

Lower Back Pain Related to Hyper-extended knees

Structural Yoga Therapy Course

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1. Case Study

A. Initial Intake: Lisa is 20 years old. She is a 3rd year college student working towards a B.S. in Psychology. In addition to being a full time student, she has 2 different part time jobs. Lisa has 2 loving parents, 1 older brother and a dog for 11 years. She also is in a committed relationship of 2 years. Lisa admits to feeling stress due to all of her commitments. She is struggling with anxiety but diligently working to get a better handle on it. Although she does have a prescription for zanax, she very rarely uses it. She feels better just knowing she has it there. Lisa spends much of her free time with her boyfriend and her few close friends. However, she admits she doesn't enjoy having much free time because it adds to her anxiety. Her only current hobby is black and white photography. This makes her feel like she's getting something accomplished while giving her pleasure.

Lisa was very physically active as a child. In grammar school she played soccer, basketball, swimming, tennis and gymnastics. She continued playing soccer until her 3rd year in high school. However, during her middle school years, her knees, mostly her left knee, began to give her severe aches and difficulty. During this time she had visited an orthopedic/Sports Medicine doctor who treated her injury. An MRI taken in 2001 showed that she had bursitis in the left knee. She continues to play soccer for 4 years after this diagnosis but eventually the pain forced her to stop playing her favorite sport.

Seven years have past since her last visit with an orthopedist and she is still struggling with her knees. She feels very limited with what types of exercise and sports related activities she can do. They often feel weak and ache when she engages in physical activity. She also complains of lower back pain, especially when standing up for a long period of time. Lisa is also has been a smoker for 5 years, but would like to break her habit. Lisa's Structural Yoga Therapy (SYT) goals are to improve her lower back pain and have better control over her knees.

B. Physical Assessment

The physical assessment was done over 2 sessions. The first session, April 25, 2008, included the intake interview, sacroiliac test and Muscle testing from the waist down.

The second session May 2, 2008, included additional interview information and range of motion (ROM).

Body Reading:

- five feet 2 ½ inches tall
- average to small build
- pale skin with a slightly dry appearance
- has poor standing posture; rounded shoulders and locks her knees
- both knees are hyper extended
- shoulders and hips are proportionate
- breath stays high in chest. Has trouble expanding belly when breathing.
- SI joint does not move on either side when leg lifts up

Range of Motion Assessments							
Joint Action	ROM	April	April	June	June	July	July
		25	25	6	6	31	31
	Norm°	Left	Right	Left	Right	Left	Right
ANKLE							
Dorsiflexion	20°	18	18	20	20	20	20
Plantarflexion	50°	60	60	60	60	60	60
Eversion	20°	15	15	15	15	15	15
Inversion	45°	30	32	30	32	30	32
KNEE							
Extension	0°/180°	180+	180+	180+	180+	180+	180+
Flexion (Supine)	150°	120	120	125	125	127	127
HIP							
Flexion (Bent Knee)	135°	110	110	120	115	120	115
Flexion (Straight-Leg Raise)	90°	80	85	85	90	85	90
Flexors-quad/psoas restriction	NSS						
External Rotation (Supine)	45°-60°	45	45	50	45	50	45
Internal Rotation (Supine)	35°	25	25	25	25	25	25
External Rotation (Prone)	45°-60°	60	65	60	65	60	65
Internal Rotation (Prone)	35°	30	35	30	35	30	35
Adduction (Side Lying)	30°-40°	45	45	45	45	45	45
Abduction (Side Lying)	45°	45	45	45	45	45	45

Muscle Testing Assessments						
Joint Action	April	April	June	June	July	July
	25	25	6	6	31	31
	Left, 1-5	Right, 1-5	Left, 1-5	Right, 1-5	Left, 1-5	Right, 1-5
ANKLE						
Dorsiflexion	4	4	4	4	4 1/2	4
Plantarflexion	3	4	4	4	4	4
Eversion	3	4	3	4	4	4
Inversion	3	3	4	3 1/2	4	3 1/2
KNEE						
Extension	2	2	2 1/2	2 1/2	2 1/2	2 1/2
Flexion	1	1	1 1/2	1 1/2	1 1/2	2 1/2
HIP						
Hip Flexors & Abs (Supine)	1 1/2	1	2	1 1/2	2 1/2	1 1/2
Trunk Flexion (Supine)	2 1/2	2 1/2	2 1/2	2 1/2	3 1/2	3 1/2
Hip Flexors - Bent Knee (Supine)	2	1	2	1 1/2	2 1/2	1 1/2
Iliopsoas Isolation (Supine)	1	1	2	2 1/2	2	2 1/2
Sartorius Isolation (Supine)	2	2 1/2	2	3	2 1/2	3
Abduction (Side Lying)	2 1/2	3 1/2	3	3 1/2	3	3 1/2
Adduction (Side Lying)	2 1/2	3	2 1/2	3 1/2	2 1/2	3 1/2
Gluteus Maximus Isolation (Prone)	1	1	1 1/2	1 1/2	1 1/2	1 1/2
External Rotation (Prone)	1 1/2	2	1 1/2	2	2 1/2	2 1/2
Internal Rotation (Prone)	2	2 1/2	2	2 1/2	2 1/2	3
Quadratus Lumborum (Seated)	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2

