

# Neck Pain

Structural Yoga Therapy Course

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## **1 - Case study**

### **a – Initial intake –**

Cara Christie is a Realtor, living in Nassau, Bahamas. She is 49 years of age. Cara is of fair complexion, slender build and has a warm and friendly disposition. Her sun sign is Taurus. This sign has a propensity toward problems in and around the neck. Cara recognizes this in her life: it has very much been a focus in her health problems. She had thyroid surgery at 19 years of age because she had developed Graves disease due to an overactive thyroid. She has been taking Synthroid ever since, which she has recently heard has negative side effects, such as causing tendonitis and joint stiffness, and so she is looking for alternatives to this medication. (see appendix 1 for notes on Synthroid medication). She seems to be of a predominantly Vata constitution.

Cara takes care of her health, eating well, attending yoga classes twice each week and the gym once or twice each week. She has a spiritual life and has been practicing meditation for many years. She has been practicing Siddha Yoga since 1982 and she knew Swami Vishnudevananda at the Sivananda Ashram Yoga Retreat, Nassau, Bahamas which she used to visit regularly.

**Stress:** Cara feels particularly stressed at the moment on two accounts. One is the nature of her real estate work and the other is that she may be peri-menopausal. She rates her stress level at level 8 on a scale of 1 – 10.

On the Perceived Stress Scale test, Cara indicates that she is sometimes feeling nervous and stressed, unable to control important things in her life, but at the same time she experiences confidence to handle personal problems. She does not feel things are going her way and is finding she is not really coping with all the things she has to do, and often not dealing with the irritations in life.

**Symptoms:** Pain and stiffness in the neck, and also pain and tightness in the right upper trapezius. She rates the pain level at about 6 on a scale of 1 – 10. Lifting the shoulder up toward the ear is painful. Cara said this pain seems to have developed since she started doing yoga regularly again in September 2006. In the office where she works, she has a good chair to support the back, the computer is also set at a good height for working. At home when she sits to work she has pain almost instantly: the home work space is not set up ergonomically.

### **b - Goals:**

- i) address the peri-menopausal stress and stresses at work.
- ii) relieve the pain in neck and right upper trapezius.
- iii) tone around area of pain.
- iv) address range of motion for shoulders and neck, according to findings of range of motion measurements.

### **c – Physical assessment :**

### Postural Reading:

Slight forward head, shoulders slightly rounded and chest a little sunken. Sacro-iliac instability is present.

### Muscle Testing Assessments:

For neck and shoulder muscles, and scapula adduction test.

Muscle Testing Assessments						
Joint Action	31/05/08	31/05/08	5/07/08	5/07/08	23/08/08	23/08/08
	Left, 1-5	Right, 1-5	Left, 1-5	Right, 1-5	Left, 1-5	Right, 1-5
<b>NECK</b>						
Extension (prone)	4		4		3	
Flexion	4		4		3.5	
Lateral Flexion	4	4	3	3	4	3.5
Rotation	4	4	4	4	3.5	4
<b>SHOULDER</b>						
Abduction (prone)	3	3.5	2.5	2	2.5	3
Adduction (supine)	4	1	2	1	3	3.5
External Rotation	4	1	3.5	3.5	4	4
Internal Rotation	4	1	4	4	3	4
Flexion	4	4	2.5	4	3	3
Extension	2.5	4	2	2	3	4
Scapula adduction(prone)	2.5		3		3.5	

Joint Action	ROM	07.06.08		05.07.08		23/08/08	23/08/08
		7.06.08	07.06.08	05.07.08	05.07.08		
	Norm°	Left	Right	Left	Right	Left	Right
<b>NECK</b>							
Extension	55°	(55 - 15 for forward head) 40°		51° -15° for forward head, 36°		50-15° for forward head, 35°	
Flexion	45°	(51 +15 for forward head) 66°		50° + 15° for forward head, 65°		53 + 15° 68°	
Lateral Flexion	45°	39°	30°	45°	40°	36°	40°
Rotation	70°	65°	60°	65°	65°	51°	65°
<b>SHOULDER</b>							
Abduction	40°	34°	29°	36°	40°	39°	40°
Adduction	130°	128°	112°	120°	120°	129°	125°
External Rotation	90°	86°	90°	90°	90°	88°	90°
Internal Rotation	80°	80°	83°	84°	86°	80°	82°
Flexion	180°	160°	160°	166°	164°	166°	165°
Extension	50°	48°	55°	51°	49°	49°	55°

### **c – Summary of findings –**

The muscular weaknesses and reduced flexibility found in the readings above are as follows:

1. There is reduced range of motion in neck extension and in lateral flexion and lateral rotation, especially on the right side. The reading for lateral neck flexion on the right side indicates weakness in the right upper trapezius and left sternocleidomastoid, and tightness in these muscles on the opposite sides. Reduced range of motion in lateral flexion to the right side indicates there is also a weakness in the right sternocleidomastoid.
2. Neck flexion goes beyond range of motion which implies the sternocleidomastoid is likely to be tight and maybe contributing to or compounding the neck pain.
3. There is reduced range of motion in shoulder abduction on both sides, especially the right side. This indicates weakness in the posterior deltoid, and/or tightness in the pectorals and anterior deltoid. These muscle conditions could be the result of, or compounding, the rounding of the shoulders and slight sinking of the chest. The weakness in the posterior deltoid could be a result of (or compounding) the neck pain. *“This is a commonly weak muscle, often associated with chronic neck tension”. (ref. Mukunda Stiles, Structural Yoga Therapy, p147)*
4. There is reduced range of motion in shoulder adduction on the right side, suggesting weakness in the anterior deltoid and pectoralis major, tightness in the posterior deltoid. Shoulder adduction on the right side was very painful on the top of the shoulder (upper trapezius).
5. Shoulder flexion has a reduced range of motion. Cara raises the shoulders towards the ears and feels tightness in the mid-back around the middle trapezius area in this motion. She is not engaging the deltoids for this movement. This suggests weak middle and lower trapezius and latissimus dorsi which can create tightness in the upper trapezius and therefore shoulder discomfort as the upper trapezius is being overworked. *(ref. Yoga Therapy for Knees and Shoulder, Yoga International Magazine publication, article by Mukunda Stiles, pp 13 – 16)*
6. Shoulder abduction was weak on the left side in muscle testing. This again indicates weakness in the posterior deltoid muscle.
7. Shoulder adduction was weak on the right side, indicating weakness in the anterior deltoid and pectorals, and/or possibly tightness in the posterior deltoid.
8. Internal and external shoulder rotation was painful around the anterior and posterior deltoid on the right side in muscle testing.
9. Scapula adduction was weak. The major muscle for this movement is the trapezius, in particular the middle trapezius.

