

Yoga Therapy As An Adjunct To Therapeutic Neuroscience Education (T.N.E.)

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MUDRAS



FOR HEALING AND TRANSFORMATION

Joseph and Lilian Le Page



Joseph & Lilian Le Page



NORTHERN ARIZONA UNIVERSITY



Mary Kay West



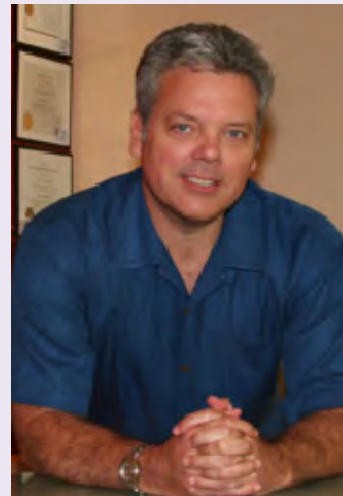
Christina Sell



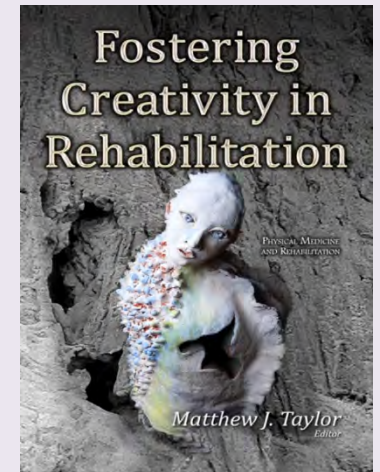
INTEGRATIVE YOGA THERAPY



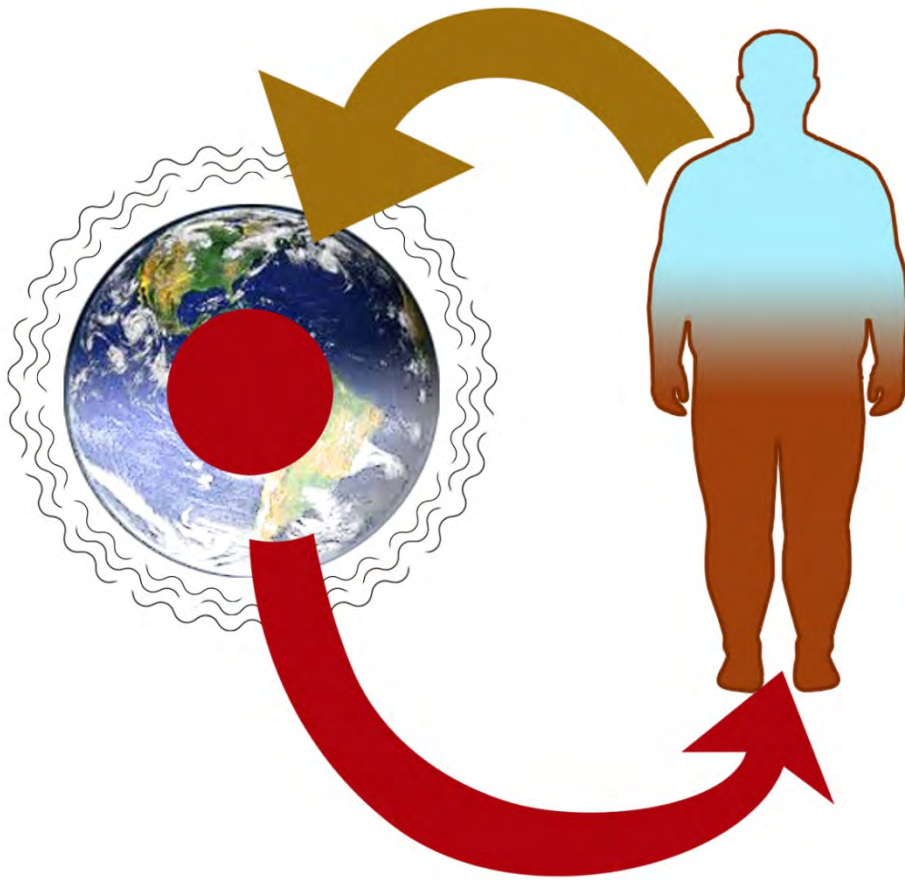
Cain Carroll



Matthew J. Taylor, PT PhD



Houston...we have a problem!