C. Summary of Findings

The muscle groups surrounding the hyper extended knees will be strengthened to give the knee area better muscular support. The muscles that are testing tight will be stretched and also strengthened using JFS and asana. The hyper extended knees measure about 2 ½ of my fingers in distance from the mat to her heels.

Strengthen	Stretch	Release
Quadriceps Hamstrings Hip Flexors Abdominals Abductors Adductors Psoas Sartorius	Hamstrings Gracilis	

D. Recommendations

April 25, 2008 – Session 1 Recommendations

- Bring awareness to your breathing throughout the day, and try to practice slow, deep belly breathing, especially in moments where you feel your stress level rising.
- Sacroiliac Stabilizing Exercise (SSE): repeat each movement 12 times on each side. Practice synchronizing the breath to each movement, if it’s not distracting to the exercise. Add more repetitions if needed. Take care of the knees and making any necessary adjustments so they can be comfortable during this exercise.
- Joint Freeing Series, JFS #1-8 and #16-18 (all lower body JFS movements): repeat each motion slowly 8 times. Bring lots of awareness to these exercises. Try to connect the breath to each movement. Ask yourself a few questions as you do this series, such as, what do I feel and where do I feel it? Does this sensation change as I breathe and relax the effort in the pose? Does this sensation change as I continue repeating the motion?
- Take 2 minutes and sit on the floor in a comfortable position. It may be beneficial to sit on a firm cushion with your legs crossed and your back against the wall. Close your eyes and focus on your breathing. Be sure to keep the breath low in your belly. It may be helpful to place your hands on your lower abdominal area. This can be a nice guide to help connect with your breath.

May 2, 2008 – Session 2 Recommendations

- Adding psoas muscle testing movement as a strengthener for this muscle. Lift and lower the leg in the testing position 6 times on your back.
- All other exercises remained the same from the first session

May 14, 2008 – Phone conversation (check-in)

Lisa shared that she is enjoying all of the exercises but she is having difficulty doing them without any background noise. In general, she explained that she can't do things without music or the television on, and doesn't like to be alone in a quiet place. I suggested using soft background music with little or no words. We also talked about creating an atmosphere for her practice so that she will continue to enjoy this time.

She also reported that she felt severe left hamstring tension in all seated poses where her legs were extended, however, the leg extension and flexion exercise (JFS #4) felt really good. I reminder her to bend her knees as much as she needs to, when doing movements where this is an issue.

May 23, 2008 – Session 3 Recommendations

- Added sunbird exercise (JFS #7) with leg turned out as it extends back. This will help to strengthen the external rotators. This movement should also be done 8 times on each leg.
- All other exercises remained the same from the first session.
- Demonstrated sacroiliac exercise in a chair as an option for Lisa to try.
- Worked on deepening relaxation her skills. I talked her through a body scan, where she had to relax each muscle as I talked about it.
- We discussed her breathing difficulty when she's moving. I suggested that she focus on the exercise first and coordinate the breathe with the movement at a later date.
- I suggested that she do her breathing exercise lying down on her back. She seems to feel her breath more when she's in this position. I lengthened her relaxation period from 2 minutes to 5 minutes. She needs to focus on breathing first and then ease her breath as she transitions her body into savasana (relaxation)

May 29, 2008 – Session 4 Recommendations

- Lisa did a laser treatment for smoking cessation 48 hours prior to our session. She arrived to the session with an abundance of frustration and angry energy. Due to her inflamed Pitta state, muscle testing was not a suitable objective for this session.
- Discussed Yoga Sutra on suffering, particularly Chapter 2 - sutras 15, 16, and 17. She often chooses anger as a reaction to things. This causes her great suffering. I requested that she reflect on this emotion that she gravitates towards.

*II 16
The suffering from
pain that has
not yet risen
is avoidable*

- I talked her through another guided relaxation, this time using Yoni Mudra. I added this mudra to her existing relaxation practice.