**Table of Findings:**

What is Tight?	What is Weak?	What muscles need release?
<p>Sternocleidomastoid and upper trapezius, especially on the right side.</p> <p>Shoulder abductor muscle range of motion is reduced on both sides but especially the right side and shoulder adduction on right side had reduced range of motion: tight anterior deltoid and pectoralis major.</p> <p>Shoulder flexors on both sides had reduced range of motion: tightness was felt in the triceps brachii, and posterior deltoid and middle trapezius.</p>	<p>External shoulder rotation on the right side painful around posterior deltoid: posterior deltoid is therefore weak.</p> <p>Internal Shoulder rotation on the right side painful around the deltoid muscle: anterior deltoid is therefore weak.</p> <p>Shoulder adductors on the right side: pectoralis major and anterior deltoid. The upper trapezius was painful in this movement on the right side and can therefore be said to be weak.</p> <p>Shoulder extensors on the left side: posterior deltoid, latissimus dorsi, triceps brachii and teres major</p> <p>Scapula adductors: trapezius, especially middle trapezius.</p>	

**Structural Yoga Therapy Goals:**

The immediate goals:

- a) to reduce pain and stress
- b) to increase flexibility and tone area around point of pain as part of pain reduction process

Longer-term goals:

a) use Structural Yoga Therapy (SYT) to correct postural imbalances which may be contributing to pain: joint-freeing practices and asana to strengthen areas of weakness and release areas of tightness, in particular reducing forward head, opening the chest and shoulders.

b) strengthen upper and middle back muscles to support neck and shoulders.

c) bring awareness to every day movements to also correct posture and to re-educate the body-mind in movement of shoulder flexion.

d) lifestyle shifts to a routine more nurturing and balancing for Vata. This will keep stress levels low and keep pain and stiffness (which are Vata related) at bay.

#### **d – Recommendations**

##### **First Session: May 31<sup>st</sup>**

##### ***For pain and stress relief***

- **Wave breath:** during inhalation the chest expands first, then the lower ribs and abdomen so the expansion in the body follows the natural descending motion of the inhalation. The exhalation is an ascending flow of breath, beginning with a mild contraction of the lower abdomen, then the lower rib cage and then the upper rib cage. (Structural Yoga Therapy, Mukunda Stiles, p53)
- **Yoni mudra:** placing the palms on the pelvic region, thumbs touching, fingers together with index fingers touching, making a triangle shape between the joined hands. (technique 3 of Mukunda Stiles' "5 Pranayamas for Pain Relief")
- **Pranayama for pain relief:** breathing into the area of pain, holding the breath for a moment and then visualizing during the exhale that the prana is left behind to circulate freely and relieve the area of pain. (technique 2 of Mukunda Stiles' "5 Pranayamas for Pain Relief").

10 - 15 minutes of these practices (combined) daily.

##### **Second Session: June 6<sup>th</sup>**

##### ***For loss of tone and flexibility***

- Joint Freeing Series (JFS) practices for shoulders and neck for increasing strength and flexibility. The movements are to be practiced 6 times each to begin with, increasing up to 12 repetitions of each movement as Cara begins to experience increased strength in the body.
- For shoulder adduction-abduction movement of the JFS, I showed one variation: moving the elbows to three different heights, below shoulder level, shoulder level and above shoulder level to help strengthen below the pain lower and middle trapezius, and to release tightness and weakness in upper trapezius. Again, the movement is to be practiced 6 times to begin with, increasing up to 12 repetitions as Cara begins to experience increased strength and flexibility.

### **Third Session: June 13<sup>th</sup>**

#### ***For pain and stress relief***

- Whole of Joint Freeing Series (JFS). We applied the Vata balancing, de-stressing practice of doing the JFS with focused enquiry, using the questions “Where do I feel the motion? What am I feeling?”

#### ***For loss of tone and flexibility***

- Whole of Joint Freeing Series (JFS) for also increasing overall tone and flexibility. Cara will begin with 6 repetitions of each movement in the JFS, working up to 12 in her own time as she begins to feel increased strength.

### **Fourth Session: June 20<sup>th</sup>**

#### ***For pain and stress relief***

- Wall-hang practice as a support for the goal of reducing stress and Vata in life. We agreed this will be a practice that Cara will use in the office to take breaks as soon as any warning symptoms start that she is moving into stress and/or pain. This practice, we thought, could be a focus/awareness practice to help calm and centre the mind and also a practice to give release in the back, shoulders and neck when Cara feels stiffness or pain might be coming on. She will rest in wall-hang for one or two minutes or for as long as feels comfortable.
- I gave Cara a print out from a reference website for good office ergonomics. [www.nismat.org/ptcor/ergo](http://www.nismat.org/ptcor/ergo)

#### ***For loss of tone and flexibility***

- Sacro-iliac stabilizing practice: I noticed today that one shoulder was higher than the other. I checked for curvature of the spine, leg length difference, hip height difference. All was normal. However, sacro-iliac instability was present. Cara will do the sacro-iliac stabilizing practice, repeating each movement 6 times on each side, gradually working up to 12 times on each side. She will focus on what is stretching and toning during the movements, working as steadily and consciously as possible with full focus on the breath, moving with the inhalation and exhalation to help balance Vata.
- Eagle posture (*garudasana*), dynamically with arms moving up and down for toning posterior and anterior deltoid, to help strengthen and to bring awareness to these muscles for aid in re-educating the body in movement of shoulder flexion when the deltoids need to be engaged. 6 repetitions of each movement, working up to 12 repetitions of each.

## **Fifth Session: July 5<sup>th</sup>**

### ***For pain and stress relief***

- Pranayama for Pain Relief technique 2, combined with other SYT practices. When there is tightness experienced during any of the current practices, Cara will hold the posture for a moment and practice a pranayama technique for pain relief. This is described above and involves inhaling directly into the area of tightness, holding the breath a moment and exhaling the prana contained in the breath into the area of tightness to bring relief. (ref *Pranayamas for Pain Relief technique 2, Mukunda Stiles*)

### ***For loss of tone and flexibility***

- We reassessed muscle tone and flexibility with muscle tests and range of motion tests for neck and shoulders.

## **Sixth Session: July 27<sup>th</sup>**

### ***For loss of tone and flexibility***

I checked how Cara flexes the shoulders (as there is still considerable reduced range of motion and tightness on the underside of the arms in shoulder flexion). She feels tightness in the area of the middle trapezius in this motion which indicates that she does not use the deltoids, but uses the middle trapezius when she raises the arms overhead. (ref. *Yoga Therapy for Knees and Shoulders, Yoga International Magazine Publication, Mukunda Stiles articles pp 13 – 16*).

We discussed starting to address the shoulders and upper back specifically now that pain levels and stress levels were down. We agreed Cara will continue with current practices for now and we will add some practices for strengthening the middle and upper back and shoulders in our next session.

(In our meeting, shoulder height was back to normal: I think this imbalance in posture was Vata related. I checked again the sacro-iliac joint which was stable also).

- Cara will keep awareness when making any movements which involve shoulder flexion. She will aim to work from the deltoids. (Cara could easily find the deltoids and engage them in shoulder flexion once the awareness was there that this was a better way to perform this movement).

## **Seventh Session: August 4**

### ***For pain and stress relief***

- Cara will read some pages on lifestyle and yoga practices for balancing Vata dosha from Mukunda Stiles' book, *Ayurvedic Yoga Therapy* (pp16 – 20, and pp169-174). This will support her work with the SYT practices to relieve pain and stress.

### ***For loss of tone and flexibility***

I introduced the asanas listed below to strengthen beneath Cara's areas of pain and to correct postural imbalances which may have been contributing to her condition.