- 1/3 US Adults with Chronic pain
 - LBP
 - OA
- 35-40% US adults over age 20 have Metabolic Syndrome
- Depression #1 cause for disability in US ages 14-45

T.N.E. On Pain



“Pain is a *multiple system* OUTPUT
ACTIVATED by the brain
based on *perceived threat*.” (Mosely 2003)

Chronic Pain (OUTPUT) results from:

Misguided Learning + Maladaptive Beliefs = Faulty Cognitions

Education is the primary therapy

Describe the strawberry.....

Teach patient neurobiology &
neurophysiology of pain

Yogatake the juicy bite!

Multimodal learning.



T.N.E. on Pain



Pain (OUTPUT) is produced by the brain *after* a person's neural signature has been activated, (INPUT)

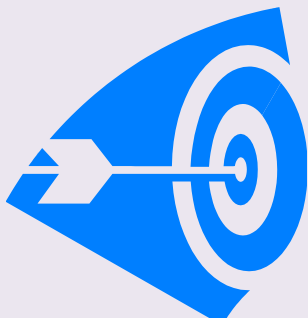
+ Yoga- Cleansing the Senses

concluded that ***the body is in danger***

+ Yoga- Mindfulness

and that action is required. (*Mosley*)

+ Yoga- Skillful Action



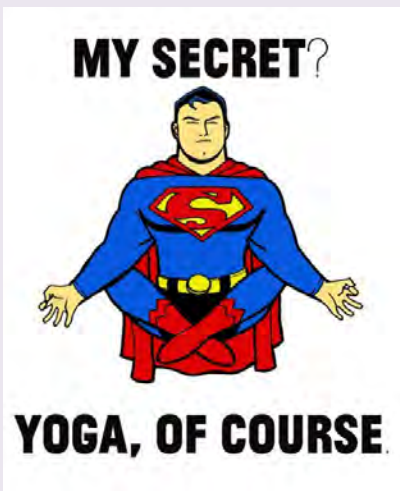
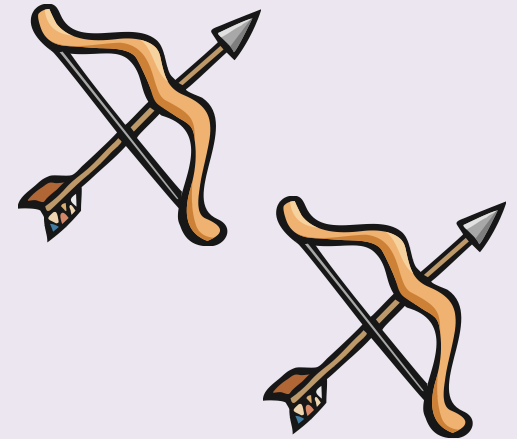
“We need to change cognitions, beliefs and fear BEFORE engaging a movement-based approach of therapeutic exercise, manual therapy pacing and graded exposure.

*This cognitive restructuring is done **via T.N.E.**”*

(Louw, Diener et al 2011)

“PT should address faulty cognitions”

Co-create a NEW Story with Yoga Therapy!



Fear

Catastrophization Perception

Depression Emotions

Yellow, Red & Blue Flags,

Central Sensitization

Healing

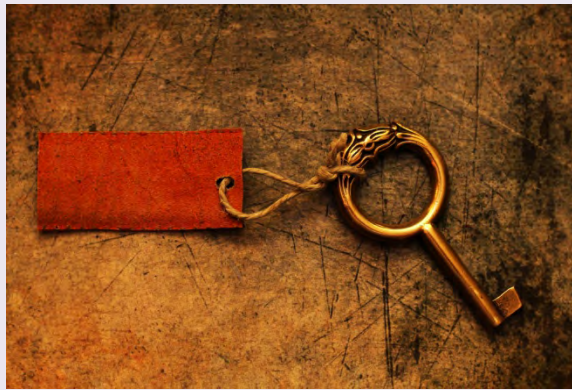


Healing is the personal experience of the transcendence of suffering.