June 6, 2008 – Session 5 Re-assessment and Recommendations

- Completed re-assessment of muscle testing, ROM, and Sacroiliac Stabilizer Exercise. Her biggest improvement was in her psoas test. She had so much more awareness and control over that muscle. Her Sacroiliac test was inconsistent. I did the test 3 times and first it seemed stable, then started reading unstable.
- Observation - Due to her sports activities, Lisa has much more awareness of how to use her quadriceps vs. her hamstrings.
- Since Lisa has been diligent with the JFS series, I added a few beneficial asanas for her.
 - Mountain Pose – practicing her posture - feeling the support of her leg muscles contracting. Working on bringing awareness to the muscles in order to relax the knee joint. It is difficult for her to not lock her knees while standing. When she feels the muscles of the leg, she can rock back and fourth heel/toe 10 times. Then stay standing with eyes closed and observe the muscles working. Should feel steady and comfortable.
 - Warrior 2 – slowly bending and extending the front leg dynamically in this pose 10 times on each side. This will help strengthen gluteus maximus, which is responsible for sacroiliac stability. Lisa felt less likely to lock the knee in warrior 2 vs. warrior 1.
 - Rolling Bridge – slowly lifting her pelvis up and ½ way down. Repeat this exercise 10 times, then relax. This will also strengthen gluteus maximus.

June 12, 2008 – Session 6 Recommendations

- Lisa came to the session very relaxed and continues to be diligent about her homework.
- She is still having great difficulty not locking her knees when standing, especially when standing for a long length of time.
- Reviewed Warrior 1 again during our session and added to her practice. This needs to be done dynamically, bending and extending the front leg 10 times on each side. This will also strengthen her hamstrings and gluteus maximus, which will help relieve the discomfort in her lower back. The dynamic movement is also teaching her muscle awarness so she can feel the difference between locked vs. unlocked knees. Thinking about relaxing the knees forward or pulling up on the kneecaps may help with this.
- One leg bridge – This bridge pose variation will isolate the gluteal muscles on each side, to further strengthen that area. Slowly lifting her pelvis up and down, keeping the ROM very small for now. Repeat 4 times on each side, then relax and pull the knees into the chest.

- Working in bridge pose with both feet on the mat will help increase strength in the lower quadriceps which is important for knee stability.
- Did a progressive relaxation with her for about 20 minutes during our session. She almost fell asleep.
- All other exercises remained the same.

June 19, 2008 – Session 7 Recommendations

- Lisa feels significantly stronger and more mentally balanced. She has much more body awareness and can be quite detailed when reporting changes in her body. I recommended that she attend a yoga class so she can practice body awareness and mindfully work with her body limitations.
- Added side of hip pose (Parsvottanasana). This is done after Warrior 1, extending front leg straight and bringing the torso parallel to the floor, then back up to standing. This will help strengthen the psoas and adductors, while stretching her hamstrings. Repeat this 6 times on each side.
- We reviewed cobra and locust poses today and discovered that locust pose was significantly more challenging and slightly stressful on her lower back.
- Added cobra pose – slowly lengthening the spine as the torso moves up and down. This will keep the muscles of the spine strong, and will also help strengthen her diaphragm, which is important for her breathing practice.
- Added downward dog - lifting and lowering the heels will work on strengthening the ankle.
- Added stick pose – hands behind hips for support. This pose will tone the hip flexors, back muscles and abdominals. For Lisa this pose should be done with her knees bent to start.
- Added bound angle - this open hip pose will stretch her inner thighs, particularly gracilis, while releasing the lower spine to help it elongate. This pose tones the hip flexors and external rotators.

June 25, 2008 – Session 8 Recommendations

- Reviewed her entire practice and discussed her progress. She talked about how the consistency of this practice has given her a sense of control over her anxiety as well as increased her lower body strength and awareness. She feels that the JFS has helped her tremendously and she is feeling stronger from the asanas.
- We discovered that doing locust pose with one leg at a time works better for her and she wanted to add this to her practice. She is to only do one leg at a time for 2 weeks and then we will evaluate once again.

- Lisa has had difficulty synchronizing breath to her physical practice. So she does JFS first with little/no breath focus, and then starts her anasa practice in mountain pose where she practices connecting with breath. Then she goes through her asana practice with no focus on breath at all. When completed, she returns to breath awareness before relaxation. We are working on wave breath to help achieve a calm and steady state as much as possible. This will help her through her anxious or angry moments.
- Also worked on some affirmations. I had her repeat to herself “I am Lisa” 10 times slowly with each inhale and exhale. I added this to her home practice.

July 3, 2008 – Session 9 Recommendations

- Lisa doesn't struggle with severe limited Range of motion in any areas of her body. Her main focus has been on muscle strength and alignment. She seems to be consistently weaker on the left side. There is a definite improvement in the sacroiliac test. I tested this area 4 times and she was stable in 3 out of 4 tests. She continues to do the stabilizer exercise.
- We reviewed her practice once again and continued to work on alignment for her body structure. I added nothing new to her existing practice.
- I gave Lisa a few short meditation CD's to follow at home. I also suggested she try an eye pillow to help her feel more focused inward during savasana in a yoga class and at home.

