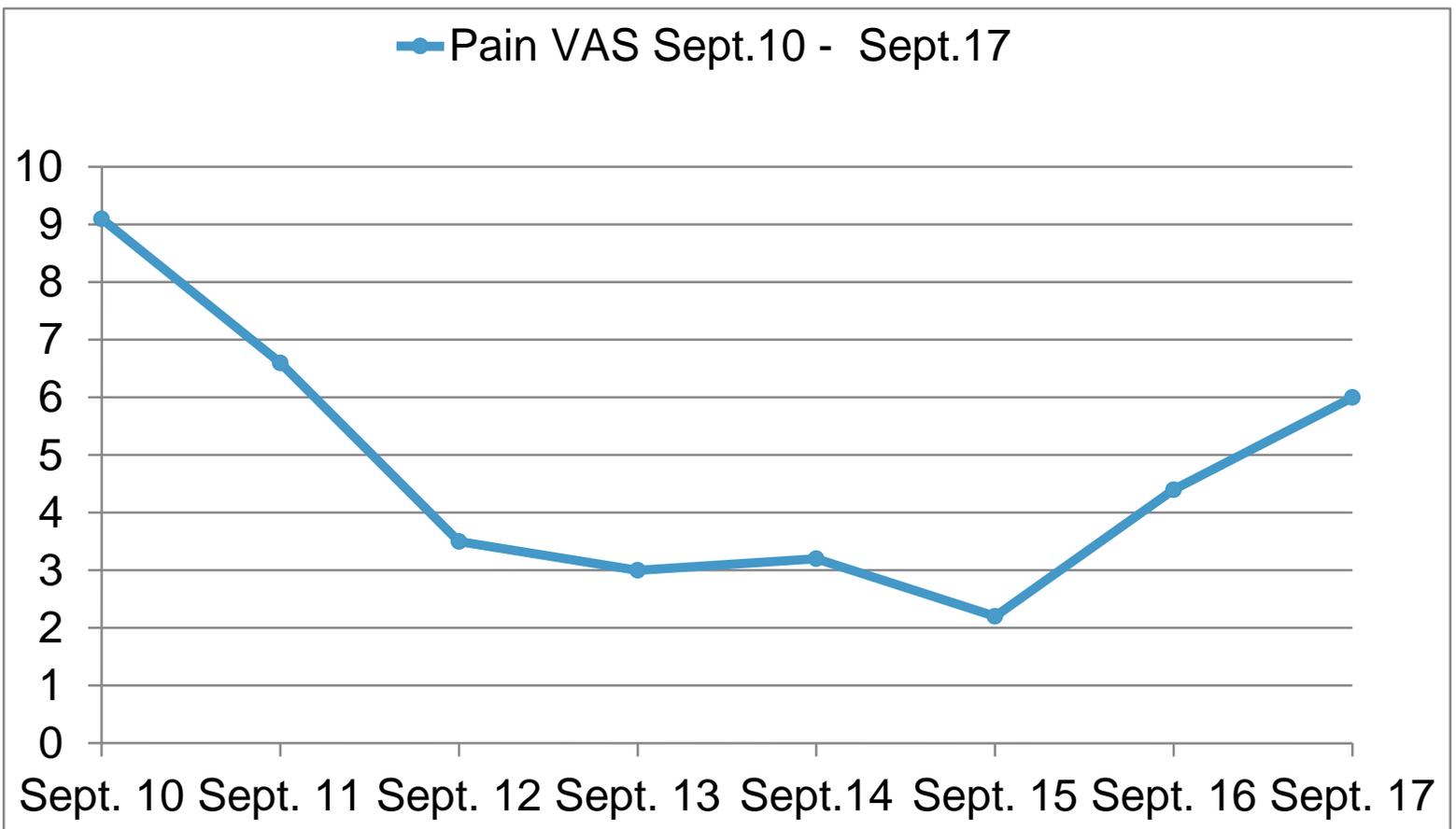
Tools: VAS, visual ROM of spinal rotation

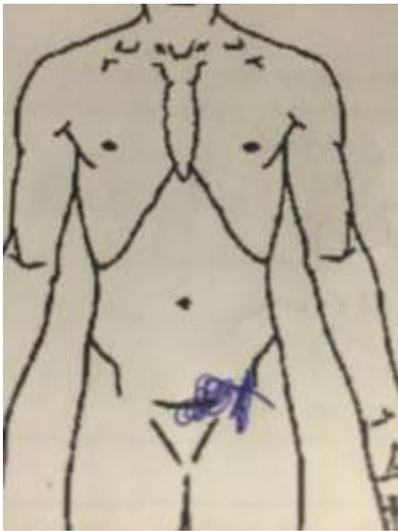
VAS Pre Treatment was a 9 and had restriction when rotating spine to the right.

