**Questions to answer after watching (videos 1-5) Foundations of Chiropractic Practice: Updating Ourselves by Dr. John J. Triano.**

In KIRO, CP 2203, click on ShareStream Pick-n-Play (left side menu)

Please answer the following before coming to the Flip Class on January 26th

**John Triano – TEP Presentation – Part 1**

1. How is treating a patient like going through the scientific method? We try to figure out what is wrong with them, and ruling out things based on our findings. We have initial biases about patient conditions when we first see them, and we follow those into the history and physical in attempt to prove that initial assumption, or disprove it. Treatment is a part of the scientific model as well, investigating what works and what doesn’t.
2. Why should we study the mechanisms of manual therapy? To identify which patient/population can be treated the most effectively with that therapy. RCT are the highest level of evidence research
3. What do we tell the patient we do? We focus on the prevention of disease, maintenance and improvement of health related to mechanotransduction disorders, primarily of the MSK system. Such as back pain, OA, sciatica, atherosclerosis and more. We normalize and optimize function. We treat aberrations of health and wellbeing that are either caused by or manifested as mechanical problems.
4. Where is our entry to health? Where do chiropractors fit in? We do not own all mechanotransduction disease, but the ones that we can help the most. There are mechanotransducing receptors everywhere, in every single tissue. So we fit in where we can have an effect through mechanotransduction, to ultimately alter the end effector function. Our entry into health is through the normalization of movement. We deal with movement, and we want the response of the nervous system.

Mechanostransduction: 1) mechanical signal 2) cell to cell communication 3) effector function

**John Triano – TEP Presentation – Part 2**

View only

**John Triano – TEP Presentation – Part 3**

1. Fill in the dysfunctional model (Outline provided) – done
2. How did Hartman in 2014 demonstrate the connection between mechanotransduction and mechanotransduction disease? What experiment did he do?

* He created a robot called a bioreactor, harvested tissue from animal spine, anchored them, and then perfuse the tissue to be able to keep them and experiment on them, to ultimately be able to sample what these tissues are putting out as a result of mechanotransduction. Sampling the messenger molecules, allowed assessor to interpret what is going on in the nucleus, and ligamentum flavum… to model what is going on in the active spine. Every tissue response differently, and they all send out chemical molecules. Where you apply the stress, is where the tissue responds.

1. What did the studies by Drs. Stephen Injeyan and Julieta Teodorczyk-Injeyan on SMT’s effects on chemical mediators (immunoregulatory, pro-inflammatory, anti-inflammatory) in LBP patients find, regarding acute and chronic LBP group responses? Increase in pro-inflammatory mediators with acute LBP – increase in immunoregulatory cytokines. Decrease in pro-inflammatory cytokines and an increase in anti-inflammatory cytokines in CLBP. Decrease in immunocytokines

* Acute Vs. Chronic LBP patients response to SMT differently. And they react different to the same treatment.

**John Triano – TEP Presentation – Part 4**

1. What 3 levels of the dysfunctional movement model does manual therapy act, based on the current evidence?

Cerebellar and coordination – we can change the signal coming down from the brain into the spinal cord (pain modulation), asynchronous proprioceptive and nociceptive bombardment, and local tissue stress concentration (we can mechanically change the loading to the tissue). We target pain and the cytokine release, proprioception and pain modulation at the level of the spinal cord.

**John Triano – TEP Presentation – Part 5**

1. Does technique matter? Technique doesn’t matter, because all the systems can be classifying into one system – soft tissue technique, and dynamic tissue loading (cyclic joint movement and mobilization). They all fit into the model (see screen shot). All the mechanical treatment are the same. But the way the technique is administered matters. Can you change the biological responses with an adjustment?
2. Do chiropractors use too much force during cervical SMT? Nope, we administer about 90 N, which has proven better than 30N. 100N of force in the neck doesn’t hurt anybody! With just active cervical neck flexion, the disc receives 200N, which is more than an adjustment.

**Dysfunctional Movement Model: Local and Remote**

Overload event

Cortex: Volotional task commands

Cerebellar and ?? coordination

Spinal Cord: asynchronous feedforward/feedback neuromotor control

Asynchronous proprioceptive and nociceptive bombardment

Local tissue stress concentration

Asynchronous motion

Asynchronnous intrinsic and extrinsic spinal muscle stabilizers

Pain, swelling, cytokine release

Motor, sensory, autonomic responses. Neurohumoral responsses