

Diffuse Idiopathic Skeletal Hyperostosis / Forestier's Disease

Structural Yoga Therapy Course

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Case study

A – Initial intake

Frank is 53 years old, happily married with a supportive wife and family, which include three children. His youngest daughter is in her second year of college so there is an empty nest except for two beloved dogs. Life revolves around close contact with family and friends. Everyone in Frank's family is very health conscious and enjoys sports and exercise. Frank has a very high stress job in real estate in Manhattan that can require long hours and frequent last minute travel, sometimes as far away as India or China. For several years Frank had been exercising very little and had gained weight. He had trouble getting out of bed and standing up straight required several painful minutes of stretching. At first, this was thought to be a problem with the mattress. At this time Frank was diagnosed with DISH. I started working with Frank a year and a half ago doing dynamic stretching, resistance training and yoga. Frank also uses the treadmill for cardiovascular exercise, walking at an incline at a brisk pace. He expressed great interest in my SYT work and agreed to be my case study. Since I have met Frank, he has worked diligently to lose 23 pounds and exercised regularly.

Frank used to run and developed heel spurs. At about age 40, a doctor told him to stop running that he had Forestier's disease. As time past, Frank's spine began to painfully stiffen up, drastically restricting range of motion. Frank was diagnosed with the arthritic condition DISH at age 46. Sometimes known as Forestier's Disease, Diffuse Idiopathic Skeletal Hyperostosis usually is diagnosed in people older than 50. Newly diagnosed as a form of degenerative arthritis in 1999, many physicians are unfamiliar with it. Dish severely affects range of motion and can cause a very high pain level. DISH creates calcification and ossification along the spinal vertebrae and their ligaments. Bone spurs are common on the heels and shoulders. Frank's Structural Yoga Therapy goals are to reduce stress and pain, increase range of motion, improve sleep quality and become more sattvic. He would like to worry less and be more present and content. Frank has an elderly Indian colleague who does yoga and meditation. His practice has helped him recover from brain tumor surgery and at 80 he is a healthy sattvic man with a great sense of humor. This is Frank's true mentor or life ideal. Frank's pain is chronic. It has been reduced from a level 8 (out of 10) to about a 3. At night, Frank can be exhausted and totally drained from this constant pain. Frank is extremely bright in business and tries to remember everything without taking notes. When he tries to relax, he sees a rolodex of thoughts, all the facts he has been remembering. He gets up a few times a night to go to the bathroom and when he goes back to bed all the thoughts begin to arise and his mind spins. He has a fear that in a few years at family gatherings, he will be in a chair in the corner not able to move. This is a specific vision in which relatives will point to Frank in the corner and say "there is Uncle Frank, he cannot move".

The symptoms of DISH that affect Frank are: Back pain and stiffness in the thoracic and lumbar spine, mostly right side where he has calcification on the spine and the posterior longitudinal ligament. The pain also comes from the right front hip and radiates down inner thigh. A characteristic of DISH is that the right side is affected more. It inflames the deep muscles of the spine and their ligaments. Spine rotation, flexion, and extension are very limited. When it is at its worst, the ligaments of the neck are affected and swallowing can become uncomfortable. In cases more severe than Frank's, surgery can be necessary to assist breathing and swallowing. Following exercise intense enough to raise body temperature, pain decreases considerably and there is more ease of movement. After periods of rest, movement will be stiff and painful. The symptoms of stress that affect Frank are numerous. Work hours are long and stressful involving travel. Frank has trouble sleeping, even though fatigued. Upon awaking, he often does not feel rested. Sleeplessness is many times accompanied by worrying. There is fear of the future as the disease progresses with age. There is a fear of one day being disabled and not able to go to work and support his family.

B – Physical assessment and posture body reading May 8, 2008

Frank is 6'2", very muscular and weighs 146 pounds. His sun sign is Virgo. Chest and abdomen are large. Breathe is shallow and in upper chest. Shoulders are wide and rounding forward. Head is very forward, Frank comments he would like to be able to line up against the wall and have his head touch. Right foot is externally rotated. Frank points

out his mother used to always tell him to straighten out his right foot. Arms are slightly forward with bend in the elbows. Eyes are clear blue with direct gaze. Frank has a good sense of humor and speaks directly about what he is feeling. He has a great tolerance for pain and a strong inner resolve. Frank sweats profusely when exercising, even if the exercise is not intense. He is often red in the face. He burns an incredible amount of calories when exercising even when his heart rate is not so high as in doing yoga. He has worn a monitor sometimes that shows calories and HR. Frank has a glass of ice water while we are doing intake but is drinking a small amount during the day. I point out how much water he is losing during exercise and he agrees he needs to drink more. Virgo rules the abdomen, spleen, intestines and nervous system. Frank had an emergency appendectomy in 2004 and in November 2007 he had surgery for a hernia.

Range of Motion Assessments					
Joint Action	ROM	5/14 1st Date	1st Date	9/9 2nd Date	2nd Date
	Norm°	Left	Right	Left	Right
ANKLE					
Dorsiflexion	20°	15°	15°	15°	15°
Plantarflexion	50°	42°	35°	42°	35°
Eversion	20°	15°	15°	15°	15°
Inversion	45°	35°	35°	35°	35°
KNEE					
Extension	0°/180°				
Flexion (Supine)	150°	130°	135°	130°	135°
HIP					
Flexion (Bent Knee)	135°	110°	110°	120°	120°
Flexion (Straight-Leg Raise)	90°	60°	70°	60°	60°
Flexors-quad/psoas restriction	NSS				
External Rotation (Supine)	45°-60°	35°	35°	35°	35°
Internal Rotation (Supine)	35°	25°	20°	30°	20°
External Rotation (Prone)	45°-60°	35°	40°	40°	45°
Internal Rotation (Prone)	35°	10°	12°	20°	22°
Adduction (Side Lying)	30°-40°	15°	15°	15°	15°
Abduction (Side Lying)	45°	40°	40°	42°	42°