From Thomas Egnaw, EdD The Meaning of Healing: Transcending Suffering. Annals of Family Medicine 3:3, May/June 2005.

Yoga is the disunion of the union with suffering.

From Fuerstein's The Encyclopedia of Yoga



Ancient wisdom for self-directed neuroplasticity

The thought manifests as the **word**.

The word manifests as the **deed**.

The deed develops into habit and the
habit hardens into **character**.....

So **watch the thought and its ways** with care and
let it spring from love, born out of the
concern for all human beings.

As the shadow follows the body,
as we think, so we become. *from the Dhammapada*

Outcomes: Measuring **Perceived Threat** - The Fear Factor

- FABQ (excerpts) Fear Avoidance Beliefs Questionnaire

- Physical activity might harm my back
- My pain was caused by my work or an accident at work
- My work is too heavy for me



- TAMPA Kinesiophobia Scale (excerpts)

- It's really **not safe** for a person with a condition like mine to be physically active
- My body is telling me I have something **dangerously wrong**
- My accident has put my **body at risk** for the rest of my life

The Many Faces of Chronic Pain



This body is my temple?

- Reduced Cognitive Function
 - Problem solving
 - Language
 - Memory
- Loss of creativity
- Strained Relationships
- Roles
- Sex

Breathe with “all is well”. *Envision beauty.*
Breathe with “something is wrong with me”. *Envision degeneration*

Healing our Outcomes: Try M.A.I.A.

Multidimensional Assessment of Interoceptive Awareness

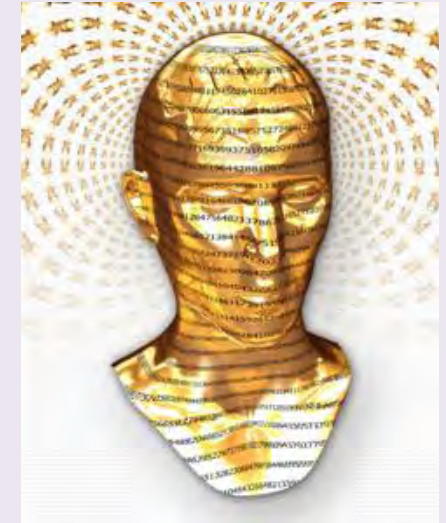
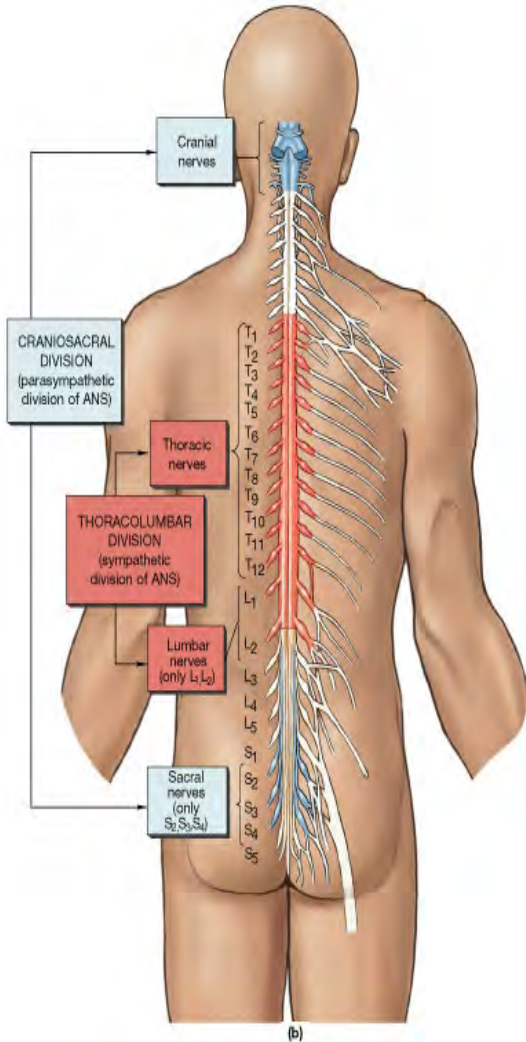
1. Noticing
2. Not-Distracting
3. Not-Worrying
4. Attention Regulation
5. Emotional Awareness
6. Self Regulation
7. Body Listening
8. Trusting



