# Yoga as Holistic Healing For Medical Conditions



# Teacher Training

# YOGA AS HOLISTIC HEALING FOR MEDICAL CONDITIONS

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For Yoga Club Teacher Training

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# Section 1: Overview of Holistic Health

## What is Holistic Health?

"Good Health results from perfect communication between each part of the body and mind, and when each cell communes with every other. Although yoga is essentially a spiritual science, it leads to a sense of physical and emotional well being. Health is the perfect equilibrium of the mind, intellect and soul.

BKS Iyenger Yoga, The Path to Holistic Health

# Yoga Therapy is the process of empowering individuals to progress toward improved health and well-being through the application of the teachings and practice of yoga.

International Association of Yoga Therapist's definition 2011

Matthew Taylor, PT, PhD, RYT, a leader and innovator in the yoga therapy field states that the challenge of yoga therapy practitioner is to utilize our expertise while also honoring the patient as a companion and peer, and to utilize our shared experience to create the spontaneous awareness of right action.

# "Doing to" vs. "Being With"

☐ Client is a part of the healing process. Changing the paradigm from a practitioner whom does a procedure or provides a medicine for the person, to someone who is an active guide in helping that person to heal.

## Ahimsa: Do No Harm

Ahimsa: non-injury, implies non-harming or non-killing. But, non-injury is not merely non-killing. Ahimsa means entire abstinence from causing any pain or harm whatsoever to any living creature, either by thought, word or deed.

# Yoga As Medicine by Timothy McCall, MD

Therapeutic Yoga vs.
Patient driven
Holistic
Best for chronic
Side effects positive

# **Conventional Medicine**

Physician driven Reductionist Best for Acute issues Side effects often negative

# 4 Principles of Yoga which lead to Healing

- 1. Humans are multidimensional (Koshas)
- 2. Each individual is unique; no "one size fits all" pill in yoga
- 3. Yoga is self-empowering, the student is his own healer
- 4. Quality and state of mind is crucial to healing Kausthub Desikachar, MS

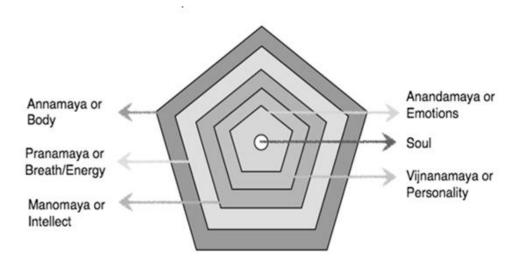
### YOGA'S INDIAN ORIGINS: HOLISTIC MODELS OF HEALINGS

4 models influential in formation of yoga for healing as a philosophical and practical medical system in India

# 1. PANCAMAYA MODEL: panca: five maya: pervading

"This model presents the human being as multidimensional; there are 5 dimensions around the central Spirit/Soul. The soul is unchanging but the 5 dimensions around it are in constant flux. each dimension constantly pervading into the others, each dimension having effects in the others."

Dr. Santhan, Doctor, Yoga Therapist drsarthan.com



# Anamayakosha: Physical Body

Yoga Tools for Annamayakosha:

- 1. Shat Karma Practices: Body Cleansing
  - a. Dhauti: A series of techniques for cleaning the whole alimentary canal from the mouth to the anus. It also includes simple methods of cleaning the eyes, ears, teeth, tongue and scalp.
  - b. Neti: A process of cleansing and therefore purifying the nasal passages
  - c. Nauli: a very powerful process of cleansing and massaging the abdominal organs
  - d. Basti: Techniques for washing and cleansing the large intestine
  - e. Kapalabhati: a simple series of breathing exercises for purifying the frontal portion of the brain
  - f. Trataka: The practice of intense gazing at an object to develop the powers of concentration and dormant psychic faculties which we all possess.

# 1. Asana

# Pranamayakosha: Prana

is/contains the energy/vital sheath.

- a. Subtle Body: Nadis and Chakras which are channels for energy transport within the body. Consider the fascial system as an example of a channel which transports energy and information.
- b. Fascial System: "A living organism is a vast sea of energy and information that flows through the myofascial system as a hologram. It is dynamic and fluid with all components, always in instant and continuous communication." --

John F. Barnes, P.T.,

Yogic Tools for Pranamayakosha

- 1. Pranayama: Breathing practices
- 2. Pratyahara: Sense Withdrawal
- 3. Supported Asanas for fascial release

# Manomayakosha: Mind

Subtle Body: level of processing thoughts and emotions. Learning, feeling and experiencing. This is the everyday mind that takes care of the dos and don'ts.

Yogic Tools for Manomayakosha

- 1. Meditation: Dharana single pointed focus
- 2. Reading scriptures and texts
- 3. Karma Yoga

# Vijnamayakosha:

Subtle Body: perceptions, intuition, discernment. The sheath that is underneath the processing, thinking aspect of the mind. Discriminates and decides, judges. Level of ego consciousness.

Yogic Tools for Vijnamayakosha

- 1. Svadyaya (self study)
- 2. Satsong (talking with like minded)
- 3. Meditation

# Anandamayakosha:

Causal Body: bliss body/state. It is the peace, joy, and love that is underneath, beyond the mind, independent of any reason or stimulus to cause a happy mental reaction. It is simply being, resting in bliss called ananda.

Yogic Tools for Anandamaya Kosha

- 1. Meditation
- Yamas: Ahminsa (non violence), Satya (truthfulness), Asteya (non-stealing), Bramacharya (moderation), Aparigraha (absence from greed)

# Asmitamayakosha:

Transcendent True Self

Yogic Tools for Asmitamayakosha:

- 1. Spiritual Absorption (Samadhi)
- 2. Witnessing of consciousness, connection to a higher power

# 2: The Subtle Body: The Nadis and Chakras

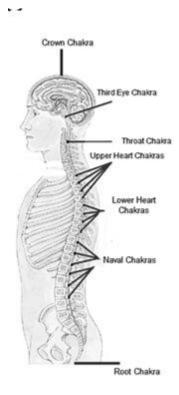
Chakras: Energy centers Nadis: Energy Channels

Prana: Prana primal source of all forms of energy

- vital force or "field" that extends a few inches beyond the skin
- Can be seen with ultra-violet light
- Distributed by atomic particle attraction

Chakra: 7 primary centers of energy along spine

- The spinal nerve anglia and plexus' are the physical representation of the seven major chakras
- Located at the coccyx (root), sacrum (naval), lumbar (solar) upper thoracic (heart), cervical (throat) mid and upper brain (crown)
- The CSF flowing within neuroglial cells has increased volume at these sites due to the profusion of nerves at these locations.
- Prana" is distributed via the chakra energy centers and nadi channels similar to CSF fluid circulation.
- Therefore, it is theorized that there is a relationship between CSF circulating in the nervous system and "prana" flowing over the chakra/nadi energy system.



Hiroshi Motoyama, Ph.D., author of Theories of the Chakras: Bridge to Higher Consciousness

- The Sushumna is a metaphysical vertical column, which is the central integrating channel for connecting the chakras and their various dimensions of consciousness.
- The Ida and Pingala are two channels, which criss-cross in a double helix pattern intersecting at the major chakras.
- It is theorized that the Sushumna corresponds to the central canal of the spinal cord, and the Ida and Pingala to the sympathetic nerve trunks located on either side of the spinal cord.

The following healing arts, techniques and procedures can have a beneficial effect on the chakras;

Reiki, meditation, crystals and other gems, spiritual healing, polarity therapy, therapeutic touch, tai chi, tai kwon do, yoga postures, sunlight, color therapy, aromatherapy, flower essences and herbs.

# 3. Prana Vayus Model

<ul> <li>□ Relates to pranamaya: describes functioning of prana and breath</li> <li>□ Hindu texts called life force "vayu"</li> <li>□ Regulating prana slows the speed of thought, quieting the mind</li> <li>□ Prana in different areas of the body has different names as it supports different body</li> </ul>
functions
☐ Different areas of the human systems strongly respond to different types of breathing patterns
Prana Vayu: Forward Wind: situated in the heart. Stimulates and regulates rising energy. Primary Manifestation: Inhalation
Apana Vayu: Downward Wind: seated in the lower pelvis. Stimulates and regulates the falling energy of elimination. Primary Manifestation: Exhalation
Samana Vayu: Middle Wind: Seated in the naval. Stimulates and regulates assimilation or incorporation.
Vyana Vayu: Circulating Wind: circulates throughout our body with no specific seat.
Udana Vayu: Upward Wind seated in the throat.

# 4. Ayurvedic Model of Healing

"Ayurveda considers health to be a state of perfect balance between vata, pitta and kapha, corresponding to one's individual prakriti, and a balance of the seven dhatus (tissues) and three malas (waste products.)... Practically speaking, the most important aspect is harmony between the doshas, which results from dealing with the physical and emotional factors in one's life. "Quoted from Textbook of Ayurveda: Fundamental Principles by Vasant Lad, M.A. Sc.

**AYURVEDIC YOGA THERAPY:** The use of yogic tools to help balance the doshas.

# Classifications of Disease based on Cause and Severity/Manageability

The Yoga of Helaing: Exploring Yoga's holistic Model for health and well being Kausthub Desikachar, MS MMS assisted by Liz Bragdon M.A. and Chase Bossart B A

# 1. CAUSE

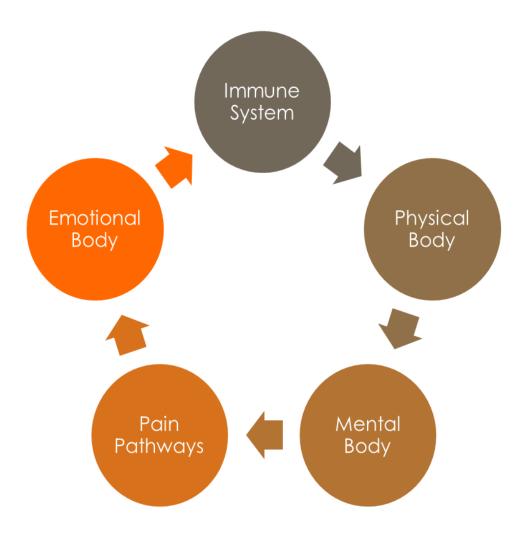
• Adhyatmika: Myself:

Example: a person develops cancer of mouth due to chewing tobacco.

- Adhibhautika: Someone else or outside cause: Example: Someone contracts HIV from another person
- Adhidaivika: Divine force is responsible. Example: trauma from a car wreck or birth defect

# **Neuro-emotional Web**

Bo Forbes, Psy.D., E-RYT 500



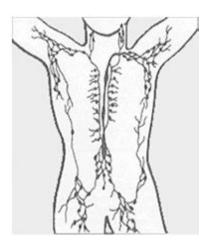
# **Immune System Functions**

- Establishes and maintains equilibrium
- Recognizes and kills foreign and abnormal cells, while not destroying the body's normal tissues
- Has intricate network of regulatory cells that turn the immune response on and off as needed

Dr. Barton F. Hayes of Duke Medical Center

# **Lymph System Functions**

• a network of organs, lymph nodes, lymph ducts, and lymph vessels that produce and transport lymph from tissues to the bloodstream. The lymph system is a major component of the body's immune response.



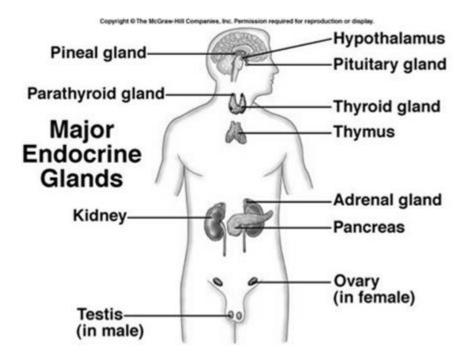
# **Physical Body Functions: Use of Asana**

- Asanas focus on movement of the spine stimulating/relaxing the autonomic nervous system
  - Deep Stretch and Restorative Poses affect the connective tissue and fascia



# **Endocrine System Functions**

- The major areas of control and integration include responses to stress and injury, growth and development, absorption of nutrients, energy metabolism, water and electrolyte balance, reproduction, birth, and lactation.
  - Movement of the body through asana can stimulate the endocrine system



# Adaptation: The Process of Change!

- Connection between CNS and Immune System/Endocrine Systems
- Immune cells are equipped to respond to chemical signals from the CNS
- Certain white blood cells are equipped with molecular equivalent of antenna tuned to receive messages from the brain

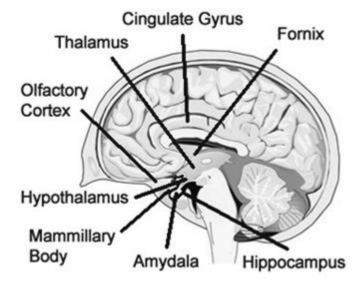
# Peptides rule!

- Intercellular messengers distributed throughout the nervous system, GI tract and pancreas
- Our thoughts create chemical messengers \_ "What one person perceives as stressful but irritating can produce chemicals that alter the immune system in a negative way and visa versa" Deepak Chopra

# **Limbic System Functions:**

Regulates emotion and memory

- Connects lower and higher brain functions
- Influences visceral responses to emotions
- Influences sensations of pain and pleasure
- Influences motivation and mood



Susceptibility to Emotional Contagion If you are

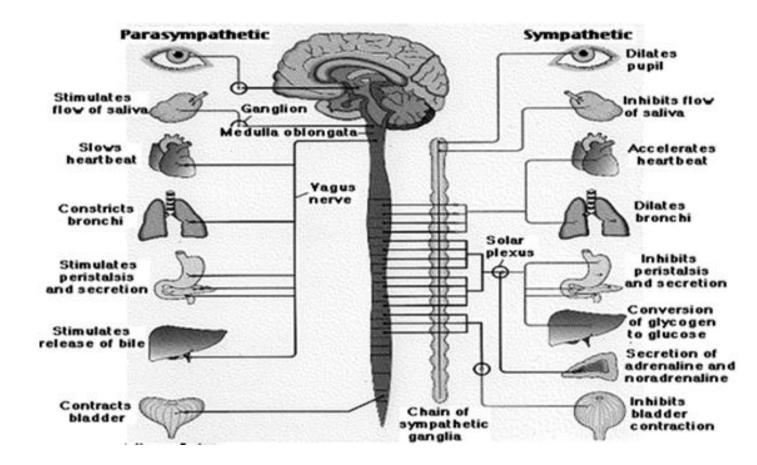
- Empathic (take on other's energy/problems)
- Anxious
- Passive in relationships
- If you have less power in a relationship

# **Autonomic Nervous System**

Sympathetic Nervous System

• Fight or Flight : increases Heart rate, blood pressure, respiratory rate to prepare for emergencies.