Joint Action	5/29 1st Date	1st Date	2nd 9/9 Date	2nd Date
	Left, 1-5	Right, 1-5	Left, 1-5	Right, 1-5
ANKLE				
Dorsiflexion	5	5	5	5
Plantarflexion	5	5	5	5
Eversion	5	5	5	5
Inversion	5	5	5	5
KNEE				
Extension	3	4	4	4
Flexion	2.5	2.5	2.5	3
HIP				
Hip Flexors & Abs (Supine)	3	4	4	4
Trunk Flexion (Supine)	3.5		3.5	
Hip Flexors - Bent Knee (Supine)	3	3	4	4
Iliopsoas Isolation (Supine)	3	3.5	4	4
Sartorius Isolation (Supine)	2.5	3	3	3.5
Abduction (Side Lying)	3	4	4	4
Adduction (Side Lying)	4	4	4	4.5
Gluteus Maximus Isolation (Prone)	4	4.5	5	5
External Rotation (Prone)	3.5	4	4	4.5
Internal Rotation (Prone)	3	2.5	3.5	3.5
Quadratus Lumborum (Seated)	3	3	3.5	3.5

C Summary of findings

Muscles to Stretch	Muscles to Strengthen	Muscles to Release
Internal Hip Rotators	Internal Hip Rotators	Adductors
Quadratus lumborum	External Hip Rotators	Hip extensors
External hip rotators	Hamstrings	Hip Flexors
Hamstrings	Hip Flexors	
Hip Flexors	Iliopsoas	
Iliopsoas	Sartorius	

I introduced Frank to Pavanmuktasana (JFS)¹ and gave him a copy of the exercises for his homework. He had difficulty with the breathing and sitting upright (even on bolster) but he felt good about doing it. He did not want to use a chair. We concentrated on the breath to create pure pranic experience to decrease pain level. I wanted to create a safe place eliminating fear to balance vata. By refining vata, you get prana. The secret to diminishing pain is to increase prana. “Most pain is fear= false evidence about reality” Mukunda Stiles June 26, 2008 Structural Yoga Therapy lecture. Frank has a lot of fear about his dis-ease. JFS #4 and 5 are very difficult for Frank. I asked him to relax the effort so he could work with a pain-free range of motion. I stood behind Frank so he could use me to support his back while he did #16 through 21. This felt comforting and safe and he felt very good about sitting up with a straighter spine. Frank did a very deep, totally still and profound savasana. I had him do pranayama technique three from Mukunda Stiles 5 Pramayanans for Healing and Pain. Hands were placed on lower belly in Yoni Mudra. I asked Frank to breathe into his hands and feel the wave action of his breath. With the inhale of the breath, feel the belly gently expanding into your hands. With the exhale, gently feel the hands press in the belly. Observe the three dimensional quality of your breath as it expands into your chest. Feel the contact you have with yourself as you place your hands on your body. Try not to push for something to happen, just observe what you feel and be with that feeling. Savasana lasted about 15 minutes. It was clear he went from kosha 1 into kosha 2 of healing probably into kosha 3 as there was peace in the mind. The next day I got a call from Frank’s wife Tee. She said “I don’t know what you and Frank did last night but when he was through with his session, he was his old self. He was more relaxed than I have seen him in years. Maybe you should come over every night and repeat whatever it was you did.” This is one of the best calls I have ever received. After this session Frank went on a business trip to London. His homework was to do the Joint Freeing Series and do 4-6 repetitions if possible without pain. He did his homework 3 out of the 5 nights, showing his inner resolve.

May 14 Second Session

Today we did test for ROM.

I tested Frank for sacrum stability and found the right side was not moving as well as left. I introduced the Sacrum Stabilizing exercise done in a chair. He is unable to do this sitting because of tightness in his hips and spine. The right side improved after the exercise, hips freer, more ease in hip flexion. Frank’s comment from the homework was that he found difficulty in coordinating his breath with the movement so we worked on that. I try to emphasize a long deep exhale as there is a tendency for him to hold the breathe in. I praise the regularity of his practice and offer encouragement. He was sore from doing #4 and 5. I suggested he keep doing series but relax the effort so he does not feel pain. I asked him to use his discernment to ascertain the difference between opening the body in a stretch and pain. He also confided to me that he had difficulty clearing his mind in savasana when I am not there to guide him. I gave him a relaxing meditation tape made by my teacher Tao Porchon-Lynch to listen to this week. When he did savasana it was again very deep and long. I gave him some guidelines to help focus his breath. Counting 4 counts for the inhale and 4 counts for the exhale trying to smoothing out any rough edges of the breath. Frank reported he sleeps very well after doing JFS in evening. I gave Frank the questionnaire of “Perceived Stress Scale” given to us in SYT training. It revealed Frank’s stress level to be high especially around events out of his control that angered him. Other answers showed he was very much in control and always tried to be in control. He shared an incident involving his family. The family was leaving a restaurant in New York and Frank asked his thirty-year old son to hail a cab while he took care of the bill. As he left the restaurant, he spoke to the maitre de about a cab. His family had placed bets on whether he would do this or allow his son to get the cab as discussed (he had gotten a cab). This was an “ah-ha” moment for Frank and his issues about control. He is relaxed talking about it, smiling and laughing. Frank’s physical type is Kapha. He has large frame, heavy muscular body, well-developed chest, subject to gaining weight brought on by inactivity and overeating. His warm heart is very evident. Kapha imbalance is characterized by joint stiffness, stagnation, and overeating. The stagnation happened over time in which nothing was done to improve his condition, nonuse of time. In Frank there is slightly elevated blood pressure and cholesterol, kapha imbalance again. “The kapha imbalanced individual has the attitude that things must be done “My way”. The

¹ Structural Yoga Therapy by Mukunda Stiles

body becomes large from excessive eating and lack of exercise and they begin to feel unhealthy.”² Frank’s chest (pectoral muscles, anterior deltoid, latissimus) is very tight. Kapha rules chest and heart center. Virgo rules the abdomen. I have given Frank some pec stretches to do on the wall, at home and in the office. I also taught Frank a restorative chest opening stretch on the bolster. The bolster is placed vertically under his spine with his buttocks at one end and his shoulders off the other end of the bolster. A pillow is under head for support. Arms are stretched out horizontally creating stretch in pectoral muscles. With his eyes closed, I ask him to deepen and slow down the breath. Frank’s legs are straight, knees extended and feet are in dorsiflexion pressing into the wall. I put a yoga strap around the tops of his thighs to hold an internal hip rotation and create stretch in hip flexors.