- Cara will continue to practice JFS in the mornings
- We practiced again moving shoulders into flexion with shoulders down, working deltoids. She will practice tree (Vrkasana) this way (holding the posture for up to 12 breaths) and any other asanas in her yoga classes which involve raising arms in shoulder flexion. She will also keep this movement awareness in daily activities which involve raising the arms overhead (such as reaching for something from high up). (ref. Mukunda Stiles, *Yoga International magazine publication, Yoga Therapy for Knees and Shoulders pp 13 - 16*)
- She will add the following practices and asanas to her yoga practice in the evenings to help improve range of motion in the shoulders and to strengthen the middle and upper back and shoulders:
  - i) Neck strengthener to start to correct forward head and to strengthen sternocleidomastoid further. ). 6 times forward, and 6 times with head turned to right and left. (ref. Mukunda Stiles, *Structural Yoga Therapy pp180-181*)
  - ii) Cat bows for postural correction of forward head, and sunken chest. 6 times, working up to 12 times. (ref. Mukunda Stiles, *Structural Yoga Therapy p179*)
  - iii) Down facing dog (*Adho Mukha Svanasana*) to down facing plank, to strengthen upper back, open chest and to work deltoids and trapezius muscles. 6 times working up to 12 times. ((ref. Mukunda Stiles, *Yoga Journal publication, Yoga Therapy for Knees and Shoulders pp 13 - 16*).
  - iv) Stick posture (*Dandasana*) to upward facing plank dynamically, to strengthen deltoids and lower trapezius. 6 times, working up to 12 times. (ref. Mukunda Stiles, *Yoga International magazine publication, Yoga Therapy for Knees and Shoulders pp13 - 16*)
  - v) Sphinx posture, dynamically, depressing spine between shoulder blades, bringing chin to chest and lowering head toward floor with exhalation, raising head on inhalation. This is to help correct forward head: the release should be felt between scapula not in the neck. It also strengthens lower trapezius and pectoralis major and stretches the upper trapezius. 6 times.
  - vi) Cow face, face of light posture (*Gomukhasana*): upper shoulders and elbows are in flexion, lower shoulder is in extension and internal rotation, (keeping an erect spinal column to help flex upper shoulder enough to bring hands together). This posture will create a deep release in the shoulders and give a stretch to the triceps brachii. Holding for up to 12 breaths. (ref. Mukunda Stiles, *Structural Yoga Therapy pp238-239*)

### **Session 8: August 9<sup>th</sup>**

Cara could not make it in person for this session because of eye surgery. We spoke by telephone. Cara said the practices were going well. She has been able to keep practicing and was experiencing no particular difficulties. The pain and stress levels were still down.

- We agreed she would continue with all practices until our meeting the following week.

### **Session 9: August 16<sup>th</sup>**

Cara will continue with current practices. (They are successfully reducing stress levels and have relieved Cara of all physical pain in the shoulder and neck).

### **Session 10: August 23<sup>rd</sup>**

Cara said she forgets she was ever in pain now there is no discomfort. Her stress levels are down and all feels well.

#### ***For pain and stress relief***

- Cara will continue with all current practices, remembering the approaches we have been taking to balance the Vata, and thereby keep the stress and pain levels down:
  - i) doing JFS and asanas with steadiness, slowly and deliberately, concentrating on an audible “ujjaye” breath.
  - ii) keeping in mind the questions of inquiry, “what do I feel?”, “where do I feel it?”.
  - iii) practicing “relaxing the effort” in asana and other SYT practices, remembering not go into shakiness or strain of muscles or breath.

#### ***For loss of tone and flexibility***

- We reassessed muscle tone and flexibility with muscle tests and range of motion tests for neck and shoulders.

(Cara will be traveling again for two weeks: she and her husband, a doctor of Oriental Medicine and author on energy medicine, have been invited to Findhorn, Scotland. Cara’s husband will give lectures and workshops: Cara will participate in a retreat whilst they are there and so we agree we will be in contact only after her return on September 10<sup>th</sup>.)

### **Session 11: September 13<sup>th</sup>**

We check in on how the practices are going and agree that I will send to Cara a document summarizing the main points in *Ayurvedic Yoga Therapy* by Mukunda Stiles, on yoga practice and lifestyle for Vata dosha. This is to support Cara to keep pain away and stress levels low. Cara remains committed to continuing with the SYT practices.

## **Results of Recommendations**

### **i) for pain relief and stress**

#### **Second Session: June 6<sup>th</sup>**

#### ***For pain relief and stress***

Cara feels yoni mudra and the pranayamas are already having some positive effect on her stress levels. She feels confident they will be good tools to help her reduce peri-menopausal stress.

### **Third Session: June 13<sup>th</sup>**

#### ***For loss of tone and flexibility***

Cara said she was finding the practices given very helpful. She finds the shoulder adduction-abduction variation works exactly the right places in her shoulders – they are releasing the places where she experiences tightness.

### **Fourth Session: June 20<sup>th</sup>**

#### ***For stress and pain relief***

Cara is regularly doing yoni mudra. She said that she has not had pain during the last week. Her stress levels are also better. However, she has been on holiday in New York for a week so has not had the work stress.

#### ***For loss of tone and flexibility***

Cara has been focusing mainly on the shoulder and neck practices of the JFS and has not yet done the whole JFS which we went through the previous week. This has been because of a time constraint. The practices are certainly helping to relieve the stiffness and pain in the neck.

### **Email Correspondence: July 1<sup>st</sup>**

I am away in New York, so we communicate by email. Cara feels things are stabilizing. There is a little stiffness still in the neck but not so much. She is doing the JFS for shoulders and neck regularly but because of traveling has not done other practices and hopes to start them once she returns home.

### **Fifth Session: July 5<sup>th</sup>**

#### ***For pain and stress relief***

Cara said the neck is still a little stiff when she sits at the desk at work but not as much as it was before she started doing the SYT practices. Previously she would feel stiffness often just sitting, even away from the office, and now she is not feeling that. She feels her stress levels are also down and good.

#### ***For loss of tone and flexibility***

We did a reassessment, muscle testing and checking range of motion. A lot of the muscle tests were weaker than during the first test. We thought this may be due to the travel Cara has been doing: she has not been going to her yoga classes and also her diet has not been as good as usual due to the travel. There has been an increase in the range of motion in particular for lateral neck flexion, lateral neck rotation on the right side, external and internal shoulder rotation on the left side, internal rotation on the right side, shoulder flexion. Cara remains quite restricted in shoulder flexion even though there has been some increase in range of motion. She will continue with the JFS shoulder flexion-extension practice to help this. (Tightness is currently felt in the triceps in shoulder flexion).

## **Email Correspondence; July 16th**

Cara is away for some weeks. We agreed to check in by email and she informed me that all is well with the practices: she has time to practice even though she is traveling.

## **Sixth Session: July 27<sup>th</sup>**

### ***For pain and stress relief***

Cara hardly feels the pain and stiffness in her neck and right shoulder now. She is finding the practice of applying breathing directly into the areas of tightness in the neck and shoulders when doing JFS very beneficial (*ref. technique number 2, Pranayamas for Pain Relief, Mukunda Stiles*).

Cara is also doing the *wall-hang* practice regularly at work and is finding this practice very beneficial. She does the practice at the first sign of stiffness or pain after prolonged sitting in the office and/or when stress levels start to rise.

