



**HOLISTIC
APPROACHES FOR
TRAUMA & MENTAL
HEALTH**


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DISCLOSURE

 Owner of Trinergy Center for Integrative Psychiatry

 and

 Trinergy Ayurveda Wellness & Spa in New Berlin, WI

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DISCLOSURE

- Some slides used with permission from the Institute for Functional Medicine (IFM), a 501(c)(3) nonprofit organization serving the highest expression of individual health through the widespread adoption of Functional Medicine as the standard of care.
- Gratitude to Maharishi Ayurveda & Dr Stuart Rothenberg for use of their slides (Ayurveda section).

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ORGANIZATION TODAY

- Understand trauma and its effects – why we need to work on it
- Neuroscience of trauma
- Segway into holistic medicine and functional medicine principles
- Treatment of trauma
- Introduction to principles of Eastern medicine
- Conclusion

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PATIENT SCENARIO 1

- NIMHANS India 2002 – 17 yr old Indian female patient
- Admitted with history of severe mood swings, anger outbursts, crying spells, severe insomnia, appetite loss, hopelessness, suicidal thoughts/gestures & self harm behaviors
- A year before, she was abducted and raped by her kidnapper. When the 2 were found, the village elders married them ("save her honor"). Life was alright but she got pregnant and "husband" became abusive. She lost her baby due to the abuse in her 7th month.
- My diagnosis – Bipolar disorder with post partum exacerbation
- I was wrong...this was PTSD
- Main med – lithium, lots of therapy, she slowly recovered. Long term outcome - ???

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PATIENT SCENARIO 2

- Milwaukee Fall 2016 – 52-year-old white, married, female patient
- Prior diagnosis of Alcohol dependence, bipolar depression. Multiple med trials (AD's, Mood stabilizers)
- History notable for both parents having schizophrenia, abandoned repeatedly by caregivers – most notably at age 9 and then at 18.
- Adult relationships repeat patterns of abandonment & approach-avoidance conflict
- My diagnosis – PTSD (and borderline personality – which is redundant really)
- Ongoing treatment with me: Alcohol dependence in remission for 2.5 years now. Depression is much improved. Mood instability is also much improved. Developing an awareness of herself.

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PATIENT SCENARIO 3

- Milwaukee Jan 2019 – 56-year-old white, married, male patient
- His CC: "I have bipolar disorder." Incidentally also had autoimmune skin disorder with very dry, angry, flaky skin over face, neck, ears.
- History notable for severe physical abuse by stepdad from age 4 to 14 (stopped with Pt's body building exercises)
- Severe anger issues - *"I loose my patience in a flash second and lash out on people that take advantage of other weaker people or reminds me of my stepdad. I sometimes become physically violent in response to aggression. I knocked a guy down in my driveway in July last year that I felt threatened by. I have serious road rage and multiple occurrences where I am about to ram my car in others. My wife drives now. I am sensitive to sudden and persistent noise which causes my heart and blood pressure to race. I hate to be touched by strangers. Big mistake to pat me on the shoulder or head!!!"*

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PATIENT SCENARIO 3

- My diagnosis – PTSD
- On going treatment, but in just 9 months:
 - No road rage – driving by himself since summer at least.
 - Skin disorder 40% better – off tacrolimus - immune suppressant which can cause cancer
 - Mood is stable, with increased self awareness and ability to ground self
 - Relationship with wife is much improved
 - Better regulation of his emotions – feels more empowered
 - Depression in remission – able to bring joy into his life

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ICD 10 CRITERIA FOR PTSD

- Exposure to a stressful event/situation of exceptionally threatening or catastrophic nature – Anyone can get PTSD
- Persistent "reliving" of the stressor ("flashbacks," vivid memories, or recurring dreams, etc).
- Actual or preferred avoidance of circumstances resembling or associated with the stressor
- Either of the following must be present:
 - Inability to recall, either partially or completely, some important aspects of the period of exposure to the stressor.
 - Persistent symptoms of increased psychological sensitivity and arousal (not present before exposure to the stressor) shown by any two of the following: insomnia, anger outbursts, poor concentration, Exaggerated startle response.
- Criteria must be met within 6 months of the stressful event or at the end of a period of stress.