May 19 Third session

Frank has been away at a niece’s wedding. Relatives commented that he looked much better and posture was much improved. For the first time in a long time, he danced a lot. Unfortunately, he pulled his right groin dancing. He continued with modified homework and rested. I suggest ice. I ask Frank about how his hydration has been going and he is making progress drinking more water, also eliminating coke from his diet. Frank is not eating breakfast. I explain not eating breakfast is common but especially with overweight people. They do not feel hunger so they do not want to waste the calories. There is a preference for eating at night. There was also a recent study in the New York Times about obesity in children. The children who did not gain weight were the ones who ate breakfast. No scientific reason was given, only speculation that it raised their metabolism in the morning, satiating them so they avoided overeating during the day. I suggest some things he could eat for breakfast like oatmeal, which will aid to lower cholesterol, Kashi Go Lean Cereal with banana, lots of protein, fiber, and carbs, banana and peanutbutter. He is going to try eating breakfast this week but not enthusiastic about doing this. I advised patience and said it could take two or three months to allow thirst and hunger change to kick in. He continues to do his homework without fail and reports feeling stronger. We did JFS, but modified for his groin injury. I also did a release on inner thigh muscles as introduced to us in Structural Yoga Therapy Course. I asked Frank, while lying supine with right knee bent and foot on the floor, to let the weight of his leg release into my hands, release into gravity. (His leg was dropping off to the right). This took several minutes but finally he did release. I asked Frank to keep his adductor muscles relaxed and allow me to lift his leg back to vertical, knee still in flexion. The release technique Mukunda shared with us is only for muscles below normal range of motion. Frank’s muscles are constantly overfiring in response to the ligaments being inflamed. This was a new way to allow his muscles to release into gravity and having me hold the leg made him feel safe. I saw his awareness change as he went from Kosha 1, restoration of Satvic state, to Kosha 2, purifying of prana. He felt improvement in right groin following the release. To end our session, I introduced mantra to help with the savasana Frank does without me. Inhale Ham, exhale Sa. I explain the imagery of the mantra as shared by Mukunda in our first SYT session. I am the swan floating on a lake. The swan is the self, the lake is the world. The breath creates ripples on the water. When there is integration in the mind the swan becomes still. I end savasana by having Frank breathe into hands in Yoni Mudra, which he enjoys. We end all our practices by bringing hands to heart in anjali mudra and repeating “with great respect and love, I honor my heart, my inner teacher. Namaste”

May 29 Fourth session

Frank was away but has continued to do the Joint Freeing Series several times a week with modification for his pulled groin. We discuss hydration and Frank’s effort to drink more water during the day. He is working to increase that intake but a little skeptical about eight glasses a day. When we began the case study, he was drinking one or two glasses a day and complaining about the trips to the bathroom required by full hydration. He always has water with our session. He is trying to eat breakfast having a yogurt in the office. He reports he is not hungry in the morning. Today we again did the sacrum stabilizing exercise in a chair. The right side improved after the exercise, my thumb

² Ayurvedic Yoga Therapy by Mukunda Stiles, page 33

moved up. After I had Frank test his balance on one leg and lift thigh in hip flexion standing. Leg was moving better in joint and felt “lighter”. This is now added to Frank’s homework. We did muscle test today to evaluate strength. This was very tiring for Frank. His hamstrings are very tight and weak and cramping. I mention this could be from dehydration. We end our session with ten minutes of savasana. I give breath awareness guidance, mantra, yoni-mudra. Frank has not picked up those meditation tapes yet. I ask but do not comment further. I have Frank modify JFS#7 hip extension to turnout strengthening glutes and external rotators.

June 5 Fifth session

Frank diligently completes his homework and I praise his consistency. His stress level is lower and sleeping is better after the Joint Freeing Series. The JFS is challenging for Frank but getting easier. He likes the challenge and strengthening aspect. More people are noticing a (good) posture change in Frank and he is pleased. This is a big event for Frank; previously people would ask if he was in pain or what was wrong with his back. A benefit of Pavanmuktasana has been that his back has been strengthened and flexibility increased by doing the exercises on a bolster on the floor. I have always given the option of using a chair, which would have been easier for Frank, but he would prefer to be on the floor sitting on a bolster. His neck alignment is improving as well. When I began working with Frank, when supine he needed a large pillow under his head for support and now he is using only a yoga block, narrow side supporting head. This is giving him what he wants out of his practice, i.e., his goal was to have his head touch the wall when standing at the wall. He is not there yet and may never be but has made progress he can measure. Frank is still modifying JFS for groin inflammation. Today he expresses fear of what future holds for him as disease progresses. Some one in his office asked if he was in pain. He was not, in fact he felt good. He imagined what he must have looked like when he was truly suffering. I remind him that the JFS is not simply exercise but that the breath elevates it to an “energy-freeing practice”. “This frees prana (the energy hidden within the breath) to flow into the region being exercised.” Frank understands this principle and seems encouraged. We focus on yoga poses (1) ustrasana to address weak hamstrings, gluteus maximus psoas (note- Frank does this with a chair behind him so he is not reaching to his feet). We do this twice, 4 breaths. I also have his front body in contact with the wall so he can feel his hips on the wall (2) locust pose to strengthen psoas, gluteus maximus and medius, hamstrings and back extensors. We do this twice, 4 breaths (3) shoulder bridge to strengthen hamstrings and hip extensors while stretching pectorals and hip flexors. We do this 3 times, 4 breaths. (4) trikonasana, 2 times each side, 4 breaths, to encourage lateral flexion, stretch adductors, strengthen erectors and obliques (5) cobra pose to strengthen erectors, 2 times 4 breaths and (6) supine spinal twist, jathara parivartanasana to stretch obliques and hip extensors. I assist Frank gently into this pose and am asking him where he feels the stretch and to discriminate between a pain in his body and an opportunity to open. Spinal twist is a difficult pose for Frank but often results in kriya. It seems to let the DISH trauma come up and out. Frank’s eyes are blinking rapidly and when he completes the twist, we do it twice to each side, there is a huge sigh and often laughter. As we end our session in savasana, I hold Frank’s ankles. I want to create a deeper level of safety. I recall Mukunda’s teaching that all vata imbalance is fear, Ahumkara. “The belief that you are doing things on your own, that you are alone, that you are not with the divine. You must feel safe if you are to relax”. I asked Frank if his yoga practice has been helping him reduce stress. He said he thinks of the slow deep breathing whenever he feels himself getting tense. He tries to let the breath come more slowly and ask the thoughts to come more slowly. Frank travels a lot for his job and is frequently delayed at airports, getting into hotels late at night. He can be very impatient and annoyed by this. He is now turning to his yoga practice to help him get through these stressful times. He will become aware of his stress and start to focus on his breath, not his anger. Many times he gets to his hotel room and does the joint freeing series. It helps his dis-ease which is more painful when sitting for a long period of time, as on a plane and calms his nervous system bringing prana back to its source. Frank is six feet two inches tall with a large frame; he is very uncomfortable in any airplane seat.