## **Session 7: August 2<sup>nd</sup>**

### ***For pain and stress relief***

Cara said that it is now easy for her to forget how much pain she was in before: she is now more or less pain free (she feels pain only very occasionally with prolonged sitting in the office).

## **Session 8: August 9<sup>th</sup> (telephone)**

Cara could not make it for this session in person. She had had eye surgery and thought she would be able to make it but was in a more discomfort than expected. We spoke briefly by phone. Cara said all was going well and she could continue with the practices; she did not expect the discomfort in her eye to last for long.

## **Session 9: August 16<sup>th</sup>**

### **For pain and stress relief**

- We reviewed Cara's stress and pain levels, recalling the Perceived Stress Test results and Cara's pain levels from our first meeting on May.

	<u>Stress Level</u>	<u>Pain Level</u>
31/05	8	6
16/08	3	0

We agreed that she would continue with the current practices this week and then next week we will re-assess strength and flexibility of neck and shoulder regions with muscle tests and range of motion tests.

## **Session 10: August 23<sup>rd</sup>**

### **For loss of tone and flexibility**

We carried out the third assessment of strength and flexibility in the neck and shoulder regions. Results showed a significant improvement in strength in shoulder adduction and shoulder extension, and in flexibility in shoulder adduction and shoulder flexion. Muscle tests which were painful in the first and second readings are no longer painful and are reading as relatively strong: shoulder adductor muscles, and shoulder internal and external rotator muscles. Range of motion has considerably increased for shoulder adduction on the right side and for shoulder flexion on both sides.

There is still some fluctuation in the readings: we double checked the readings, with Cara giving her estimate of each muscle test first. The fluctuation in readings may be because Vata is still imbalanced.

## **Session 11: September 13<sup>th</sup>**

Cara has been traveling with her husband for a conference in Scotland. She did not have time for many of the practices, as she had hoped. She wondered if the pain and stress would return and was very happy to discover that they did not.

This is our last session. However, Cara is very happy with the practices and intends to continue them.

## **2 a – Name and description of the condition**

### **Neck Pain:**

Pain located in the neck is a common medical condition. Doctors estimate that seven out of ten people will be troubled by neck pain at some point in their lives. Neck pain is common because the neck supports the heavy weight of the head while still allowing it to tilt, turn, and nod easily. Usually, necks begin to ache after years of normal use, overuse, and misuse.

Neck pain can come from a number of disorders and diseases of tissues in the neck, such as degenerative disc disease, neck strain, whiplash, a herniated disc, or a pinched nerve. Neck pain is also referred to as cervical pain. While many episodes of neck pain have no identifiable anatomical cause, certain types of neck pain can be linked to a general cause (such as muscle strain) other types of neck pain have one of the aforementioned diagnosable causes.

Neck pain (in the cervical spine) is less common than lower back pain (in the lumbar spine), but still millions of people experience neck pain and/or related arm pain at some point in their life. The vast majority of episodes of neck pain will get better with time and can be addressed with non-surgical treatments because the soft tissues of the neck have a good blood supply to bring the necessary nutrients and proteins for healing to take place. However, there are a few symptoms that are possible indications of a serious medical condition and patients with these symptoms should seek medical attention immediately. Progressive neurological deficit (weakness, numbness, tingling in the arms or loss of feeling and coordination in the arms or legs)

could indicate nerve damage. If sustained or increasing pain is accompanied by lack of appetite, unplanned weight loss, nausea and vomiting, or fever/chills/shakes, there could be a spinal tumor or infection.

Where neck pain lasts longer than two weeks to three months, and/or is accompanied by predominant arm pain, numbness or tingling, there is often a specific anatomic abnormality causing the symptoms.

### **Description of common conditions causing chronic neck pain:**

**Whiplash:** Whiplash is a relatively common injury that occurs to a person's neck following a sudden acceleration-deceleration force, most commonly from motor vehicle accidents. The term "whiplash" was first used in 1928. The term "railway spine" was used to describe a similar condition that was common in persons involved in train accidents prior to 1928. The term "whiplash injury" describes damage to both the bone structures and soft tissues, while "whiplash associated disorders" describes a more severe and chronic condition. Fortunately, whiplash is typically not a life threatening injury, but it can lead to a prolonged period of partial disability.

**Disc Herniation:** Each disc of the spine is designed much like a jelly donut. As the disc degenerates from age or injury, the softer central portion can rupture (herniate) through the surrounding outer ring (annulus fibrosus). This abnormal rupture of the central portion of the disc is referred to as a disc herniation.

**Pinched Nerve:** In nerve compression there is pressure on a nerve root or a peripheral nerve leading to ischemia (not enough oxygen due to poor blood supply). The response includes edema (swelling) above and below the pressure point. If the pressure continues, fibrosis tends to develop.

**Osteoarthritis:** Osteoarthritis is one of the most common types of arthritis. Anyone can be affected. However, since osteoarthritis is the result of altered usage of the joints of the body over prolonged periods of time, older people are particularly prone. Osteoarthritis is characterised by the breakdown of cartilage, the firm cushion found between two bones to stop them from grinding together. Symptoms include pain, stiffness and muscle weakness. The neck is commonly affected. There is no cure for osteoarthritis, but it can be managed with exercise.

b – Gross and subtle body common symptoms

### **Gross Body, Signs and Symptoms of Chronic Neck Pain**

- Pain in the neck that may feel sharp or dull
- Stiffness in the neck
- Difficulty going about daily tasks because of pain or stiffness in the neck
- Shoulder pain in addition to neck pain, in some cases
- Back pain in addition to neck pain, in some cases
- Pain radiating down the arm and into hands and fingers in addition to neck pain, in some cases with lack of coordination in the arms and legs, difficulty with fine motor skills, and occasional intermittent shooting pains
- Pain occurring especially in the morning and at the end of the day
- Headaches
- Reduced range of motion in the neck and shoulders

- Abnormal head posture resulting from pain. We generally “lean away into” our pain (Diana Mossop, Phytobiophysics™)
- Rounding of the upper back causes the lungs to collapse and the diaphragm to push down on the intestines often leading to constipation and weakened abdominals. This can in turn lead to lower back problems.
- Postural habits associated with neck pain can cause numbness, pain and tingling in arms, shoulders, upper back, hands and fingers.
- Postural habits associated with neck pain can lead to over-stretched and over-worked muscles in the upper back, over-worked neck muscles and shortened upper chest muscles.

### **Subtle Body, Common Symptoms of Chronic Neck Pain**

Neck pain may be associated with postural anomalies such as forward head, tilted head, sunken chest, rounded shoulders, rounded upper back. The physiological stance is therefore defensive, directed by fear, sometimes by repressed anger: the posture indicates the presence also of worry, anxiety, low –self esteem on the emotional/mental or subtle body levels.

Where posture such as rounded upper back and shoulders and sunken chest are contributing to neck pain, there may also be impaired respiration, bringing low energy levels, fatigue, impaired circulation, concentration and memory.

This kind of posture can also restrict the flow of energy to the upper lobes of the lungs, heart and throat chakras. *Udana vayu* (upward moving prana) is then the primary imbalance with a secondary imbalance in the *ajna chakra* (third eye, centre of intuition, sixth chakra). (ref. *Yoga Therapy Journal – neck pain*, [www.iytyogatherapy.com](http://www.iytyogatherapy.com)) *Udana vayu* is an upward moving energy: it is positive mental energy supporting spiritual evolution. It governs the throat and the ability to stand up straight, hold the head up and to express one’s truth. Symptoms of imbalanced *udana vayu* would include problems in any of these areas.