# **Over active SNS:**

- Common in anxiety disorders
- Stress activates SNS which worsens or increases the risk of condtions such as :
- HEART DISEASE
- ALZHEIMER'S
- DIABETES
- DEPRESSION
- GASTROINTESTINAL PROBLEMS

Pranayama can calm SNS and activate PNS

- Also affects the Mental Body
- Activates PNS which leads to

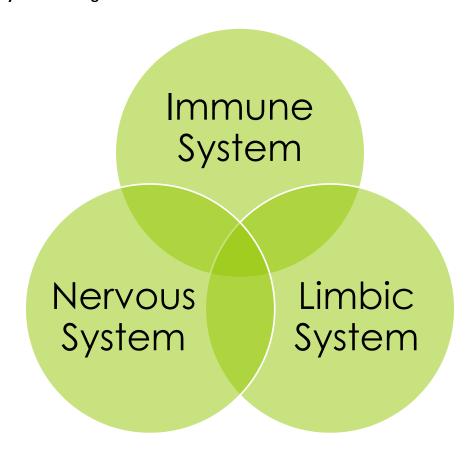
Reduced heart rate

Reduced muscle tension Enhanced sleep Improved immunity Improved lymphatic system

# **Creating Emotional Immunity**

- Asana, breath, restorative yoga
- Setting Boundaries
- Micro-alignment for internal awareness
- Moving slowly and mindfully in asana
- Cultivating compassionate inner gaze
- Embracing a meditative practice

# **Immune System is Integrated!**



# Here's da "Aha" Moment

 The nervous system and endocrine system communicate through hormones and

neurotransmitters through the ANS nerves to the lymphoid organs.

- EVIDENCE: brain to immune interactions are highly influenced by emotional factors (stress, anxiety, depression)
- These emotional factors influence immunity and immune systemmediated disease Bo Forbes

# Yoga tools to access this neuro-emotional web

- Yoga Asanas: pump lymph, release fascia, create alignment
- Throat Bandha
- Breathwork (pranayama) for lymph perstalsis and nervous system balance
- Restorative Yoga: calms nervous system, clears mind, releases fascia

Meditation: clear mind, shift thoughts to positive

# **How to Approach Healing in Your Clients**

• **Step 1:** Client recognizes the need for help "Heyem" by recognizing the symptoms of suffering.

According to Patanjali: 4 types of suffering

- Emotional State
- Negative mental attitudes
- Physiological changes in the body
- Breathing patterns

# Step 2: Identifying the Causes of Duhkham or Suffering

- Change (Parinama) Example: change in weather triggers allergies, change in diet triggers GI problems
- Patterns/habits of behavior (Samskara) Example: living a stressful life, smoking, Inappropriate food or eating habits (Ayutka ahara) Example: unhealthy foods or unhealthy eating patterns: how much, what time of day
- Divine Will (Isvara samkalpa) Example: traumatic injury by no fault of your own

# Step 3: 8 STEP WELLNESS PLAN

Formulated by Larry Payne, PhD Director of Samata International Yoga Center, Los Angeles Director Yoga Therapy Program at Loyola Marymount University

- Step 1: Mind Set/Intention
- Step 2: Yoga Breathing/Pranayama
- Step 3: Rest and Relaxation: Finding a position of comfort
- Step 4: Bio-mechanical Re-education
- Step 5: Yoga Asana Routine
- Step 6: Daily Journal
- Step 7: Proper Food Choices
- Step 8: Water Intake

NOTE: Refer any acute pain to the appropriate practitioner (physician, physical therapist, chiropractor). Yoga Therapy is not effective for acute pain or traumatic injury.

# Yoga as Holistic Healing for Medical Conditions

Symptoms which indicate the need for a referral out:  under numbness
□ tingling
□ weakness
☐ loss of bowel or bladder control
☐ night pain which lasts all night
THERAPEUTIC PRIORITIES:
☐ 1. Find a position of comfort: quiet the nervous system Techniques:
Deep Yoga Breathing
Yoga Nidra
Positive Affirmations     Postorative vega postures
Restorative yoga postures
☐ 2. Reduce inflammation
Techniques: • Rest: Non-weight bearing position initially to reduce stress on damaged tissues. A controlled
increase of appropriate stress to the damaged tissues can promote healing.
• Apply ice prn (15 minutes maximum at a time)
Increase circulation through pain free movement
• Improve awareness: train the client to listen to the body and heed the warning of pain. The
should return to a position of comfort if feeling an onset of pain related to damaged tissues.
☐ 3. Develop Awareness
KEYS TO AWARENESS:
Use the breath to activate intention; intention travels via attention –
awareness-breath is the key to structural transformation.
<ul> <li>Have client experience the misalignment causing the discomfort first</li> <li>Help them to alter the alignment or apply modification and note the proprioceptive and</li> </ul>
kinesthetic changes
• Return to the original misalignment/movement and have the client note the change

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kinesthetically A-B-A model by Back Education Training (Johnson and Johnson)

# Section 2: 8 Step Wellness Plan: Step 1 Mind Set

# 1. Mind Set

5 Principles of Living with Purpose: Yamas

5 Daily Observances of Living with Purpose: Niyamas

<u>The Happiness Revolution: Creating Balance and Harmony in Your Life</u> By Blair

Lewis

Begin to utilize positive affirmations.

☐ Instead of referring to a chronic issue as a "bad back" or "tightness", begin to think of them as parts of the body that are in the process of transforming and/or healing.

Utilize the techniques of "Face, then Replace". When a negative thought or emotion arises, first face it, don't label it or judge it, then replace that thought or emotion with a positive affirmation or emotion.

# Drill:

☐ Take a moment in small groups to practice your affirmations. Think of a common negative affirmation you may have about yourself and practice Facing, then replacing that with a positive affirmation. Send positive energy to that part of your body.

Negativity and stress alters immune function

Psyconeuroimmunology (PNI)

Deepak Chopra refers to our body as "the thinking body"

"Our thoughts create the chemical messengers we need to feel the way we want to feel at any given moment. Neuropeptides are the messengers."

Candice Pert: Neuropeptides are produced in the brain

- the structures of the limbic system (the seat of the emotions in the brain), including the thalamus, hypothalamus, hippocampus, amygdala, and parts of the basal ganglia, are concentration areas for neuropeptides called "nodal points".
   (Pert 1997)
- It is theorized that neuropeptides are "fluid" born chemicals circulating in the "CSF", blood and extracellular fluid whose "emotional" chemistry links muscular "behavior" patterns and completes the mind body connection

The mind is the key to healing, especially with chronic medical conditions. It is important to understand in depth how and why this is true. Yoga, as a science of the mind, which also incorporates movement of the body, is the perfect tool for helping persons with disease begin to bring themselves back into "ease".

MINDFULNESS: THE KEY TO HEALTH

Bishop, Lau, and colleagues (2004) offered a two-component model of mindfulness: The first component [of mindfulness] involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment. The second component involves adopting a particular orientation toward one's experiences in the present moment, an orientation that is characterized by curiosity, openness, and acceptance.

Practicing mindfulness can help people to begin to recognise their habitual patterns of mind, which have developed out of awareness over time and this allows practitioners to respond in new rather than habitual ways to their life. (Mindfulness and Integrated Psychotherapy)

The current research does suggest that mindfulness practices are useful in the treatment of :

- Pain
- Stress
- Anxiety
- Depressive relapse
- Disordered eating
- Addiction

It improves the immune system and alters activation symmetries in the prefrontal cortex, which is associated with an increase in positive affect and a faster recovery from a negative experience. (http://en.wikipedia.org/wiki/Mindfulness\_(psychology)

Remembering our primitive brain, studies have shown that the more hours of MEDITATION training, the lower the activation in the amygdala. Amygdala scans everything we experience for threats to our survival. (Chade-Meng Tan)

# MINDFULNESS MEDITATION

Several different types of meditation, for the purposes of improving healing and keeping it simple for our clients, we are focusing on Mindfulness Meditation Practices.

Meditation: mental training

Mindfulness: Meta-Attention

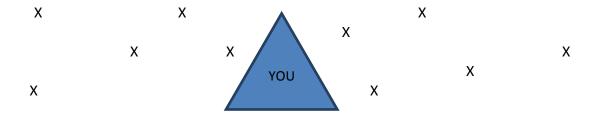
The ability to know when your attention has wandered away. Practice is key, the more practiced we become at noticing when our attention has wandered and bringing it back to focus, the more easily we can maintain attention.

Yoga Sutras which help address steps to meditation (translated by Swami Satchidinanda)

Pratyahara: Can be a result of breath regulation (pranayama) and turning inward (samyama)

When the senses withdraw themselves from the objects and imitate, as it were, the nature of the mind stuff, that is pratyahara 2:54

Then follows supreme mastery over the senses 2:55

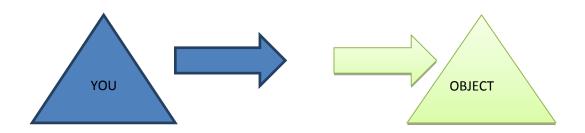


Exercises: The Yoga Path of the Sutras by Nicholai Bachman
Try meditating in a noisy, busy environment. How does the external commotion affect your focus? Is tuning it out easy or difficult for you?

Try meditating in an unusually quiet environment. Notice how your internal commotion affects your focus.

• Dharana: 3:1 Dharana is the binding of the mind to one place, object or idea. Can be intermittent-attention drifting away, then back again.

An actual object to fix your gaze upon can be helpful here. Tradek is a practice of gazing at an object or picture. The longer you gaze at the object, the more ingrained it will become in your mind, and eventually when you close your eyes, you will still visualize it.

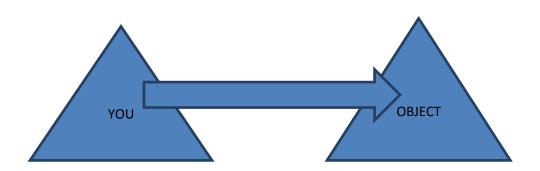


## Exercises:

Sit quietly and bring attention to an object of your choice. Be sure to choose an object to which you are not attached to in any way. Notice when your attention wanders and practice bringing it back to the object.

Sit quietly and focus on healing in an area of your body that is in disease or discomfort. Visualize that healing happening. Notice when your attention turns to the disease or discomfort and bring it back to the healing focus.

• Dhyana: the continuous flow of cognition toward that object.

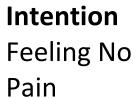


This becomes effortless as the concentration becomes the state of being. Time and space lose meaning. The mind becomes relaxed and alert at the same time.

Meditation is like exercise. You are training your mind to become calmer and more perceptive. With more training, you get stronger. It is like weight training, as you strengthen muscles, you must overcome resistance. Every time you bring your attention back from wandering, you are strengthening your ability to do so.

Mindfulness Mediation

Process Model of Mindfulness Meditation





Follow Breath

# **Attention**Concentration Calm Flow

Regain Attentional Focus

# **Attitude**Self Critical Kind Curious

Distraction

**Cognitive Process**Ruminate Worry
Fanticizing

Courtesv of Philippe Goldin

# 4 STEPS TO MINDFULNESS MEDITATION

- 1. Acknowledge Distraction
- 2. Experience without judging or reacting
- 3. If you need to react, continue maintaining mindfulness
- 4. Let it go.

Mindfulness Meditation (Chade-Meng Tan)

Begin by sitting comfortably. Sit in a position that enables you to be both relaxed and alert at the same time, whatever that means to you. Be sure to be in a position of comfort, yet in a position in which you can maintain alertness.

Take three slow, deep breaths to inject both energy and relaxation into the practice

Now, begin to breathe naturally and bring a very gentle attention to the breath. You can either bring attention to the nostrils, the abdomen or the entire body of breath, whatever that means to you. Become aware of the in breath, out breath and space in between. (short pause)

If you like, you can think of this exercise as resting the mind on the breath. You can visualize the breath to be a resting place, or a cushion or a mattress, and let the mind rest on it, very gently. Just be. (Long pause)

If at any time you feel distracted by a sensation, thought or sound, just acknowledge it, experience it, and very gently let it go. Bring your attention very gently back to the breathing.

If you like, you can end the meditation by inviting joyful inner peace to arise.

Breathing in, I am calm Breathing out, I smile This present moment, Wonderful.

**YOGA NIDRA** (Resource: <u>Yoga Nidra</u>: <u>The Meditative Heart of Yoga</u> by Richard Miller, PhD) A powerful tool to help our clients work towards letting go of discomfort, pain and visualizing healing in their bodies.