VAS Post Treatment was a 8 and still had slight restriction rotation of spine to right.

I started client supine working with scar above the naval with slow multi-directional fiber friction allowing tissues to react for 3 minutes then assessed lower scar from tummy tuck with slow multi-directional fiber friction on scar tissue. This scar is the largest spanning from one hip below inguinal area and ending at the other hip to address the entire scar with slow cross fiber friction it took 15 minutes. Pincer palpation and TrP work on upper fibers (from ribs to navel) of Rectus Abdominus for 7 minutes. Myofascial work with pincer grasp on upper portions of L. External Oblique and L. Internal Oblique to release any adhesions, there I found several trigger points with a local twitch response. I palpated a very tender area that was non compliant on the L. External Oblique and focused on this area with a pressure of 3 this was tolerable for the client. Then treated the pubic bone attachment for the Rectus Abdominus, Abdominal Aponeu-

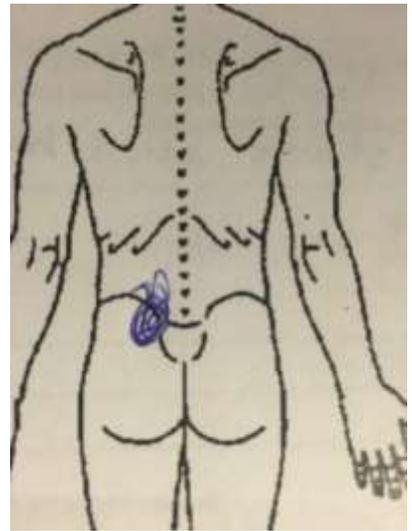
rosis and Obliques. This attachment site was the most significant for the client, I performed digital compression and small amount of multi-directional fiber friction along the attachment site bilaterally, using client feedback as the pain subsided I moved to a new portion of the attachment site this lasted 10 minutes. I finished treatment with Contract Relax technique for the Rectus Abdominus, and External Obliques bilaterally for 5 minutes, and a hot towel over the abdomen.





