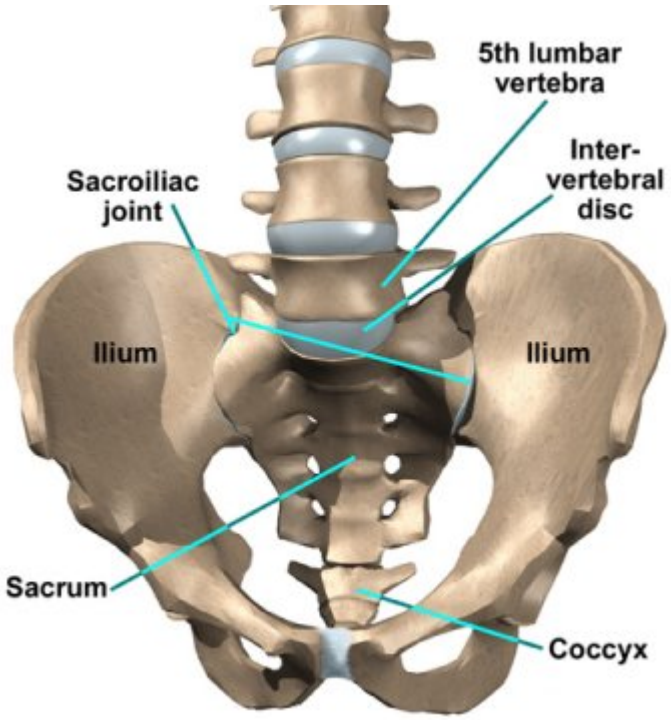
Sacroiliac Syndrome

Structural Yoga Therapy Research Paper



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Boulder, CO.

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1) Case Study 1

a – Initial Intake

TC is a 58 year old woman 5'5"tall and of medium build. She has spent the past 2 years in school and has been very busy in her personal life as well. She is a therapist by profession. TC enjoys photography, gardening and going to the movies with her husband.

TC has experienced SI pain periodically throughout her adult life. Her daily pain level fluctuates around a 5, she is in some pain most of the time. . When the SI seizes up she cannot move with a pain level she describes as 10. The area is painful when she lays flat on her back with her legs straight and is even greater when she lays prone. She has not been able to sleep on her back or belly for many years. She is comfortable lying on her side.

TC fractured L3 or L4 falling off a horse at age of 19. She did not have X-rays at that time and feels her needs were neglected by her parents and others. It appears that she is still emotionally affected by this lack of being cared for at that time. After having two babies in her late 20's, the pain migrated into her neck. She did not have an X-ray at that time because of her involvement in macrobiotics. Seven years later she saw a chiropractor who insisted on X-rays. At this time she was diagnosed with either spondylolysis or spondylolisthesis. The PT she has seen for a recent surgery on a ripped plantar plate at the 2nd metatarsal-phalangeal toe joint has told her that her core muscles are asleep. She calls the injury to her toes a worry injury inflicted from "wringing" her toes in concern for her son. She has an SI lock belt but does not use it.

I have known TC for 15 years. She has attended my yoga classes sporadically during this time. I have also seen her individually to help her create yoga asana practice she can do at home. This was the first time I worked with her specifically for her SI joint pain. The previous practice indirectly addressed SI issue but not her specific tightness and weakness. TC's goals are to be able to lie on her back and belly without pain. She also would like to feel stronger in general.

b – Physical Assessment

The body reading revealed that TC's left hip was higher, her right foot has more turn-out and she has a fairly pronounced lordosis. The SI test found both sides moving downward. The right sides movement was more pronounced and TC experienced pain in her left SI while doing the test on the right side.

March ROM	Lt/Rt	Stretch	May ROM****	Lt/Rt
SUPINE				
Knee Extension 180	200/200		Knee Extension	190/195
Hip				

Ext. Rotation 45-60	50/60		Ext. Rotation	40/40
Int. Rotation 35	37/32		Int. Rotation	29.30
Flexion bent 135	135/135		Flexion, bent	130/129
Flexion, straight 90	80/85		Flexion, straight	79/80
Flexors test	OK/OK			
SIDE LYING				
Abduction 45	32/45	lt Add	Abduction	45/41
PRONE				
Ext. Rotation 45-60	48/40		Ext. Rotation	50/40
Int. Rotation 35	52/35		Int. Rotation	48/35
March MT	Lt/Rt	Strengthen	May MT	Lt/Rt
SUPINE				
Hip				
Flexion	.5/2*	both lt + rt	Flexion	3/4
Psoas	3.5/2	on rt	Psoas	3/3
Sartorius	4/4		Sartorius	4/4
SIDE LYING				
Adductors	4.5/3.5**		Adductors	4.5/4
Abductors	2/4	on lt	Abductors	3.5/4
PRONE				
Ext. Rotators	2.5/4	on lt	Ext. Rotators	3.5/4
Int. Rotators	0/. 5	both lt + rt	Int. Rotators	2.5/3
Gluteus Maximus	0/pain***0	both lt + rt	Glut. Maximus	0/0 no pain

* When muscle testing on the RT, she felt pain in the left SI
** Add on the RT feels good, on the lt precarious
*** When testing on the RT, pain was triggered in the lt SI
**** Testing done 3 days after taking prednisone for 17 days

Spinal Extension test showed spinal erectors strong. The hip flexors and abdominus rectus test showed the hip flexors unable to maintain pull.

c – Summary of Findings

Strengthen	Stretch	Release
B – Glut Min and TFL	L adductors	Tension in subtle body
B – Glut Max	R psoas	
R – Psoas		
B – Hip flexors		
L – Ext. Rotators		
B – Int. Rotators		
L - Abductors		

d – Recommendations

SI stabilizing exercise to stabilize SI joint
JFS
Stick pose to strengthen hip flexors
#1-2 to help ankles from surgery trauma

#5 to strengthen and balance hip int. and ext. rotation and to stretch left adductors
#7 to strengthen hip flexors and stretch and strengthen psoas
Add hydrant to this posture to strengthen Gluteus max

ASANA
Upward stretched legs for strengthening hip flexors
Energy Freeing to release back tension, balance vata, bring vata home and release tension in the subtle body.
Locust done dynamically to strengthen Glut Max and because she reports it feels good
Face of Light leg portion only as she also says stretching her hip ext. rotators feels good
Breathe, all movements done with breath to help balance vata and relieve general stress.

ENERGETIC LEVEL
TC and I discussed the possibility that where there is pain, energy is leaking. I suggested she ask herself what might be the reason she is leaking energy in the area of the SI joint. She immediately began talking about the time she fell off the horse when she was young. There was a feeling of betrayal in the story behind this injury. At that time of her life she had just recently moved and did not have a strong support system. I suggested she continue to ask herself questions relating to the pain in this area and continue to go deeper as the questions progressed.

Follow up visits:
April, 19, 2006
TC reports that she has been doing the yoga about every other day. The pain had previously been around level 5 and is now generally 2.5 to 3, although it fluctuates some daily. She had two flares ups while on vacation. One flare up after walking extensively on soft, sandy soil and the second was after doing some yoga. Upon discussion she reported she was particularly stressed out this day. We discussed the possibility of doing breathing and meditation first before doing yoga asana during times of stress. She understood the benefit of having her energy more present in her body (vata at home) while moving.

e – Results of recommendations
TC reports she is doing yoga 4-5 times/week. She feels that she is just beginning to experience being balanced in her life, taking time for herself to eat, do yoga and rest. Since I last spoke with her she came down with shingles. She visited three different doctors and was in severe pain from April 27th to May 5th when she began taking prednisone and using lidocane patches. She had been off the prednisone for only 3 days when we retested and this may have affected her readings. She was without any physical pain for 17 days while taking prednisone. TC has especially appreciated using the idea of “pausing” during her yoga practice. She feels this concept has helped her balance her life in general. She has had several occasions during the past 2 months when she could rest on her back for short periods without pain. This has felt very

encouraging to her. She felt the shingles were brought about as a result of complete physical exhaustion following a year of enormous stresses in her life coming from many directions. She expressed great appreciation for her yoga practice and its contribution to her improved feeling of balance and well being.