# What is Yoga Nidra?

- Ancient sacred yogic process of meditation
- Helps one to enter a state of receptive relaxation, totally aware and alert through the process
- May allow physical, psychological and interpersonal transformational shifts to occur as negative patterns of conditioning are burned away by the fire of discriminative wisdom
- Teaches you how to \*welcome discomfort, emotions, memories as messengers on a path to right action
- Each stage addresses a kosha, you work with a particular sheath, several sheaths or all sheaths in succession

**Step 1:** Setting your intention to remain focused and undistracted during the session.

# Step 2: ☐ Locate heartfelt prayers you hold about loved ones or yourself set in the present moment. ☐ Stage 1: Rotate attention throughout the physical Body (annamaya Kosha) Begin and end in a particular order beginning in the mouth, ears and eyes, moving down to the toes. We realize the body is not solid, it is infinite spacious vibration, without center or periphery. BodySensing: Observe sensations in the body. ☐ Stage 2: Explore the breathing (pranamaya kosha). Use counting the breath to help with one pointedness training. We realize the body is fluid, unlimited energy. BreathSensing: Observe the breath. ☐ Stage 3: Exploring the emotional body (manomaya kosha). Sensory awareness of opposites (cold/hot, moist/dry).: Followed by emotional poles (disappointment/contentment, fear/courage) We realize that our emotions and thoughts are only passing phenomena. Feelings: Observe opposite feelings. Emotions: Observe opposite emotions ☐ Stage 4: This is followed by awareness of positive and negative beliefs. (Vijnanmaya kosha) An example would be "I am unlovable" paired with "I love and value myself". Beliefs: Observe opposite beliefs ☐ Stage 5: This addresses the body of joy (anandamaya kosha) We realize our equanimity exists independent of all movements of emotion, belief, memory or even joy. We realize the vastness of equanimity that exists independent of any experience. Joy: Inner Smile, Love Bliss ☐ Stage 6: This is the threshold of the Body of Ego-I (Asmistamaya Kosha) We ponder the nature of the separate ego. We inquire into the reality of the "I" who is aware. Witnessing and **Pure Awareness**

<sup>\*</sup>Welcoming in discomfort without resistance is the KEY to helping to heal chronic illnesses.

☐ Stage 7: Reaching the Source and living in the natural state. Return to your heartfelt prayer and embody it as a heartfelt reality.

Recommended Resources for Yoga Nidra: (all can be found on Itunes)

Yoga Nidra and Self Healing Dr. Mark Halpern

Yoga Nidra James Jewell

Yoga Nidra Maureen Lewison

Yoga Nidra Paul Miller

# SECTION 3 YOGA BREATHING/PRANAYAMA

"Just as lions, elephants, and tigers are gradually controlled, so the parna is controlled through practice. Otherwise the practitioner is destroyed. By proper practice of pranayama, all diseases are eradicated. Through improper practice, all diseases can arise."

Svatmarama, Hatha-Yoga-Pradipika

Literal definition of pranayama:

Prana: "to breathe forth" "pra" means to bring forth "na" means to breathe or to live

"Ayama" means to stretch, extend, restrain, stop; expand, lengthen either in space or time.

"yama" root means to rein, curb, bridle; a driver, charioteer.

"We cannot really control the breath, but pranayama is the process of expanding our small reservoir of prana by lengthening, directing, and regulating the movement of the breath and then limiting or restraining the increased pranic energy in the body-mind." Richard Rosen

# Individual Prana (Vasti Prana) Vayus

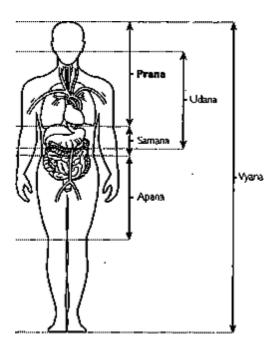
nutrients, located throughout, especially in joints

Prana Vayu: (another name is Adya) It is said to be "that which is everywhere at all times, the in-breath: comes in nostrils, progressing downward and inward in a J formation

Apana Vayu: the "out breath" or air that moves away. Functions as the last part of the exhalation. Governs movements from the naval down to rectum and from the hips to the feet. Abdomen- reproduction and elimination of bodily waste.

Samana Vayu: the mid-breath, moving from the outer body to the center. Active during the pause following inhalation. Abdominal organ area and centered in small intestine- governs digestion

Udana Vayu: upward moving air, moves upward as the first portion of the exhalation. Resides in chest, when balanced centered in the throat-governs communication Vyana Vayu: the through breath or outward moving air. Moves from center and sends vitality to the periphery. Maintains voluntary muscles and skeletal system, circulation/joints-transport of



# Two Models of Pranayama:

1) Classical Patanjali: To reduce suffering through control of chitta-vritti or fluctuations.

Pranayama is classically defined as "cutting off of the flow of inhalation and exhalation." Yoga Sutra 2:49 Movement of the breath is considered to be a fluctuation and so a distraction to meditation.

Considers 4 components of breathing:

Place (desha): location in the body where prana is directed.

Time (kala): duration of inhalations and exhalations

Number (Smakhya) number of repetitions. Retention: (Caturtha) arrested breathing

Classical pranayama is most useful in helping with meditation practices, however, we will break somewhat from classical pranayama to address health conditions.

# 2) Svatmarama: Hatha Yoga and Pranayama

Pranayama is utilized in Hath-Yoga to unite consciousness and nature. To help move the prana through the nadis and chakras to ultimately unite the spiritual with the physical.

# **Benefits of Improved Breathing**

- Increases circulation
- Increases energy
- Improves oxygenation
- Lessens degeneration and disease symptom otology
- Decreases anxiety and depression

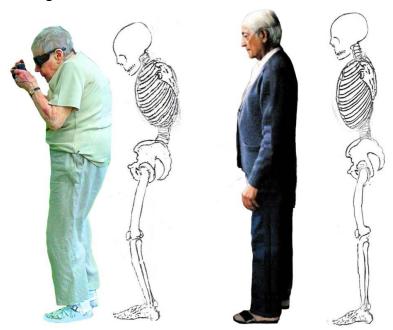
Mukunda Stiles Ayurvedic Yoga Therapy

# **Benefits of Pranayama:**

- Oxygenates the system
- Strengthens the diaphragm
- Improves pain relief
- Regulates the nervous system

# **Effects of Aging on Respiration**

- Breath becomes more shallow
- Respiratory capacity decreases due to changes in posture and atrophy of surrounding musculature



# **Consequences of Unhealthy Breathing Patterns:**

- Hyperventilation
- Causes low levels of CO2 in blood
- Increased respiratory rate over normal of 12-18 breaths per minute which is about 6 liters per minute

Condition	Minute Ventilation	Number of people	References
Normal breathing	6 liters/min (l/m)	Normal people	Medical textbooks
Heart Disease	12 +/- 3 l/m	132	Fanfulia et al. 1998
Cancer	12 +/- 2 l/m	40	Travers et al. 2008
Diabetes	15 +/- 2 l/m	45	Travers et al. 2008
Asthma	14 +/- 6 l/m	39	Bowler et al. 1998
Sleep Apnea	15 +/3 l/m	20	Radwan et al 2001

# **Effects of Hyperventilation**

- cell hypoxia
- chronic inflammation
- generation of lactic acid and free radicals due to anaerobic cellular respiration
- excessive mucus production
- Bronchoconstriction
- vasoconstriction
- over-excited state of nerve cells, coughing, sighing, dyspnea or shortness of breath, and many others.

# **Types of Improper Breathing Patterns**

- Constricted Thoracic (Chest ) Breathing
  - Diaphragm is relaxed and abdominal wall is held firmly in place
  - External intercostals lift the ribcage up and out
  - Breath is shallow, rapid and is commonly associated with stress and tension
  - Over-stimulates the Sympathetic Nervous System leading to elevated BP, digestive and elimination difficulties, cold and clammy feet

Practice and notice how this feels in your body!

What types of medical conditions or personalities might have this breathing pattern?

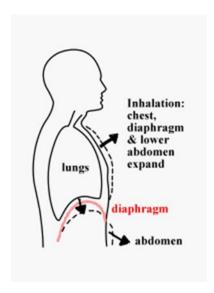
- 2. Paradoxical Breathing (Backwards Breathing)
  - Abdominal wall is pulled inward rather than out
  - Occurs when air is rapidly sucked into the body with a gasp
  - Usually accompanied by a rush of adrenaline
  - Prepares one for fight or flight

Practice and notice how this feels in your body!

What types of medical conditions or personalities might have this breathing pattern?

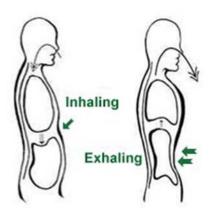
# **Healthy Breathing Patterns**

Abdominal Breathing
 the act of breathing done by expanding one's belly and thereby allowing the diaphragm
 to move down creating more room for the lungs to expand, rather than only through
 chest wall expansion/ movement of the rib cage.



# Kinesiology of Abdominal Breathing

- Diaphragm is active on inspiration and expiration
- Intercostal muscles act mainly to keep the chest stable
- Abdominal muscles are completely relaxed

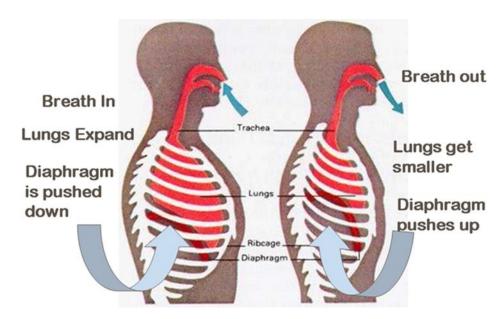


# Practice Abdominal Breathing:

- Lie supine with right hand on the chest and the left hand on the belly
- Breathe so that the right hand on the belly rises on the inspiration, left hand on chest remains motionless
- On the expiration, left hand moves down
- Try to inhale for 4-6 counts and exhale for 4-6 counts

What types of conditions would benefit from practicing abdominal breathing?

- 2. Abdominal to Diaphragmatic Breathing
  - Brings attention to the core of the body
  - Creates control and awareness of this area
  - Creates clarity, concentration and awareness



# Kinesiology of Diaphragmatic Breathing

- During inhalation, thoracic spine is moved up and back toward extension
- Diaphragm acts to lift and expand the ribcage at the point where it inserts inferiorly on the ribs
- On exhalation, the thoracic spine is lowered down and forward into natural flexion

# Practice Diaphragmatic Breathing

- Sit erect or lie supine
- Place hands on the abdomen
- Feel abdominals engaged slightly as you inhale, providing a slight resistance as the diaphragm lifts and expands the ribcage
- Adding a sandbag can intensify the exercise (sandbag 3-15 lbs).

Note: It is helpful to introduce nose breathing/abdominal breathing techniques prior to introducing diaphragmatic breathing techniques

# Precautions with breathing exercises:

- May accentuate whatever is in the mind, whether it is good or bad, harmony or disharmony.
- May increase "quirkiness" ie laughing inappropriately, speaking rudely, flightiness, nervous ticks
- May exaggerate right to left physical imbalances
- May increase anxiety in persons with asthma if you practice extending the inhalation or retaining the breath after inhaling.
- Breath retention is also contraindicated for persons with high blood pressure

# Pranayama

Pranayama is supported best by helping our clients begin to understand root lift/mula bandha. This is a difficult concept, especially for persons who are in pain or physical discomfort. Here are a couple of techniques which may help them learn to engage their root lift.

# **Pelvic Floor Awareness Practices**

- 1. Gentle Flowing Bridge
  - Practice feeling your pelvic floor engage as you lift your pelvis into gentle bridge pose
  - Feel the release of the pelvic floor as you lower your hips to the floor
  - Repeat this movement 3-4 times, feeling the lift that comes naturally from the pelvic floor

## Cat/Cow Flow

- Practice Cat/Cow with awareness of moving from the pelvic floor
- When you begin to round your back, slightly lift the plevic floor and feel the tuberosities move closer together
- As you arch your back, relax the pelvic floor and feel the tuberosities move apart.
- Repeat this 6-8 times.

## 3. Mountain to Chair Flow

- Move from sitting to standing and from Mountain to Chair Pose
- As you straighten up, the pelvic floor contracts
- As you bend forward the pelvic floor lengthens and expands.

This internal support is not only important to support pranayama, but breathing itself. It also enhances the support of the asanas.

# **Pranayama Practices**

- 1. Complete Breath Practice (3 part Breath)
  - Increases blood oxygen

## **INHALATION**

- Pull air into the sinus cavities
- Feel air enter the back of the mouth and move down into windpipe on the way to the chest
- Fill lungs up in all directions simultaneously, by expansion of the diaphragm
- At the end of the full inhalation, feel the abdomen expanding and descending

# **EXHALATION**

- Reverse of the inhalation
- Begins with mild contraction in lower abdominal muscles to propel air up and out
- During the mid range of exhalation, the lower rib cage narrows and assists with the ascent of the diaphragm
- 2. Alternate Nostril Breathing (Nadi Shodhana)
  - Designed to balance both hemispheres of the brain
  - Calms the nervous system
  - Relaxes muscular tension throughout the body
  - Air flowing through right nostril innervates the sympathetic nervous system
  - Air flowing through the left nostril innervates the parasympathetic nervous system
  - Every 90-120 minutes, nostril dominance changes. "ultradian rhythm" repeats itself in a cycle shorter than 24 hours
  - Surya Bhedana and Chandra Bhedana
    - Surya: heating, breathing in through the right nostril and out the left nostril.
    - o Chandra: cooling, calming. Breathe in through the left and out the right

# Sitali:

- With the use of belly breathing, the inhalation is taken into the mouth, which cools the evaporation and draws moisture inward.
- There is a five second breath retention with the mouth in a normal closed position and exhalation through the nose.
- The inhalation is done in a variety of ways. One is with the outer edges of the tongue pulled in to make a pipe type of passageway with the tongue. If this is not possible for the practitioner, the upper and lower incisors can be placed together with the lips pulled back into a smile. This allows the practitioner to control the amount of air inhaled.
- The practitioner may begin with ten rounds and work up by five rounds a week for a total of 40.