Neck pain can be an indication of an imbalanced throat chakra. One of the physical symptoms of an imbalanced throat chakra is neck pain. The throat chakra, when balanced, allows self-expression and the capacity to listen to others. Throat chakra energy relates to willpower and the power of choice, the most basic manifestation of self-expression. Every area of our lives, including health and illness, is directly affected by the choices we make and how we make them. Strengths that come from here are our ability to make choices, our personal expression, our ability to follow our dreams, and our faith and knowledge. This is where we use our personal power to create. The shadow side of the throat chakra is that it is also the source of our judgment, criticism. If we make constantly poor choices, if we have no real sense of personal power, it is because of imbalances of the will, imbalances in the throat chakra.

An overactive throat chakra can lead to over-talking, an inability to listen properly to others, gossiping, and an inflated sense of self-importance and egoism. An understimulated throat chakra can lead to shyness, an inability to sort through and express thoughts and feelings clearly, lack of confidence and disempowerment.

Pain is a Vata condition. The high stress levels in this case also indicate a Vata imbalance. Please refer to “Ayurvedic Assessment and Ayurvedic based Yoga Recommendations”, section 3 below.

Any postural anomaly of where emotional pain is held in the energy body. According to Phytobiophysics ([www.phytobiophysics.com](http://www.phytobiophysics.com)), we lean into our pain to take the pressure off the autonomic nervous system. In Phytobiophysics, it is said that we hold our “controls” in the neck, and that unresolved “mother” issues are also stored, energetically, in the neck. Left sided neck pain is associated with a cloying suffocating and over protective mother who will not free her child. The mother may be ill or depressed, unhappy. This would create a deep conflict in the left side of the neck. Right sided neck pain can be related to a mother who was “absent” in some way, or distant and it can lead to withdrawal and shyness and loss of confidence. Magnesium and calcium imbalance, hypothyroid, and thyroxin imbalances are related to neck pain.

### **c Related challenges: lifestyle, diet, limitations on activities**

Challenges incurred will depend on the nature of the neck problem. For most neck pain the following lifestyle adaptations may be useful:

- Driving long distances, sitting for prolonged periods of time, holding the phone between the shoulder and the ear, carrying heavy bags is likely to aggravate the condition. These activities should be avoided as far as possible. If driving long distances or sitting for prolonged hours at a computer it is recommended to take regular breaks and do some movements which will gently stretch the spine and the neck.
- Keep the head centred over the spine whilst sitting.
- Adjust the desk, computer and chair for office work so that the monitor is at eye level. Knees should be slightly lower than the hips. If the phone is used frequently, a headset is recommended. For information on good office ergonomics please refer to <http://www.nismat.org/ptcor/ergo>
- Check sleeping position. Sleeping on the stomach puts stress on the neck. It is recommended to choose a pillow that supports the natural curve of the neck.
- For pain management, adopt a Vata balancing lifestyle and Vata-pacifying diet. Keep a regular balanced lifestyle. Put time aside daily for deep relaxation and SYT practices.
- Adopt a physical therapy routine that gently releases and tones the muscles of neck, and also that tones the muscles of the upper and middle back to give more support to the neck. Range of motion exercises, physical therapy, traction, and manipulations can all help preserve motion and lessen chronic pain.

### **3 – Ayurvedic assessment and Ayurvedic based yoga recommendations**

Neck pain can be of a kapha, pitta or vata nature.

Kapha: Neck pain is rarely of kapha nature, but congestion and compression in the neck and throat, which is a kapha condition, can create neck pain. Kapha neck pain may be compounded by a sedentary lifestyle in which case movement is a good treatment.

Pitta: This may result in an inflammatory neck condition such as rheumatoid arthritis. In this case psychological issues can be contributory factors. Treatment would entail fasting for ama (toxicity) reduction, and panchakarma for digestion, assimilation and elimination.



Vata: Here neck pain is often due to dryness (which can cause fractures) and mobility which can cause increased risk of cervical disc prolapse. Treatment would be Vata-pacifying including removal of ama (toxicity), oil massage, slow yoga movements and stabilizing below the area of pain (upper back, middle back and shoulders).

The condition presenting is related to a disturbance in the *Vata dosha*. There is pain in the joints of the neck and shoulders, which is not constant but which comes and goes. This implies a Vata imbalance. Stress levels, anxiety and worry levels were high at the beginning of the SYT sessions, level 8 on a scale of 1 - 10. This also implies a Vata condition. I observed that postural anomalies were also changing during our sessions, such as one shoulder in some sessions appearing higher than the other and in other sessions the shoulders were balanced. Ranges of motion and muscle strength readings were also fluctuating, reducing and increasing in some cases when we re-assessed over the course of the three months' structural yoga therapy practice.

SYT practices recommended for balancing Vata include:

- Yoni mudra
- Wave breath and pranayamas for pain relief.
- JFS (with inquiry using questions "where do I feel the movement? What am I feeling), pranayamas for pain relief practiced as a pranayama and incorporated into JFS.
- Asana practice: gentle, with no straining or pushing, absolutely avoiding any "*rajasic*" practice of asana, practicing asanas dynamically or with steadiness and deliberatness. There should be no shakiness or strain in asana practice. Focus should be on the breath in asana, using a soft "ujjayi" type breath and also with a focus on the same questions of inquiry described above for the JFS.
- We discussed, and Cara read, the pages on yoga practice for balancing Vata and a Vata-balancing lifestyle from Mukunda Stiles' book *Ayurvedic Yoga Therapy*. I summarized these pages for her on a typed sheet, for ease of reference: please see appendix 1. (*ref. Mukunda Stiles, Ayurvedic Yoga Therapy pp16 – 20, 32, 63 and pp169-174*)

#### **4 – Common body reading**

In a standing postural assessment, any of the following may be present:

Forward head – tight sternocleidomastoid, weak upper trapezius

Round shoulders – tight pectorals, serratus anterior, weak middle and lower trapezius, latissimus dorsi.

Tilted head – tight sternocleidomastoid and upper trapezius, weak sternocleidomastoid and upper trapezius on the opposing side.

High shoulder – tight upper trapezius, levator scapulae, weak lower trapezius, latissimus dorsi, pectoralis sternal.

Winging Scapula – tight serratus anterior, pectorals, anterior deltoid, weak middle trapezius and rhomboids

Collapsed chest - tight rectus abdominis, pectorals, and upper trapezius and weak middle and lower trapezius.

Lordosis - tight lumbar erectors, psoas, and hip flexors and weak middle trapezius and rectus abdominis.

Flattening of lumbar curve - tight middle trapezius and rectus abdominis and weak lumbar erectors, psoas, and hip flexors.

Khyphosis - tight rectus abdominis, pectorals, and upper trapezius and weak middle and lower trapezius.

Scoliosis.

Sacroiliac instability.