Case Study 2

a – Initial Intake

JT is a 5'3" 50 year old woman of medium build. She fell from a horse and fractured a hip when she was 8 years old. Having bed rest for three weeks treated this injury. This injury did not bother her with childbirth. She has four children the last born in 1995 at the age of 39. Seven to eight years ago she was diagnosed with sarcoidosis. Sarcoidosis involves an inflammation that produces tiny lumps of cells in various organs in the body. It usually starts in the lungs or lymph nodes. She believes that this autoimmune disease was triggered by stress. She was a full time real estate broker at the time in addition to raising four children. The sarccoidosis was difficult to diagnose and she had many tests to rule out other possibilities. The left side of her face was paralyzed and her glands were affected. The doctor who finally diagnosed the illness was her ophthalmologist as she had swelling around her eyes. She was treated with steroids for 10 days and within the next year most of the symptoms had cleared up and she is considered in remission. What she still feels affected by the illness is her breathing and her energy level. She reports feeling tired at the end of the day. Her goal for yoga therapy is primarily to be out of pain and secondarily to improve her breathing and raise her energy level.

At around the same time that this illness went into remission she changed jobs so that she would have the benefit of health insurance. Since this time she has gained 20-30 pounds and her left SI area started to pain her. She feels that the driving and lifting that she does in her current job contribute to the pain. She reports that the current pain level is from day to day about a 5. She has learned to live with it but it often awakens her in the middle of the night. She reports that the pain is worse with driving and improves with chiropractic adjustment, stretching her hamstring muscles and pulling or elongating her leg. At times the pain radiates into her left leg. Several years ago the pain was at times excruciating which is what brought her to visit various chiropractors with varying amounts of relief but an over all improvement.

JT feels her posture is not good and has been aware that her right shoulder is considerably lower than her left for at least 6 years.

I observed that JT was often ringing her hands as she described the health history. In general she appeared tense and agitated. I surmise from this behavior that JT is rajasic. She is striving in her life and not clear what is going on. Her imbalance appears to be primarily vata with some pitta elements. Vata in the sense of variable pain with variable ROM as demonstrated by the difference in her int and ext hip rotation when measured supine versus prone. Also the previous autoimmune disease caused by stress points to vata imbalance. The pitta elements appear from the irritation` at the SI and the general agitation. Her facial complexion was notably soft and lustrous looking. She works as an Avon general managing sales representative.

b – Physical Assessment

The body reading assessment showed her right shoulder significantly lower. Her body weight falls into her right heel and left ball of the foot, in general her foot appear to have little arch. The SI test revealed that both sides of the joint moved downward, especially on the right. Her entire pelvis slid under as she raised her knee.

April ROM	LT/RT	Stretch	May ROM	LT/RT
Supine				
Knee Flexion 150	120/120	lt + rt quads	Knee Flexion	130/135
Hip				
Flexion bent 135+	125/123	lt + rt hamstrings	Flexion bent	120/118
Flexion straight 90	80/70	rt hamstrings	Flexion straight	80/80
Flexors quads/psoas		lt + rt quads	Flexors	some better
Ext Rotation 45-60	32/48	lt internal rotators	Ext. Rotation	45/42
Int Rotation 35	42/30	rt external rotators	Int. Rotation	34/30
Side Lying				
Adduction 30	27/23	lt abductors	Adduction	25/30
Abduction 45	45/42		Abduction	39/34
Prone				
Knee Flexion	tight	lt + rt quads	Knee flexion	120/130
Hip				
Ext Rotation 45-60	52/65		Ext. Rotation	55/58
Int. Rotation 35	54/46*		Int. Rotation	43/42

*Felt pain on left SI and down muscle in front during this test

April MT	LT/RT	Strengthen	May MT	LT/RT
Prone				
Knee extension	3 /4		Knee Extension	3/5
Knee flexion	3/ cramp	rt hamstrings	Knee Flexion	3.5/3.5
Hip				
Extension	2/3	lt+rt glut max/hams	Extension	2/3
Gluteus Max	0/2.5	lt + rt gluts	Gluteus Max	1 /2.5
Ext Rotators	2/4	lt ext rotators	Ext. Rotators	3/2.5
Int Rotators	1 /4	lt int rotators	Int. Rotators	2/2
Side Lying				
Abductors	4/2.5	rt abductors	Abductors	4/3
Adductors	2/4	lt adductors	Adductors	3/3.5

Abdominals tested OK. Hip Flexors tested very weak.

c – Summary of Findings

Strengthen	Stretch	Release
R abductors	R abductors	
L adductors	B quads	
R hamstrings		
B Glut Max		
L Ext Rotators		
L Int Rotators		
B Hip Flexors		

D – Recommendations

Before bed: Wave breath with a slight pause after exhalation to slow the body down and bring vata home. She naturally put her hands on her body so we discussed doing this purposefully with yoni mudra.
Apanasana to release back tension, strengthen hip flexors and stretch hamstrings

General recommendations:

SI stabilizing exercise done sitting on a thick pillow– to balance SI joint
JFS #5 to strengthen internal and external rotators and ab- adductors.
#7 to strengthen hip flexors and gluteus max
Asana
Upward Stretched Legs dynamically to strengthen hip flexors especially quads and stretch hamstrings
Apanasana to release tension and free energy around the SI

Avoid anything that creates SI pain.

After completing these movements JT reported feeling much better in her body but she felt that her breath was “catching” in her upper chest. We discussed some possible reasons for this happening and suggested that she only do the breathing at this time to the degree she could without causing tightness in her chest.

Follow up visits:
April, 19, 2006
JT reported that she was practicing the breathing regularly and the yoga postures some. She is feeling comfortable with the breathing and feels that it is helping decrease her feelings of stress. She also felt that the program must be having a positive affect, as she has not felt compelled to go to the chiropractor.

April 27, 2006
JT and I went over all the movements given the first meeting. She commented that this was very helpful and clarified her questions. We both noticed that the movement of internal rotation of her RT leg in JFS #5 was much more difficult than her lt leg. After questioning she realized that is was her RT hip that had originally been broken as a child. She was feeling motivated to continue with the program. We both agreed that

she did not need to add anything more at this time. Again she commented on how much she appreciated the wave breath with the yoni mudra.

May 10, 2006
JT reports hearing popping sounds when doing the SI stabilizing exercise. She also feels discomfort. It was decided that she stop this exercise for now.

e – Results of recommendations
JT and I met to retest her ROM and MT. She reports doing the yoga movements 2-3x/week. She does the breathing several times daily. She has felt the wave breath to be a helpful addition to her life in general. I suggested JT to clearly pause briefly and naturally after each exhalation. Since I last saw her she has joined weight watchers and has lost 6 pounds. I added the hydrant pose to her list of yoga postures to more specifically strengthen the gluteus maximus. I also suggested she do the Thompson maneuver to help place her SI joints. (Appendix #1) JT reports feeling better and expressed an interest in pursuing more yoga.

PART two

2 a) Name and Description of Condition
The pelvis is the weight bearing, and also weight distributing, area of the body. Two strong joints between pelvis and sacrum (the sacroiliac joints) stabilize this whole system. If damage destabilizes one of these joints, weight bearing and therefore the whole postural balance will have to change to compensate for it. Leg flexing muscles will lose their symmetry and it will become difficult to distribute weight equally between the two feet. Once the pelvis goes out of alignment the body will increasingly adapt to the unbalanced situation. However there is a finite limit to the range of adaptation (Howat, 1997). The end of adaptive range is signaled by pain: the body's danger signal. Degenerative arthritis (e.g. Osteoarthritis and rheumatoid arthritis) and injury are two common causes of SI joint dysfunction

The symptoms of back pain from problems in the SI joint are often difficult to distinguish from other types of low back pain. Roger Cole, PhD and yoga teacher describes that the cardinal symptom of SI pain is an ache on or around the posterior superior iliac spine (PSIS) on one side of the body only. He suggests that if the PSIS or the depression just to the inside of it is tender or achy, while the corresponding spot on the other side is not tender, then the problem is probably the classic SI problem. He also describes this pain as often radiating forward over the pelvic rim, possibly into the groin or upper inner thigh. The pain may also run down the outside of the hip and leg. Different from sciatic pain, SI pain emanates from above the buttock and travels only down the side of the thigh, not the back of it. SI pain can radiate into the outer edge of the foot or heel whereas sciatic pain is felt between the first and second toes.

If you are seeing an orthopedic physician they may likely perform various tests to determine if the SI joint is involved in back pain. Some of these tests are called a distraction test, compression test, Gaenslen's test or Patrick's test. Further tests such as

X-rays, CAT scans or bone scans can help determine abnormalities or inflammation of the SI joint.