July 10, 2008 – Session 10 Recommendations

- Lisa came in to the session today with several questions regarding her posture that she has recently noticed. During her practice this week she recalled her mother always enforcing her to correct her posture as a young child. Her mother would tell her, “chest out, backside out, and stand tall.” She remembers locking her knees to achieve this. We reviewed proper posture for her again, and it feels very un-natural for her. She seems to be either in the locked knee position that she describes, or very rounded forward. We are working on getting her body to feel comfortable somewhere in the middle.
- We discussed the importance of abdominal strength to help support her posture. I told her to imagine all of her muscles hugging her bones so that they can support her body. We talked about muscles working instead of joints, particularly her knee joints.
- Also discussed the connection between diaphragmatic breathing and abdominal tone and awareness. This is still quite a challenge for her.
- I demonstrated boat pose but did not feel like she was strong enough for this yet. I recommended that she work with locust pose for a while longer, since that pose also helps with toning the abdominal area. Boat pose can be added at a later date.

July 18, 2008 – Phone conversation (check in)

- Lisa reports that she's been feeling a little anxious because she's leaving for school on September 1, 2008. However, she has been using the breathing and relaxation techniques to help her stay calm. She had a hard time listening to the meditation CD's. She claims that she's able to achieve better results with a real human voice. She agreed to continue to listen to the CD's with an open mind.

July 24, 2008 – Session 11 Recommendations

- Lisa arrived to our session more anxious than she has been in several weeks. She realized that whenever she has something pressing, like a deadline, she becomes anxious. Today she had to register for school, which caused her great anxiety.
- We made a connection between her anxiety and her anger/frustration. She is beginning to see what causes her stress, which leads to the next step of anxiety for her. We reviewed the yoga sutras about suffering again and I asked her to keep a journal for a week, if possible. This is a useful tool in self-discovery.
- Lisa describes herself as intense, either intense love and compassion or intense anger. We discussed how those extremes cause her suffering and that finding a balance in each emotional state will help her reduce her stress and anxiety.
- She needs to practice more loving kindness for herself and the world. Discussed how her lack of patients with people and herself. I asked her to practice more loving kindness for herself, for all other people she encounters. We have linked this lack of patients to another cause of her anxiety. We did a gentle practice consisting of just JFS today, then I shared the metta meditation with her.
- I introduced Lisa to Lavender essential oil as an option to assist her during stressful moments.

July 31, 2008 – Session 12 Recommendations

- Completed final assessment of ROM and muscle testing.
- Lisa came in to this session explaining how she was out with friends on Saturday night and her lower back hurt because she was standing for several hours in a crowded place. She explained how her back hurt just thinking about standing for a long time. She wasn't in a place where she could do many exercises but she used her affirmation "I am Lisa" to help her through it. The following day she was able to do her practice and felt much better.
- We discussed how the anticipation of her back pain caused her greater pain. She admits that she anticipates everything as a protection against disappointment. However, this is adding fuel to her anxiety.

- Lisa is still working with her affirmation and practicing her breathing, which still remains the most difficult part of her homework.
- She realized this week that she has no abdominal awareness at all. This is a great observation on her part.
- Many things are coming together for Lisa, both mentally and physically. My recommendation is to work slowly and diligently as she has been doing. Lisa tends to over-do things. Although she had the time now to work on developing a practice that is beneficial to her, she may not be able to maintain this substantial practice during the school year. I suggested that she shorten her practice back to our original JFS and breathing until she adjusts to her new school schedule.
- I did not move into any other pranayama with Lisa because a basic wave breath is still a struggle. She still needs to practice her breathing separately from her exercises. Her smoking habit may be a contributing factor to difficulty with breathing. I do think she would have a huge benefit from a pranayama practice, but she is not ready at this time.

E. Results of Recommendations:

May 2, 2008 – Session 1

Lisa enjoyed the JFS series and especially enjoyed the internal/external hip Rotation exercise. The back knee in the sacroiliac stabilizer exercise felt uncomfortable to bend. She wasn't able to get her foot all the way back. I suggested that she try the exercise in a chair. She also noticed that pointing and flexing her right foot brought a sensation to her right calf and ankle. Her biggest struggle so far is breathing through her belly. She feels like her breathing is taking away from the moving.