# Agnisar Dhaouti:

- start in a standing position. The feet should be spread slightly wider than hip distance and the knees are bent. Hands are placed just above the knees with straight elbows.
- The head is tilted downward with the eyes open to watch the abdominal motions.
- It begins by inhaling, relaxing the abdomen letting its contour fall forward with gravity, and then exhale pulling the central abdominal region backward.
- Then there is repeated slow abdominal breathing three times, then inhale deeply and while exhaling lower the head until the chin is close to the chest in Jalandhara Bandha.
- While restraining the breath, the navel is pulled back and then relaxed to its normal position. The pull is repeated and the relaxation of the central abdomen as many times as possible without breathing.
- When the breath starts there should be three full breaths allowing the abdomen to move in harmony with the breathing. This would be one round. One should do three rounds, working up to 90 pumps for each round.

Rhythmic Breathing:	
Ujjayi:	
Nadi Sadhana:	

Surya Bhedana:		
Sitali:		

**Kriya Practices:** 

**Cleansing Breath** 

- Great destressor
- Inhale deeply
- Exhale through the mouth with a sighing sound
- Practice only for short periods of time (less than 5 minutes) unless you want to sleep

### SECTION 4 REST AND RELAXATION

Proper Rest and Relaxation is essential to maintaining good health. As you have learned from your reading in <u>Yoga As Medicine</u>, people with chronic illnesses and conditions frequently have difficulty sleeping. Stress has been documented as a main cause of many of our disease and auto immune disorders. It is important that we identify in our clients difficulties with sleep or rest and provide them with techniques which can help them.

#### **Position of Comfort**

Persons in pain may have difficulty finding a relaxed state due to physical discomfort or positioning. Help your client find a position of comfort (POC)

#### Principles of positioning

- Position in a mid-range, loose pack, pain-free position
- Support all areas of suspension, or unsupported areas
- Support from proximal to distal

#### 1. Sidelying

- Lie on the side placing a pillow between the legs, proximal to the hip joint so pelvis is supported in mid-line
- Place a folded towel under the waist if needed
- Alternate the legs from being flexed to the upper leg being flexed and the lower leg more extended
- Be sure neck is supported from the base of the neck, with a down or feather/down pillow.



#### 2. Prone with Extension

- Lie on the stomach
- Place pillows under the stomach and feet or just the stomach to avoid excessive or compressive extension
- Support the head and neck by use of a cradle, folded towel, or the corner of a pillow
- Towels or a pillow under the shoulder



#### 3. Semi Prone

- Assume position by placing a small pillow under the chest and abdominal region
- Place pillow anterior to the pelvic region and one under the upper thigh
- Position so the down arm is posterior to the trunk or flexed to about 45 degrees at the shoulder
- The down leg is extended, upper leg is flexed
- Neck supported in mid-range, non-extended or rotated position



#### **Guided Relaxation**

- 1. 61 Point Relaxation Exercise
  - Need to know how to breathe diaphragmatically
  - Client needs to be familiar with systemic relaxation (relaxing without falling asleep)
  - Practice in Corpse Pose with a little pillow under the head to prevent pressure on the esophagus
  - Cover with a light blanket, be ina quiet environment.
  - Using mental awareness to travel through 61 points throughout the body.
  - Visualize a blue (most relaxing color) dot with a number on it to involve both the left and right brain
  - Each point is a marma point (marma sthanas= delicate intersection)
  - Focus on one point at a time and move through each point in sequence
  - Move from one point to the next every couple of seconds
  - First Step of Yoga Nidra

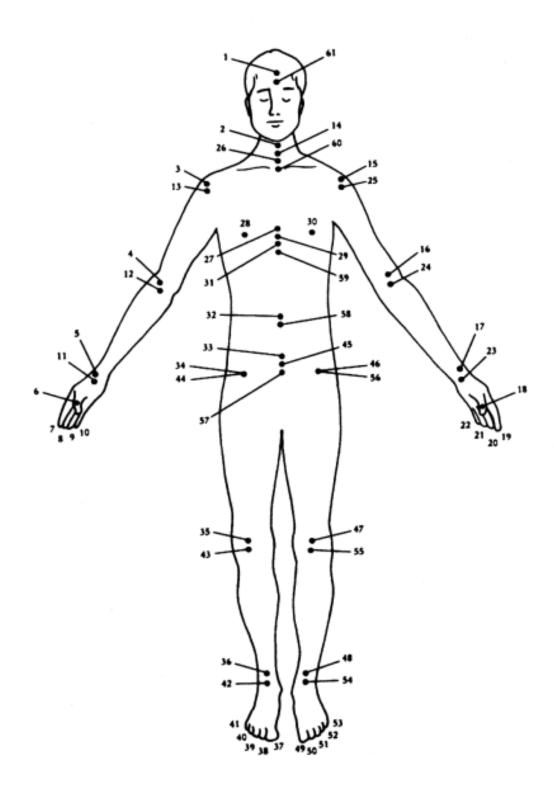
#### Forehead, throat

Right shoulder, right elbow, right wrist, tip of right thumb, tip of right index finger, tip of right middle finger, tip of right little finger, right wrist, right elbow, right shoulder, throat

Left shoulder, left elbow, left wrist, tip of left thumb, tip of left index finger, tip of left middle finger, tip of left ring finger, tip of left little finger, left wrist, left elbow, left shoulder Throat, space between the breasts, right breast, space between the breasts, left breast, space between the breasts, navel, lower abdomen

Right hip, right knee, right ankle, tip of the right big toe, tip of the right second toe, tip of the right middle toe, tip of the right fourth toe, tip of the right little toe, right ankle, right knee, right hip, lower abdomen

Left hip, left knee, left ankle, tip of the left big toe, tip of the left second toe, tip of the left middle toe, tip of the left fourth toe, tip of the left little toe, left ankle, left knee, left hip Lower abdomen, navel, space between the breasts, throat, forehead



#### **Advanced Relaxation** (Blair Lewis: The Happiness Revolution)

- Blood sugars decreased by 25 percent
- Decreased blood pressure
- Decreases insominia (but do not use to fall asleep)
- Expands the flow of prana (energy) and vitality throughout the body

•

#### The Practice:

- Practice in a room that is dark and quiet for 15-20 minutes
- Lay in corpse pose with small pillow
- Cover the body except head and neck. Close the eyes or cover with a soft cloth
- You will be inhaling and exhaling to specific areas within the body
- Use only nasal diaphragmatic breathing
- The breath travels through the center of your body, though your central channel
- Exhalation begins at the crown of the head and flows toward the feet
- Inhalation concludes at the crown of the head

#### Phase One

Exhale from crown of the head down to the toes, inhale from the toes through the ankles, knees, hip joints, spinal solumn back to the crown of the head for 10 full breaths

#### Phase Two:

Exhale from the crown of the head to the ankles and inhale back to the crown of the head for 10 complete breaths

#### Phase Three:

Exhale from the crown of the head to the knees and inhale back up to the crown of the head for five full breaths

#### Phase Four:

Exhale from the crown of the head to the bottom of the torso and inhale from the root center to the crown of the head for five full breaths

#### Phase Five

Exhale from the crown of the head to the naval center (solar plexus) to the corwn of the head for five full breaths.

#### Phase Six:

Exhale from the crown of the head to the heart center and inhale from the heart centr to the crown of the head for five full breaths.

Phase Seven: Exhale from the crown of the head to the throat and inhale from the throat to the crown of the head for five full breaths.

#### Phase Eight:

Exhale from the crown of the head to the bridge between the nostrils and inhale from the bridge between the nostrils to the crown of the head for five full breaths. Breath becomes fine and short.

#### Phase Nine:

Let the mind and consciousness pay attention to the inhalation and exhalation flowing between the nostrils and the space between the two eyebrows. Let the mind and breath flow between these two points for ten to twenty five complete breaths

Then reverse the practice. Start each new breathing pattern with an exhalation. Breath for five complete breaths at each point until you reach the lower areas of the body.

#### **Restorative Yoga**

Purpose of Restorative Yoga:

- To support the body with props providing active relaxation
- To alternately stimulate and relax the body to move toward balance
- To create specific physiological responses which are beneficial to health and reduce the effects of stress
- To create muscular release, not the sensation of a stretch Mechanisms of Restorative Yoga:
- Relieves the effects of stress through supported relaxation
- Moves the spine in all directions
- Provides an inversion which reduces the effects of gravity
- Alternately stimulates and soothes the organs (compression/release)
- Balances the energies of prana (upward energy) and Apana (downward energy)
- Stimulates the parasympathetic nervous system; enhancing homeostasis

USE OF PROPS: Props can be used for support to "prop up" (support the shape of a pose from below or "anchor" (stabilize the shape of a pose preventing effort and movement)

- Blocks: to support a body part
- o Precaution: determine when the block needs to be stable or slide on the floor
- Nonskid mats: can be rolled or folded to take the place of a blanket
- Pillow/folded towel: to use under the heels or support the neck
- Yoga Straps: Recommend 8-10 foot straps with a D ring for ease of use
- o Precaution: when locking straps, make sure there is adequate circulation. Discoloration of the skin (red or white) indicates loss of blood flow.

- Eyebags: small rectangular cloth bag made of silk or soft cotton, filled with uncooked rice, flax seeds or washable plastic beads
- o Precaution: carefully let the front of the eye bag fall toward the nose, not on the nose
- Eye Wrap: elastic bandage four inches wide, carefully wrapped around the head, starting at the base of the skull to provide slight compression
- Blankets: When used for a cover can be any type. When used as support, recommend firm cotton or wool blankets Standard Fold twin

#### **Other Steps to Wellness:**

Step 4: Biomechanical Re-education: Anatomy of Yoga Immersion, Structural Yoga Therapy Immersion

Step 5 : Yoga Asana: Restorative Yoga Immersion, Structural Yoga Immersion, Yin Yoga Immersion, Intelligent Sequencing Immersion , Yoga For Seniors, Iyengar Immersion

Step 6: Journaling: Intuitive

Step 7: Proper Food and Nutrition: Ayurvedic Immersion, Raw Yoga: Detox Yoga and Nutrition Immersion

Step 8: Water Intake: Ayurvedic Immersion, Raw Yoga Immersion

# SECTION 5 Asana Guidelines (Adapted from Intelligent Sequencing Immersion)

First Things First: Effects of Various Postures According to BKS Iyengar

lyengar also describes the science of yoga as similar to the art of music

- Rhythm within the body maintained by attention to each step of each asana and progression between asanas
- Must be a physical, physiological, psychological and spiritual rhythm
- The body is a sensitive and receptive instrument; its vibrations are affected by the asana

#### **Standing Poses**

- Promote emotional stability and strength
- Develop overall strength and flexibility
- Mildly stimulate the cardiovascular and respiratory system
- Accustom the nervous system to a range of body positions that are otherwise ignoored
- Increase suppleness and strength of the spine
- Improves bilateral coordination and left/right brain integration

Which conditions may benefit most from standing poses?

Fatigue Syndromes: to build stamina

Neurological Syndromes: to build left/right brain integration, motor planning, balance and

coordination

Mental Afflictions: to use challenging postures to work with emotional regulation

Others:

#### **Seated Poses**

- Brings flexibility to the hips, knees and ankles
- Removes tension in the diaphragm and throat improving breathing

Which conditions may benefit most from seated poses?

Neurological Syndromes: to build flexibility

Chronic Pain: to gently improve range of motion and flexibility with the support of the floor Fatigue Syndromes/Anxiety: to use the floor for support and to help build confidence and flexibility for progressing toward the standing poses.

Others:

#### **Forward Bends:**

- Calming and cooling
- Stimulates parasympatheric nervous system decreasing blood pressure and heart rate
- If the student is flexible, can fold deep enough to stimulate the sympathetic nervous system through compression of the internal organs, enhancing digestion and assimilation of food stuffs, helping constipation
- Decreased stress on the heart since body is in a horizontal position

Which conditions may benefit most from forward bends?

Chronic Pain: to calm the SNS Anxiety: to calm the SNS

Fatigue Syndromes: to create relaxation and rest Cardiovascular Disease: decreased stress on the heart

Other:

#### **Twists**

- Improves suppleness of the spine, exercising muscles assymmetrically
- Pelvic and abdominal organs are squeezed and then released, flushing them with blood and improving circulation
- Improves nutrition to the intervertebral discs
- Detoxifiying effect

Which conditions may especially benefit from Twists?

Fatigue Syndromes: to stimulate movement of the spine and compression/release of the internal organs for increasing blood flow

Neurological Syndromes: to address R/L asymmetries, to increase bilateral integration Other:

#### **Backbends**

- Anti-depressive/elevates mood
- Stimulates the sympathetic nervous system in a slowly progressive way
- Heart works harder as it is pressed against sternum, increasing heart rate
- Fully stretches liver, spleen and other internal organs

Which conditions would benefit most from Backbends?

Fatigue Syndromes: to increase energy

Depression: To improve posture, increase energy levels

Neurological Syndromes: Typically persons with neurological syndromes are more sedentary

and develop compensatory slumped posture

Cardiovascular Disease: especially those who have had open heart surgery and post surgical scarring

#### **Inversions:**

- Increases efficiency of cardiovascular, respiratory, lymphatic and endocrine systems
- Increase energy and engender equanimity
- Generally, Sirsasana/Headstand is heating and Sarvangasana/Shoulderstand is cooling, however it depends on the level of the practitioner.

Which conditions would benefit most from Inversions?