Mukunda uses the sacroiliac joint exam in cases where there is lower back or hip pain, thus determining if the function of this joint is causing or contributing to pain elsewhere.

2 b) Gross and Subtle Body Common Symptoms

The area called the sacroiliac joint is where the sacrum articulates with each ilium bone. On the exterior surface of the sacrum can be found a hollow surface in the shape of an upside down L, which is the auricle of the sacrum. There is a corresponding articular surface on the ilium that is also L-shaped and upside down and convex. The open aspect of the L is toward the back of the body. The joints lie at an oblique angle to the body, rather than straightforward and back.

The SI joint is unlike any other in the body because it is covered by two different kinds of cartilage. The articular surface of the sacrum is hyaline (glassy, slick) and of the ilium is fibro cartilage (spongy). These surfaces rub against each other. No other joints have this feature. The joint also has many large ridges and depressions that fit together like pieces in a puzzle.

At birth, although the two different joint surfaces have completely different color and texture, they are quite flat and smooth. During the teenage years and by the age of twenty, the iliac surface develops a heavy ridge that runs centrally along its entire length. The sacral surface develops a corresponding groove or depression to accommodate the ridge. This alters joint mechanics by creating a nodding rotational movement which replaces the easy glide of earlier years during walking and lumbo-pelvic flexion. Throughout life the surfaces of the joints continue to develop roughness and fibrous plaques, eventually making the joint surfaces totally irregular. Bone spurs and arthritic changes may also occur.

The SI joint usually only moves about two to four millimeters during weight bearing and forward flexion. This small amount of motion is quite different from a hinge or ball and socket joint. The SI joint is a viscoelastic joint, meaning that its major movement comes from giving or stretching. The SI joint's main function appears to be providing shock absorption for the spine through stretching in various directions. The SI joint may also provide a self-locking mechanism that helps you to walk. The joint locks on one side as weight is transferred from one leg to the other. Some authorities describe the movement during walking as making a figure eight pattern in the joint.

Study of movement has been particularly complex for the SI joint because of confusion until recently about its structure, its location deep with in the body, a surrounding dense ligamentous complex and powerful adjacent muscle groups that clearly affect joint mechanics but have no attachment to and no direct influence on the joint. In other words, the joint does not move voluntarily through muscular contraction. Even today, some medical professionals question the idea of movement in the joint. However, Gray's Anatomy does classify it as a true synovial joint.

No single joint muscle crosses, or attaches to the SI joint. However, it is surrounded by some of the strongest muscles in the body (e.g., psoas, quadratus lumborum, sacral portion of the gluteus maximus, piriformis), which place shear and movement loads on

the SI joint as they contract. The gluteus maximus and piriformis are thought by many to have a stabilizing effect on the joint, especially if there is too much movement through the joint.

Some of the ligaments that stabilize the SI joints cross directly over the line where the sacrum and ilium meet. Those on the front are called the ventral sacroiliac ligaments, and those on the back are the dorsal sacroiliac ligaments. Other strong ligaments (the interosseous ligaments) fill the space just above the SI joints, holding the ilium bones firmly against the sides of the upper sacrum. The normal, tilted position of the sacrum places its top end forward of the SI joints and its bottom end behind them. This set up means the weight of the spine tends to rotate the sacrum around the axis formed by the SI joints, pushing the top end down and lifting the bottom end up. The sacrotuberous and sacrospinous ligaments are ideally located to oppose this rotation by anchoring the lower end of the sacrum to the lower part of the pelvis (the ischium bones).

The pelvic ring, chiefly through these strong, diagonal SI ligaments, assumes a tight-coiled position under weight bearing. However, during many postures including normal standing and sitting, the SI joint ligaments are loose, and the sacrum “floats” within the pelvic ring.

Another important consideration is that SI joint pain can be caused from the joint being either too rigid or too loose. Whether a person is male of female, a truck driver or a yoga teacher may contribute to this difference. ` Women are at greater risk for developing SI joint problems later in life due to childbirth and the release of hormones that allow the connective tissues in the body to relax. This stretching results in changes to the SI joints making them hypermobile. On the other hand, males after the age of 50 can show pathologic changes as the SI joint becomes ankylosed or fused. Mukunda points out that anatomical difference between the sexes are a factor in sacroiliac and piriformis syndromes. The female sacrum connects two vertebrae to the ilium while the male sacrum has three. The average female sacrum is slightly wider and shorter, because of the birth canal, than the narrower, longer male sacrum.

The energetics of the SI joint includes various aspects as well. The very name sacrum means “holy bone”. According to one legend this bone was believed to be eternal and so the seat of the body’s resurrection.

Mukunda Stiles feels that the sacrum is a way to open to the deeper koshas (subtle energy bodies) as the opposite ends of the spine receive energy. The feminine, Shiva, energy moves up while the masculine, Shakti, descends. He feels that both these energies are necessary for grounded spiritual life. Either one by itself is not harmonious.

According to Richard Rosen, “if the sacrum is properly positioned, the downward and upward forces -which represent the complementary human aspirations of decent into matter and ascent toward spirit- course smoothly through the spine, and we live a fully supported existence. But if the sacrum is misaligned, the spine is cut off from its connection with the ground, the forces in the body stagnate, and we feel “unsupported,” physically strained, and emotionally listless.”

The first and second chakras reside in the region of the SI joint. The first chakra relates to the earth, bones, groundedness, stability, security and safety. The second chakra

relates to the element water, our ability to take in nurturance, sensuality, sexuality, our emotional identity and our ability to create healthy boundaries. It is in this area that we not only become impregnated with human life but it is the womb that nurtures other creative ideas as well. We were first a spark of light in our mother's wombs and resided in front of the sacrum, in the bowl of the pelvis, for nine months.

The sacral-iliac joint functioning is affected by these energetics. It needs to be both stable, to support the body weight, and fluid enough to allow for some movement. Its dysfunction can come from being either too rigid or too loose. This might be an outcome of our personal energetics. Are we rigid on our lives, too structured, or are we over emotional, unable to contain ourselves?

Another facet of the SI joint energetics relates of the natural movement of the sacrum in tandem with the occiput. prompting the movement of the cranial-sacral fluid. This gentle rocking of the sacrum pulses the flow of fluid, which bathes the brain and moves up and down the spinal column. When the sacrum is not moving properly this can have an effect on the entire energetics of the spine.

2 c) Related Challenges

When the sacroiliac joint pain flares up one can suffer limitation of many physical activities. Certain activities like golf, tennis and yoga may in particular need to be avoided when pain is great. Sitting is also often painful as the joint is not locked in place, thus many people with SI pain prefer to stand. This of course limits ability to travel by car or airplane and long sitting at a computer or other seated activity. For those who have greater pain when lying on their back or stomach, sexual activities may be affected as well.

3 – Ayurvedic assessment and Ayurvedic based yoga recommendations for the condition

The pelvis is the home of vata and pain is a vata imbalance, thus pain in the sacroiliac joint is first and foremost a sign of vata displacement. The primary goal from an ayurvedic perspective then is to bring vata home. We can do this by taking vata through the koshas. (See appendix #2) Mukunda has stated that the sacrum itself is a way to open to the deeper koshas. The wave breath with yoni mudra placed on the pelvic bones and pubic bone helps direct prana, the purified form of vata, into the pelvic region's bones and tissues. Again in Mukunda's words, working with the Yoni mudra opens both the front and posterior of the pelvis allowing the sacrum to settle into a deeper dimension of prana. As prana begins to settle into its physical home this may open the door to kosha two. There is a likelihood that emotions from past trauma in this area which were unable to be processed at the time they occurred may come up. Fear is the primary emotion associated with vata and it may be necessary to release the trauma and stress of fear from the field by encouraging a deeper wave breath through all the chakras of kosha two. As the truth of our experience begins to arise and we begin to feel safe in our bodies we move into kosha three. By watching not only our emotions but our thoughts as well, we can begin to ask more refined questions, unearthing the deeper truths of our experience. As the pranas balance in the first three koshas, it allows safety and faith to increase permitting entry to the subtler koshas. In kosha four we begin to find our identity outside the mind. Here we have the opportunity to hear direction, guidance and wisdom coming from a higher or more universal source. As vata learns to stay home, pitta and kapha move toward their homes in the abdomen and chest

respectively. Pitta at home enables us to discern good from not good and move toward a state of clarity. Kapha at home then brings the sweet juices of an open heart. The continuing balancing of prana leads to serenity, peace and a quiet mind. We move to a more sattvic state where being natural comes naturally.