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

Contraindicated yoga practices especially for neck conditions caused by degenerative conditions or herniated discs include any posture that involves compression of the cervical spine: headstand (*sirsasana*), shoulderstand (*sarvangasana*), half shoulderstand (*ardha salamba sarvangasana*), camel (*ustrasana*), plough (*halasana*), fish (*matsyasana*). In postures such as cobra (*bhujangasana*), which involve an upward gaze, keep the neck long and free. In postures such as triangle (*trikonasana*), if the neck is uncomfortable with an upward-facing gaze, keep the head and neck in a neutral position, facing forward.

Avoid as far as possible activities which involve raising the arms over the head, such as reaching for something from a high shelf. Avoid activities which do not allow the head to remain centered over the neck. Be aware in standing, sitting and lying postures of misalignment of the neck. For more information on activities to modify or eliminate, please see section 2c above, “*Related challenges: lifestyle, diet, limitations on activities*”.

## **6 – General recommendations for the condition**

### **a – Therapeutic/free of pain**

Treatment of neck pain depends on its precise cause.

**Acute Neck Pain** – most sprains to the neck will go in a few weeks. Support and relieve the sprain with home-care treatments. Self-care measures you can try at home to relieve neck pain include:

- **Over-the-counter pain relievers.** Try over-the-counter pain relievers, such as aspirin, ibuprofen (Advil, Motrin IB, others), naproxen sodium (Aleve) and acetaminophen (Tylenol, others).

- **Alternate heat and cold.** Reduce inflammation by applying cold, such as an ice pack or ice wrapped in a towel, for up to 20 minutes several times a day. Alternate the cold treatment with heat. Try taking a warm shower or using a heating pad on the low setting. Heat can help relax sore muscles, but it sometimes aggravates inflammation, so use it with caution.
- **Rest.** Lie down from time to time during the day to give your neck a rest from holding up your head. Avoid prolonged rest, since too much inactivity can cause increased stiffness in your neck muscles.
- **Gentle stretching.** Gently move your neck to one side and hold it for 30 seconds. Stretch your neck in as many directions as your pain allows. This may help alleviate some of the pain.
- **Over-the-counter pain creams.** Creams and gels made to relieve muscle and joint pain may provide some temporary relief from neck pain. Look for products with ingredients such as menthol and camphor.

For patients with neck pain that lasts longer than two weeks to three months there is often a specific anatomic abnormality causing the symptoms and further medical investigation into the issue is required.

It is recommended to seek immediate medical attention if the following signs and symptoms occur in conjunction with neck pain:

- **Severe pain from an injury.** After head or neck trauma, such as whiplash or a blow to your head, see your doctor immediately. Severe pain over a bone might indicate a fracture or an injury to a ligament.
- **Shooting pain.** Pain radiating to your shoulder, through your shoulder blades or down your arm, with or without numbness or tingling in your fingers, may indicate nerve irritation. Neck pain from nerve irritation can last from weeks to six months or longer. More sophisticated tests and treatments are available for this type of continued nerve irritation, so a visit to a doctor is recommended.
- **Loss of strength.** Weakness in an arm or a leg, walking with a stiff leg, or shuffling the feet indicates a possible neurological problem and needs immediate evaluation.
- **Change in bladder or bowel habits.** Any significant change, especially a sudden onset of incontinence, could indicate a neurological problem.

### **Chronic Neck Pain** –

For pain that doesn't get better with simple home-care measures, a doctor may recommend one or more treatments, such as:

- **Physical Therapy: Neck exercises and stretching.** A doctor may recommend that working with a physical therapist to learn neck exercises and stretches. A physical therapist guides a person through these exercises and stretches, so that the practices can be done at home. Exercises may improve pain by restoring muscle function and increasing the strength and endurance of your neck muscles.

- **Transcutaneous electrical nerve stimulation (TENS).** Electrodes placed on the skin near the painful areas deliver tiny electrical impulses that may relieve pain.
- **Injections of medication.** Injections of medications into the neck may help relieve pain. A doctor may inject corticosteroid medications near the nerve roots, near the small neck joints or into the muscles in the neck to help with pain. Numbing medications, such as lidocaine, also can be injected to numb your neck pain.
- **Pain medications.** A doctor may prescribe stronger pain medicine than can be bought over-the-counter. Opioid analgesics are sometimes used briefly to treat acute neck pain. Muscle relaxants, tramadol (Ultram) or tricyclic antidepressant medications used for pain also may be prescribed.
- **Traction.** Traction uses weights and pulleys to gently stretch the neck and keep it immobilized. This therapy, under supervision of a medical professional and physical therapist, may provide relatively fast relief of some neck pain, especially pain related to nerve root irritation. Relief may last for hours or even days.
- **Short-term immobilization.** A soft collar that supports the neck may help relieve pain by taking pressure off the structures in the neck.
- **Surgery.** Surgery is rarely needed for neck pain. However, it may be an option for relieving nerve root or spinal cord compression.

Alternative Medicine neck pain treatments include

- **Acupuncture.** Acupuncture involves the insertion of thin needles into various points on the body. Studies have found that acupuncture may be helpful for many types of pain. But studies in neck pain have been mixed. For results several acupuncture sessions may be needed. Acupuncture is generally considered safe when performed by a certified practitioner using sterile needles. Acupuncture treatment is not recommended if blood thinners are being taken.
- **Massage.** During a massage, a trained practitioner manipulates the muscles in the neck. Little scientific evidence exists to support massage in people with neck pain, though it may provide relief when combined with your doctor's recommended treatments. Massage is generally safe for most people with minor neck strains, as long as it's performed by a trained massage therapist. If chronic neck pain or neck pain that's caused by injury or arthritis is present, a doctor should be consulted as to whether massage would be safe.
- **Chiropractic/Osteopathic manipulations and soft tissue work**

**b – Stabilize situation including lifestyle recommendations**

To stabilize the situation, some of the treatments recommended above for chronic neck pain apply: physical therapy, acupuncture, massage, osteopathic or chiropractic treatment. Structural Yoga Therapy can help to stabilize the situation through a individually-tailored program of joint freeing movements (to tone and stretch muscles and to lubricate joints), asanas, pranayama and relaxation practices for pain relief. Physical therapy or Structural Yoga Therapy would also focus on strengthening areas around the point of pain – shoulders, upper back and middle back – to support the neck.

For lifestyle recommendations see section 2c above, “*Related challenges: lifestyle, diet, limitations on activities*”.

### **c – Maintenance and long term considerations**

Long-term goals would be to provide a realistic individualized program of physical therapy or structural yoga therapy that can keep a person healthy and free from pain. A Structural Yoga Therapy program would not only include gentle stretching and toning movements, but other practices to create a complete, and holistic balance of body mind and spirit: pranayama and relaxation, ayurvedic practices for the particular constitutional type or imbalance presenting, spiritual practices such as meditation, *swadhyaya* (self-enquiry and the study of yogic scriptures or scriptures from the individual's spiritual tradition).

## **7 – Questions and answers on Yoga Therapy from [www.yogaforums.com](http://www.yogaforums.com)**

Question:

I had pain around the right side of neck and right shoulder for several years working long hours at the computer (my education was delivered/relied on the computer). I continue to have this pain whenever I use the computer or do chores where I have to stretch out my arms or raise my arm. A pop and grating can be heard at the back of my neck and pops as well when I move my shoulder. I frequently do all chores and carry groceries (I live alone), I seemed to have strained my other left side of neck and shoulder as well. Now my upper back feels tight. It did not worsen this much when I was staying with my family. I think my delicate frame is not strong enough for many activities. Now I have used a proper chair and adjusted height of my computer which seem to lessen the pain on the right side.