Fatigue Syndromes: to increase energy

Chronic Pain: to help with efficiency of neuro emotional web

Depression: to increase overall energy

Cardiovascular: If blood pressure is controlled by medications

#### **Heating Poses:**

- Standing Poses
- Unsupported inversions
- Arm Balances
- Backbends
- Active Twists

#### **Cooling Poses:**

- Forward Bends
- Lying Down Big Toe /Supta Padangusthasana
- Gentle Twists
- Lying Down Butterfly/Supta Buddha Konasana
- Supported Inversions
- Supported Backbends
- \*Poses with Chin Lock/Jalandahara Bhanda such as Shoulderstand/Sarvangasana, Plow Pose/Halasana, Bridge/Setu Bhanda, Lying Down Staff/Viparita Karani
- \* Not recommended to do any heating poses after poses with Jalandahara Bhanda as this is very cooling

### Section 6 Chronic Pain Conditions

Fibromyalgia Arthritis Chronic Muscuoloskeletal Pain

Headaches Chronic Neuropathic Pain Cancer

Chronic Pain: "severe persisting pain or moderate pain of long duration that disrupts sleep and normal living, ceases to serve a protective function, and instead degrades health and functional capability.." Because persisting pain causes true suffering, clinical intervention directed at pain needs to address the entire person -- protecting functional capability, psychological well being and overall health.

#### FACTS:

- 116 million Americans suffer from Chronic Pain
- abuse of pain medications is rampant
- neuroscientists know that how pain is perceived is highly individual
- it reflects heredity, past life experience, expectations for the future
- emotional states can affect response to pain; for example those with anxiety tend to develop more pain after surgery or lingering nerve pain after shingles Sean Mackey Chief of Division of Pain Management at Stanford.
- research has shown that chronic pain (greater than 12 weeks duration) reflects a malfunction in the brain's processing systems
- pain signals take detours into area of emotion, perception and attention to danger, even possibly causing gray matter to atrophy
- turns into the cycle of pain: pain-depression-more pain-more depression etc...

#### Evolution of Pain Theory:

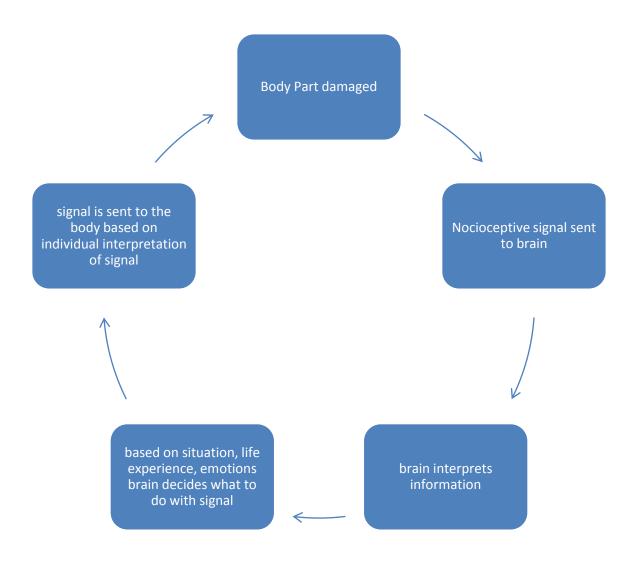
**Old School**: Pain is a consequence of reading pain signals from the body. One to One correlation. Example: Slipped disc= Pain Renee Descartes

**New Theories:** The **neuromatrix theory** explains the disconnect between physical harm and pain by viewing pain as an output of the brain, not a preformed input from the body.

Neuromatrix theory explains things such as:

- -placebo effect
- -pain with no obvious tissue damage
- -tissue damage with no pain

-the fact that pain can be affected by non-nocioceptive signals: emotions, past experiences, emotions, social interactions



#### 7 THINGS YOU SHOULD KNOW ABOUT PAIN!

- 1. Pain is a survival mechanism whose purpose is to protect the body.
- 2. Pain is an output of the brain, not an input of the body
- 3. Physical Harm does not equal pain and visa versa.
- 4. The brain often thinks the body is in danger even when it isn't

Example: phantom limb pain. Experiment with missing hand and mirror box caused phantom pain to go away when the brain thought the hand was intact. Proving the brain is the origin of the pain, not the body part.

- 5. Pain breeds pain...Samskaras are created.
- 6. Pain can be triggered by factors unrelated to physical harm. Ex: Pavlov's dog. le correlation of an environment or situation with pain can cause pain.
- 7. The CNS can change its sensitivity to pain . In people with chronic pain, the CNS has increased its sensitivity to pain to be turned up too loud or left on too long. **Concept of Corticol Inhibition**: Excited neurons tend to excite other neurons. If there is inadequate coriticol inhibition, pain can spread more rapidly and become chronic. Factors which can cause lack of corticol inhibition are stress, depression, anxiety, anger, life experiences etc...

#### Ways to address Chronic Pain:

- 1. **Sensory Gating**: blocking pain signals by overriding them with other signals which are not painful For Example: Doing painfree movements in areas near the area of pain.
  - Slow flowing movements in a painfree range
  - Restorative yoga postures to release and stretch without undue tension
- 2. **Refine the Body Map:** Improving body awareness and accurate interpretation of movements will enhance and refine the body map out of painful syndromes.

Telling Left from Right: Studies have shown that when shown pictures of a left and right hand, people in chronic pain have difficulty identifying which is left/right and are slower to put their hand up to identify. This indicates a possible body mapping issue in people with chronic pain

- 3. **Develop movement skills:** If body responds to a movement with pain, develop movement skills in a subtly different way that does not threaten CNS. This reduces the CNS's response to any movement as threatening. Research has shown the movement must be novel, yet carry over to functional activities.
- 4. **Cognitive therapy:** reduce the sense of helplessness, establish a sense of control over the pain, learn behaviors that reduce the impact on the quality of life .
- 5. **Becoming acquainted with the pain versus running away from it or distracting from the pain.** Studies have shown that when persons were exposed to heat on their hand, the subjects who had the most pain tolerance had the MOST sensory information from that area of their body.

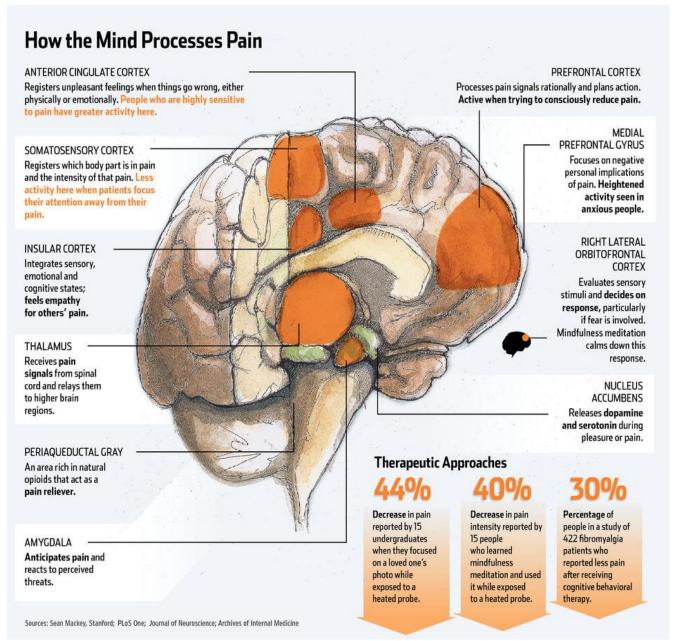
#### **Neurotags**

the pattern of neuron activation which creates a certain output of the brain, such as a perception, thought, movement or immune system response. Neurotags have "member cells" or connections to neurons in other areas of the brain.

Example: It is very likely that your neurotag for back pain has some member cells that are also involved in the neurotag for thinking about the concept of a slipped disc. So when someone mentions a slipped disc, and you activate your neurotag for "slipped disc" to think about it, you also activate some of the member cells for your back pain neurotag. Therefore thinking about a slipped disc will lower the threshold for activation of your back pain neurotag. Get it? Reread if necessary!

#### **Problems with Neurotags:**

- 1. Imprecision: Many neurological problems and chronic pain are caused by "imprecision", that is neurotags being fired along with member cells Similar problems with imprecision can affect neurotags for any kind of brain output, including perceptions, thoughts, immune responses and movements. Thus, imprecision is behind a variety of neurological disorders such as bipolar disorder, schizophrenia, Parkinson's disease, dystonia, migraine, and chronic pain.
  - 2. Sensitization: Neurotags become too easily activated, even by lower stimuli! So a little pain or discomfort is immediately turned into a lot of pain or discomfort.



- -Patients with depression, chronic pain and post traumatic stress disorder show atrophy in the hippocampus and amygdala. Reversing pain can reverse these changes-
- patients in pain show atrophy in the thalamus; Studies have shown that yoga masters in meditation show a response in the thalmas which is different than when not in meditation. (Kakigi et. Al 2005)

From Matthew Taylor, PT, PhD

Pain involves 3 different dimensions

- -Sensory: intensity, location and quality of pain Somatosensory Cortex Annamayakosha/physical
- -Affective: emotions associated with the pain experience Amygdala Manaomayakosha/emotional
- -Cognitive: thoughts related to the pain experience Prefrontal cortex Vijnamayakosha/thoughts and wisdom

#### Yoga Tools for Chronic Pain Syndromes:

#### 1. Sensory Gating and Developing Movement Skills

Mindful Asanas in pain free ranges

- a. Get moving body parts in slow gentle ways in painfree range of motion
- b. Choose asanas that have functional implications: for example flowing Chair pose to help someone with arthritis in the knees (in painfree range), option to do flowing bridges instead. Shoulder abduction in supine or standing for someone who has pain with shoulder flexion
  - Supported Savasana for Checking in
  - Restoratives: Supported poses for awareness and release of fascia and restrictions
  - attention to form and biomechanical alignment
  - prescribe asana to balance the body based on musculo skeletal evaluation
  - twists to stimulate sympathetic chain

A.1 .1		
Other Ideas:		
Other lucas.		

#### 2. Refine the Body Map

- a. Asanas with awareness of alignment and breath with attention to sensations, focusing on the "mudita" the good in the pose versus the pain in the pose.
- b. Body Scan visualizations prior or at the end of practice.
- c. Pranayama practices using the Vayus
- d. Other ideas\_\_\_\_\_

#### 3. Cognitive Therapy and Addressing the Pain

a. Meditation with Healing intentions practice positive affirmations (Bhavana)

Sutra 2.33 When disturbed by negative thoughts, opposite ones should be thought of. (The Yoga Sutras of Patanjali translated by Swami Satchdinanda

- b. **Pranayama for clarity and single pointed focus** -Left Nostril (Ida) breathing to awaken the right brain. Improves spatial awareness. Good for people who have lost some motor control
  - i. -Nadi Shodhana (alternate nostril breathing): modulates sympathetic and parasympathetic responses by stimulating the vagal nerve, decreases blood pressure and heart rate, increases mental acuity and attention, affects endocrine output and instills a sense of calm (Brown, Sabbalakshmi et al 2005)
  - ii. -Prolonged Exhale activates parasympathetic state Sutra 1.64 Calm is retained by controlled exhalation or retention of breath.
- c. Yoga Nidra

#### 4. Asana Prescription for Chronic Pain Syndromes

- Less is more
- Chronic pain taxes the nervous system
- No music
- Pain free movement
- Long deep breaths
- Long deep stretches

#### **Activity:**

Break up into small groups and pick one of the conditions below. Using your <u>Yoga As Medicine</u> resource, design a yoga practice for your student. Please present to the rest of the group as a "mini play" with one person taking on the persona of the person with the chronic illness or problem.

Be sure to speak about the precautions for your area as well as addressing Steps 1-3 and 5 of the 8 Step Wellness Plan (Mind Set, Breath/Pranayama, Rest and Relaxation, Asana)

Arthritis

Fibromyalgia

Back Pain

## SECTION 7 MENTAL AFFLICTIONS DEPRESSION AND ANXIETY

#### **Depression:**

Presence of at least 5 of the following symptoms, most of the day, nearly every day, for at least 2 weeks:

- Sad mood
- Loss of interest
- Insomnia or excessive sleep
- Increased or decreased appetite
- Low energy
- Worthlessness or guilt
- Decreased concentration or ability to make decisions
- Psychomotor agitation or retardation
- Suicidality
- Ranges from mild to severe

**Drill: Demo** Sun Salutes as a depressed person would perform. Slowly with poor engagement, yawning. Participants try it.

#### **Anxiety:**

excessive rumination, worrying, uneasiness, apprehension and fear about future uncertainties either based on real or imagined events, which may affect both physical and psychological health.

Symptoms of anxiety disorder:

- Obsessive thinking
- Insomnia
- Migraines
- Intestinal problems
- Dizziness
- Nausea
- Shortness of breath
- Heart palpitations

**Drill:** Sun Salutes as an anxious person would perform. Fast, ahead of the breath, fidgety, Noticehow you feel. Afterwards, practice 1:2 breathing to calm nervous system.

#### **Mixed Anxiety/Depression**

"The mind, for example, can be highly anxious (with rapid and worried thoughts) while at the same time, the body can be slowed-down and lethargic. On the other hand, the body can be physically agitated and much too energized, while the mind functions slowly and with difficulty. "

#### 4 Types:

Anxious Body/Anxious Mind Depressed Body/Depressed Mind Anxious Body/Depressed Mind Depressed Body/Anxious Mind

Forbes, Bo (2011-03-08). Yoga for Emotional Balance: Simple Practices to Help Relieve Anxiety and Depression (p. 21). Shambhala Publications. Kindle Edition.

Both anxiety and depression relate to an overall "mood"

#### Mood:

A relatively long lasting emotional or affective state, distorting cognitive processing, action tendencies, and time perceptions

Mood is an internal, subjective state, but it often can be inferred from posture and other behaviors.

#### **Yogic Concepts of Emotions**

Any event arising in the mind/brain whether incoming sensory perceptual, thoughts or other affects creates a simple primary positive or negative valence

+ or -

attraction or aversion

From that come a propagative process is created generating:

- Thoughts
- emotions
- Ideas
- Beliefs
- images
- Thoughts about thoughts, feelings about feelings, ideas about ideas and so on...