4 – Common Body Reading

Because of the large number of muscles, tendons, and ligaments that connect to the pelvic bones and sacrum, there is a wide variety of possible body reading deviations. The clients I saw exhibited a head tilt, uneven hip height, lordosis, foot turned out, flat feet, high shoulder and uneven weight distribution on the feet. Differing leg length is also often related to SI imbalance. In general, one is likely to find some type of twist in the body that creates on uneven torsion on the SI joint. The twist may be anywhere from head to toe because of the direct connection through the fascia from the sacrum through the spinal column to the bones of the skull.

I am discovering that by keeping the position of the SI joint directly over the hip joints you can feel a natural support of body weight down into the feet. Also by lining up the SI joint over the hip joints any twisting through the torso is naturally eliminated and the iliopsoas muscles begin to release. This seems to create a rebound effect aligning the posture of the entire spine and I find a natural relaxation can them move into the subtle body. This positioning of the SI joints over the hip joints also positions the pelvis so that it is naturally neither tilted forward nor tucked under.

5 – Contraindicated yoga practices and general activities to modify or eliminate

First and foremost do not do anything that causes discomfort to either sacroiliac joint. Because of the variation in possible causes of SI dysfunction this needs to become the mantra for anyone experiencing pain in this area. This said, there are some generally contraindicated poses. Seated forward bends, twists and wide legged poses are best eliminated during a flare up of the SI and always done with particular care if this is an area of difficulty. Anything which creates a pressure as if “hanging” on the SI joint is to be avoided. For example, using your arms to create torque in twisting poses puts pressure directly into the joint. Poses such as Baddha Konasana, (bound angle), Janu Sirsasana (head to knee), or Upavistha Konasana (open angle pose) can all unseat a delicate SI joint. Any forward bend while seated can unlock the sacrum from the ilium and perhaps strain the transverse ligaments. The SI joint is particularly vulnerable during seated poses as sitting in and of itself unlocks the ilium and sacrum. If the sacroiliac joint is unstable then any deep stretch to the piriformis muscle (Eka Pada Rajakapotasana) could further destabilize it.

Long periods of sitting and sitting habitually with one leg crossed over the other can aggravate SI pain as well. Any asymmetrical yoga posture or activity can be potentially problematic for the SI joint as the pelvis and sacrum may not be positioned evenly in space.

6 – General Recommendations – progressive through 3 phases

a – therapeutic/free of pain;

Don’t do anything in any part of life that creates or exacerbates pain

Do Sacroiliac Stabilization Exercise

If SI stabilizing exercise does not create more comfort in joint then try the exercise done prone with knees bent to #1 strengthen gluteus maximus by pressing ankles down toward knees then #2 feet out to sides to replace SI joints. Do #2 until you feel it in the muscle then repeat #1. (See appendix #3)
Create a simple vata balancing set of movements all done dynamically, smoothly, and rhythmically with the breath. E.g. start with a simple wave breath using yoni mudra to bring more prana and sensitivity into the body. Add two or three movements from the Joint Freeing Series which address specifically the weaknesses and/or limited ROM found in the assessment. Try JFS #5, 6, 7 or 8 all done slowly, with 6 repetitions coordinated with the breath to strengthen muscles and awaken muscles all around the hip joints. From the asanas, Urdhva Prasarita Padasana (to strengthen hip flexors and abdominals), Apanasana (to release back tightness and encourage vata home), and Salabhasana (to strengthen hip extensors and release flexors), can all be done dynamically and with the breath. Error on the side of less in choosing a program with the idea of helping vata come home and feel safe in the body. Create a gentle practice to relax, soften and release. When effort is reduced, release can happen and with release comes the feeling of safety. Depending on the severity of the problem you may want to begin with just breathing and relaxation. In relaxation encourage whatever can release more easily, whatever feels good, and try to increase this. Encourage them to repeat this specific sequence over and over to help build prana – sensitivity. Begin to pay attention to what is naturally arising.

b – Stabilize situation and lifestyle change recommendations;
Continue not doing anything painful and whichever SI exercise feels good.
Continue recommended movements from JFS, asana practice and breathing.
Add some more strengthening variations to poses – i.e. from sunbird bring knee or straight leg to the side.
Refine movements in some positions and focus more on strengthening - i.e. External rotation of hip during sunbird or Salabhasana (Mukunda has mentioned that as we increase Kapha – strength - we decrease vata – pain)
Add more complex standing poses like Warrior I and ll and Trikonasana to strengthen around the SI joint. Can you maintain pain free in these poses?
During breathing begin to use abdominals more on exhalation to strengthen stabilizing muscles of pelvis.
Deepen paying attention to what is naturally arising and specifically notice any emotions or early memories that arise. Mukunda has said that we twist ourselves as soon as we are not truthful. Ask what you might not be being truthful about in your life, and then watch what naturally arise in the next few days.
If walking is comfortable, encourage walking with the sacrum leading the movement rather that the arms or upper body. Pay attention to the relationship between the placement of the SI joint and the hip joints as you walk.
Begin to play with the possibilities to learn more about your individual body. Try a gentle sacral rock and discover the contours and bumps of your SI region.

c – Maintenance
Continue not doing anything painful and whichever SI exercise feels good.
Begin to explore more yoga postures without pain. If you begin to sense discomfort explore how you might rearrange the pelvis and sacrum to eliminate this.
Experiment with moving the sacrum and pelvis together thus eliminating any torque causing the bones to move apart.

Notice what in your body needs to be strengthened. How does tightening the muscles of the pelvic floor affect the SI joint? What about the adductors? What happens when you squeeze the sit bones toward each other? In twists are you rotating the sacrum faster than the pelvis? In back bends such as Ustrasana, the camel pose, are you bending back from the base of the sacrum (the top) or from the apex (the bottom)?
Mukunda has said that the sacrum is often a place where energy leaks out of the body and that where energy is leaking there is pain. Deepen your inquiry into the 2-4 koshas. What might the pain in my sacrum be telling me? Why am I leaking energy from my sacred bone?
Continue the practice of release with breath and relaxation. Try putting your left hand on the heart and the right hand on the sacrum. Does this affect your prana? Are your energetic boundaries becoming clearer? Is your energy at home? Is vata residing in the pelvis?
Notice what is happening in your relationships – with your boss, significant other, family. Does this affect your SI region? Ask what am I holding "back" in these relationships.
Continue to be soft and gentle with plenty of breath awareness in your yoga practice. Remember that you yourself are your closest advisor and the best teacher if you practice with care and awareness and observe closely what is going on in your body. Learn to know your limitations and respect them – no pain in the sacroiliac joint.
Remember that the best position to support your SI joint is to put yourself in God's or the Mother's hands. Feel as you become safe in your body and release. As your body relaxes the heart can open. Now the sacrum has taken you into your own sacred space.

7 – Questions and Answers from www.yogaforums.com

Question #1
One of my students sometimes wakes up with locked jaws and has asked me if I could advise her of any exercise she could do to prevent this. She is in her mid twenties and sometimes also feels pain in her loser back and sacrum area. When she observed her jaws were locked, she felt pain on her right lower jaw if she tries to open her mouth.
I have read the topics linked with locked jaws on yoga forum and I understand that it might be linked with instability in the sacro-iliac area and that I should advise her to go and check this out with a Cranio-sacral practitioner. In her case, would you also suggest any particular asanas that might help to strengthen the sacro-iliac area and prevent this?

Answer
For jaw troubles the main exercise is self-massage and persistent relaxation…If there is sacroiliac issue the main movement to tone is the external hip rotation. This is done in locust or cat while lengthening one let and turning the foot out. The muscles are the lateral sides of the gluteals. Feeling tone there as you do this motion.

Question #2
My concerns this morning involve the hamstring tendons first. I have suffered from this injury for 3 years. I have used a recovery method that is quite helpful, (Salabhasana without the legs coming off the mat, but engaging the muscles only) (also using ice), but when I teach a flow class or sun salutations I really suffer near the end of class or later that day. ..
Answer

Where is the injury? To the origin of the muscle at the base of the gluteal fold or in the lower leg? Your ideas are good countermeasures they are not therapeutic in the sense of alleviating the condition though. I would recommend sacroiliac dysfunction exercise for both issues.

