Pilates for Lower Back Pain; Lumbar Disc

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ABSTRACT

There are many terms used to describe spinal disc pathology and associated pain, such as: "herniated disc," "pinched nerve," and "bulging disc"; and these terms are being used interchangeably. However, despite the different verbal expressions, it is clear that lower back pain affects everyone in modern society. Spinal discs play important roles in the lower back functions such as: absorbing shock between the vertebrae, supporting the upper body, and allowing a wide range of movement in all directions. While a spinal disc is a crucial part of the body for the movement and provide supports for our daily lives, it can, however, cause a serious pain in the back and can possibly cause nerve pain down the leg if it herniates.

This paper specifically focuses on the utilization of Basi Pilates Block System on Lumbar herniated disc. The use of pilates to bring awareness of body movement habits that may stress the spine will also be address in the paper, along with the methods for helping patients to change these habits to keep the neutral alignment. Awareness of excessive tension and the use of proper focus help patients to use their body efficiently. The following case study outlines a conditioning program using the Basi Block System, adapted for a client who has a lower back pain with lumber disc herniation.
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Anatomical Description – Lumbar Disc Herniation

The lumbar spine, more commonly known as the lower back, consists of five vertebrae, L1 through L5. The lumbar is positioned between the thoracic, or chest, region of the spine, and the sacrum. The lumbar vertebrae are the biggest unfused vertebrae in the spine column, which supports the weight of the entire upper body. The lowest segments, L4-L5 and L5-S1 support the most weight, therefore, these are most prone to injury such as herniated or bulging discs.

The spine is composed of a column of 33 bones called vertebrae stacked upon one another. The discs - a tough fibrous pad which is cushioning the joints of the spine are positioned between the vertebrae acting as shock absorbers and keep the spine flexible. If one of these discs are

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damaged, it may bulge out or slip out. It is called a spinal lumbar herniated disc or ruptured disc which can cause pain in the lower back, or radiating pain to the legs and feet. Often times, a herniated disc or ruptured disc will press upon a nerve running through cause severe pain, weakness in the area of the body that nerve controls.

Symptoms of a herniated disc may include dull or sharp pain, sciatica, and leg weakness. Sneezing, coughing, or bending usually intensify the pain. A sciatica is a main symptom, which is caused by the leaked disc material affecting the large sciatic nerve. When a nerve root in the lower back is irritated, pain and symptoms may down the back of the leg and into the foot and toes.
Pain from sciatica radiates from the buttock down the leg and can travel as far as to the feet and toes.
CASE STUDY

Name: Helena Lee

Age: 34

Limitations: lower back pain due to poor posture and disc bulge posterior L4/L5 for 5 years.

Treatments: Chiropractic, physical therapy and acupuncture.

As a web designer, sitting in front of the computer and looking at the screen for all day, she has been getting stresses at her spine. She has had a poor posture with mild hyperlordosis, causing weak abdominals, tight psoas, weak inner thigh muscles, tight hamstrings, tight back extensor, chin and neck too far forward (turtle neck). Besides, she often sits with her legs crossed and it caused her pelvic imbalance.

I created a program to restore her body balance to reduce the load on lower back, strengthening weak areas such as core abdominal and hip abductors, and stretch out tight psoas and hamstrings. Emphasis was given on flexibility and strength around the hip flexors and extensors in order to reduce the lumbar pain. Improving body awareness and postural correction were the top priority in this program.
Conditioning Program - BASI Block System

Warm Up

On Mat
Pelvic curl, Spine Twist Supine, Chest Lift, Chest Lift with Rotation

<After 10 sessions>

On Mat
Roll Up, Double Legs Stretch, Single Leg Stretch, Criss Cross, Spine Twist Supine

<After 20 sessions>

Cadillac
Roll Up with Roll Up Bar, Mini Roll-Ups, Mini Roll-Ups Oblique, Roll-Up Top Loaded, Spine Twist Supine (Holding poles of a Calillac)

Foot Work

Reformer
Parallel Heels, Parallel Toes, V Position Toes, Open V Heels, Open V Toes, Calf Raises, Prances
Single Leg Heel, Single Leg Toes

<After 20 sessions>

Cadillac
Parallel Heels, Parallel Toes, V Position Toes, Open V Heels, Open V Toes, Calf Raises, Prances
Single Leg Heel, Single Leg Toes

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Abdominal Work

Reformer

Hundred Prep, Hundred, Coordination

<After 10 sessions>

Cadillac

Breathing with Push Through Bar, Bottom Lift with Roll Up Bar

Hip Work

Reformer

Frog, Down Circles, Up Circles, Opening

<After 10 sessions>

Down Circles, Up Circles, Extended Frog, Extended Frog Reverse

<After 20 sessions>

Cadillac

Frog, Down Circles, Up Circles, Walking, Bicycles & Reverse

Spinal Articulation

Reformer

<After 10 sessions>

Bottom Lift, Bottom Lift with Extentions

<After 20 sessions>

Cadillac

Monkey Original, Tower Prep, Tower
**Stretches**

**Reformer**

Standing Lunge

*After 10 sessions*

Kneeling Lunge

*After 20 sessions*

**Ladder Barrel**

Hamstrings, Gluteals, Adductors, Hip Flexors

**Full Body Integration**

**Reformer**

Up Stretch 1, Elephant

*After 10 sessions*

Up Stretch 1 & 2

*After 20 sessions*

**Cadillac**

Sitting Forward, Side Reach

**Arm Work**

**Reformer**

Arms Supine Series – Extension, Adduction, Up Circles, Down Circles, Triceps

*After 10 sessions*

Arms Sitting Series – Chest Expansion, Biceps, Rhomboids, Hug-A-Tree, Salute
Lateral Flexion/Rotation

Reformer

Mermaid

<After 10 sessions>

Wunda Chair

Side Stretch

Back Extension

Reformer

Breaststroke Prep or Pulling Straps 1

<After 10 sessions>

Cadillac

Prone 1

<After 20 sessions>

Wundar Chair

Swan Basic or Swan on Floor
Conclusion

The emphasis of this program using Basi Block System was strengthening abdominals especially transversus abdominals to improve pelvic-lumbar stability and stretch the tight hip flexors, hamstrings and glutes. Engaging hamstring to gain strength helped her hyperlordosis correction. The focus of back extension was primarily on strengthening the upper back extensor to reduce the lumbar-disc pain and to correct her forwarded neck. With the back extension exercises, she strengthened her spinal extensors, increasing the ability to use her abdominals to protect the lower back.

After a few sessions with Basi Block System, she had many positive changes like increased core and abdominal strength, and improved pelvic lumbar stability. This leads her daily life to be more positive. As Joseph Pilates mentioned, ‘Return to Life’, regarded his method, she puts Pilates as a part of her life. I believe the Basi Block System provides a safe instruction for an individual and will be able to create an effective aid.
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