June 12 Sixth Session

Frank reports the pain in his hips and back is very minimal today although the groin injury is still there. He is modifying JFS #4 and 5. We review the yoga poses we did last session and I add to his homework ustrasana with a chair, bridge pose, and locust. We do each pose two times, 4 to 6 breaths. We work on some exercises from the isolation series. The wallhang is very hard for Frank but I want to see if forward flexion has increased (yes) but still very limited. We do half-forward bend at the wall and runner's lunge. Frank is unable to do many poses on the floor so the wall is very beneficial. We do dog pose to stretch hamstrings and strengthen spine erectors, psoas, shoulder flexors. We do flank pose using the wall and modified so the spine is about 60° not 90°. As Frank extends his arms to touch the wall (shoulder flexion) I have him do the scoliosis variations we learned in SYT training. This is a flexion and extension of his spine and then a lateral side -to -side (smiley face) pelvic movement while maintaining the hip flexion of flank pose. This created movement where the DISH is affecting him most. He really enjoyed this pose, which I add to his homework. I have given Frank a notebook and written down the yoga pose homework with some drawings of the poses. I asked him to journal any feelings or thoughts. I also gave him The Runner's Yoga Book by Jean Couch as recommended by Mukunda. Frank is a visual learner and he much appreciated the book so he can see a photo of what the pose should look like. There are a lot of stretches using the wall and chair for support. Another pose we did was reverse triangle, modified on the wall. I ask Frank again about the meditation tape I gave him. He said he listened to it and I asked him to share his thoughts. He listened to the tape at the office while he was reading the paper. I praise his honesty and suggest another tape; perhaps this just did not suit him. I will try a more "manly" tape next time.

June 17 Seventh Session

Frank reports he feels much stronger and pain is less. His forward head position is improving, more vertical. Right side remains tighter, consistent with DISH. We do yoga poses: Bridge 6 ways, 6 breaths and I notice hip extension much improved. Locust pose, twice 6 breaths. Ustrasana, two times, 6 breaths. Dog pose to strengthen spine erectors, shoulder flexors, psoas, and stretch hamstrings. Dog pose Frank does twice holding 8 breaths. Warrior one with scoliosis modification, two times to each side at wall. We do runner's lunge from the Isolation Series to stretch hip flexors. I increase all the poses to 6 breaths emphasizing stamina and strength. Frank does his cardio before our sessions so he is warmed up and usually reports feeling very good. I talk to him about the benefit of heat with arthritis and suggest he use the Jacuzzi. He has one but does not use regularly (!). Frank showers after cardio before our session and still sweats profusely, sweat relates to pitta dosha. This is the stagnation of kapha coming up and out of the body. Our session is a kriya for Frank. He is exhausted after our session; there is great relief and total relaxation. We have the hydration conversation again as I point out how much fluid he is losing. He is increasing fluid (though not enough) and breakfast is now regular. I praise his dedication to his practice and note his improvements. He does his homework usually 5 times a week even if he is traveling. We are soon going to have to miss sessions as he is going away.

July 10 Eighth Session

Frank was away on vacation and business. He has continued to do his homework about 4 or 5 times a week. He was away seeing his brother who commented that he was moving a lot better. His brother is usually terse and never comments on anything. Tonight as Frank was supine on the floor, his head was on the floor for the first time. This created a huge stretch through his whole spine. He was thrilled. His chest and shoulders continue to be very tight. I did a shoulder release (he was supine) holding his thumb and abducting his arm. This is the release technique from Mukunda Stiles. First his elbow was extended, and I repeated with elbow flexed. He enjoys the fact that he can learn to do this release. Kapha likes to be in control and this gives him a break from that effort. There is giggling and smiles. We did half dog pose on the wall, dog pose and a pec stretch (see photo) to open shoulders and chest. We also did ustrasana with support of chair, bridge pose with the strengthening variations taught by Mukunda, child's pose, prasarita parsvotanasana, and hare pose or shashankasana. Hare pose for Frank is very modified by his range of motion but it gives him a good stretch through his cervical spine where the DISH affects him. I had Frank

hold the poses for 6 breaths. I emphasize slow strength to build muscular power and stretch through the chest area, seat of kapha. To begin savasana I focused on deep diaphragmatic breathing. I asked him to concentrate on the expansion of his chest and encourage an exaggerated exhale to release stress and stagnation. Frank told me tonight how hard it is for him to get in and out of cars. "I am like a modest woman having to keep my legs together." This tightness in groin and adductors radiates from the spine down and may never go away because DISH has no cure. Frank is acutely aware of this and it creates FEAR, false evidence about reality. We need to increase flow of prana that cannot coexist with pain. I suggest Frank try some new meditation tapes. I leave him with a cd from Rodney Yee and one from Swami Satchitananda.