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CIVILIAN TRAUMA PREVALENCE - USA

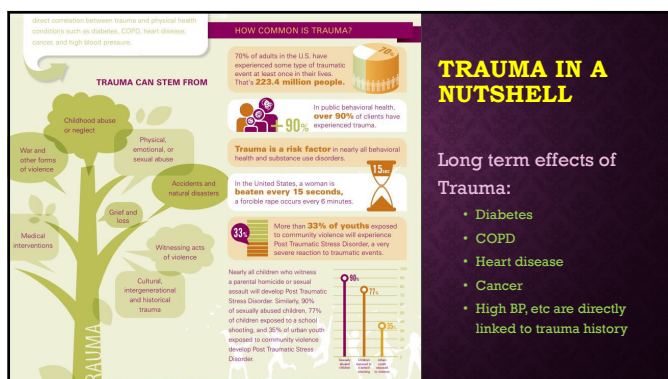
- Rape victims -12 million women in the US, more than half are less than 15 yrs old. New Study just published in JAMA this week: **3.3 million women or 6.5%** report first sexual encounter as forced or coerced and mean age for this was 15.6 years.
- 3 million children per year are victims of child abuse & neglect (US dept of Health & Human Services, 2007, 2009 report)
- For every soldier in the war zone, 10 children are endangered in their homes
- Now, children have to contend with school shootings and shootings in public venues, and also the effect of safety drills to escape a shooter.

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PTSD PREVALENCE IN US

- 25 – 30% of soldiers from war zones develop PTSD
- NCS- R: Lifetime prevalence of PTSD in adults – 6.8%, Men – 3.6% & women – 9.7%
- 7 or 8 out of every 100 people will experience PTSD at some point in their lives. Accd to National center for PTSD.
- Interpersonal violence has highest risk for PTSD – eg: rape and other sexual assault.
- In addition to PTSD, Trauma linked to many other physical illnesses – DM, heart disease, autoimmunity, etc

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BRAIN AFTER TRAUMA

Typical symptoms are: what the mind feels, can be observed in the brain

- Loss of self
- Numbing that is relieved by "trauma similar" events/situations
- Reorganization of perception – Color shock response to 2nd Rorschach card
- Loss of imagination and mental flexibility
- Stuck in trauma - there was life before trauma and then there is life after trauma
- Paradoxical addiction to trauma: mediated by endorphins.
- Hyper-reactivity: could be from low serotonin levels.

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NEURO SCIENCE OF TRAUMA

- "Unspeakable horror" – When re-exposed to trauma stimuli, visual cortex and limbic areas are hyperactive but Broca's area (42) has markedly decreased activation. "All trauma is preverbal"
- Shift to the right – Rt hemisphere – emotional, intuitive, visual, spatial. This makes the experience "real time" and lack of Lt brain activity leads to executive dysfunction
- Thalamus → Amygdala (low road)
- Thalamus → Prefrontal cortex or PFC (high road)

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NEURO SCIENCE OF TRAUMA

- Hypothalamus → stress hormones → sympathetic and parasympathetic nervous system. (whole body response)
- Minor triggers misinterpreted by Amygdala, and the collapse of PFC – re-experiencing symptoms
- Dissociation, depersonalization – "mind going blank" so does the brain.
- Trauma reduces functioning in the frontal lobe (esp PFC – the seat of judgment) and so reduces our judgment, self-awareness, and compassion.

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NEURO SCIENCE OF TRAUMA

- Corpus callosum is chiefly affected – disrupts “talk” between Rt and left hemisphere, between 2 separate areas of the brain
- For eg: Visual cortex cut off from Broca's area – “unspeakable horror”
- Thoughts and feelings cannot come together

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ROLE OF THE ADRENALS

- Cortisol released to cope with trauma – dampens hippocampal activity – survival tactic
- Ch High cortisol destroy hippocampus – affects memory long term.
- Ch high cortisol affects immune system – infections & autoimmunity.
- Over time, “adrenal fatigue” sets in. “wired but tired” at nights but “can't get out of bed in morning” and low energy and fatigue are prominent.
- Over time dopamine and serotonin levels also drop – what we identify as depression/anxiety

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NEURO SCIENCE OF TRAUMA

- Polyvagal Theory – Stephen Porges. Fight/flight/freeze responses
Vagus nerve connects the brain with various internal organs – especially the gut to the brain. “gut reaction” or “gut instinct” etc
- Mirror Neurons and reciprocity – to mirror and to be mirrored
- Brains evolved to help us function as a tribe – Social support is the most powerful protection against trauma
- Self agency is an important factor that determines whether PTSD ensues or not. When able to move and do something to protect oneself, it mitigates effects of trauma.