Colored = discomfort

X = pain



Treatment 9-17-15

Duration: 45 minutes

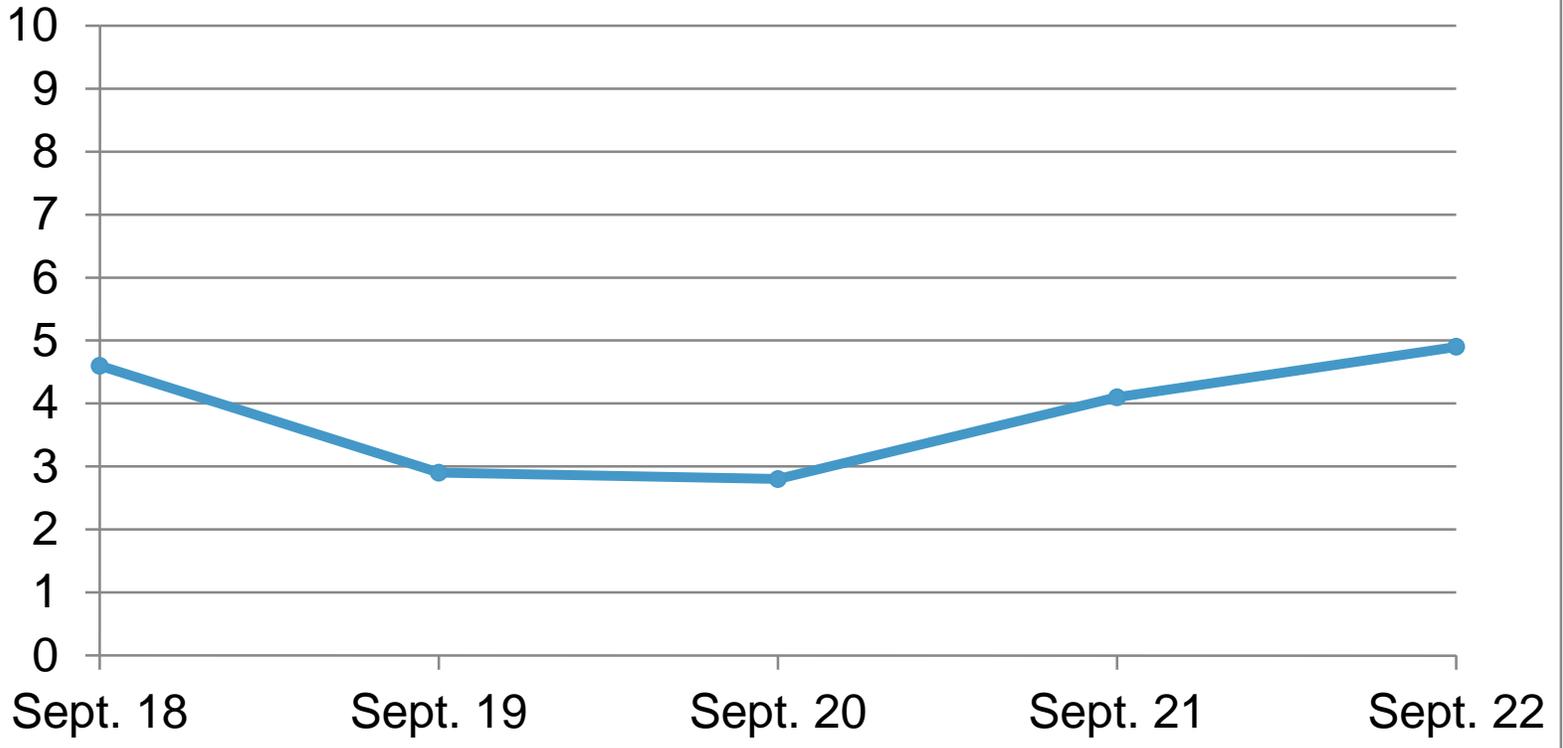
Tools: VAS and rotation of spine using goniometer

Pre Treatment VAS 6 Client reports moving around better

Post Treatment VAS 4

With client positioned in supine, hot pack was placed on abdomen and pubic area for 4 minutes. Pincer grasp treatment on upper fibers of L. External Obliques for 6 minutes, pincer grasp TrP work on upper fibers of L. Rectus Abdominus for 6 minutes. Treatment of the lower scar with multi-directional fiber friction and J stroke slowly pulling tissues in different directions to release any adhesions that might be present for 12 minutes. Multi-directional fiber friction was performed at the pubic bone attachment site bilaterally for Rectus Abdominus, Abdominal Aponeurosis and Obliques with a 5 pressure. Contract Relax techniques were performed for External Obliques and Rectus Abdominus bilaterally. Hot towel with pincer grasp on L. External Obliques.