July 22 Ninth Session

Frank was on family vacation for a week and overseas on business. He continues to do JFS and it has become his sadhana. Becoming more sattvic, he is making better health choices. Frank has increased his stamina and cardiovascular exercise (chest, lungs, home of kapha). He is able to do 30 minutes on the treadmill at a fast walk on an incline. He is drinking 8 glasses of water a day. He has lost the taste for red meat and large portions of food. He still enjoys regular coke, but not often. This is creating sattvic nourishment resulting in more prana. Frank's schedule is very hectic but he maintains his appointments for yoga with diligence. Frank is increasing his discernment and going into kosha 3, aware of his own deeper healing. Frank has listened to the meditation tapes, usually in the office in the early morning when it is quiet and he is alone. He prefers Swami Satchitananda's cd. He is closing his door and practicing meditation. He is sitting in a chair for he is dressed for work. He is also doing some of his yoga stretches in the office showing an increase in discernment. He needs to get up and move during the day for it is after remaining still the DISH causes stiffness and pain. When he is stressed while traveling, he will try to do some meditation to relax and focus on the breath. I teach Frank a modified sun salutation. Modified because of limited spine forward flexion and tight hamstrings so we use blocks and chair. I ask Frank to focus on taking in as much air as possible expanding chest and emphasizing the exhale. We take it very slow concentrating on strength and muscular energy lifting away from the earth. He is sweating profusely from this exertion and we complete only

4 times. He is exhausted. There is trembling in his legs as we do the sequence so I feel we are approaching a kriya. We were previously setting up each pose without a flow so the constant movement in sun salutation presents a challenge for Frank increasing strength and stamina. He needs this effort to purify the stagnation of kapha and counteract the heaviness of the earth. That which illuminates must endure burning. The burning I equate with profuse sweating, pitta. We do some durga pranayams and I teach him Bastrika. He is sitting on two pillows to maintain upright posture. He is making fists holding hands at shoulders. As Frank inhales through nose, he spreads fingers and reaches up in shoulder flexion. Fists come to shoulders and inhale is automatic. We do a couple easy rounds and then savasana.

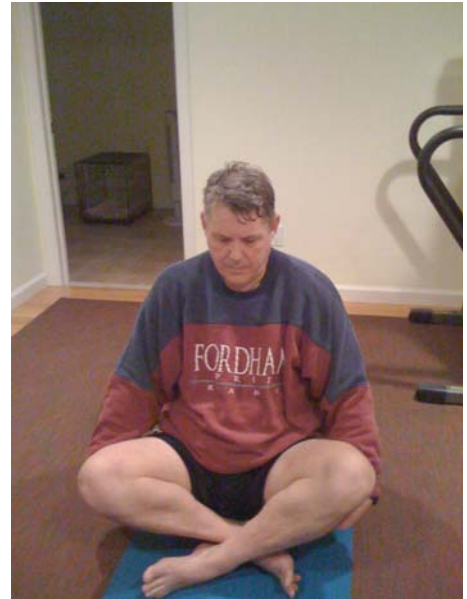
July 29 Tenth Session

Frank was delayed on a plane for 3 hours on the runway yesterday, sitting in coach, and very stiff. He still does cardio to warm up and is ready to move. We began by stretching shoulders and chest, ½ dog pose at wall; twist on a bench and on floor (jathara parivartanasana), parigasana (gate pose) which stretches groin, quadratus lumborum, spine, lats. Frank mentions that whenever he is standing in line he now bring his hands behind him and tries to hold the elbows (almost). This gives him a stretch through his pectorals and helps him to get more extension in his spine. Frank is open about discussing his condition with others and reports that people feel very free about making comments to him, such as “what’s wrong and why are you moving like that?” This annoys him and he is sensitive about it. He remarks that a colleague who commented about his walking needs double knee replacements himself. I remind him of all the progress he has made and all the positive comments he gets from people who have seen him change. He has lost over 30 lbs. now. We work on ujjaye breath pattern with sun salutation we began last session. Although it was very strenuous, he is sure it will be easier today. Again he is drenched with sweat and with great effort we complete 5 rounds. I ask if he wants to take a break, I suggest more water. He drinks but has strong resolve to complete his practice. There is an increased ability to move from one pose into another although it is not a flow yet. To end our session I put Frank in a restorative chest opening position on the bolster. See description previously given. I gave him a guided meditation on the ocean sound of victorious breath and he did the breathing for about 5 minutes. There was purification of the breath. The ujjaye was concentrated and strong. I then read from the (top hits) ”Yoga Sutras” chapter 2 verses 46-50, along with my notes on these chapters from Mukunda, followed by savasana. He was so sattvic, very self-aware, and prana was everywhere. I have been encouraging Frank to take hot Epsom salt baths. He is not a bath guy. His wife Tee enjoys them and has also suggested it. He will try this week although we have been discussing the benefit of heat and warm baths for about a month. I praise all his good efforts. I am humbled and inspired by his discipline and transformation.

Aug 12 Eleventh Session

I have been away on vacation and Frank has taken some long weekends with his family at the beach. He has been walking a lot with the dogs and swimming in the ocean. He has been doing his practice and feeling pretty good. I gave Frank a copy of the Yoga Sutras and he has been reading them. He is feeling good about the meditation and notices the decrease in stress. He mentions his Indian friend Das who meditates and remains very sattvic while involved in stressful business. They are both in commercial real estate, which has been in steady decline. Frank has spoken to Das about doing surya namaskar A and been given encouragement to keep doing his practice. Frank’s daughter Alison has also begun to study yoga and they were doing some poses together over the weekend. We polish surya namaskar A, much improved, and we do a few rounds of surya namaskar B. This is very challenging, huge effort, sweat is pouring out of the body. We cool down doing some hip release stretches. Frank is on bolster and very warm but stretches are still challenging. He then sits in sukasana and his hips are incredibly open as never before. Usually Frank is holding on to his legs to maintain this posture, knees toward the sky. I take a photo on my phone (see photo). He is anticipating being very sore from our session. He wants me to email the photo to his office

so he can share. I call to check the next day and he is just a little sore. Using his breathe and focusing his awareness Frank is moving from kosha 1 to kosha 2 and 3. Frank does not talk about DISH very often now. His fear is greatly diminished and pain is less. From Mukunda, “you cannot have pain in a pure pranic feeling”.