May 14, 2008 – Session 2

Lisa's stress has increased due to her final exams but she is making the time for her SYT homework and is enjoying it. She reports that her back leg was able to bend further in the Sacroiliac Stabilizer exercise. Lisa is now enjoying the exercise and feeling much more comfortable with it. Getting the soles of the feet together in JFS #2 has been challenging for her. The psoas strengthener exercise has been especially difficult for her. She feels breathing still remains her biggest challenge; however, she is trying to use her breath to help her fall asleep at night

May 29, 2008 – Session 3

All of Lisa's exercises seem to be going well and claims to be feeling stronger. She has been working on her breathing and relaxation and has discovered that she holds a lot of tension in her jaw. So she is now making a conscious effort to relax her facial muscles, including the jaw. She reported a sense of relief when doing the without having to pay attention to her breath. She was able to concentrate on the movements better. She tried the sacroiliac exercise in chair but felt that she was more comfortable on the floor. Lisa shared that she enjoys the relaxation exercises that we do together but are unable to duplicate them on her own at home. This seems to be frustrating her, so I suggested some guided imagery CD's for her to try.

June 6, 2008 – Session 4

Lisa has reverted back to smoking cigarettes. She realizes the benefits of freeing herself from this habit however; it is overwhelming her at this point in time. She is much calmer and is able to maintain her focus better. Lisa has been using Yoni Mudra in her relaxation practice and is having some success with it. She still has difficulty relaxing but having a focal point to channel her energy is helping.

June 12, 2008 – Session 5

Lisa reports feeling mild shin splints from the exercises, but they went away after day 5 of doing the practice. She realizes that she can easily relax in savasana during our sessions but it having difficulty re-creating the experience on her own. She enjoyed rolling bridge because it felt strong in the pose and great on her lower back. However, mountain pose was quite challenging. She has great difficulty standing straight without locking her knees and aligning her body. We discussed finding a healthy balance between proper alignment in the pose and being steady and comfortable.

June 19, 2008 – Session 6

Lisa is maintaining her practice and enjoying the routine. She has made it part of her downtime after work. She can't take a very wide stance in her Warrior 1 and Warrior 2 positions because her knees just automatically want to lock. So, we worked on a smaller range of motion in these poses and they felt much more comfortable. She actually has a hard time being aware of the knees locking. She needs to concentrate significantly to control this. The one-leg bridge was very challenging. She enjoyed the exercise and felt the deep work of this pose.

June 25, 2008 – Session 7

Lisa attended a yoga class where I was teaching. This was her 2nd time ever in a yoga class. She enjoyed the class very much but had a hard time participating in relaxation with other people in the room. She could barely keep her eyes closed. During class she noticed that her hamstrings felt more tone. Lisa felt an enormous stretch in bound angle pose, while she deeply enjoyed colbra pose. Stick pose was not very comfortable. We worked on adding variations like pelvic tilt in this pose. This will make the pose dynamic, and will continue to tone the abdominals and psoas.

July 3, 2008 – Session 8

Lisa attended my yoga class again. She reported feeling shin splints the day after class. She has an awareness of the inner thighs stretching when moving in and out of asana. She enjoyed the spinal twists at the end of class, along with colbra pose. She still had trouble relaxing in a room full of people. She feels she needs to relax alone. Lisa played soccer this week for the first time in 2 years. Her legs and knees were very sore but she felt like she had better control over them. Her sleep has been better. She has been trying to fall asleep on her side more often, however her favorite sleep position is on her stomach, which isn't helping her lower back to feel better.

July 10, 2008 – Session 9

Lisa reports that she feels mentally and physically stronger. She doesn't have a clutter of thoughts before bed anymore. She had realized that our sessions have helped her tremendously with controlling her anxiety and understanding her body. She has had 2 occasions where she used the breath to pull her out of an anxious state. She also used the affirmation "I am Lisa" to calm her down during a bumpy boat ride. She reports that she hasn't needed to take Zanex since May. She has been doing more cardiovascular exercises at the gym and reports no lower back pain. Overall she reports that her stress level is down along with her pain level. She attributes this stress reduction our SYT sessions and her more relaxed summer lifestyle.

July 24, 2008 – Session 10

Lisa was diligent about practicing her postural alignment. She feels slightly self-conscious about her posture and would like to see it improve a bit. She reports that although breathing properly during a yoga class is difficult for her, she has used slow, deep breathing to help her calm down when she is feeling anxious. She does understand the purpose of the breath as she continues to work with it. She has been working on locust pose lifting one leg at a time and is feeling stronger with this pose.

July 31, 2008 – Session 11

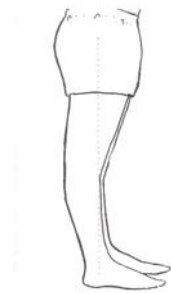
Lisa reports that she feels like she has learned many new ways of managing her body and lifestyle. She continues to find enjoyment in the JFS, and asana practices that she was given. She is still challenged with using the relaxation CD's vs. a real person, but is hopeful that she will find a comfort level with the CD's, especially thought out the school year.