Pain VAS Sept. 18 - Sept. 22





X = pain

Treatment 10-8-15

Duration: 40 minutes

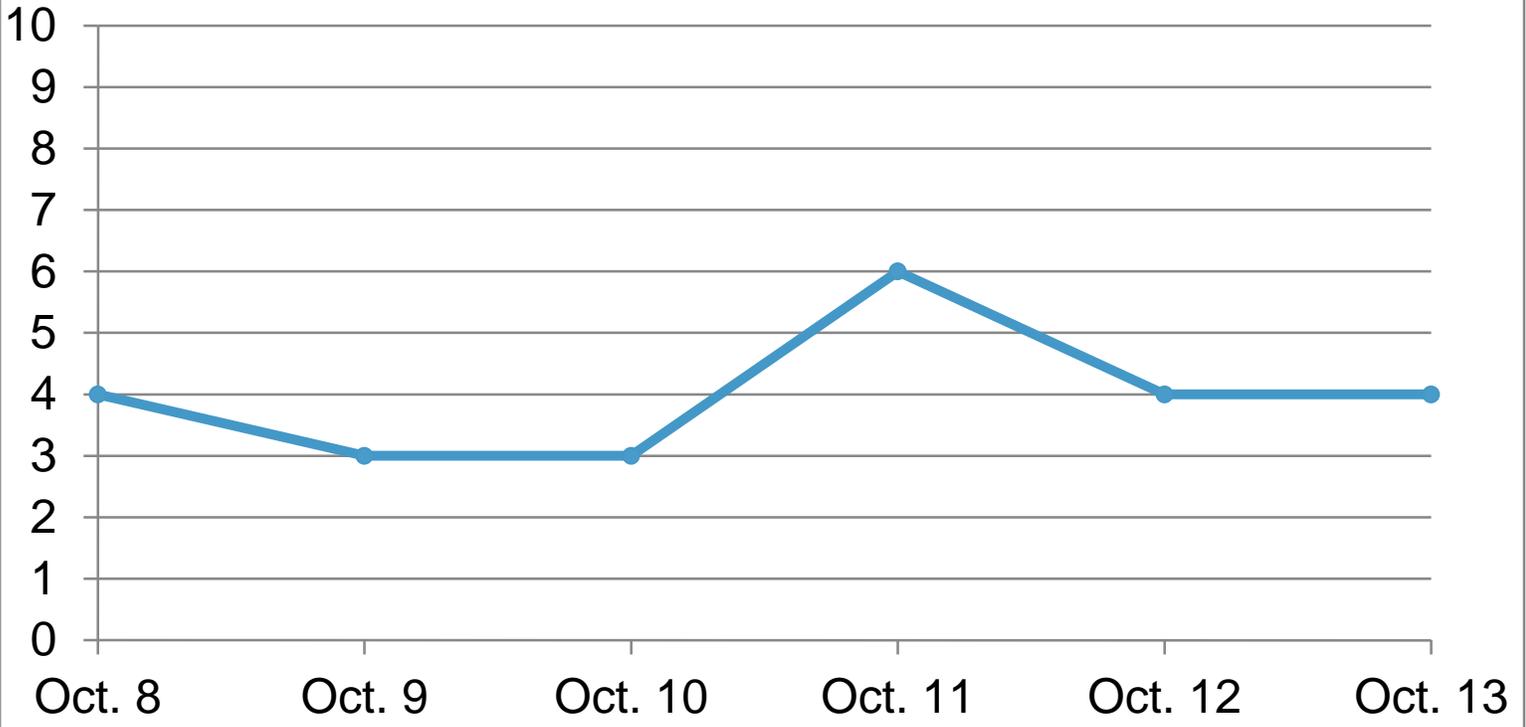
Tools: VAS, rotation of spine using goniometer, Thomas Test

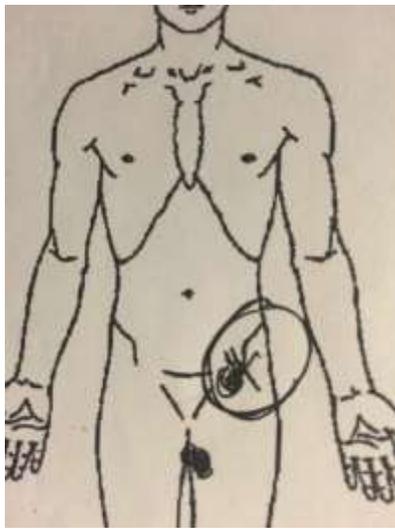
Pre Treatment VAS 8 client is having trouble walking and R. inguinal/groin pain with Pain on Left when rotating spine to the Left

Post Treatment VAS 4

Client lying supine I treated R. Pubic bone attachments of R. External Obliques, abdominal aponeurosis, and Rectus Abdominis with multi-directional fiber friction for 6 minutes, this was very tender for client. Myofascial work and slowly pulling in different directions through R. Internal Obliques for 5 minutes and L. Internal Obliques for 5 minutes, there I found adhesions in both of these muscles. Client tested positive in Thomas Test for R. Iliacus, while treating Iliacus in supine position with lengthening techniques for 3 minutes client experienced significant tenderness. TrP work in R. Gluteus Medius in side lying for 5 minutes. I treated R. Rectus Femoris with slow gliding with the fiber directions including cross fiber friction at attachment near acetabulum for 8 minutes, and L. Gluteus Medius anterior fibers were treated with TrP work for 3 minutes in side lying.