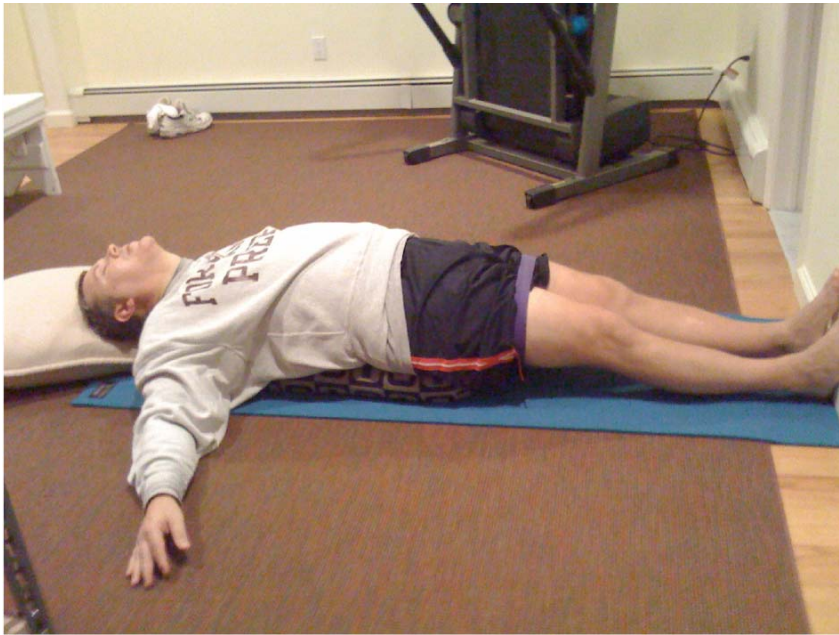


August 18 Twelfth Session

Frank has been taking some time off work and going to the beach. There are lots of activities with family and friends when he is away and very little down time. Frank’s son has become engaged and there is a lot of activity surrounding this. He continues his practice but has not been doing savasana. I strongly encourage him to keep doing savasana and explain he will reap all the benefits of his yoga practice and joint freeing series by doing the deep conscious relaxation of corpse pose. He agrees to start savasana again. His wife confides in me that he continues to be the most relaxed and agreeable after our sessions. This session we continued with surya namaskar A and B. Frank feels very good about being able to do this practice. He has done some yoga again with his daughter when she visits on the weekend. She is now doing yoga several times a week in Manhattan. He does a long savasana, about 10 minutes. We do yoni mudra, which he likes.

September 9 Thirteenth Session

Due to scheduling problems and travel, it has been difficult for us to meet to do final muscle test. Frank has continued his practice regularly and has looked forward to the test to see his results. His sister is visiting and she was complimenting him on his posture and weight loss. The added benefit of JFS has been to improve Frank’s posture and extension of his spine. Formerly DISH caused him to flex spine forward from his hips while lumbar spine was straight and inflexible. The muscle test showed improvement but the postural change has been tremendous. Groin pain is almost completely gone. Back pain completely gone most of the time. In performing sun salutation Frank is able to put fingertips on floor instead of blocks. He feels great about strength improvements and is continuing to loose more weight. Doctors want him to have normal BMI.



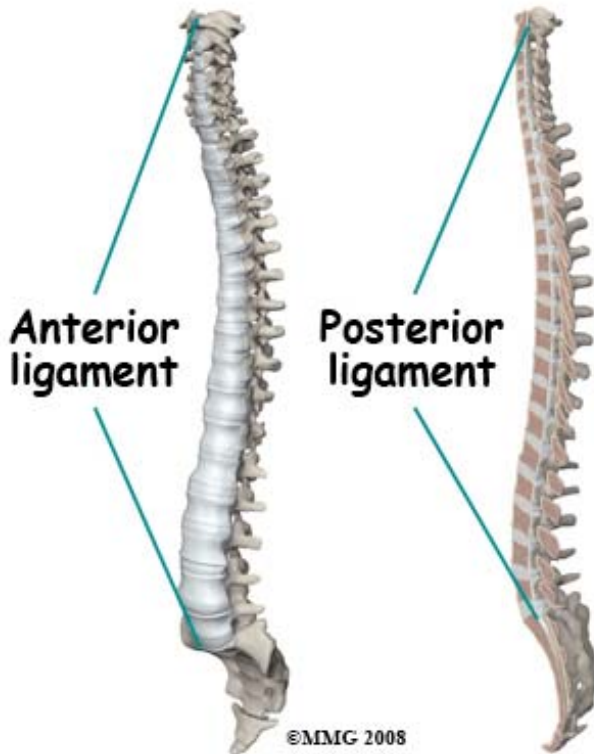
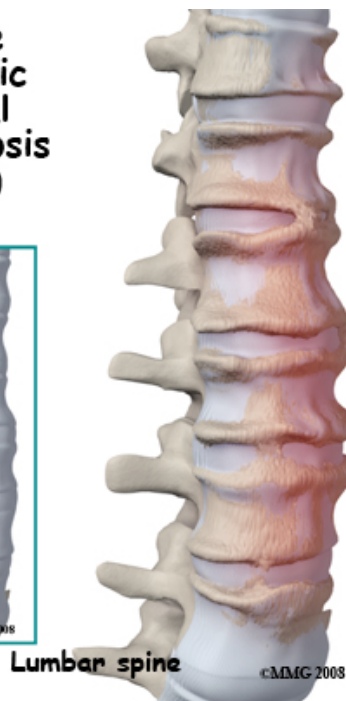
e – Results of your recommendations

2 a – Diffuse Idiopathic Skeletal Hyperostosis

Dish is not a degenerative form of arthritis. It is thought to be autoimmune. Disks do not show signs of disease and their disk height is preserved. Known also as Forestier's disease after the physician that discovered it, it is accompanied by extreme stiffness in thoracic and cervical spine, less frequently lumbar spine. The cause of DISH is unknown. There seems to be a connection, however, with having diabetes, being overweight, high blood pressure, and coronary artery disease. There may be a connection between DISH and use of the medications to treat acne, accutane and retinoid-isotretinoin (that are similar to vitamin A). None of these are proven. DISH affects men almost twice as much as women. It usually is diagnosed between the ages of 50 and 60. By age 80, it is estimated the incidence of DISH in men to be 28%.