I did the JFS which I feel seem to release much of the tightness and pain, although I could hear the clicking while doing them. I felt like a weight has been lifted away during and immediately after the session. Then, when I start to move my arms again for one or two times for my errands, the pain would come back.

I could not stop my chores as there is no one else to do them. How can I fully benefit from the JFS even after the session? Should I have to stop certain movements of my upper body daily for a while?

Answer:

Mukunda Stiles –

“I would suggest you do the JFS very slowly and learn to focus attention on the currents of sensation in your body. They are likely to be pronounced not just the specific joint you are addressing but at diverse regions. So encourage that awareness. As long as your body is having a discharge of strain, pain or spontaneous motions (kriyas) keep doing whatever you are doing. just be gentle. If this is the way your body is healing then send me personal email to [yogimukunda@comcast.net](mailto:yogimukunda@comcast.net) and begin the Tantra lessons they can deepen this subtle body reaction to more effective JFS.

If you fatigue while doing JFS then you simply need persistence to build muscle tone. In that case follow guidelines in SYT book chapters 17 & 18. if tone is not coming by

being progressive then it is a sign that rest is appropriate. Often rest is needed when injured tissue is recovering from physiological changes of stress leaving your body. The joints are often where pre arthritis changes are stored. if that is the case then search this site for arthritis diet 10 day cleanse.”

Question:

Mukunda, I have been to several of your workshops at Gentle Strength and have had one private session with you at your old place. The reason I am writing is about my dad. Dad lives in Desoto Kansas and I was hoping to find him someone who has similar training as you. Dad has had a problem in his neck or in between his shoulder blades that has bothered him for 4 months now. He gets 2 massages a week and has been told he has a bulging disk in his neck; I'm not sure exactly which vertebrae. I was wondering if you ever go to Kansas City or if you know of someone there that could work with him. I just spent a week at home and he is miserable, but I think he is open to some alternative ways to get better. Let me know if you have any suggestions or need more info. Thank you.

Answer:

I travel regularly to Wichita and he could have an appointment with me when I come there next is Oct. 17 - 21. I do not know of anyone in that area to recommend. A possibility is to contact the yoga center there in Wichita (1-316-636-9642), their website is [www.thestudio-ict.com](http://www.thestudio-ict.com)) and see if she has a recommendation for you. My recommendation would be a bodyworker not a yoga practitioner. Cervical neck troubles are rarely helped with yoga more often then not they are irritated.

Question: (Neck Strengthening)

Namaste Mukunda

I attended the 2 day London sessions last month which I found inspiring and beneficial. Following the therapy session, you recommended a target of 6 flexion of the head and 4 lifts with the head rotated to the right for the following fortnight, followed by 2 head lifts in sphinx. I have practised JFS and the additional movements daily. I do feel stronger - there continues to be much change - sensations particularly in fingers and wrists, not always pleasant; generally less shoulder and jaw pain. Computer problems stopped me getting in touch sooner - I have now moved on to 7 and 5 but would like your recommendation for a further target.

Answer:

This series of motions is described in Structural Yoga Therapy book page 180. the goal for optimal tone of each movement of the body is to isolate the muscles and repeat their natural ROM for 12 times. blessings. mukunda

Question:

I have a student who told me a neck vertebrae was found to be misaligned- he doesn't feel any pain and is receiving physical therapy. I told him to not bend his neck backwards and told him not to do most of the bending postures; especially bridge pose, shoulder stand, halasana- so that he will not put pressure on his neck. I would appreciate your advice - what should I tell them to do/not do during the

lesson. Are there any questions I should further inquire in to?

Answer:

Misaligned vertebrae are not a problem in his case as he is not in pain. So I would have him do all practices; especially my joint freeing series in its entirety as when this is done neck adjusts itself because neck series ends the practice. namaste mukunda

Question:

AT THE FIRST SYT TRAINING IN YOGAVILLE, YOU HELPED A LADY THAT WAS HAVING NECK PROBLEMS. YOU CRADLED HER HEAD AT AN ANGLE OFF THE TABLE AND SHE HAD AN EMOTIONAL RELEASE. WHAT EXACTLY WERE YOU DOING AT THAT TIME? WERE YOU JUST WAITING FOR THE MUSCLE TO RELEASE? YOU DID HAVE AN AWARENESS THAT IT WAS A DEEPER ISSUE!

Answer:

That technique is described in my book, see SYT top of page 181, I align the vertebrae until spine is straight. the muscles that hold alignment are weakened so by stressing them it pulls spine to straight line. emotional release I cannot tell for sure but my ability to ready prana sometimes warns me of its likelihood.

Question:

I have recently viewed an x-ray of the cervical curve in my neck. Unfortunately it is not a lordotic curve....it is kyphotic. I have been medically advised to never do headstands again. My asana practice does include a series of headstands in addition to other inversions. Some of the medical experts suggest that shoulderstand or plow would be safe. I would appreciate your reaction to the advice that I have received. I would be very grateful if you would suggest safe therapeutic asanas and substitutions when I am in a class environment. Thank you.

Best regards, B

Answer:

Do you get pain in headstand? if so then follow doctors advice. if not then tell me more about full spinal and postural alignment.

without seeing you i would recommend that you do backward bending of cervical and see if strengthening the upper trapezius and cervical spinalis muscles can make a normal curve. poses to do that would include locust, cobra, handstands dog pose and forearm balances while lifting head to look at the wall. more than that i would need to see you personally.

where are you from? do you wish to receive regional program updates from me?

Question:

mukunda -- just got done reading structural yoga therapy. It was awesome; i will treasure it and use it for the rest of my life. Truly a great book. Thanks. One question about reversed cervical curve in the spine. Any

yoga asanas good for this condition? The neck strengthening exercises are very good and helpful. But what else? Thanks again brother. Warm regards.

Answer:

By reversed cervical curve I believe you mean a flattened neck not one going sideways. For that the variations of sternocleidomastoid muscle exercises on page 180-181 are best. You can also add cobra with hands behind head to strengthen the upper trapezius muscles.  
Namaste

Question:

My question is about the neck strengthening exercise in your book. I was wondering if this would be a good thing to do for people who have a forward head? From your book I see that the sternocleidomastoid muscles are tight and the upper trapezius is weak, so it would seem to me that it would be more appropriate for a person with a forward head to lie face down and lift the head up. If this were correct, would you place the hands behind the head and then lift up? I thank you in advance for your reply.

Sincerely, S

Answer:

Yes, this is indeed more for someone with a forward head though I would check as they can be forward and still have the lateral neck muscles weak too. In that case I would give both but with the head lift on belly done more and last.