Pain VAS Oct. 8 - Oct. 13





X = pain

Lines = asymmetry

Colored = discomfort



Treatment 11-23-15

Duration: 40 minutes

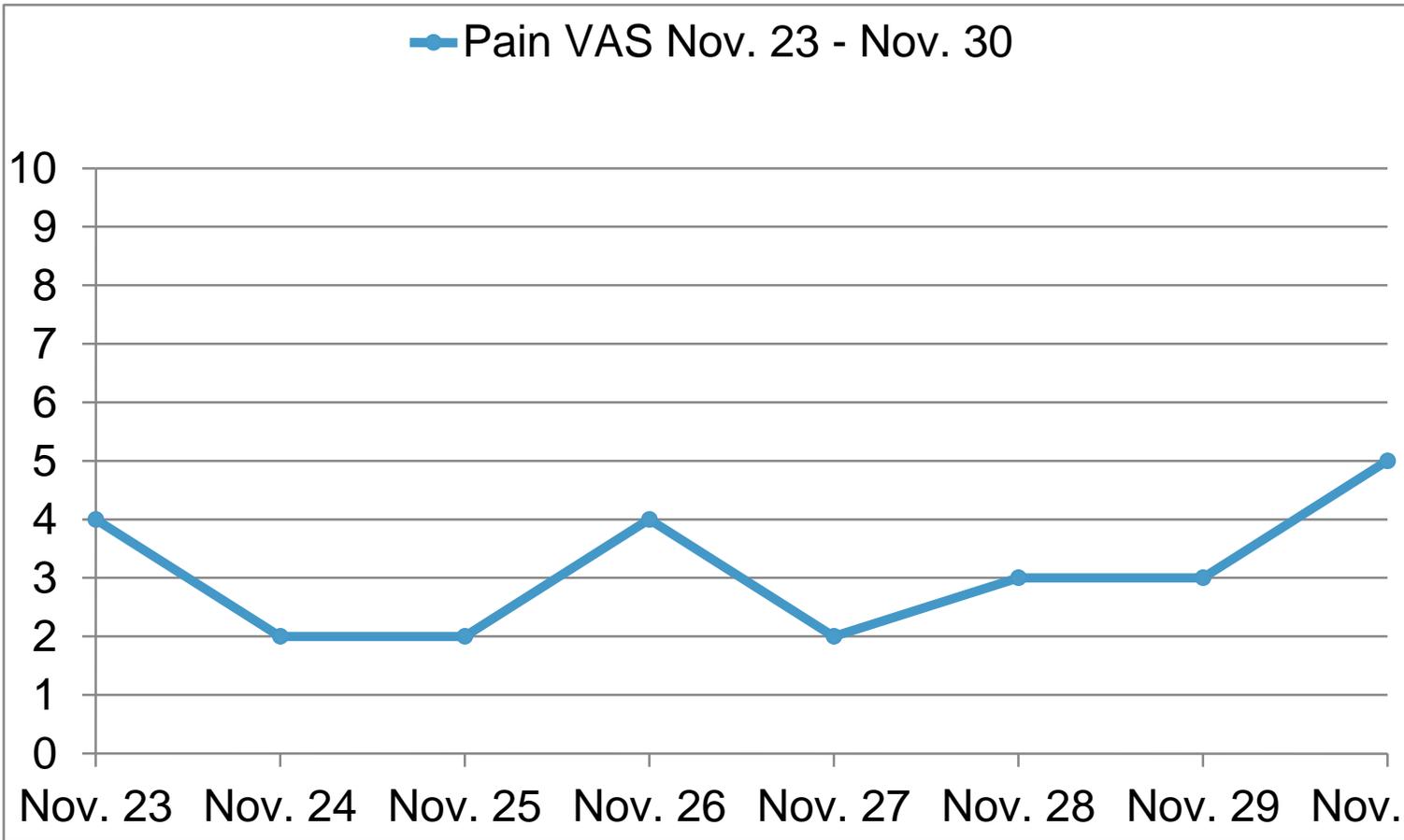
Tools: VAS, ROM rotation of spine using goniometer, posture assessment, Ely's Test, ROM Hamstrings using goniometer