DISH is diagnosed by evaluation of range of motion, x-ray of spine, neurological examination and MRI. It is characterized by a flowing calcification of the spine, described as melting candle

Diffuse Idiopathic Skeletal Hyperostosis (DISH)



wax dripping down the spine. It has a very unique appearance, cascading down spine. To be diagnosed as DISH, the extra bone growth must involve 4 or more adjacent vertebrae. The most common ligament that calcifies to bone with DISH is the anterior longitudinal ligament but other ligaments can be affected as well. There are often bony outgrowths and ossification of tendons and ligaments that affect heels, elbows, shoulders, and knees. This results in

bone spurs and inflammation of tendons. Frank was first diagnosed with heel spurs from running. Dish most commonly affects the thoracic spine (in 97% of cases). It also affects the lumbar and cervical spine. In Frank's case, thoracic and cervical spine are involved. Stenosis can also occur with DISH due to the ossification of ligaments, which can include the joint capsules.

Decreased range of motion, stiffness, especially upon waking and after a period of rest, and back pain are the symptoms most associated with DISH. When Frank was first diagnosed with DISH, upon waking he was so abnormally stiff he first thought there was something wrong with his mattress or bed. Pain is mostly in midback and cervical spine but can also be lowback pain. Spine lateral and forward flexion, rotation and extension are painful and limited. The right side is more effected than the left. The pulsating aorta on the left is suspected to cause this. The cervical spine is often involved with DISH. The calcification and bone spurs on cervical spine can create difficulty swallowing and put pressure on the esophagus. This can result in a hoarse voice, neck pain and stiffness, even difficulty breathing. In severe cases, surgery may be needed to facilitate swallowing and breathing.

The treatment for DISH is regular exercise, walking, and stretching to maintain range of motion. Physical therapy may be necessary after flare-ups of tendonitis. Heat (for stiffness) can be beneficial. There is no cure for DISH. Nonsteroidal anti-inflammatory drugs (NSAIDS) are recommended for pain management and symptoms of tendonitis. Severe pain can be managed with corticosteroid injections. Hot baths or jacuzzi can ease stiffness. Treatment for DISH can also involve surgery if nerve impingement is present.

Frank has committed to a regular exercise program, a healthy diet, and a regular yoga practice. He has increased his walking on the treadmill, fast, on an incline from 20 to 30 minutes. Many physicians recommend cardiovascular exercise to help with back pain, as long as it does not worsen the condition. His sadhana includes the JFS which he continues to this day. Frank does the sacrum stabilizing exercise and several yoga poses. He has incorporated many of his poses to do daily in the office. He had a yearly examination with the rheumatologist just for a check-up. She said his range of motion has increased tremendously in the last year. Interestingly, she does not measure this with a tool or use a photo. The doctor encouraged Frank to lose more weight, about 20 to 25 pounds. Normal weight simply creates less stress on joints. The doctor visit validated for Frank that he is on the right path. His own sadhana and regulation of life is lessening the effects of his dis-ease.

b – Gross and subtle body common symptoms

The gross body symptoms of DISH described above are all apparent in Frank. The right thoracic is stiff from calcification and pain often flows from mid back down to right axis and down to groin and inner thigh. There is calcification in his cervical spine which makes swallowing uncomfortable and throat stiff. With movement the symptoms are greatly improved. The subtle body symptoms are brought on by anxiety, interrupted sleep, stress, and fear. These can all contribute to weight gain. The thought that you have a progressive disease without a cure creates fear and loneliness, vata imbalance. Fatigue and chronic dull pain in the morning (that leaves after movement) is vata imbalance.

c – Related challenges – lifestyle, diet, limitations on activities

3 – Ayurvedic assessment and Ayurvedic based yoga recommendations

Frank's physical type is kapha. His tomasic qualities led to weight gain, sluggishness, lack of endurance, and high cholesterol. Frustrated desire for the insignificant becomes attachment to worldly objects and virtue is lost. As a result, tissue attaches to where it is not beneficial and discernment is lost. Kapha, earth element, cements the elements in the body providing the material for the physical structure. Blockages, emotional and physical, create growths and

calcification. This describes DISH, fusion of four or more consecutive vertebrae through calcification. The pain Frank experienced is a kapha pain, constant dull ache. Frank has a very big and generous heart. He does JFS as a bhakti and views it as a spiritual and healing practice. Vata was imbalanced. There was pain and fear. There is no cure for DISH. This used to cause Frank much distress and he went to many different doctors hoping one of them could cure DISH. His discernment is much improved because he is now checking his progress with the doctors rather than searching for the cure. He goes for check-ups with neurologists, orthopedist, internist, chiropractor, and rheumatologist. All have agreed his range of motion has improved, body weight index better from weight loss, muscle tone good. He continues to do the Joint Freeing Series almost every other day. This has progressed healing through the third kosha, “Practices done from the first kosha generate sustaining health and well being. Those practices of the second kosha generate feelings of vitality and healing. The practices of the third kosha create positive attitudes, elevated self esteem, and peace of mind”. The quality of pitta is also evident in Frank’s case. Excessive sweating during exercise, enthusiasm for challenging practice, excessive working at his job, stress, arthritis, all point to excess pitta. Frank and his wife rarely go on vacations or take time off. Any down time is filled with family activity, and lots of responsibilities.

4 – Common body reading

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

Any yoga practice that creates pain should be avoided. Practice needs to emphasize maintaining normal range of motion and increasing sattvic experience, reducing stress, increasing prana.