Emotions are multifaceted whole body/mind experiences that involve loosely connected change in multiple domains

Subjective experience

Central and peripheral physiology

Behavior

Gross, J.J., Hand book of Emotional Regulation, 2007

An individuals abilities to process emotion..directly shapes the ability of the mind to integrate experience and to adapt to circumstance

D. Siegle, The Developing Mind. Guilford 1999

Yoga Addresses emotional regulation through the following:

- The wisdom that knows what feelings and emotions are present without being lost in them
- Recognition (Mindfulness, sutra 1.20)
- Acceptance (Tapas, 2.1, Upeksha, sutra 1.33)
- Inquiry (Svadhyaya, sutra 2.1)
- Non-identification (Viveka, sutra 2.15, 2.26, 2.28)

Our suffering is an unexamined inertial force driven by the endless cycle of samskara giving birth to vritti, leading to karmic action, that creates new samskara (Sutras 2.4, 2.5, 2.12) That Suffering is **optional** (Sutras 2.15-17, 2.26)

Part of the process is the creation of secondary emotions, the ones we are more familiar with:

Fear

**Happiness** 

Sadness

Anger

etc.

What Yoga Tools might we use to tap into Emotional Regulation?

#### Recommended Pranayama and Asana for Depression:

**Rajasic:** "agitated depression"

Symptoms: anxiety, restlessness, impulsiveness, tightness in the chest/intercostals

Typical Breath: quick, erratic, hard to exhale

**Pranayama**: Focus more on the exhalation, equal ratio breathing (1:1) Balanced, yet alert breath

**Asana**: Standing postures: to build confidence, improve grounding Forward Folds: To calm nervous system, especially SNS

Tamasic: "atypical depression"

Symptoms: Inertia, dullness, hopelessness, poor posture with slumped shoulders, collapsed chest, tension in the abdomen Typical Breath: shallow, hard to inhale

Pranayama: Focus more on the inhalation. Complete Breath,

#### Asanas:

Backbends (to increase energy, improve posture) Inversions (to increase energy, reverse prana flow)

#### **Recommended Pranayama and Asanas for Anxiety:**

**Pranayama:** Abdominal Breathing slow the breath, calm the nervous system

Regulated Breathing (1:2) to calm the mind

Nadi Shadhana (alternate nostril breathing) to increase nose breathing Chandra Bhedana (breathing in through the left nostril and out the right)

#### **Asanas for Anxiety:**

Standing Poses (to build confidence and overcome fears) Forward Bends (to calm nervous system)

#### **Recommended for Mixed Anxiety/Depression:**

- Physically energizing restorative postures
- Mentally calming pranayama/breathing practices

And visa versa

#### **Activity:**

Break up into small groups and pick one of the conditions below. Using your Yoga As Medicine resource, design a yoga practice for your student. Please present to the rest of the group as a "mini play" with one person taking on the persona of the person with the chronic illness or problem.

Be sure to speak about the precautions for your area as well as addressing Steps 1-3 and 5 of the 8 Step Wellness Plan (Mind Set, Breath/Pranayama, Rest and Relaxation, Asana)

Anxiety: Anxious Mind/Anxious Body

Depression: Depressed Mind/Depressed Body

Mixed: Anxious Mind/Depressed Body

Mixed: Depressed Mind/Anxious Body

### SECTION 8 FATIGUE SYNDROMES

Chronic Fatigue Cancer Depression

Insomnia Multiple Sclerosis

#### **Definition of Fatigue:**

a persistent feeling of tiredness or exhaustion that goes beyond normal sleepiness, can be caused by a medical condition. Prolonged fatigue (greater than 6 months) is usually diagnosed as Chronic Fatigue Syndrome.

Physically, fatigue is characterized by a profound lack of energy, feelings of muscle weakness, and slowed movements or central nervous system reactions. Fatigue can also trigger serious mental exhaustion. Persistent fatigue can cause a lack of mental clarity (or feeling of mental "fuzziness"), difficulty concentrating, and in some cases, memory loss. (medical dictionary-the freedictionary.com)

Chronic Fatigue, Cancer and Multiple Sclerosis all have basis in the immune system malfunctioning or actually attacking the body. Insomnia is most commonly due to "sleep maintenance" insomnia, ie waking up in the middle of the night and being unable to fall asleep again. This is due to an overactive nervous system, sympathetic and manamayakosha.

#### **CONSIDERATIONS:**

#### **Neuro- Emotional Web Dysfunction**

- 1. Overactive Sympathetic Nervous System:
  - a. Yoga Tools to address:
- 2. Decreased circulation of lymph system
  - a. Yoga Tools to address
- 3. Awareness:
  - a. Tuning into stressors in their life to try and find the cause
    - i. Yoga Tools to address

b. Learning how to find levels of physical activity which will not cause greater fatigue. Example: Glass of water analogy In the am you have a full glass of water. You want to drink the entire glass of water as it is good for you, but you don't want to run out of water before the end of the day.

Questions to ask: 1. How did you feel after our yoga session? Did you have enough energy for the rest of your day or were you too tired to do your regular daily acitivies?

2. How did you feel the next day after your yoga session? Were you sore and how long did the soreness last? (more than 2 days is an indication that you overdid it physically)

#### **Muscular Tension**

Muscular tension from deconditioning and development of poor postural patterns can cause discomfort and inability to relax the body or rest.

a. Yoga Tools to Address:

### .

#### Sleep rituals:

Many people who have fatigue have insomnia as well. Helping them to develop nighttime rituals which will assist with encouraging sleep is important. Considerations

- a. Use the bed as only a place to sleep, not to read or watch tv. When you go to bed and have trouble falling asleep after 15 minutes, get out of bed . Same thing if you wake up in the night.
- b. Slow deep breathing raises levels of CO2 which is a natural sedative. Perform slow abdominal breathing as you get into bed.
- c. Make the room dark, be sure that the light is not affecting your natural circadian rhythm.
- d. Many times the stressors in life can also affect the ability to fall asleep.

Yoga Tools to address sleep issues:

#### **Social Support:**

Consider the isolation which occurs in these syndromes. Persons with fatigue syndromes do not have the energy to be active with their family and friends. They frequently get addicted to passive activities (eating, internet, TV) and suffer from depression.

Ways we can assist with socialization:

**Small Group Yoga Sessions** 

**Activity:** Break up into small groups and pick one of the conditions below. Using your Yoga As Medicine resource, design a yoga practice for your student. Please present to the rest of the group as a "mini play" with one person taking on the persona of the person with the chronic illness or problem.

Be sure to speak about the precautions for your area as well as addressing Steps 1-3 and 5 of the 8 Step Wellness Plan (Mind Set, Breath/Pranayama, Rest and Relaxation, Asana

Chronic Fatigue Syndrome

Cancer

**Multiple Sclerosis** 

## SECTION 9 Irritable Bowel Syndrome

Definition: Formerly known as spastic colon

-symptoms 12 weeks of previous year:

- diarrhea constipation or both, bloating, gas, cramping, mucus in the stool.
- Uncoordinated intestinal contractions.
- Pain may be relieved by bowel movement.
- Can be severe, intermittent or constant.
- Related to stress
- no blood, no fever or weight loss. Any of these signs mean it may be more serious and need to see a doctor.

#### Interesting Facts:

- more common in women2 ½ times more than men
- may be due to emotional issues women suppress, especially in reference to keeping a "flat tummy" and "holding it in".
- ayurvedics state that after menopause, the built in cleansing system is gone and suggest a gentle monthly cleanse with light fasting and cleansing herbs.
- physiologically: perimenopausal women GI tract slows down due to less estrogen (a natural GI stimulant)
- liver is busy recycling unused hormones and can't help as much with digestion

#### Yoga helps because:

- GI tract hs a "gut brain" or primitive nervous system with neurotransmitters such as dopamine, serotonin, noreprinephrine and a blood brain barrier.
- gut brain communicates with central brain via vagus nerve
- may have g-I problems when central brain is ignoring or overstimlating gut
- if brain is stressed fearful etc, it may not send right signtals to gut brain that food is on the way
- sluggish thyroid means sluggish digestive system
- weaken liver due to overload of toxins may not broduce enough bile for food breakdown.

<sup>\*</sup>pg 274 Sparrow and Walden\_ The Women's Book of Yoga and Health

#### Ayurvedic take:

- poor processing of emotions, information may create what Ayurveda calls ama, sticky
  matter that accumulates in the body when something is amiss. Root of all disease-the
  undigested experience or foodstuff left in the body.
- if ama accumulates in the digestive tract, it impedes the muscle contractions that help break down food
- clogs the vagus nerve and prevents good communication with the gut brain
- creates excess bad cholesterol and gallstones
- what you eat is not as important as how you eat or digest it
- weak digestive agni prevents food from breaking down, causing it to remain in the system and become ama.

Pg 275 Sparrow and Waldon

#### **Ayurvedic Diet Recommendations**

- Pitta is the dosha normally associated with digestive disorders. May be an imbalance of Pitta
- Vata may also be imbalanced since the syndrome is related to movement in the intestines (too much or too little)
- a satvic diet is recommended: fresh fruit, vegetables, whole grains
- If Pitta is high, increase in fiber in form of flax seed, elimination of spicy feiry foods
- Avoid gluten or dairy as these foods can be irritating, yogurt to help replenish bacterial flora

#### Yoga Therapy:

#### Mind Set: Meditation

- 1. Mindfulness Meditation: Meditation to separate symptoms from thoughts and worries about them
- 2. Self Study to help figure out stressors and triggers; look at how you eat (not swallowing air, chewing food thoroughly

#### Pranayama/Breathing:

- abdominal breathing with deep inhalations and exhalations, especially for those who swallow air while talking or breathe shallowly when stressed.
- Use cleansing breaths

Two types of pranayama would be beneficial to cool the Pitta fire:

- 1. Sitali breathing is a cooling breath.
- 2. Agnisar dhouti specifically increases pachaka pitta and agni which will improve digestion. It also massages the intestines and makes them strongerMain goal: Lower stress levels and return to parasympathetic mode.

#### Yoga Asanas:

For constipation: stimulating forward bends such as Uttanasana, Revolved triangle: hold belly in after releasing exhalation. \*Gary Kraftscow

#### **Restorative Poses:**

- Reclining Butterfly: allows abdominals to relax completely and sooths intestinal area.
   Cools digestive fire and calms belly by lifting diaphragm off the stomach and liver.
   Increases blood flow to intestines.
- Chair Supported Shoulderstand to relieve gravity's effects. Helps with colitis, chronic constipation or hemorrhoids

Iyengar: Path to Holistic Health IBS Series:

- Headstand
- Viparita Dandasana: Inverted staff pose
- Salamba Sarvangasana: Chair supported Shoulderstand
- Halasana: Chair supported plow
- Setubandha Sarvangasana: Lifted Inverted Bridge
- Viparita Karani: Lifted Legs up the Wall
- Supta Virasana: Hero
- Supta Baddkanasana: Reclining Butterfly

Walden Women's Book of Yoga and Health IBS Sequence:

- Supported Corpse 10 minutes: to relieve stress, diarrhea and abdominal cramps
- Reclining Bound Angle: to relieve indigestion, flatulence and diarrhea
- Reclining Hero: eases stomach acidity, abdominal cramping and flatulence
- Reclining Easy Seated pose: eases abdominal cramping, indigestion and flatulence
- Inverted Staff Pose: relieves diarrhea, abdominal cramping, flatulence and indigestion.
- Bound Angle: Increases circulation to abdomen, improving digestion

- Wide Angle Seated Pose: Increases circulation to abdomen and pelvis, improving digestion
- Downward Facing Dog: calms nervous system and relieves constipation and indigestion
- Headstand: stabilizes digestive tract and eases spastic colon, especially when practiced with Shoulderstand
- Chair Supported Shoulderstand: great for IBS, colitis, chronic constipation
- Half Plow Supported with Chair: soothes mind, relives stomach disorders and digestive complaints
- Inverted Bridge: (3-5 minutes) improves digestion, tones abdominals and relieves diarrhea.
- Legs up the Wall with backbend: Soothes sympathetic ns and relieves anxiety-related digestive disorders.

#### Yoga Poses for Specific IBS Symptoms

Symptom	Yoga Pose
Constipation	Bow, Corpse Pose, Fish Pose, On your Back With Knees to Chest, Seated Forward Bend, Uddiyana, Forward Bend, Plow
Diarrhea	Breath of Fire, <u>Spinal</u> <u>Twists</u> , <u>Triangle</u> , <u>Seated Forward Bend</u>
Gas	On Your Back With Knees to Chest, Wind Relieving Posture, Gentle Inversion Poses
Bloating	Gentle Inversion Poses, Wind Relieving Posture, Seated Wide Angle Pose
Bowel Dysmotility	Locust or Half Locust Pose
Indigestion	Corpse Pose, Mountain, Locust, Seated Forward Bend, Cobra or Upward Facing Dog, Forward and Backward Bends
Overall GI Function	Spinal twists, Peacock, Triangle, Bow, Cobra or Upward Facing Dog, Forward Bend, Plow, Camel
Backache	Corpse Pose, Locust, On Your Back with Knees to Chest.

http://www.helpforibs.com/yoga/poses.asp#poses

### SECTION 10 Neurological Disorders

Cerebrovascular Accident (Stroke)

Parkinson's Disease

Traumatic Brain Injury

Multiple Sclerosis

Definition of Neurological Disorder: any disorder of the body's nervous system. Structural, biochemical or electrical abnormalities in the brain, spinal cord or other nerves can result in a range of symptoms. Examples of symptoms include paralysis, muscle weakness, poor coordination, loss of sensation, seizures, confusion, pain and altered levels of consciousness. Wikipedia

**Cerebrovascular Accident**: If blood flow is stopped for longer than a few seconds, the brain cannot get blood and oxygen. Brain cells can die, causing permanent damage. It is very common to have a stroke on one side of the brain, which will affect the opposite side of the body.