## **8 – References and websites**

<http://www.spine-health.com/conditions/neck-pain/chronic-neck-pain>

[http://www.medicinenet.com/neck\\_pain/article.htm](http://www.medicinenet.com/neck_pain/article.htm)

<http://www.mayoclinic.com/health/neck-pain/DS00542>

[http://www.health.harvard.edu/press\\_releases/chronic\\_neck\\_pain\\_relief.htm](http://www.health.harvard.edu/press_releases/chronic_neck_pain_relief.htm)

<http://backandneck.about.com/od/treatment/u/backpainandtreatment.htm>

<http://www.tabers.com/tabersonline/ub?>

<http://www.nismat.org/ptcor/ergo>

<http://www.iytyogatherapy.com>

<http://www.yogaforums.com>

<http://www.phytobiophysics.com>



<http://www.thechakrahouse.com>

<http://www.erintulach.com/chakras>

<http://www.medications.com>

<http://www.endocrine-system.emedtv.com>

<http://www.druginfonet.com>

Structural Yoga Therapy, Mukunda Stiles

Ayurvedic Yoga Therapy, Mukunda Stiles

Yoga Therapy For Knees and Shoulders, Yoga International magazine publication, Mukunda Stiles articles, pp13 – 16

The Concise Book of Muscles, Chris Jarmey

## **9 – Appendix**

### **Appendix 1. About Synthroid**

Manufactured since 1955, Synthroid is a medicine prescribed by doctors to treat hypothyroidism. Hypothyroidism is a condition in which the thyroid gland does not make enough of the thyroid hormone called thyroxine. When there is not enough thyroxine, your body slows down.

Synthroid offers safe and effective treatment that adds back the thyroxine that the thyroid gland cannot make naturally. Synthroid is T4 which is said to be broken down into T3 by the body. Some research indicates that not everyone's body can successfully break down the T4: some are cellular resistant to thyroid hormones and so these people will also need T3 to prevent hypometabolism. The cells need T3 to function. A person can have hypothyroidism and still have good TSH levels: tests generally only check if there is enough T4 in the body. Each person's hormonal metabolism is different.

### **Synthroid Side Effects**

As with any medicine, side effects are possible with Synthroid® (levothyroxine sodium). However, not everyone who takes the drug will experience side effects. In fact, most people tolerate it quite well. If side effects do occur, in most cases, they are minor and either require no treatment or can easily be treated.

Synthroid side effects typically occur when the dose is too high. Dosage needs to be carefully adjusted by doctors to suit each individual. Too much thyroid hormone causes symptoms of an overactive thyroid (hyperthyroidism). Some of these symptoms can be quite dangerous, and any of these symptoms should be reported to your healthcare provider, as they may signal that the Synthroid dosage needs to be adjusted.

Possible side effects of Synthroid include:

- Tiredness, sluggishness
- An increased appetite, along with weight loss
- Feeling hot all the time and increased sweating
- Fever
- Hyperactivity, nervousness, anxiety, or irritability
- Insomnia
- Emotional changes
- Shakiness or muscle weakness
- Heart palpitations
- High blood pressure (hypertension)
- A rapid heart rate (tachycardia)
- Heart failure, chest pain, or a heart attack
- Difficult or painful breathing
- Diarrhea, vomiting, or abdominal cramps (stomach cramps)
- Hair loss
- Flushing
- Broken bones or other signs of weakened bones
- Joint Stiffness, Osteoporosis, Osteoarthritis
- Menstrual problems or fertility problems
- Seizures.

## **APPENDIX 2. VATA BALANCING NOTES**

**FROM AYURVEDIC YOGA THERAPY, MUKUNDA STILES  
(PP 32, 63, 169-174)**

### **Signs Vata is imbalanced:**

Vata imbalance brings fatigue, loneliness, depression and pain, especially dull, irregular, chronic pains often experienced in the mornings and relieved by movement. The attitude of Vata-imbalance is “I can do things any way I like, I can go with the flow.”

### **How to balance Vata with lifestyle:**

Regularity and routine promotes Vata balance, stabilising the mind and physiological rhythms. Ideally keep your schedule the same, regardless of external events such as travel, work, holidays. Have a set time for meals, sleep, exercise, meditation and prayer. Once a regular lifestyle is established, prana (Vata’s underlying energy) finds its home in the pelvic region.

A Vata pacifying diet includes foods that are warm, heavy and oily. Focus on foods that are naturally sweet (wheat, milk, rice), sour (yoghurt, tomatoes and citrus fruits), and salty. Minimize foods that are cold, dried and light (iced drinks and foods straight from the refrigerator, dried cereals, rice cakes and crackers). Avoid spicy, bitter (green leafy vegetables) and astringent foods (apples, beans).

Engage in exercise that promotes stability and grounding and that does not cause fatigue. Walking with breath timed to be in harmony with swaying of arms and legs helps to release emotions and suppressed thoughts. Walking in a natural environment is excellent for balancing Vata.

### **How to balance Vata with Yoga:**

Asana should be done slowly and deliberately. Extend the joints, keep the muscles soft. Soft, ujjayi pranayama, long and audible is helpful.

Practice Vinyasa sequences, regulating the breath in a gentle, yet deliberate manner. Concentrate on the internal wave motion and glottal sound of the Ujjayi breath. The breath leads the movement (such as Sun Salutation and Palm Tree Vinyasa).

Practice yoga pose with a focus on relaxing the effort (as recommended in Yoga Sutras of Patanjali ChII vs 51). This promotes peace, sensitivity and encourages intuitive insights.

Alertness to the breath and pranic flows within the body can generate an ability to keep Vata balanced longer. "The development of prana as a refinement of breath leads to the highest balance of this element." (Mukunda Stiles, Ayurvedic Yoga Therapy, p171).

Yoga asanas that focus on the pelvic and colon areas help to balance Vata. Forward bends are good but should not be forced or held for prolonged periods of time. Balancing poses help concentration, making prana smoother and steadier.

A Vata balancing practice places emphasis on developing sensitivity through inquiry practices such as asking "what do I feel?", "where do I feel it?"

Seated poses are recommended for keeping the hips supple and the pelvic floor mobile and open.

Pranayama is very useful for balancing Vata, especially Anuloma Viloma (Nadi Shodhana). Best is to do it early morning on an empty stomach for up to 5 minutes.

An ideal practice for balancing Vata is "swadhyaya", self-study: that is, reflection on a spiritual text. Study the Yoga Sutras or scriptures from your own spiritual tradition.

### **Summary:**

Promote a lifestyle and yoga practices that encourage relaxation and sensitivity to the inner Self. The best way is to implement methods that bring regular attention to the breath and the pranic life force such as the Joint Freeing Series and Wave breath, Vinyasas which put emphasis on the pelvis and legs (Palm Tree Vinyasa), sitting postures and forward bending postures.

**Signs Vata is balanced:**

Vata balance is accompanied by subtle yet deeply moving breath, bowel movements are regular, there is an absence of pain, the mind is peaceful and enters meditation spontaneously, developing intuitive insights and understanding of others and self. One feels safe enough to know others intimately. One feels fresh and relaxed.

**10 – Biography**

Shama (Sara Palmer) graduated from University of Exeter, England with a degree in history and from the University of London with a Masters degree in Japanese Studies. She has worked in many different capacities: in TV, import-export and in alternative health. She managed an integrated health clinic in London before training to be a yoga teacher. She now gives group and private yoga classes and offers workshops in England, Sivananda Ashram Yoga Retreat, Bahamas, USA and Europe. Both teaching yoga and the practice of yoga therapy are an outlet for and expression of the fullness of heart and gratitude arising from the gift of yoga.