Question #3
The second concern is the SI joints: Going to the right side in Utthita Trikonasana is great. Going to the left feels like the hip gets jammed and the femur gets stuck with no where to go, then comes the pain that runs down the side and back of left leg. Can this be the SI joint or am I totally missing the signs? I'm stress to the students, keep the pelvic region level will help prevent these problems. Am I on the right track?
Answer
This pain sounds more like sciatica can come from S.I or nerve roots at the spinal column, or due to injury of hamstrings. Best is a personal assessment to tell the difference. Keeping the pelvis level is more likely to cause more trouble. One needs to move from the hip sockets while keeping the upper torso neutral. Do not lean with the arms nor will hold pelvis rigidly, both cause trouble.

Question #4
I have mild rotational scoliosis and one leg longer that the other twisted pelvis. I have undiagnosed symptoms very similar to yours. My history of diagnosis is – hernia, groin strain, fact joint degeneration, psoas bursitis. You might have psoas bursitis especially with your history of running. Also your symptoms could be caused by bad muscles and posture. I am still looking into all this myself so guessing as I go but have come across a few web sites which suggest releasing the psoas muscle which can be done by a chiropractor or an osteopath this is a very strong muscle which if in spasm can cause your hips to twist and for you to appear to have scoliosis and leg length discrepancy.
Answer
I agree with Barbs in that there are many possibilities. I find that often all there variations of symptoms boil down to a root cause of dysfunctional motion of the sacroiliac. My spiritual teacher recently gave me an exercise that corrects this uneven motion regardless of what symptomology there is. The s/I should move up on the hip going into flexion (lifting the thigh) while standing. The host of other muscles involved can then receive the energy provided by the sacral nerves and subtle prana flows from the first and second charkas. This exercise can be learned by anyone who has attended my workshops or best by one of the graduates of my SYT training.

Question #5
I have been practicing Iyengar yoga for approximately three years and have always had a good side and a bad side. I have always thought that this is natural and would be with me forever. However lately my right/bad wide has started to develop some particular aches and pains. My right shoulder has always had pain after gomukhasana and now seems to be getting stiffer so much so that now I have to use a belt to catch hands whereas I could always catch hands. This has been coupled with a repeated twisted facet joint on the right side, although I don't know the associated vertebra. My feeling is that the problem is somehow linked to my right hip. This hip has always been such stiffer than my left which is very free in comparison to many others in the classes that I attend…The additional symptoms are sciatic/sacroiliac discomfort and hamstring pain… The asana which illustrates the problems that I have best is Ardha Baddha Padmasana when the right leg is bent the knee is pointing up into the air whereas on the left side it is

on the floor… Can you advise whether I appear to be on the right track with my interpretation and course of action/
Answer
…I suspect you also have an underlying sacroiliac dysfunction and that could be corrected by following the asymmetric exercise sited here on the site under sacroiliac mobility exercise. If left uncorrected the deeper muscles of the pelvis and spinal column cannot be freed.

Question #6
Mukunda, thank you for the analysis and means to correct this imbalance, you are on incredibly intuitive and skilled healer. I am having some difficulty knowing how to test and see the imbalance on others as they lift their knees, as you had cautioned. Do you have any helpful pointers on how best to SEE and FEEL this?
Answer
Best is to watch from behind with your thumbs coming across the joint so you are feeling both the iliac and the sacrum's motions as the client goes into ¾ hip flexion. With practice you can learn to feel this on yourself as well. In time I have also gotten skilled at seeing the changes from the front as well. The joint should lift up during hip flexion as a sign of normal stability.

Question #7
Can you explain some of the reasons why women seem to have more difficulty with the sacroiliac than men?
Answer
An anatomical difference between the sexes is a factor in sacroiliac and piriformis syndromes. The female sacrum connects two vertebrae to the ilium and the male sacrum has three. The average female sacrum is slightly wider and shorter, because of the birth canal, than the narrower, longer male sacrum. Many refer to the sacrum as the keystone of the body. This referenced comes from a term used in construction to describe the last stone to go in place when building an arch. If the "keystone" is out of place the arch will collapse.

Question #8
From your workshop at Kripalu I remember that you taught not to extend out to the side (a la Kripalu) before wind milling the arms in triangle posture. I do it your way and I like it. But I don't remember the reason you thought it safer. I remember it made sense at the time. Could you please refresh my memory?
Answer
My way of going into triangle is to maintain anatomical position from beginning to end. In this way moving from the hip socket without reaching out of the arm, which tends to distort the sides of the spine, especially the sides of the neck. By keeping the arms neutral to the spinal column you will avoid the need to adjust the neck and spinal angles. I find that this maintains the anatomical curves of the spine and prevents less likelihood of spinal or sacroiliac joint problems.

Question #9
When doing a seated of standing twist, does the pelvis move or remain stationary and the spine spiral out of this base? Judith Lasater in the article on the sacrum in the last copy of Yoga Journal said the pelvis and sacrum must move as a unit, which makes sense. But with abdominal contraction to support the sacrum, which is what Learned from Gary Kraftsow, neither the sacrum nor pelvis moves. So I don't know which is the

most safe and stable. Perhaps I've misunderstood one or both of them. Thank you for addressing these questions and for making this type of forum available to all of us.

Answer: The sacroiliac does move and should be encouraged to move albeit subtly. (Read Judith's article in Oct. YJ see page 110, third paragraph). When it moves in the wrong direction of not at all there are many adjacent regions subject to pain. Increased flexibility there is a problem. An Ayurvedic perspective of the underlying cause is increased and/or displaces vata. Vata rules motion and comfort. When changed due to mental, emotional or physical instability the sacroiliac destabilizes. I find Judith's and Gary's comments wise for someone who is a beginner or a teacher concerned with giving safe instructions to a class.

For therapists however, the analysis of the client's sacral motions needs to be done before giving corrective exercises. Remember there is a major difference between a teacher's role and therapists. Teachers are only trained to adjust students out of pain. These adjustments do not cure or treat, they simply point out that pain is to be avoided (see Yoga Sutras II, 16). Therapists are trained to understand the root causes of pain and help the client to be free of the root causes.

8 – References

Texts

The Female Pelvis	Blandine Calais-Germain
Structural Yoga Therapy	Mukunda Stiles

Web sites

www.yogajournal.com
www.spineuniversity.com
www.yogaforums.com
www.yoga-in-daily-life.org

Articles

Technical Report on Sacroiliac Dysfunction	Jonathan M. Saskin D.C.
Health and Healing	Dr. Julian Whitaker
Yoga Journal Articles:	
Out of Joint	Judith Lasater
Protect the SI Joint	Roger Cole
The Holy Bone	Richard Rosen
Practice Tips for SI Joints	Roger Cole

Other

Notes from classes with Mukunda Stiles	Nov. 2003 to March 2006

9 – Appendix

I gave this movement sequence called the Thompson Maneuver to case study two, JT. The SI Mobilization exercise created clicking noises in her SI area and some pain. She felt this sequence bring comfort to the area.

1. Sitting up straight with shoulders back on the edge of a chair or bed, or lying on a flat surface, bend one leg at the knee and grab onto the ankle with the opposite hand (fingers on the front of the ankle, thumb circling and resting under the ankle). Hold the arm straight down to get the proper angle.

2. Place the other hand on the bent knee with the thumb on the inside, the little finger on the outside and the three middle fingers on top of the knee. Let the bent knee drop naturally to the outside.