Characteristics of a person with a CVA in the Right Brain:

- Left side weakness or paralysis
- Left side spasticity or flaccidity
- Difficulty in judging distance, size, rate of movement, form, relating parts to a whole
- Impulsivity
- Poor awareness of their abilities
- Left side neglect
- Short term memory problems

Characteristics of a person with a CVA in the Left Brain:

- Right side weakness or paralysis
- Aphasia (can be a wide range of language, reading or writing problems)
- Slow and cautious behavior, may need more specific instructions
- Problems in conceptualizing or generalizing
- Memory problems

Characteristics of a person with a CVA in the Cerebellum

- Incoordination
- Balance issues
- Dizziness

Recommended Reading: My Stroke of Insight by Jill Bolte Taylor

**Parkinson's Disease:** results when nerve cells in the substantia nigra area of the brain are damaged. These cells produce Dopamine, which is a neurotransmitter necessary for coordinating smooth and balanced muscle movement

Characteristics of a person with Parkinson's Disease

- Tremor or shaking of the limbs
- Rigidity or stiffness especially in the trunk
- Loss of balance
- Absence of facial expression
- · Shuffling of feet when walking
- Softer speech
- Forward stooping posture

**Multiple Sclerosis:** autoimmune disease which attacks the fatty tissue (myelin) which acts as insulation for nerve cells in the brain and spinal cord. This results in a slowing of nerve impulses. May possibly be due to a virus, genetic component, more common in Northern Europe and cold climates.

Variable course of the disease:

Relapsing/Remitting: attacks come which may result in loss of nerve function. The person may lose functional abilities, regain them somewhat or completely or lose them completely.

Steady Progression: slow or rapid progression of loss of function

Characteristics of a person with Multiple Sclerosis:

- Clumsiness or loss of feeling in the arms or legs
- Difficulty with balance
- Reduction in bowel or bladder control
- Visual impairment
- Double vision
- Spasticity or rigidity
- Overwhelming fatigue
- Emotional problems
- Difficulty with thinking and memory
- Symptoms may worsen with heat and/or humidity

#### **Traumatic Brain Injury:**

nondegenerative, noncongenital insult to the brain from an external mechanical force, possibly leading to permanent or temporary impairment of cognitive, physical, and psychosocial functions, with an associated diminished or altered state of consciousness. Medscape.com

Persons with a TBI may suffer from any of the characteristics above (except progression of the disorder) depending on the area of the brain affected.

#### All of the above disorders may have muscles which are suffering from spasticity.

Person's with spasticity may have the following common issues:

- 1. Muscle stiffness and decreased flexibility in spastic muscles
- 2. Muscle weakness in muscles opposing spastic muscles
- 3. Resultant muscle imbalances
- 4. Abnormal motor control- spasticity, ataxia, other
- 5. Abnormal posturing/reflexes
- 6. Decreased rotation
- 7. Decreased movement and vestibular input
- 8. Poor breath control

#### Persons with any of the above disorders may suffer from the following behavioral changes:

- Depression
- Emotional lability / emotional fluctuation
- Uncontrolled laughing and crying
- Lack of insight
- Disinhibited behaviour
- Lack of initiative

#### Yoga Practice for Persons with Neurological Disorders:

Based on everything you have learned thus far, design a program for a person with one of the above neurological disorders, Steps 1-3 and 5 of the 8 Step Wellness Plan. (Mind Set, Breathing/Pranayama, Rest and Relaxation, Asana)

#### Mind Set:

Breathing/Pranayama:

**Rest and Relaxation:** 

Pranayama:

Asana:

For more training/information on working with people with physical disabilities, Mindbodysolutions.org

Recommended Reading: Waking by Matthew Sanford

# SECTION 11 GROUP THERAYOGA PROGRAM DESCRIPTION Based on work by Matthew Taylor, PT, PhD of Dynamic Systems Rehab

**Purpose**: To provide an affordable, comprehensive, healing environment in a group setting for individuals with chronic musculoskeletal disorders, post-rehab or de-conditioned. The method will include education, group sharing, breathing, mediation and therapeutic yoga postures.

**Objectives**: Participants will:

- 1. Increase body awareness
- 2. Learn to utilize their breath for stress and pain control
- 3. Increase strength of postural muscles for greater balance and stability
- 4. Increase flexibility and build muscle balance
- 5. Report increased function and mobility in activities of daily living and work
- 6. Learn how to self modulate movement patterns in order to progress to a community or home yoga program
- 7. Through education and group sharing, gain an increased understanding, acceptance and empower- ment to facilitate healing at the emotional psychological and spiritual levels
- 8. Provide measurable change through pre and post survey assessments

Client supplies: Wear comfortable clothing; bring a pen and a journal to write in

#### **Class Template:**

- 1. Intake or check in (5 min)
- Check precaution information and diagnostic information
- Answer questions
- Inquire how things are going and learn of any integrations from previous lessons KEY: Develop rapport with clients
- 2. Sharing/Education (5 min)
- Share through various mediums (body charts, drawing, journaling)
- Awareness increases on both sides

KEY: Create an environment to allow awareness which removes tensions and obstructions to wholeness and integration

- 3. Breathing (5 min)
- Flowing movement in synchrony with the breath is a powerful tool for healing and optimal sensorimotor integration
- Bring awareness to the breath
- Provide pranayama (yogic breathing techniques) as indicated

KEY: Develop relationship between breathing and movement to attune the body, mind and spirit

- 4. Postures (Asanas) (30-40 minutes)
- Asanas follow written class guidelines
- Bring awareness of emotional blocks and unconscious holding patterns

KEY: Create an opening to see, experience and deepen who they are.

- 5. Guided Imagery/Relaxation (5-10 min)
- Previous activities created openings on the body and mind levels
- Specific to the theme of the session or area
- Can focus on physiology, movement or psycho spiritual imagery

KEY: Create a highly receptive state for healing and connection

- 6. Sharing (Optional 50-10 min)
- Open ended, nonjudgmental, without comment
- Be present and listen well

KEY: Create a space for spontaneous expression of insights or experiences

- 7. Affirmation (5 min)
- Invite them to look .inside. for any counsel or wisdom from their inner guide
- Connects them with their own inner essence and strengthens their ability to hear direct guidance based on their spirituality, not the therapist.s or .new. spiritual practice.

KEY: Create a commitment to act on this guidance (compliance)

#### **LESSON PLANS**

Weekly topic: Each week will focus on a topic area.

#### Week 1: What is Health?

Intake or Check in: Briefly explain the format of the class and program

Body awareness scan: Seated body scan bringing attention to each area of the body, briefly

explain- ing the three A.s: Awareness, Acceptance and Adaptation

Sharing /Education: Ask for feedback, cover highlight of body awareness to include

health=whole, yoga increases awareness and that we can.t heal what we don.t feel. Also what

yoga is and what

yoga isn't

Pranayama: Intro and diaphragmatic breathing

Asanas: Gentle joint freeing asanas, floor postures or in chairs Guided Imagery/Relaxation:

Breath Focus, segmental contract-relax Guided Meditation: Walking with the breath

Affirmation: To begin the journey of self-awareness and wholeness

## Week 2: Body Awareness...who's there?

- Intake or Check in Q & A, Review AAA
- Body Awareness Scan: Segmental % healthy
- Sharing/Education: Discuss body awareness; loss of awareness leads to fear; cultural history of body-

mind separation; boundaries = conflicts, and numbingcoping mechanism

- Pranayama: Instruct in 3 part yogic breath (sitting)
- Asanas: Gentle floor postures or in chairs
- Guided Imagery/Relaxation: % relax body part, find health/open area, carry that sensation to each part
- Guided Meditation: Side lying
- Affirmation: Awareness without judgment until the next class

#### Week 3: The Breath: Inspired or Expired

- Intake or Check in: Q & A, Discuss any new awareness since beginning the series
- Body Awareness Scan: Supine, whole body awareness
- Sharing/Education: Introduce prana, but focus with energy/electricity/life force; When breath is blocked, relate it to a MI or CVA, talk about importance of breath to all areas, especially where there is pain or discomfort
- Pranayama: Review: 3 part breath, observe changes with nose vs. mouth breathing and by varying

breathing rate

- Asanas: Begin Modified Asana Program based on participants needs.
- Guided Imagery/Relaxation: Visual image of life-sustain oxygen delivered to various areas of the body
- Guided Meditation: Guided healing imagery
   Affirmation: Breath to areas of tightness and pain

#### Week 4: Who me....stressed?

- Intake or Check in: Q & A, connect the breath to stress with examples
- Body Awareness Scan: Standing awareness scan for areas of tension (aka stress) and body map

drawings in journal

• Sharing/Education: Teach yogic view of stress, introducing concepts of spectrums and finding balance,

also the relaxation response

- Pranayama: Balanced Breath: Teach Nadi Sohana (alternate nostril breath) have tissues
- Asanas: Modified Asana Program
- Guided Imagery/Relaxation: Releasing into relaxation response by surrendering fears, judgments,

agendas, etc..

• Guided Meditation: The balance of inhalation and exhalation

Affirmation: Breath with stress situations

## Week 5: Gravity, it's effect and our response.

- Intake or Check in: Talk about going from warm fuzzy to gravity. .another form of energy
- Body Awareness Scan: Attending to gravity while sitting and standing
- Sharing/Education: Gravity is critical to all we do. A very precise energy..not too much or too little, ac- tion = reaction to sit, stand and walk; treat it like electricity to make life better..not harmful. Contrast it with deprivation tanks.
- Pranayama Prana: breath-emotion-gravity: all energies, Seated attending to the breath at the spine, sit

bones, feet, head, heart, trying to sense gravity

- Asanas: Begin to advance Asana program according to student's needs.
- Guided Imagery/Relaxation: Gravity is energy, surrendering to gravity with complete relaxation, Seg-mental % contract-relax, focus on support of the earth with surrender to gravity. Yoga Nidra
- Guided Meditation: Seated, observing the breath and gravity
- Affirmation: I will look for honor and gravity in my life

#### Week 6: Connection and Awareness

- Intake or Check in: Collect surveys from those who have complete 6 session
- Body Awareness Scan: Summary Scan of all: tension, stress, emotion, breath and gravity
- Sharing/Education: Discuss how the mind and spirit affect our body.s health and how by using breath

and awareness we can control our body.s sensations and reactions

- Pranayama: 3 part breath directed toward healing and energy
- Asanas: Asana Program modified to the student.s needs
- Guided Imagery Relaxation: Yoga Nidra
- Guided Meditation: Intro to Aum or Om as a sound of vibration and the Namaste salutation
- Affirmation: To continue on their own in rehab with full awareness, to continue to practice their yoga

## **Activity:**

Pick one of the diagnostic areas and develop a 6 week curriculum (topics and activities).

Mental Afflictions
Irritable Bowel Syndrome
Fatigue Disorders
Chronic Pain Disorders
Neurological Disorders

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http://www.bettermovement.org/2010/seven-things-you-should-know-about-pain-science/

http://www.bettermovement.org/2010/strategies-to-reduce-chronic-pain-part-one/

Targeting Corticol Representations in the treatment of Chronic Pain A Review G Mormer Mosely PhD, Herta Flor PhD Neural Rehabilitation and Neural Repair XX(X) 1-7

#### **Visual Distortion of Body Size Modulates Pain Perception**

- 1. Flavia Mancini1,2,
- 2. Matthew R. Longo 1, 3,
- 3. Marjolein P.M. Kammers1 and
- 4. Patrick Haggard1

#### Pranayama:

The Yoga of Breath A Step by Step Guide to Pranayama by Richard Rosen

#### Mindfulness Meditation

Scott R. Bishop, Mark Lau, Shauna Shapiro, Linda Carlson, Nicole D. Anderson, James Carmody, Zindel V. Segal, Susan Abbey, Michael Speca, Drew Velting & Gerald Devins (2004). "Mindfulness: A proposed operational definition". Clinical Psychology: Science & Practice 11 (3): 230–241. doi:10.1093/clipsy.bph077. ISSN 0969-5893

<sup>a b</sup> "Mindfulness and Integrative Psychotherapy". Retrieved 25 March 2012.

http://en.wikipedia.org/wiki/Mindfulness\_(psychology)

#### **Rest and Relaxation**

Search Inside Yourself: The Unexpected Path to Achieving Success, Happiness and world peace By Chade-Meng Tan 2012 Harper Collins New York

Yoga Nidra The Meditative Heart of Yoga by Richard Miller PhD 2005 Sounds True Other resources are noted in text

## Yoga Club's Holistic Yoga Teacher Training

## Therapeutic Yoga ~ Case Study Examples

Here are two examples of Case Studies. As you can see, they are a little different. Some clients will need a focus more on the structural assessment and applications. Others will need more focus on lifestyle and meditation. It really depends on your client's presenting status, what they want out of their yoga program and your mutual goals. We need to see that you have come up with a comprehensive treatment plan, addressing their needs and goals.

## Case Study #1

**History**: XXX is a 54 year old male who came to yoga therapy to try and improve his lifestyle, decrease stress, increase flexibility, improve balance and lose weight. He had just returned from a retreat at Canyon Ranch where he had access to multiple therapies including yoga therapy, an exercise program, nutrition etc. which motivated him to come home and continue his path to wellness. He has a history of pain in the neck, low back and knees. When he was 26 years old, he .blew out. a disc, had two surgeries to address this issue. He states his back hurts when it gets tight. He recently had surgery to help repair his right meniscus and completed a physical therapy program. He also stated that he is interested in learning proper breathing techniques. He does mention that he wears orthotics which need replacing. He is very heavy. He is 6.5 inches tall.