2. Name and Description of Condition

A. Lisa's physical condition is symptomatic of a long-standing postural issue, which has irritated her lower back. When she stands, the lack of muscle balance between her hamstrings and quadriceps allows her knees to fall into hyperextension. This causes her pelvis to tilt, creating a sway back. Pressure and pain in her lower back has developed due to this postural issue. This excessive lower back curve is called lordosis. It can be seen when the shape of the lower back is not visible from the side. The arm will hide the shape of the back. Although Lisa does not physically appear to have a severe lumbar curve, she does have the muscle weakness that would find in a lordotic back. The major muscle affected by this condition is the psoas, accompanied by the abdominals and hip flexors. Lisa's hyperextended knees can be seen from the lateral view, which reveals a posterior line at the knee joint. Tight hamstrings are a characteristic of this condition. The weak psoas, abdominals and hip flexors also affect this issue. Although Lisa has stronger quadriceps than a typical person with her condition, it is important that she continue to develop and maintain strength in these muscles, especially the lower quadriceps. She needs to develop more muscle tone in these lower body areas, to support her structure.



lateral view of lordosis
(Source: Structural Yoga Therapy)



lateral view of hyperextended knee

B. Gross and Subtle Body Common Symptoms

Annamaya Kosha – Physical body

- A crackle or popping noise in the knees, when doing movements that requires bending the knees, especially the left knee.
- A painful sensation when stretching the hamstrings
- Imbalanced muscles create uneven force on the joints making them vulnerable
- Severe lower back discomfort after prolonged periods of standing activity or Standing still.
- A tight sensation in the gastrocnemius in both dorsiflexion and plantarflexion
- Inflammation in the left knee when not given enough rest
- Stress disperses blood away from the abdominal area affecting digestion and nourishment to that area.
- Tight/imbalanced muscles inhibit proper circulation to the back
- Adrenal glands out of balance, due to the overactive mind
- Decreased level of endorphins
- Lack of body awareness

Pranamayo Kosha – Prana or energy body

- Had extreme difficulty working with pranayama. Breath work required much thought and effort. It was not a natural practice for her.
- Breath is high in the chest and doesn't feel natural in the lower abdominal area
- Prana was low in the lower body region due to her condition.
- The 2nd chakra is affected due to repressed emotions and being centered around anxiety
- Energy doesn't flow in harmony, it's disoriented

Manamaya Kosha – emotional body

- Posture affects emotions and emotions affect posture
- Pain come from feelings of anticipation of pain and anxiety
- Instead of being in the present and in her body, she is almost always in her head
- Avoidance of what is feared

Vijayanamaya Kosha – Wisdom body

- unable to let go and/or change thoughts or beliefs
- tendency to over-do
- little time between event and reaction
- “What happens to the mind happens to the body, so very simply, the rigidity of the mind is equal to the rigidity of the body.” *Yoga for Back and Joint Disorders – Dr. P.S. Mantora*

Anandamaya Kosha – Bliss Body

- not able to connect with the higher self because of fear
- fear of happiness
- lack of trust in a higher power

C. Related Challenges

Standing for prolonged periods of time creates great distress and discomfort for Lisa. Playing sports and just keeping physically active is also a challenge because she has little control over her knees during fast paced activity, such as playing soccer. This frustration contributes to her anxiety, as her pain does escalate under times of stress. Moderate exercise for muscle strength and stability is vital for Lisa’s condition. Extreme sports or long durations of exercise cause her great pain and be avoided if possible. Also it is vital when balancing vata to get enough rest.

Diet

Caffeine, especially from coffee, is a stimulant that is not recommended for anxiety. This needs to be modified and hopefully eliminated from her diet. A better alternative would be green tea, as it does not have the same stimulating affects that coffee does. Sugar, in excess, can also create similar surges and needs to be limited.

Stress Response

This is fight or flight response. The sympathetic nervous system is overactive. Fear of pain activates the stress response causing chest breathing, low circulation, tension headaches, fatigue, etc. Connecting with her body will help Lisa identify these symptoms and work with them.

3. Ayurvedic Assessment

This case affects all three doshas. Therefore an ideal practice would take great discernment on Lisa’s part to listen to the body and adapt accordingly.

Vata – The word vata translates to “that which moves”. Vata is the principle of movement in the body and the energy that governs biological movement.

Vata symptoms:

- anxiety / panic attacks
- fear
- loss of connection with body
- hyperextended knees, locking the joints is translated as too much enthusiasm in the joints.
- stress
- dry/lack of moisture in the joints

Recommendations for balancing Vata – Since it is the most unstable of the dosha's, all students need to have a sadhana that begins and concludes with Vata balancing.