Wolf E. Mehling, MD Osher Center for Integrative Medicine

<http://www.osher.ucsf.edu/wp-content/uploads/2012/10/maia1.pdf>

Yoga Therapy : Healing Fear Across 5 Koshas

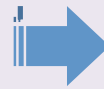


Applying
neuroanatomy
for
Presencing
(*pre-sensing*)

Healing Fear Across 5 Koshas

Physical Body

Perceived Threat

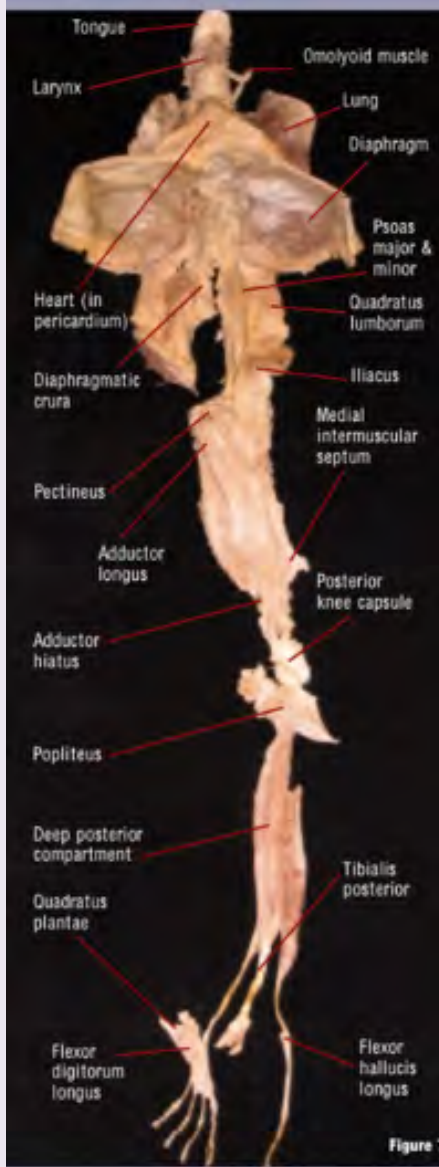


Chronic Stress Response

- Circulatory shunting away from postural muscles to phasic muscles
- Reduced proprioceptive INPUT un-grounding deep front line musculature?

Changes in somatosensory cortex in just 30 minutes of disuse

Could altered perception of embodiment
Abhinivesa?