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THE BODY KEEPS THE SCORE !

The whole body (not just the brain) is affected by the experience of trauma.

ACE study by Felitti et al:

higher the score, higher the risk of mental and physical health issues.

score of 6 or higher conferred a 18% or greater risk of the top 10 leading causes of death in the US (COPD, IHD, Liver disease, autoimmunity, etc); twice as likely to suffer cancer.

Gut brain connection

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GUT BRAIN SIEGE – DR GORDON'S WORK


- Trauma disrupts our digestion as predictably and dangerously as it does our thinking and feeling.
- Then gut damage further damages the brain and this cycle repeats
- Stages of damage to gut/digestion from Trauma and stress
 - Cephalic – loss of appetite, food tastes like chalk – “freeze response”, eating fast & compulsively, choosing “comfort foods”
 - Stomach – impaired acid production – poor digestion and impaired absorption of nutrients
 - Small intestine – Villi damage, leaky gut causing food sensitivities and systemic inflammation – leads to anxiety and depression.
 - Liver and pancreas secretion also affected
 - Detoxification slows down
 - Microbiome disruption, SIBO (from colon bacteria)

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CRAVING COMFORT FOOD

STRESSED = DESSERTS

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IF YOU WANT
TO TRANSFORM
THE WAY YOU
PRACTICE, YOU
NEED A PLAN

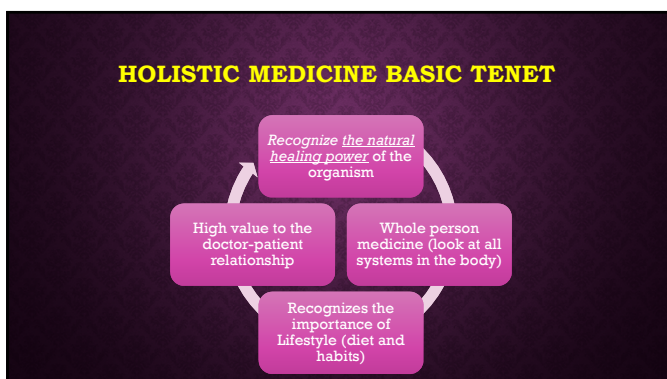
FUNCTIONAL MEDICINE

addresses the underlying causes of disease, using a systems-oriented approach and engaging both patient and practitioner in a therapeutic partnership.

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Functional Medicine is a new way of thinking and addressing health problems. It's holistic philosophy is derived from traditional forms of medicine like Ayurveda and Traditional Chinese Medicine.

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	<ul style="list-style-type: none"> _____ Arthritis, rheumatoid _____ Difficulty swallowing 	
FUNCTIONAL HEALTH	<ul style="list-style-type: none"> _____ Fatigue, weakness _____ Constipation _____ Abnormal sweating _____ Difficulty getting up _____ Headaches _____ Irritability/Anxiety/panic 	Total _____
ENVIRONMENTAL	<ul style="list-style-type: none"> _____ Pests or other in home _____ Allergens _____ History of exposure to environmental _____ Pests or other in workplace _____ History of radiation or asbestos 	Total _____
DIET	<ul style="list-style-type: none"> _____ Things eating/drinking _____ Drinking water/food _____ Excessive weight _____ Constipation/diarrhea _____ Night sweats _____ Underslept 	Total _____
EMOTIONAL/PSYCHOLOGICAL	<ul style="list-style-type: none"> _____ Pessimism, negativity _____ Anxiety, worry _____ Depression _____ Fatigue 	Total _____
GENETICS	<ul style="list-style-type: none"> _____ Poor memory _____ Confusion, poor concentration _____ Poor coordination _____ Poor physical coordination _____ Difficulty in making decisions _____ Irritability or overreacting _____ Slowed speech _____ Learning disabilities 	Total _____
PHYSICAL	<ul style="list-style-type: none"> _____ Blood sugar _____ Anemia/low iron _____ Organ, metabolic dysfunction _____ Depression 	Total _____
OTHER	<ul style="list-style-type: none"> _____ Depression _____ Depression or bipolar disorder _____ Mental illness or diagnosis 	Total _____ Grand Total _____