6 – General recommendations for the condition

a – Therapeutic/free of pain

Avoid sedentary lifestyle. Maintain normal range of movement or be prepared to lose it. Heat can be beneficial. Prolonged warmup before exercise can help with stiffness. Sitting or standing for long periods of time should be avoided. Constant stretching is beneficial. Sattvic but challenging yoga practice and JFS can keep muscles strong, stress and pain reduced. Cardiovascular exercise can be beneficial for mild back pain as well as maintaining proper weight.

b – Stabilize situation including lifestyle recommendations

Maintain normal body weight to create less stress on joints. Adequate hydration is necessary, 8 glasses minimum and much more for excessive sweating. There is evidence that diabetes can increase incidence of DISH so great attention to what is going into mouth is crucial.

c – Maintenance and long term considerations

Dish is progressive with age so lifestyle recommendations are life long. “Use it or lose it” applies to range of motion for DISH patients in a profound way.

7 – Questions and answers on Yoga Therapy from www.yogaforums.com

4/23/05

Q In the years you have been working with clients, how have you seen stress redefine itself in our society? In addition to the Annamaya, Pranamaya and Manomaya koshas, has stress spread to encompass Vijnanamaya and Anandamaya as well? Or has it always been affecting all 5?

If it has been affecting all five, where do you believe stress manifests itself first?

A For those unfamiliar with the concept of our multidimensional anatomy, the koshas, refer to Structural Yoga Therapy, chapter 6.

Stress has not changed. The ways in which we respond to it have changed. There are many studies on the changing of epidemics, heart disease, cancer, and more recently environmental toxicity. When one looks at ancient medical texts death came much earlier and often due to traumas from wars and the malnutrition brought on by loss of crops during wartime.

The two subtlest koshas vijnana and ananda are indicators of spiritual stress, not being connected to wisdom and higher power. Much of our wisdom has needed to survive the test of time thus we seek wisdom from those texts that are highly revered for thousands of years. That which is available as contemporary insights would rarely survive such a test. We need the help of a thorough investigation into this human condition and what has been of help in the past. By seeking historical ways of dealing with stress we can see how wise people of our era have adapted these teachings for this modern life.

In looking at Classical Yoga of the Yoga Sutras II, 4 we see that Patanjali viewed all stress as originating from avidya, ignorance which is the fourth kosha. When we disidentify ourself to be merely our physical body we tend to not listen to messages that come from a subtler level. Then there are others who are more "in their heads" who do not listen to messages coming from a grosser kosha. So it depends on where you conceive yourself to live that is the source of your perspective of stress. Namaste

4/26/2002

A My sequence of joint freeing series is important as the specific sequence given there allows the prana to move through its 5 forms to the subtlest, called Vyana. Can you tell me more about this? I am aware of the 5 pranas. I do a sequence of 5 postures that correlate that I learned from a student of Bri Ma Tiwari's. It's done with a modified Brahmari pranayama (sounding on exhale only). I can see where moving the Vyana out to the joints would work extraordinarily well if done consciously. I also do energy work – mainly pranic healing and cranial sacral. I'm trying to bridge that more with my yoga teaching lately. Thanks in advance Mukunda. Peace- M.

Q Pranas go through a cycle -- Prana increases on inhale, Samana during pause that follows, Udana on initial portion of exhale, Apana on last portion of exhale and Vyana increases during pause falling after exhale. By doing practices where breath awareness is a constant foundation of all activity, the pranas can be increased. The step is to first become aware that the breath is a gift from God, without whose presence there is no life. Without the foundation of devotion, the benefits derived are unlikely to be sustained. Then one increases their consciousness of the breath at all times. Then learn to feel the specific motions of the pranas during the sub phases of their breath cycle. Teachings of Classical Yoga from Patanjali (Yoga Sutra I, 34) recommend retaining the prana that arises following the exhale. By learning how to retain pause (kumbhaka) this promotes Vyana prana.

4/26/2002

A I'm offering yoga therapy to a 54-year-old man who is seemingly in good health. It turns out he has arthritis in his joints. I haven't seen an X-ray yet but he was told (and he feels them) that there are bone spurs in one hip, one shoulder, and in some of the spinal segments. He is responding beautifully to sequences that emphasize moving the joints through their R.O.M. Before we hold any pose, we move in and out with the breath, easing our way into greater opening and freedom. His main restriction is in the thoracic spine. Can you give me some advice in how to work with him?

Q What you are doing is good. Vinyasa motions coordinated with breath can release joint pain. My sequence of joint freeing series is important as the specific sequence given there allows the prana to move through its 5 forms to the subtlest, called Vyana. The development is to teach him how to send Vyana Prana into the joint that he is moving. At first showing how to keep attention onto specific joint and visualize its functions anatomically, then progression is made by learning to stay attentive to the feeling of prana as it moves into and throughout the joint. The fifth chapter of the Hathayoga Pradipika describes this as the method of overcoming bad practice and how to generate healing force of prana.

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9 – Appendix

10 – Biography

Barbara Sloan has a BA degree in Dance and Kinesiology and an MFA degree in Dance. For the last 10 years she has been working as a personal trainer, and yoga and pilates instructor. Barbara's first yoga teacher was Tao Porchon-Lynch who is still practicing at age 90. Tao teaches in the Iyengar tradition which she learned personally from Mr. Iyengar in India in the 1970's. Barbara was certified by Navine Meecham of Katonah Yoga in 2003. Barbara has also studied intensively with Shiva Rea taking workshops such as Trance Dance and prana flow vinyasa. Barbara teaches yoga at Equinox, Morgan Stanley fitness facility, and at the Holistic Learning Center in Eastchester as well as privately.

Barbara first learned the Joint Freeing Series while on a yoga retreat in France with Tao and another SYT graduate, Robert Cory. She later, by “chance”, took the introductory workshop with Mukunda for the teacher training. To quote the beloved teacher, “ when the student is ready, the teacher appears”. I have been blessed to have had Frank as my case study and seen the power of Mukunda’s teachings to transform.