Pre Treatment: VAS 4, R. Hamstrings 136, L. Hamstring 153

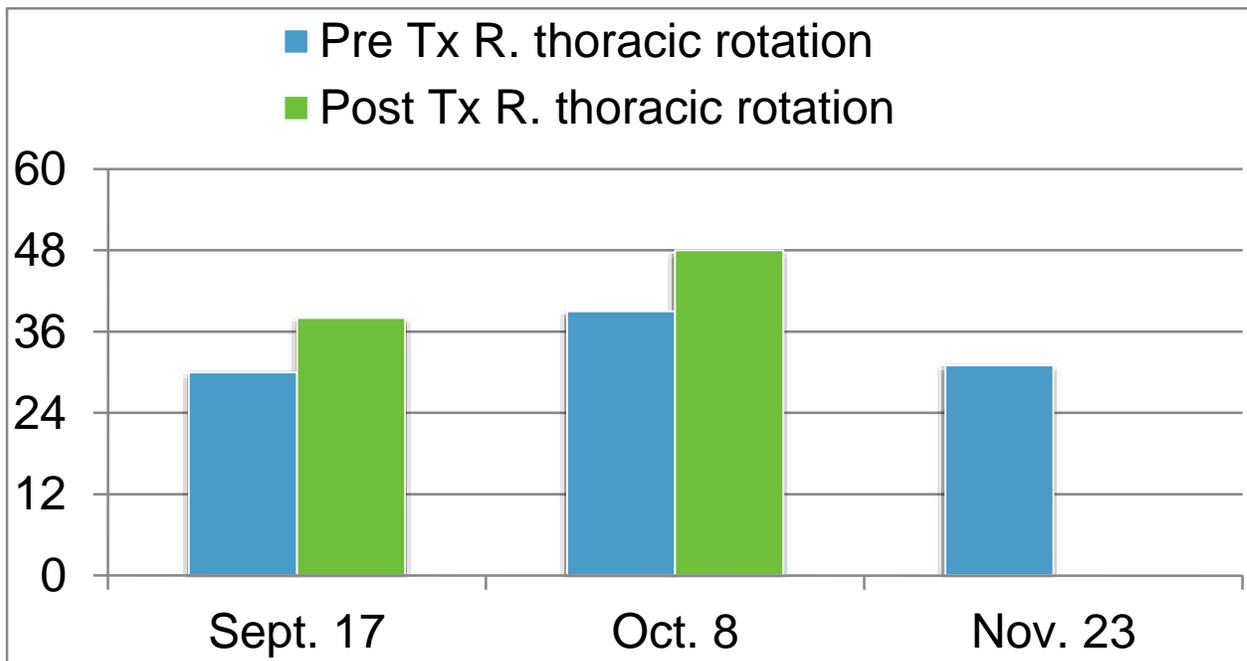
Post Treatment VAS 2, R. Hamstrings 150, L. Hamstring 144

Posture Assessment shows R. leg longer than L.

Measured ROM of Hamstrings with a goniometer, this presented restrictions. I treated the Hamstring muscles as a group with glide and go lengthening while passively taking the knee through flexion and extension and cross fiber friction work at attachment on the ischial tuberosity for a total of 10 minutes. I checked leg length while client supine on table showing R. leg presented longer. R. Rectus Femoris tested positive with Ely's Test, I treated the R. Rectus Femoris by gliding with fibers of the muscle belly while client was prone checking for TrPs and cross fiber friction at the attachment sites for a total of 10 minutes. I treated R. Adductor Magnus with client side lying performing small scooping and lengthening strokes with fibers of R. Adductor Magnus for 7 minutes.