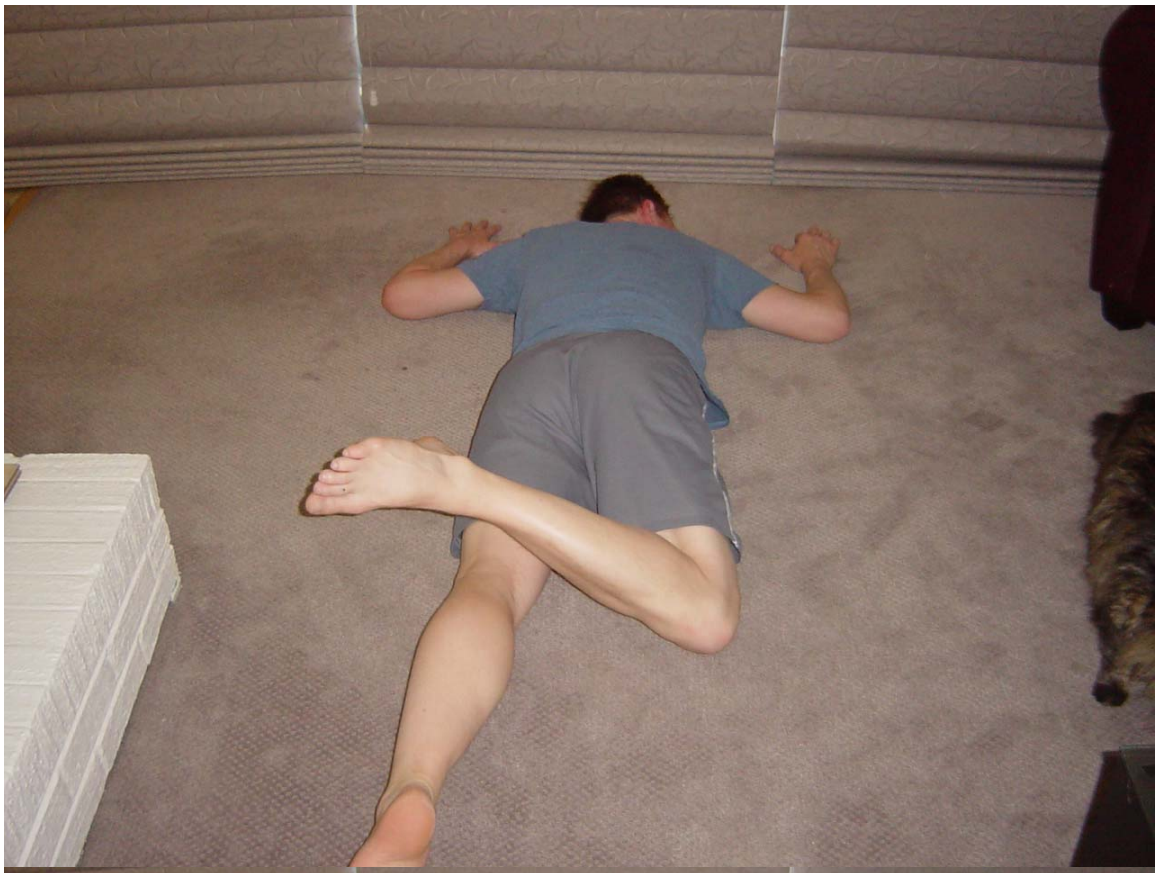
3. Elevate the elbow of the arm holding the knee to the level of the shoulder, so the shoulder and elbow are level. Moving the elbow straight back, pull the knee gently but firmly as far back as it will comfortably go. The lower leg and forearm should be in a more or less straight line. The sacroiliac joint is now in its proper place.

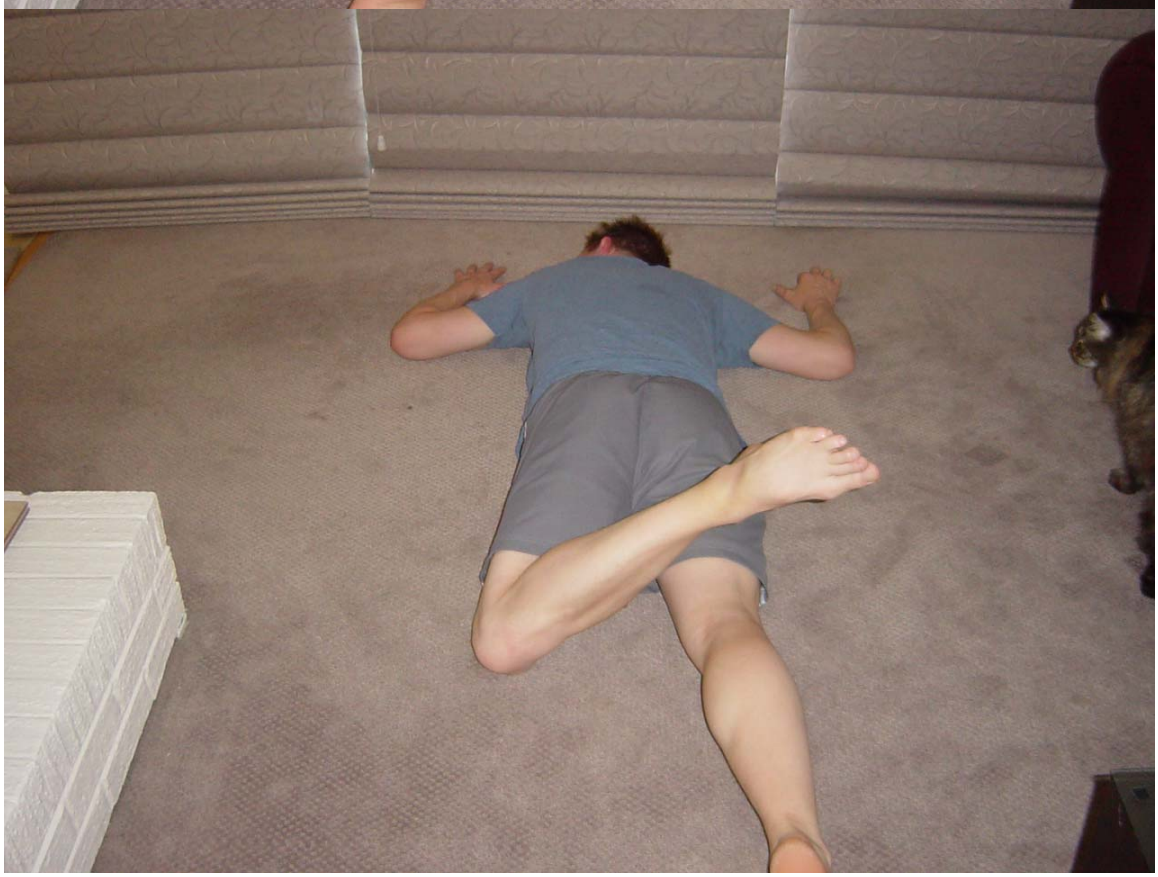
4. Hold this position for ten seconds, then release and repeat the procedure with the opposite leg.

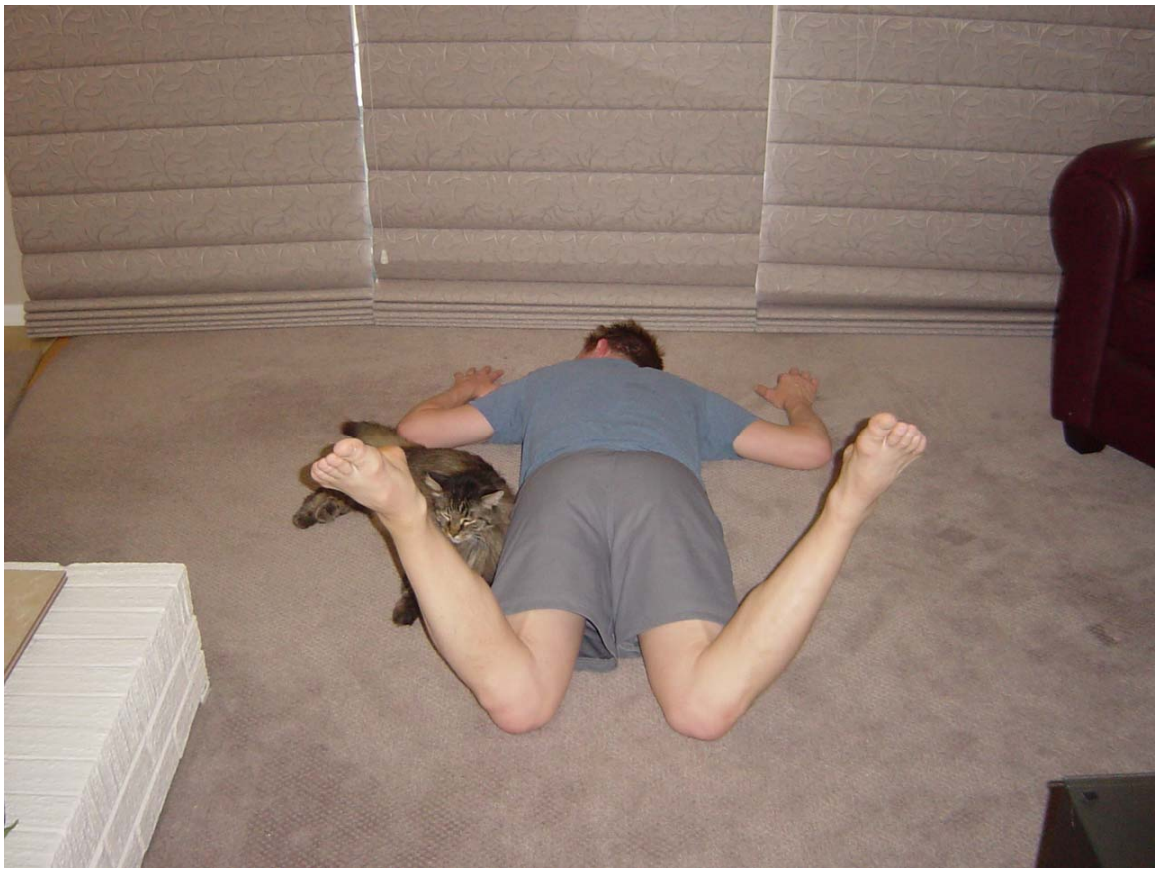
It's impossible to pull too far back—you cannot displace the hip by pulling back. If it's already in position, this is still a helpful exercise for increasing circulation and toning the area. For acute injury repeat this maneuver every hour, or as frequently as possible, for three to four minutes for the first four or five days after injury. Continue to do it at least three times daily as a preventive measure to keep your sacroiliac in proper alignment.