Medication: BP medicine

Health Issues: high blood pressure, allergies and major surgeries (back and knee)

Overall Energy Level: 5-6 on a 1-10 scale.

**Stress Level**: high to off the chart **Stress Triggers**: work, co-parent issues

#### Treatment plan incorporating all 8 steps:

#### 8 Limb Wellness Plan:

- 1) **Mind step:** positive thinking patterns and affirmations: I would ask him to focus on only seeing the good things in his day- and to find 5 per day. I would go through examples with him initially so we could see how good comes from bad and then give him a string to wear around his wrist to remind him to only look for positive things in his day.
- 2) **Breathing/Pranayama**: Have him lay in supported open chest pose or supine with knees on a bolster to free the abdomen. Have him practice for 5 minutes belly breathing. Hand s on belly, feel breath expand into belly on inhalation and then relax away from hands on exhale. Then slowly increase breathing on a 1:1 ratio. Breathe in for 3 and breathe out for 3 no holding. Work on lengthening that to maybe 5:5. Then slowly increase ratio to 1:2. So inhale for 3 and exhale for 6 no holding. The longer your exhalation the more relaxed one becomes. Teach him

- to be aware of his breath dung the day, "You are how you breathe." Abdominal breath is most calming.
- 3) **Rest and Relaxation:** Yoga nidra. Have him lie on is side with bolsters or pillows so as not to hurt his back or knees. I would give him the Yoga Nidra Cd by Richard Miller to listen to. He would fill out the worksheet from Richard Miller's book. (as taken from structural assessment manual)

## a) Setting your Affirmation

i) Write down a positive affirmation about yourself, another, or the world around you. Write it as a statement of fact.

## b) Manomaya Kosah

- i) Feelings: Choose two feelings and their opposites, for ex, light/heavy warm/cool
- ii) Emotions: Choose two emotions and their opposites, for example, sad and happy, angry/calm

## c) Vijnamaya Kosha

- i) Imagery: Choose two images that engender ease and relaxation. Then choose their opposites. Ex beautiful mountain/erupting volcano
- **ii)** Symbol: Chose two symbols that hold meaning for you, then choose their opposites, Ex: sun/moon/ friends/enemies
- iii) Essential Qualities: Choose two essential qualities of Being and their opposites, for ex. Truth/untruth, Love/Hate

#### d) Anadamaya Kosha

i) Choose a memory that brings an embodiment of great joy or equanimity.

#### e) Asmitamaya Kosha

- i) Choose an exploration of the ego-I identity Coming home to the self: ex: I have a body, but a not my body. I have emotions, but am not my emotions.
- ii) Who is Aware: ex: Observe who is the observer?
- **iii)** Self Identification: ex: Become the observer, be aware of thoughts or feelings etc... who is aware of these things..
- iv) Just be
- 4) Biomechanical Re-Education: I would give him a therapy ball and have him use them to release knots in scapula area, pecs, (this well free up breathing muscles so he can breathe more deeply). I would also have him to some massage around his right knee to get rid of scar tissue. And have him use ball to release QL and also IT band release. Lastly have the balls under the occipital bones to relieve neck tension.
- 5) Yoga Asana Routine: A this client is new to yoga I would put him mainly thru a joint freeing series (by Mukunda) stiles to prepare his body with variations as he is larger and has knee problems and as such may need to modify Hero pose with a blanket at back of knees. He needs to develop a good core as he is heavy and it is putting strain on his back, his quads and hips need to be strengthened to better support his knees and back needs to be strengthened and stretched from his surgeries. He would also need a blanket to give him more height in easy pose. Note: his tummy may be in the way for him to pull knees to chest to come into child pose.
  - a) I would want also want him have some cardio. So would offer the following as well:
    - i) My Asanas would begin with a somatic breathing exercise which releases the diaphragm, to help him breathe more easily. This exercise also teaches a tubular corethis is a great somatic exercise as it releases neck tension as well. This is done in supine.

- ii) On back: Riding bicycle- for ab strength and hip flexors and passive hamstring stretch.
- iii) Moving Bridge: strengthen glutes, hamstrings, middle and lower traps and stretches hip flexors and pecs
- b) Restorative Viparita Karini/Legs Up the Wall
- 6) **Daily Journal**: Client does daily journal to talk about how he feels before yoga and after or anything that comes up.
- 7) **Food Intake**: keep a general journal of what foods he eats see if yoga practice is affecting nutrition and how much he eats.- nutrition advice is bets given to a nutritionist.
- 8) Water Intake: Keep in the general journal how much water / drinks he drinks. Has it changed?

## Case Study #2

**History**: XXX has practiced yoga for seven years, practicing Bikram. Flow, detox and yin yoga 2-3 times per week. She also is a runner and has run for 30 years, just participating in a marathon. She states that she has knee problems possibly secondary to her tight hips. She also stated that sometimes her feet bother her when running, especially under the big toe mound. She has seen a chiropractor for the last year for tension and pain in her neck, upper back and shoulders. Recently she has had problems with tightness in her left shoulder and an ache in her right low back. She states that she works at a computer a good deal of the time and has noticed that she leans to the left at the desk and uses her right hand on the mouse.

#### **Postural Assessment Findings**

Alignment Dysfunction	Muscle Imbalances	Active Poses	Restorative Poses
Right Side Scoliosis	Perhaps functional due to computer work.  Rotated posture  Spine moves to right and rotates vertebrae  Upper trap and mid scap muscles lengthened and weak pecs and obliques shortened.  Forward hip lateral rotators long and weak  QL short on opposite side normally and lengthened on right side  Psoas, erectors, latissmus dorsi, abdominus obliques	Down dog to stretch backline- at wall Pyramid with table triangle head to knee	<ul> <li>Side bend over bolster to stretch tight side</li> <li>Supported back bend</li> <li>Legs up wall</li> </ul>

## Yoga as Holistic Healing for Medical Conditions

Slight increased Lumbar lordosis	Lumbar paraspinals short because of tightness on that side from right side scoliosis.  Short illiopsoas External obliques long	Cat pose with focus on lower back Spinal twist Spinal balance to strengthen obliques and create length in paraspinals Low boat to strengthen lower psoas	<ul> <li>Active single knee to chest</li> <li>Easy pose arms on chair</li> </ul>
Abducted Scapula on Right		<ul> <li>Forward triangle- lengthen left side tighten right side- focus on retracting scapula on right,</li> <li>Triangle with focus retracting scapula on right and activating serratus on left</li> <li>Eagle arms</li> </ul>	Half child pose with chair Floppy standing pose
Winging Scapula	Scapular humeral muscles short and weak Weak mid trap and rhomboids Tight pec, Anterior deltoid and SA	Cat, down dog Forearm side plank Bridge Cobra Cow face arms in hero-with strap	Supported shoulder stand Supported twist
Forward Shoulders	Upper trap ad mid scap lon/g weak tight pecs and obliques	Cobra Down dog camel	Supported twist Legs up the wall
Anterior Pelvic Tilt	Tight psoas	Lunge Boat pose	Supine legs on chair Supported child- focus on rounding low back
Suppinated Feet	Stiff gastroc Stiff posterior tibialis	Balls sunder feet- to stretch fascia under feet- Hero pose – come onto balls of toes to stretch arch	Kneeling mountain

Movement		Movement Assessment Findings	
Assessment Findings			
Alignment Dysfunction	Muscle Imbalances	Active Poses	Restorative Poses
Shoulder Flexion <180	Tight scapulo humeral	Small Ball rolling to release tight pecs Seated twist	Supported camel  Down dog to stretch
	Tight lats Tight pecs	cobra	lats with hands on chair
Excessive Scapular Abduction	Sa short, weak lower trap and long and weak, rhomboid long- Scapulo-humeral muscles short and stiff-	Balls under scapula to un stiffen Cobra, half locust, pose to shorten trap sit in hero pose-warrior2 arms, retract and depress scapula to align scapula on back and to lengthen. Triangle- emphasize length on left do left side 2 x- focus on rotating right side	Floppy standing forward bend Viparita karani, legs on chair
		Half moon with block or chair- focus to lengthening tight side	
Semi Squat: Knees track Outward	Hip lateral rotators long and weak	Chair pose with block between thighsdon't go to low as knee is tender Bridge pose with block Goddess squat Pyramid pose with hands on wall	Supine twist, legs in eagle Legs up wall
Side Bending Limited to Left	Paraspinals opposite side stiff- Oblique tight	Massage QL with rubber balls to release QL and paraspinals  Down dog to stretch back line- and even sides  Triangle cobra	Banansana- a laying down version of half moon. Works the spine in a lateral flexion (side bend) from the iliotibial (IT) band to the tops of the side rib cage- do this po      Restorative side bend- on bolsterleft side up se to the right

Alignment Dysfunction	Muscle Imbalances	Active Poses	Restorative Poses
Spinal Rotation Limited to Right	Abdominal and back extensors long	Low lunge- with twist- stretches the pull of quads, and hip flexors and stretches QL- do right side 2 x for every one time on the left side  Revolved triangle- modified with use of table. Stretch the left side — left foot forward  Forward triangle with hands on wall-lengthen concave side and avoid stretching right side.	Reclining twist-( away from rotated side) to left side- prop with bolsters under knees – lengthen obliques, QL, and disassociation of pelvic girdle from shoulder girdle.      Supported child pose
TFL Test Positive bilaterally	TFL and glute med tight IT band tight	Ball at greater trochanter and roll up and down to release IT band  Abductor Lifts- stand one foot on blocklet opposite hip shift to floor and lift back up.  It band stretch at wall  Bridge Lifts	* Supported Twist  * Supported Pigeon
		Cow face	
Decreased hip Medial Rotation ( internal rotation)	Lateral rotators short- glute med tight	Windwhsield washer move- dynamic Lie on your back Separate your feet wider than hip width. Keep your left knee pointing up to the ceiling. Drop your right knee inward and toward the floor. Switch –  Easy pose twist: do 2 x on tight side, so on left side for 1 time on right to	-supported seated forward bend Supine supported revolved triangle
		increase stretch on concave side	
Decreased Hip Lateral Rotation	Medial rotators short- need to stretch these Tfl it band short- need to stretch to allow medial rotators to contract to allow for lateral rotation.	If medial hip rotators are tight, then they will impede lateral hip rotation because lateral hip rotation requires the medial hip rotators to stretch to allow the lateral hip rotators to contract and rotate the hip laterally.  need to stretch adductors too – so can open up.  Butterfly, - focus on symmetry as both	Wall hang Legs up wal

	Long weak lateral	sides different	
	rotators-strengthen	straddle split	
		Warrior 2 –press front knee toward wall, contract hip rotators.	
		intense leg stretch- use wall for support- lengthen it band	
		move from warrior 3 to half moon- blocks under her hands to support upper torso.	
Cow Pose: Lack of	Stiff anterior	Chest expansion-	Supine supported fish
enough Thoracic	muscles Weak rhomboids and Weak mid traps	Bridge pose- elbows on floor palms facing each other-to stabilize shoulder blades since one wings and other abducted- strengthens mid traps and rhomboids	on bolster
extension			Supported chid
		Cobra	
		Bow,	
		Supported camel- no- knees?	
Cow Pose: Excessive Lumbar Extension	Lack of abdominal control	Focus in cat pose- rounding lower back not upper	Floppy wide angle seated
	Weak upper psoas	Do cow pose with ab control- don't let	Viparita karini, legs on
	Tight lower psoas	belly drop	chair
		Stick pose	
		Strengthen upper psoas- half boat flow	
		Ab strengthen- forearm plank with bock	
		Lower Psoas release- in supine, draw right leg to chest and feel at hip crease for psoas. left knee slightly bent. Slowly exhaling, let left flexed foot glide slowly to away without activating psoas.	
	Late mass resistants	In hore pass With street are the	Cupported describes
Less than 180	Lats , pecs major and minor are short	In hero pose, With strap practice rotating arms overhead for external	Supported shoulder stand
Shoulder		rotation of humerus- hands overhead	On back , legs on
Flexion		Stretch chest: camel pose	bolster
		Stretch lats: spinal twist	
		Warrior1	

# Daily practice incorporating your findings and pose recommendations. Also include 1-2 breathing practices.

As her functional scoliosis is a causing a rotation of her spine and a lateral curve. The focus is to "straighten her out" by strengthening the stretched side and stretching the tight side. Her scapula and Para spinals need stretching and strengthening as do her hips. Her abs need strengthening to support her spine and prevent further lumbar curve. Her 10 to 15 minute practice should incorporate breathing practices to stretch her intercostals as well.

**Breath**: Ujayi breath- she probably knows this breath as she has yoga experience- so review- good for her intercostals

### Warm Up

- Moving bridge- arms along side ears with inhale and curl down one vertebra at a time on exhale, feeling contact points of floor. Simplified pelvic breath practice: Focus on pelvic floor on inhale relax pelvic color down. ON exhale, very gently draw pelvic floor toward head.
- Energy freeing

#### Active

- Half locust-left arm right leg lift and switch
- Low boat
- Lunge twist
- Pyramid at wall
- Supported Triangle to half moon. –use chair
- Seated twist-on chair- do concave side 2 x careful alignment

#### Restorative

- Supported forward bend
- Legs up the wall ( on bolster)- breathing- arms in cactus pose to open and stretch pecs- and intercostals
- Breathing incorporated here: Breath into belly button —pause- then ribs-pause-then hold into- throat and release.

#### Savasana

Shavasana- legs on bolster

**Meditation**: This client was not interested in doing a seated meditation practice. We discussed ways she could incorporate some stillness into her day with perhaps quiet time while driving to and from work instead of listening to the radio, taking some time in the am to do some journaling (mind dump) where she wrote down everything in her head before she started her day. She was open to these techniques and said she would like to try them.