A gentle yoga practice, such as JFS, with focus on the breath will help to balance vata. The pace should be slow and rhythmic. Use Yoni Mudra to help focus on pain reduction and breath concentration. Savana is very helpful in balancing vata. It will help restore the physical and mental body. It is also beneficial to include Yoga Nidra as a practice.

Pitta – The word Pitta translates to “that which digests”. It's most characteristic quality is that of transformation. It's most readily apparent as the energy creating body heat.

Pitta symptoms:

- inflammation in her knee joint
- anger
- impatience
- excessive self criticism
- judgement

Recommendations for balancing Pitta – The yoga practices for balancing pitta energy promote a good appetite with strong digestive fire, heighten our enjoyment of life, and, maintain the stability of our vitality. Lisa needs to practice strong discernment in her yoga poses. They should be challenging but not overheating. She needs to learn what is comfortable to her body.

Kapha – The word translates to “that which holds together”. Kapha governs tissue growth, strength, stability, natural tissue resistance, and lubricates joints. It promotes qualities such as patience, endurance, calmness, serenity and devotion.

Kapha symptoms:

- muscle weakness
- shin splints
- closed heart

Recommendations for balancing Kapha – A consistent exercise pattern is beneficial for maintaining health of vital organs such as heart and lungs. Lisa should bring awareness to her body strength as she moves through her practice. She needs include affirmations and mantras to build her devotional practice.

4. Common Body Reading

In a standing position Lisa's chest is out, shoulders are high, lower back is arched and knees are locked. This describes her lorditic lower back and her hyperextended knees. Her lower back curve is not excessive but noticeable from the lateral view. Visually, this posture looks tense and creates chest breathing vs. belly breathing.

5. Contraindicated Yoga Practices

The major contraindication in this particular case is doing the extreme of any pose. Due to her rajasic tendencies, Lisa needs to practice awareness and control in her poses. Hero pose is contraindicated for Lisa at this time. This puts her knees in deep flexion, causing her severe discomfort and possibly aggravating the bursa in the knee.

6. General Recommendations for the Condition

A. Therapeutic/free of pain

- In the event of a bursitis flare-up use R.I.C.E. (rest, ice, compress, elevate)
- Practice breathing techniques daily
- Practicing JFS and asana slowly and regularly
- Allow for relaxation/down time in her daily schedule
- Build a regular meditation/savasana practice

B. Stabilize Situation

- Continue working with JFS, SI stabilizer and recommended asana to develop strength and flexibility in the lower body area.
- Allow for plenty of rest and relaxation especially during more stressful times.
- Keep focus on slowly moving through the practice to balance vata, connect with a sense of strength in each pose to balance kapha, and practice easing the tension in each pose to balance pitta.
- Gentle repetitive movements done within normal range of motion are also beneficial for stimulating the circulation of the lymphatic and synovial fluids.

C. Maintenance

- Continue with yoga and moderate exercise to keep a healthy level of endorphins
- Practice loving kindness and consider participating in some karma yoga activities, as opening your heart is self-healing.
“Forgiveness is the eye of a Needle” – *Caroline Myss, Why People Do Not Heal*
- Learning to listen to early warning signs of body wear and tear can prevent any further irritation to the knees and lower back.
- Use the mantra – With Great respect and love I honor my heart, my inner teacher.
- Use affirmations – “I am Lisa” “I am steady and calm”
- Explore the idea of spending quiet time alone to help enhance the journey of self discovery
- Read Yoga Sutras Of Patanjali, particularly Chapter 2 Sutras 46-49. She should begin to practice yoga with these sutras in mind, and learn to apply them to her daily life.

*II, 47
Yoga Pose is mastered
by relaxation of effort,
lessening the tendency
for restless breathing
and promoting an identification
of oneself as living
within
the infinite breath of life.*

7. Questions and Answers from www.yogaforums.com

4-27-2002 – *Question asked* - I took your weekend seminar in Calgary in October. You showed us two hip opening movements in which you said they were the best things to relieve lower back pain. The movement was a rocking of the hips and pelvis forward and back, then rotating the thighbone externally and internally. What about them relieves lower back pain? Also, I got a lot out of your weekend here.

Mukunda's Response - The movement is done by sitting unevenly with both feet to the same side. From there moving the top of the pelvic (iliac spine) into pelvic tilt and thrust (flexion and extension) 12-15 times creates a freedom of the lumbar spine to move both laterally and with repetitions of flex and extend, it also released a pent up sacroiliac joint. The second movement done by holding the top of the femur and rotating internally while lifting the hip off the floor then externally lowering the pelvis to the floor frees up the hip socket and all the gluteal muscles that cross the hip joint. Many of these muscles affect the sacroiliac and mobilizing them promotes a wave of circulation and energy to the lumbar sacral region.