Appendix 2

The following three pictures demonstrate an exercise for strengthening the muscles around the SI joint (gluteus maximus and piriformis). This promotes SI stabilization. The first two pictures demonstrate externally rotating one hip at a time from prone position with knees slightly wider than hip distance. The foot of the rotated hip is drawn down toward the floor with muscular action. The third picture demonstrates internally rotating both hips simultaneously. The knees can be slightly closer together, and again the feet are drawn toward the side using the muscular action of internal hip rotators (gluteus medius, TFL, and gluteus minimus).







Appendix 3
The Five Koshas

Anna Maya Kosha:
Anna means food. This is the physical aspect of the body. This kosha is strengthened through exercise and nutritious diet.

Prana Maya Kosha:
Prana means energy. This is the energetic aspect of the body. This prana feeds the physical body and the mind.

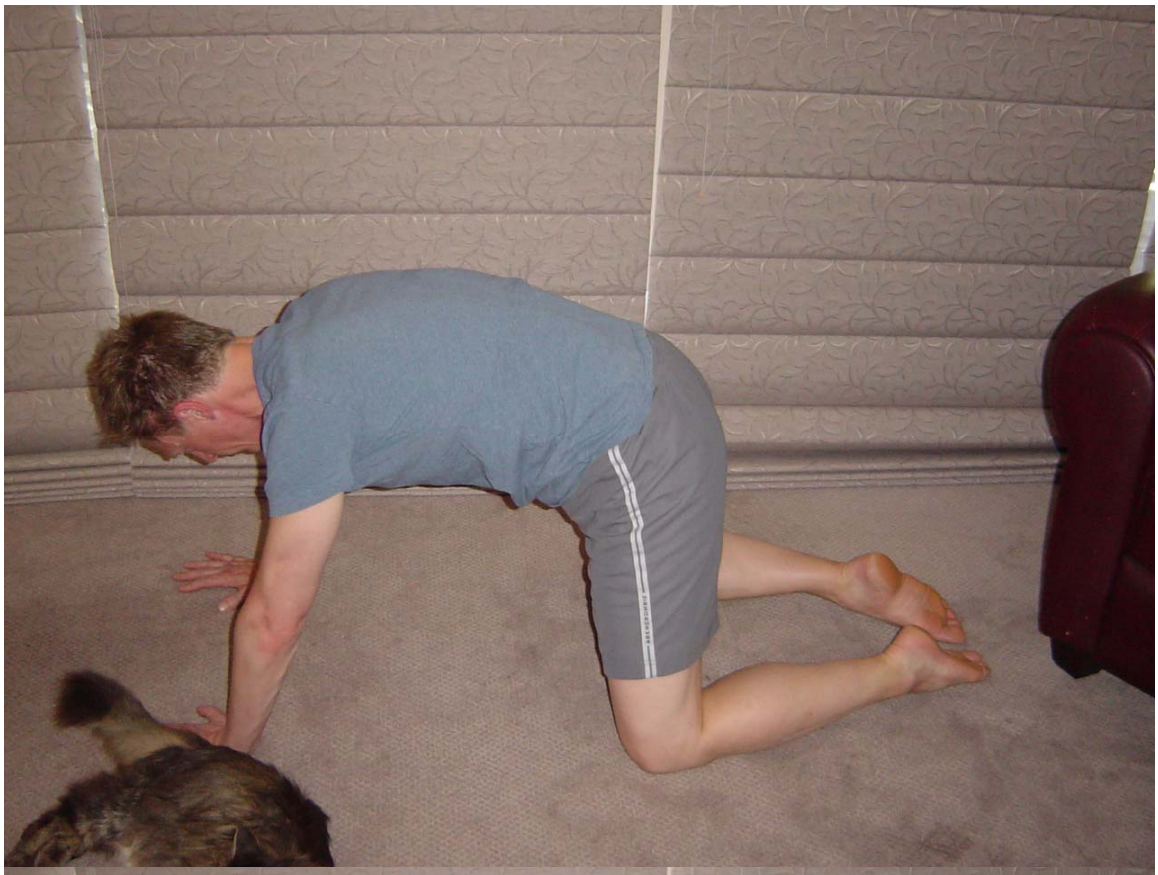
Mono Maya Kosha:
This is the mental (mind) aspect of the body.

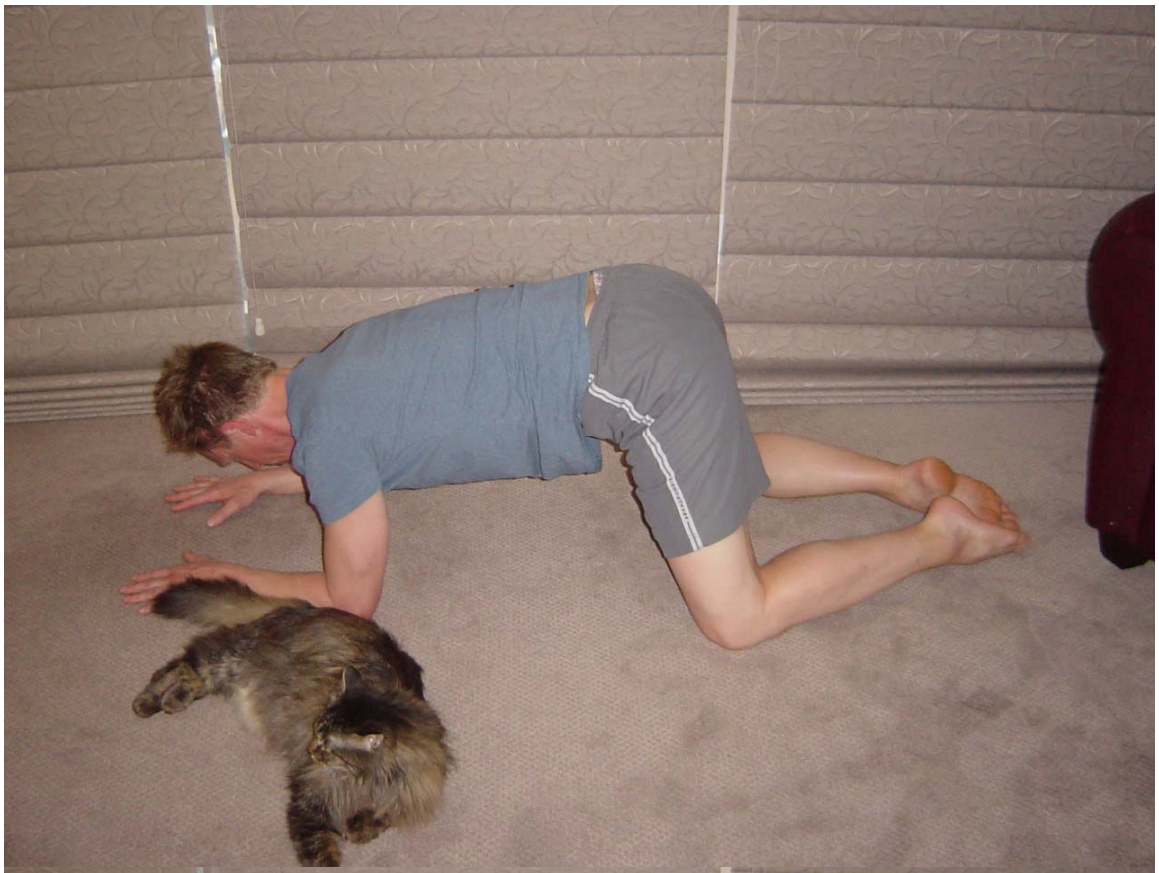
Vijnana Maya Kosha:
This is the body of higher wisdom, or intuition. When the body is happy and the mind is happy, prana can stay home and increase. When the pranic bank is full, one can access the Vijnana Maya Kosha.