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**TWO SIMPLE QUESTIONS:
CAUSES AND FUNCTION**

- Does this person **need to be rid of something** (toxic, allergic, infectious, poor diet, stress)?
- Does this person **have some unmet individual need** required for optimal function?

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**PRIMARY CAUSES OF DISEASE
WHAT DO YOU NEED TO GET RID OF?**

- **Toxins** (biologic, elemental, synthetic)
- **Allergens** (food, mold, dust, animal products, pollens, chemicals)
- **Microbes** (bacteria, ticks, yeast, parasites, viruses, gut microbial disruption)
- **Stress** including trauma (physical, psychological)
- **Poor diet** (SAD)

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WHAT DO WE NEED TO THRIVE?

- Foods (protein, fats, carbohydrates, fiber)
- Vitamins, minerals, accessory or conditionally essential nutrients, hormones
- Light, water, air
- Movement
- Rhythm
- Love, community, connection
- Meaning, purpose

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The Right Order of Intervention

- Start with food: whole, real foods and lifestyle medicine first
- **Fix the gut – almost always. When in doubt, heal the Gut!**
- Remove food sensitivities
- Optimize nutrient status
- Balance hormones (thyroid, adrenal, sex)
- **Detoxification is the last step!**

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TO RECAP

- Human mind-body system = complex web of interconnections
- "Diseases" are downstream effects of upstream mechanisms
- Evaluate and correct imbalances in the Gut, immune system, hormonal system, genetics, microbiome, nutrition, relationships, society etc.
- Internal and external eco systems have to be addressed

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NATURE VS NURTURE

What about genes???

Genes are the '**blue print**' for building the human organism.

Environment provides the 'building blocks' (and this is a repetitive, continuous process)

Lifestyle and environment are the major factors altering gene expression that results in disturbed metabolism.

GENETIC VS EPIGENETICS

- One gene – one protein-one disease: not so true anymore
- Epigenetics: Factors that influence the expression of genes – food, internal/external, immediate/distant environment
- Exposome: exposure to environmental toxins
- Nutrigenome: Effect of nutrients or lack thereof on the genome

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TRAUMA – EPIGENETIC MODIFIER

- "Trauma can cause epigenetic changes—alterations in the structure of our chromosomes, which affect the way our genes function and may make us less resilient, more vulnerable. These epigenetic changes can be transmitted to our children and grandchildren and make them, as well as us, less able to deal with stress and prevent illness."
- "Trauma can also accelerate the shortening of telomeres, structures at the ends of our chromosomes that diminish in size with age; by shortening our telomeres, trauma and the stress it produces may well shorten our lives."
- Dr James Gordon

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FOOD AS MEDICINE – HOW? (EPIGENETIC INFLUENCER)

Macronutrients: Carbs, fats, proteins

Micronutrients: Vitamins, essential minerals, anti-oxidants, other essential nutrients

Food is **building blocks** of who we are as well as **mediators of our human experience**

Food is **energy** (Calories)

Food is **connection**

Food is **memory**

Food is an **epigenetic influencer** - Nutrients act as epigenetic modifiers that constantly **upgrade or downgrade** our biological software aka **genome**

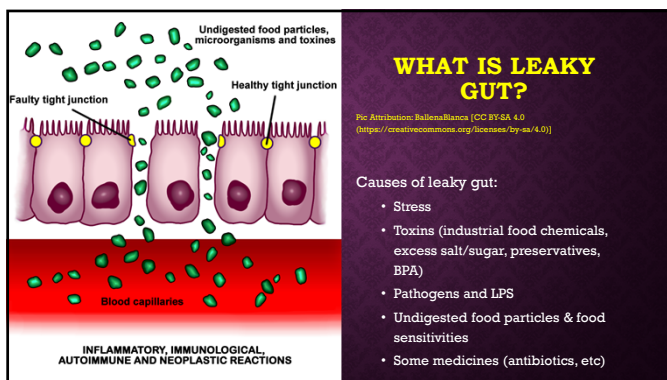
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CROSS KINGDOM TALK (EPIGENETIC INFLUENCER)