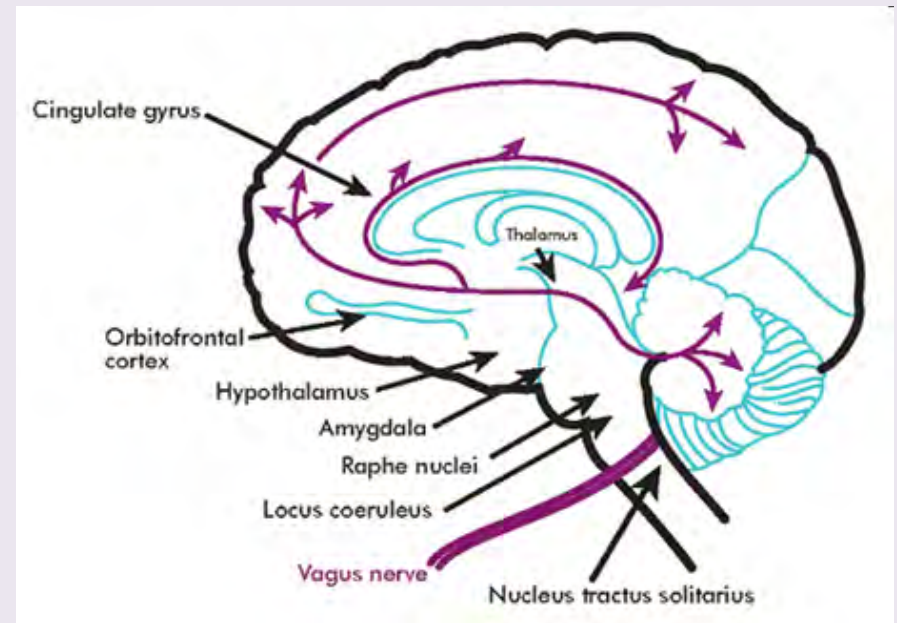
Healing Fear Across 5 Koshas

Physical Body (continued)

Toxic Soup of Chronic Stress Effects Vagus -Limbic communication?

Research ? : Neurotag for Fear?

- Flexor Withdrawal Response
- Central Pattern Generators



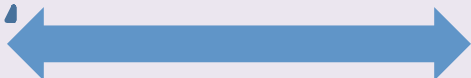
Yoga

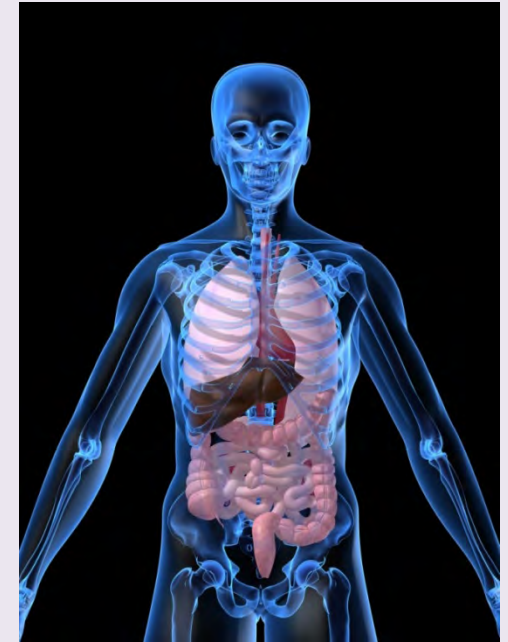
+ Sensing the 6 senses

+ Physical & Psychogenic effects of asana on embodiment

Healing Fear Across 5 Koshas

Energy Body

- Fight - Fire (Inflammation)
 - Gating of neuron cell membranes
 - Neurotransmitter effects
 - Interneuron effects in dorsal horn
- Flight (Movement)  Freeze (Stagnation)



Yoga Recognizes Primacy of Digestive Function for Health

+ Pranayama

+ Kriyas

+ ANS Homeostasis

Gut Brain Axis (see Human Microbiome Project)

+ Meditation reduces inflammatory markers

Healing Fear Across 5 Koshas

Mind & Emotions

Placebo is powerful

The *opposite* qualities of fear include:

Pick a quality



Yoga

- +The subtle fields of energy create the gross.
- + Imbalance begins in the subtle body *before* manifesting in the gross body.
- + Strong evidence for effectiveness of MBSR, & Yoga for Depression

Healing Fear Across 5 Koshas

Consciousness / Witness Body

Field of core beliefs.

Ground for the “maladaptive beliefs”
“faulty cognitions” of chronic pain.