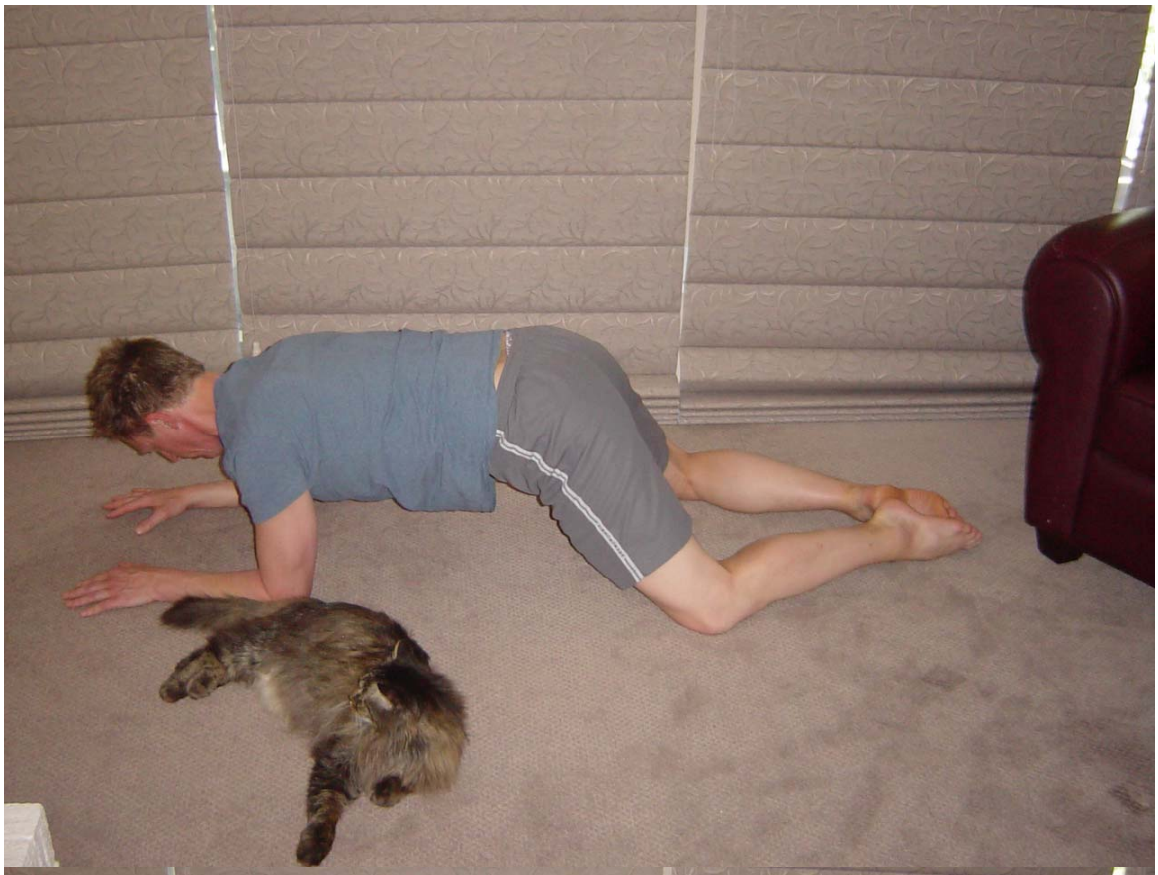
Ananda Maya Kosha:
This is the body of bliss, joy and peace.

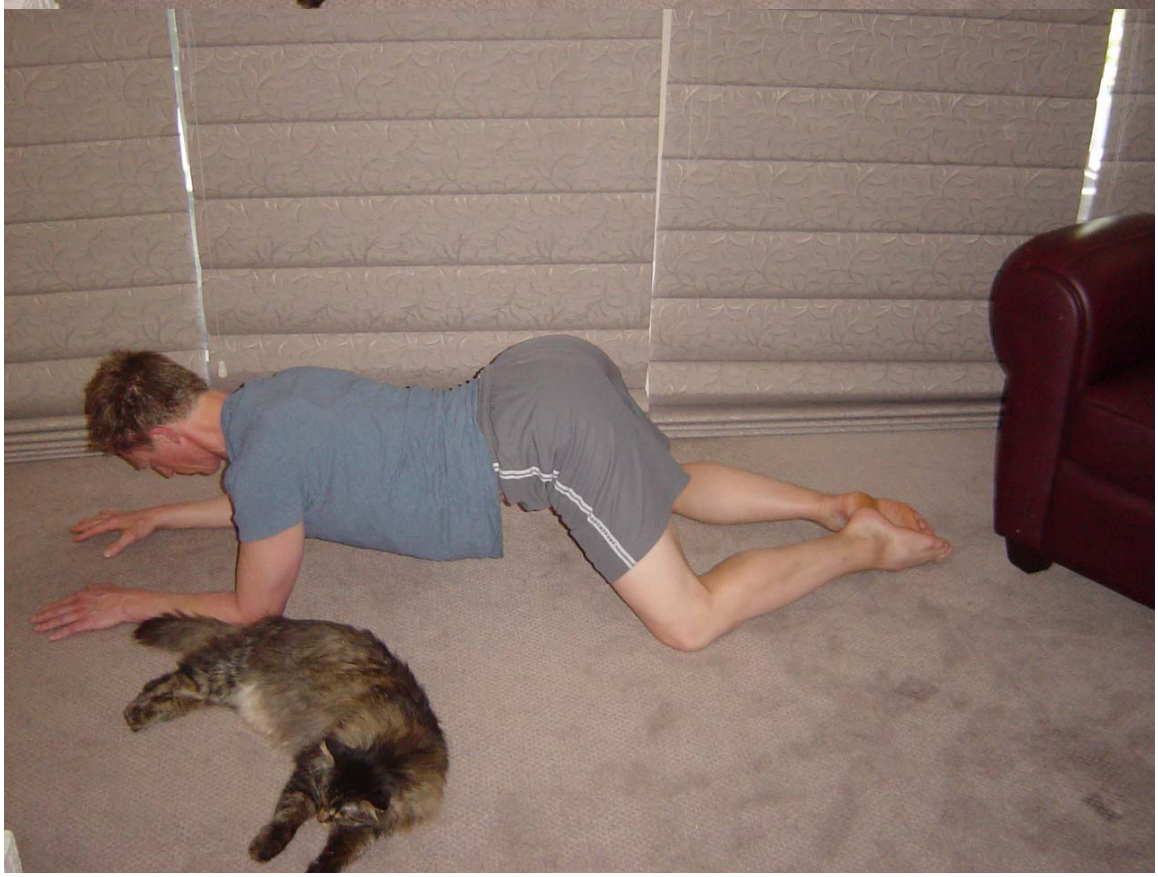
Appendix 4

The following six pictures show an exercise Mukunda recommends for SI joint, lumbar pain and disk difficulties. The first two photographs show a classical cat/cow position, but with knees farther apart to involve some adductor stretching. The person tilts the pelvis both anteriorly and posteriorally using a pumping action to bath the area in circulation of fluids. In pictures three and four the client is resting their weight on their forearms with the pelvis in front of the knees. They repeat the same pumping movement of the pelvis. Photographs five and six are with the client farther forward on their arms, and the pelvis a greater distance in front of the knees.









10 – Biography

Janet Jacobs has taught yoga classes for 20 years including seven years as director of the yoga program for the city of Boulder. She has been a certified massage therapist for 27 years and has trained in Shiatsu, cranial sacral therapy, lymph drainage therapy and Zero Balancing.