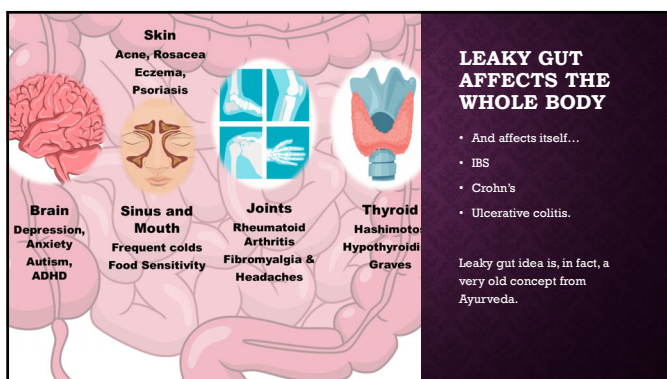
Zhang, et al. **Exogenous plant MIR168a specifically targets mammalian LDLRAP1: evidence of cross-kingdom regulation by microRNA.** *Cell Research*, (20 September 2011) | doi:10.1038/cr.2011.158

- miRNA of rice found in sera of Chinese subjects packaged in microvesicles
- This RNA had survived cooking, digestion and all the metabolic processes
- This RNA was found to alter expression of certain genes
- A direct example of how food we eat alters the expression of our genes
- So, what we choose to eat/drink 3 times a day has a profound effect on our health beyond just it's nutritive or even caloric value!

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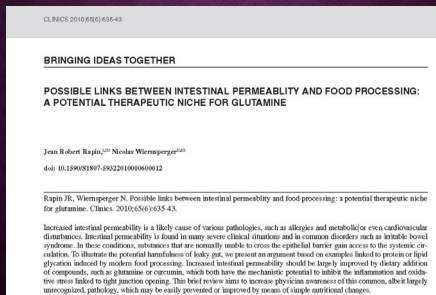


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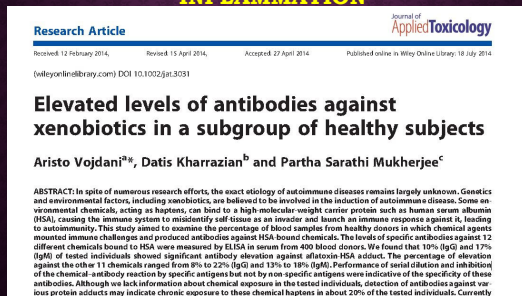
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LEAKY GUT (IP) LINKED TO MANY DISORDERS



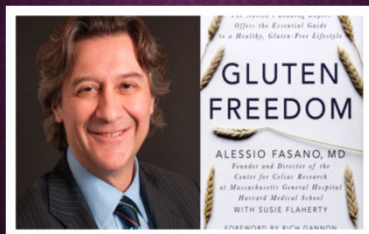
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TOXICANTS AS CAUSE FOR LEAKY GUT & INFLAMMATION



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TO RECAP



“GUT IS NOT LIKE VEGAS. WHAT HAPPENS IN THE GUT DOES NOT STAY THERE.”

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GUT & MICROBIOME – CURRENT RESEARCH

- Human genome – only 26,600 protein encoders – yet complex phenotype
- Complexity due to the genome of 1000s of species of gut microbiome
- 1 :10 human to bacterial cells/genome
- 3 kgs of bacteria in the gut

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GUT MICROBIOME – CURRENT RESEARCH

Functions of the microbiome:

- Regulate immune and metabolic function
- Modulate gene expression
- Important role in brain and behavior development
- Synthesis of GABA & BDNF

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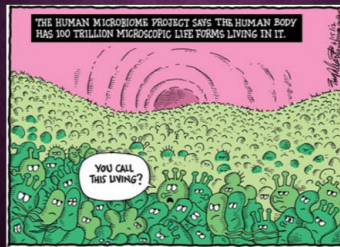
GUT MICROBIOME – CURRENT RESEARCH

How microbiome is implicated:

- Bacterial toxins produced due to gut dysbiosis implicated in various disorders – PANDAS, schizophrenia, autism, Parkinson's, dementia etc.
- Beneficial role of certain probiotics in treatment of various illnesses.
- Oral probiotics given to pregnant mom shown to reduce risk of ASD.
- * How about reducing microbiome disruption during pregnancy?