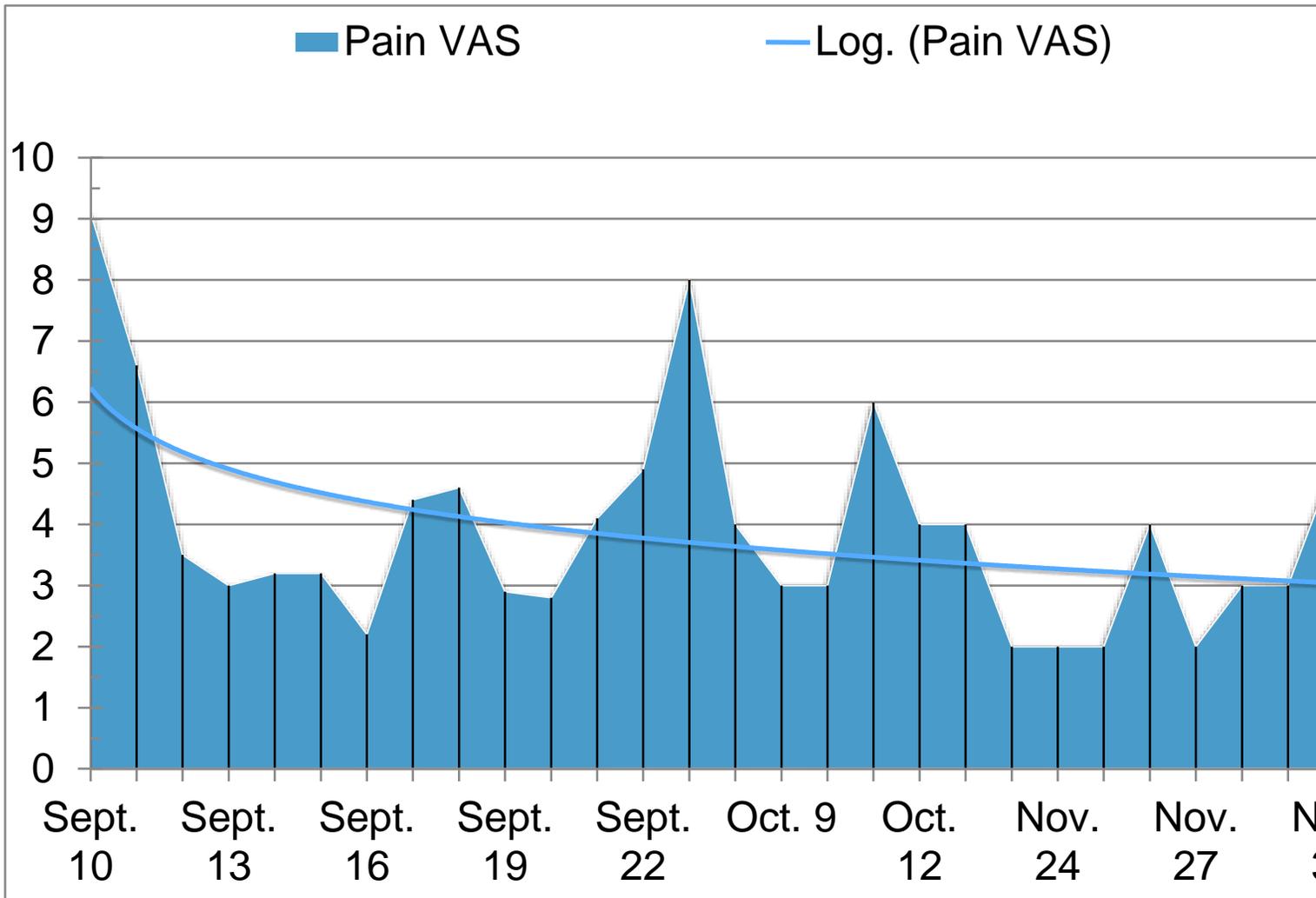


Rotation of thoracic spine was measured inconsistently and is incomplete



This chart represents the Pain Visual Analog Scale from day one of treatment to the last date client gave feedback.

Treatment Dates: Sept. 10, Sept. 17, Oct.8, Nov. 23



Neuromuscular treatments show to have relieved a significant amount of pain the client experienced for as long as 5 days after a treatment. The 1st interval between treatments was 7 days, pain dropped as low as 2 increasing after 5th day. The 2nd interval was 21 days, pain had dropped from 5 to 3 and began to increase after 3rd day. The 3rd interval of 46 days dropped as low as a 4 and began to rise by day 3. Neuro-muscular treatments have a positive influence on mobility, function and pain levels. There are still areas that need to be explored such as optimal timing between treatments, and muscle firing patterns. Challenges were scheduling treatment dates due to availability, and accurately measuring rotation of thoracic spine. These findings can be significant to clients who experience idiopathic abdominal, inguinal and groin pain giving them hope for a non invasive, inexpensive option for treatment. Suggestions for future studies would be to have a client who is treated with consistent intervals and note the change that makes in pain levels. In the future I would have questionnaires, VAS, Pre and Post treatment measurement forms more standardized with intervals and a Pain Journal for the client to fill in at home with no gaps in dates. Further study is needed to have more conclusive information.

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