Yoga

+ Yoga Nidra

+ “Ego” system to Ecosystem Consciousness

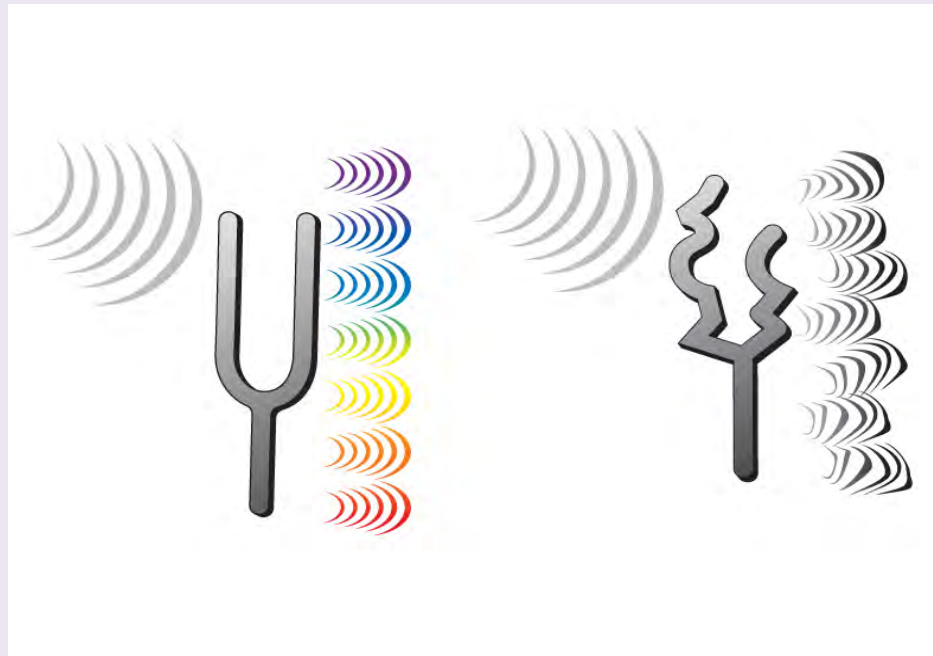


Healing Fear Across 5 Koshas

Spirit

Invite spirituality back into health care.

It is the source for our innate power to heal.



+ Yoga

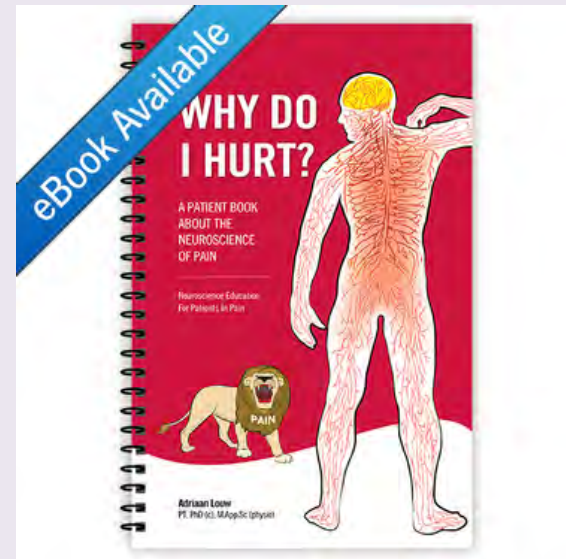
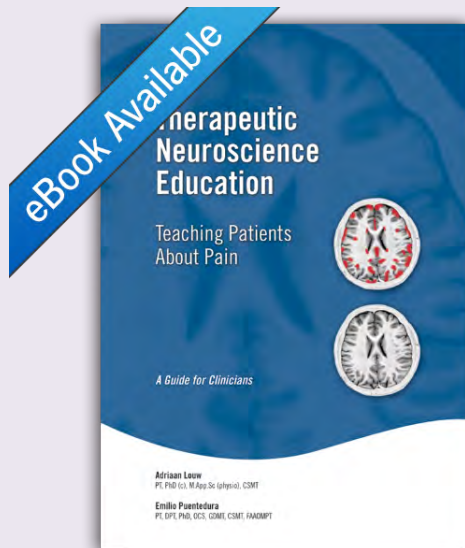
Chakras : Points where Consciousness enters the body.
Attune with the Divine.

References

- T.N.E. Resources

Adriaan Louw & Emilio J Puentedura. *Therapeutic Neuroscience Education, Pain, Physiotherapy and the Pain Neuromatrix*. International Journal of Health Sciences September 2014, Vol. 2, No. 3, pp. 33-45

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Guertin,P. Central pattern generator for locomotion:anatomical, physiological and pathophysiological considerations. *Frontiers in Neurology/Movement Disorders*. 2015,3:article183