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MICROBIOME – THE ENDANGERED SPECIES



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ENVIRONMENTAL TOXINS AS MEDIATORS & TRIGGERS FOR CH INFLAMMATION

Env Toxins: Cigarette smoke, EDC's, BPA, phthalates, artificial fragrance, parabens, atrazine, other pesticides, Etc

Altered immune system function

Allergies & hypersensitivity

Autoimmunity

Immune deficiency

Epigenetic influence – tumorigenesis

Endocrine disruption

Leaky gut & the resultant host of diseases

Why not Autism?



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TREATMENT OF TRAUMA

"Healing depends on experiential knowledge: you can be fully in charge of your life only if you can acknowledge the reality of your body, in all its visceral dimensions."

Elvin Semrad, Psychiatrist. In, "The Body Keeps the Score," Bessel Van Der Kolk, MD.

Treatment has to involve physical movements that contradict the helplessness of trauma and reinforce empowerment in the face of trauma. Lessons from Seligman's dogs.

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TREATMENT STRATEGIES

- APA practice guidelines:
 - CBT, CPT, CT, PE – strongly recommended
 - Antidepressants - strongly recommended
 - Nightmare reducing meds – prazosin etc
- How is this strategy working? Not so very well (imho as well as Dr Van Der Kolk's & Dr Jim Gordon's)
- Firstly, as we have seen, misdiagnosis with everything else but PTSD is the rule than the exception

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TREATMENT – LESSONS FROM NEUROSCIENCE

- Neuro-plasticity – recovery is possible! We should make it the rule, not the exception
- First step is physical self awareness: Draw out sensations blocked or frozen by trauma
- Helps patients befriend, rather than suppress the energies released by that experience
- To complete the self preserving actions thwarted during the trauma event
- Self regulation skills
- Use of language to express, communicate and connect
- Use of movement, rhythm, dance – synchronicity and reciprocity
- To Mirror and be mirrored

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TRAUMA HEALING DIET – DR JIM GORDON

- Mindful eating – conscious slow eating, attention to taste, food choice
- Heal the gut to heal the brain
- Leaky gut protocol – 4 R's – Remove, repair, replenish & reinoculated.
- Whole foods, Organic, non processed, fiber rich, lots of fruits and vegetables, eat to nourish the microbiome
- Taking a probiotic, eating more fish, taking fish oil supplements
- Anti-inflammatory foods – using turmeric in cooking, etc
- Taking a Multivitamin/multimineral supplement (ch stress causes magnesium loss)
 - <https://www.facebook.com/drmarkhyman/videos/797250167357258/>

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FM'S 4R PROTOCOL FOR GUT REPAIR

Remove the
offending foods



Replenish with
nutrients



Repair the gut
lining



Re-inoculate
with gut bacteria

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SELF REGULATION SKILLS

- Yoga
- Meditation, Pranayama (alternate nostril breathing, root chakra meditation)
- Tai chi, Qi Gong, acupuncture, energy medicine, etc
- "Shaking, dancing"
- Synchronicity and reciprocity, play therapy
- Massage therapy for increasing body awareness – therapeutic touch
- EMDR

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HERBAL MEDICINES

- Turmeric
- Ashwagandha
- Avipattikar
- Shatavari
- Shankhapushpi

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"Our greatest pain can teach us the most important truths about ourselves: who we are and how deeply and inextricably connected we are to one another; what gives our lives Meaning and Purpose; and how we can live with greater wisdom and compassion, joy, and Love."

From, Transformation, by Dr Jim Gordon.

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BOOK RECOMMENDATIONS

- The body keeps the score – Bessel Van Der Kolk, MD
- The Transformation – Jim Gordon, MD
- Ultra Mind Solution – Mark Hyman, MD
- Mind of your own – Kelly Brogan, MD
- Parenting a Whole Child – Scott Shannon, MD

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Thank you

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