1-20-2004 – *Question Asked* - I am having a hard time understanding the action of the psoas and iliacus muscles. What are their actions, how do you test if they are strong or weak, how does weakness in these muscles manifest in terms of aches and pains and general function, and what yoga poses address issues involving these muscles.

In addition I would like to know whether boat pose is an effective abdominal strengthener or mainly a hip flexor exercise. And does boat pose excessively load the lower back.

Thank You and Namaste 😊

Mukunda's Response - Functionally the iliacus and the psoas are both hip flexors, hence many anatomy books call these two muscles the iliopsoas. When you view these muscles in a detailed anatomy book you will see that the iliacus portion terminates at the anterior crest of the iliac bone. While the psoas origin is the body of T12 and the first 4 lumbar vertebrae, its insertion is the lesser trochanter of femur in the groin between the adductor. Thus its contraction creates hip flexion, external rotation and the natural lumbar curve and when excessively tight a lordosis. The latter condition is rare. Many teachers overly correct the lumbar curve and flatten it when they have students pull the coccyx down in standing poses, thus lessening the tone of the psoas.

To test for strength of the psoas lay down and lift one leg at a time 24" with 12" of abduction (out to the side) and externally rotate the femur until a valley can be felt at the upper thigh separating the gracilis tendon adjacent to the genitals and the quadriceps. One should be able to hold the position for 12 steady breaths to have adequate strength. Poses which require a strong psoas include adho mukha svanasana - down facing dog, navasana - boat; and urdhva prasarita padottanasana - upward extended legs. If the iliopsoas is weak these are difficult. A sign the muscle is strong is that the natural lumbar curve shape can be maintained in these poses.

A stretch test is to lay on the belly and pull the heel to the buttocks. This will stretch the quadriceps and if they have normal flexibility then the psoas will react as it is located posterior in the groin relative to the quadriceps. If the quadriceps are tight they will feel the stretch in mid thigh. If they are released and the psoas is tight, then the stretch will be felt as a pull in the lumbar vertebrae or upper groin. Poses that stretch the muscle are also quadriceps stretches -- runner, natarajasana - dancer; ustrasana - camel.

The boat requires strength of the abdominals and the psoas in harmony. The rectus abdominis does trunk flexion (rounding the spine) and the psoas does hip and lumbar flexion (arching the low back and lifting the legs). If they are equally toned the pose looks great. It is not excessive for the body. All poses chosen for my book are ones i consider natural range of motion regardless of one's age, sex, or health. When done well one can see optimal skeletal muscle tone. When not done well, body reading can reveal which specific muscles are weak and/or tight.

One helpful reference is The Psoas Book, Liz Koch, Guinea Pig Productions, Felton, Ca. www.guineapigpub.com My favorite anatomy atlas reference is Anatomy - A regional Atlas, Carmine Clemente, 4th edition, Williams & Wilkins. Also see my website www.yogatherapycenter.org for a more thorough recommended reading list.

9-14-2005 – *Question Asked* - Do you have any suggestions for poses or modifications that would be helpful for bursitis? How do you go about healing bursitis? Any tips would be most appreciated.

Mukunda's Response - See also knee and shoulder articles i wrote on my website bookstore www.yogatherapycenter.org in general when there is bursitis you get over it not my a yogic approach but more help is from an Ayurvedic approach. First yoga needs to be taking a vacation to alleviate the inflammation. One should just avoid all weight bearing poses until the inflammation passes as does not return even when doing sun salutes. that is my test to see if a therapeutic yoga practice can be designed. If not then they need to stop yoga for longer. The only safe yoga practice to do with bursitis is my Joint Freeing Series and that needs to be modified too. No asanas. Period. Inflammation is not diminished by doing more exercises or smarter exercises. Once that is done then a personal assessment needs to be made by a trained Ytherapist to evaluate what is tight, what is weak to create a personalized program. General recommendations tend to aggravate this condition. namaste mukunda

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www.iytyogatherapy.com

www.yogaforums.com

Biography

Lina took her first yoga class about 9 years ago as she was recovering from trauma in her thoracic spine. She was overwhelmed by the benefits of this practice and was hungry to learn more. In 2004 she was introduced to Hamsa (Charlotte Stone) and enrolled in a Structural Yoga Teacher Training. It was during this training that she was introduced to the Structural Yoga Therapy and the work of Mukunda Stiles. She felt an overwhelming sense of connection with this work and was encouraged by Hamsa to continue her studies with Mukunda. In October 2007, she enrolled Mukunda's Structural Yoga Therapy course in New York.