The power of Neuroplasticity

Eleanor Stein MD FRCP(C)
Psychiatrist in Private Practice
Ph: 403 287-9941        FAX: 403 287-9958
espc@eleanorsteinmd.ca
www.eleanorsteinmd.ca
What we will cover

• What is neuroplasticity?
• The stages of changing the brain.
• Programs using neuroplastic strategies.
Norman Doidge

What is Neuroplasticity?

- Neuroplasticity is the change of brain structure and function secondary to mental experience.
- What fires together wires together.
- 700 new synapses form every second.
- We can influence this change.
Stages of Change
1. Improve health of neurons

• Excellent nutrition (what does this mean?)
  Nina Teicholz “The Big Fat Surprise”, Anton et al Obesity 2018

• Get rid of toxins and infections  Bredesen “The End of Alzheimers” 2017

• Adequate sleep – allows the brain to get rid of garbage through the “glymphatics”.
  Nedergaard Science, 2013
2. Add energy

- Energy stimulates neurons: light, sound, touch, smell, vibration, electricity, magnetism (TMS).

- Thoughts, imagination, bodily movement increase brain metabolism.
3. Modulate and Relax

• Turn on the “rest and digest” (parasympathetic) nervous system.

• HeartMath, meditation, 0.1 Hz sounds enhancing the default mode network.

www.neuroplastix.com
https://www.heartmath.com/
4. Learn new skills

- A new language, instrument, a new creative outlet or online training.
  [www.brainhq.com](http://www.brainhq.com)
- Practice > 1 hour/day.
- To change the brain requires concentration and effort.
You don’t have to move a muscle ...

Alvaro Pascual-Leone

• 2 groups of people practicing a piano skill 2 hours/day for 5 days.
• Those who did physical practice and those who did mental practice both changed their brain maps and had improved physical skill.
• Physical practice was slightly more effective.
TRANSFORMING THE BRAIN IN PAIN

Neuroplastic Transformation

YOUR BRAIN ON PAIN

Why doesn’t the pain stop?
Listen to your body talk
Use your brain to stop your pain

MICHAEL H. MOSKOWITZ, MD AND MARLA D. GOLDEN, DO®
Pain is an opportunity

• Each incident of pain is an opportunity to rewire the brain.
• Brain areas that process pain also process other functions.
• The brain can’t do two things at once!
• One can override pain processing by using the brain for desired purposes such as memory, creativity, movement, light touch, positive emotions, empathy etc.
• Patients attending 8 sessions and practicing daily report decreased pain (BPI) and decreased distress on the PHQ-9 and GAD-7.

www.neuroplastix.com
Annie Hopper

WIRED for HEALING

Remapping the Brain to Recover from Chronic and Mysterious Illnesses

ANNIE HOPPER
Dynamic Neural Retraining System

- Hypothesis: As in PTSD, or chronic pain, an initial trigger leads to unconscious sensitization of the brain causing more and more symptoms with less and less stimulus.
- Because these symptoms are caused by the brain, they can be reversed.
- A study is underway at U of Calgary and U of Alberta.

https://retrainingthebrain.com/
What Does the Home Study Course DVD Programme Contain?

Gupta Amygdala Retraining™ is one of the first treatment programmes in the world which guarantees that it will help you recover from these Conditions. The Home Study course comes with a one year money back guarantee.
Amygdala Retraining

- Developed to treat Myalgic Encephalomyelitis/Chronic Fatigue Syndrome.
- Amygdala Retraining developed by Ashok Gupta has been studied in two small trials both showing modest improvement in individuals with ME/CFS and FM.

https://www.guptaprogramme.com
http://themeaningoflife.tv/

Gupta Journal of Holistic Health Care 2010 (CFS)
Tuissant Journal of Science 2012 (CFS and FM)
How to rewire the brain

1. Be aware of what you want to change (clear intention).
2. Use each awareness of an unwanted symptom or thought as an opportunity to rewire the brain.
3. Link strong positive emotion with new learning – thinking alone does not work.
4. Practice >1 hour/day – learning takes practice.
How could this help?

Each thought, emotion or action we experience:
- Rewires the brain
- Turns on or off important genes
- Influences hormones, neuropeptides and neurotransmitters
- Influences the immune system

Thus, mental experience directly influences the brain and the body.

Why not try to be the director of the synaptic symphony?
Questions