The Gut-Brain Matrix, Reprogramming Health for Kids, Moms, and Other Superheroes

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Disclosure

• I am founder of Biomic Sciences, which has brought to market RESTORE, the first carbon-based redox supplement
• I am the founder and President of Revolution Health Center, Charlottesville, VA.
• My clinical practice, basic science operations, discoveries, and experience that I share with you today produce all of my income
• I am not paid by any third-party companies or organizations for my presentations or educational efforts
US Ranks 49th in Health Outcomes
1st World Epidemics

- Autism 1:45
- Attention Deficit 1:10 (70% medicated)
- Asthma 1:10
- Allergy 1:4
- Diabetes 1:4
- Obesity 1:3
- Major Depression 1:2
- Cancer 1:2
- Dementia 1:1
1st World Epidemics – With Gut/Brain Source

• Autism 1:45
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• Allergy 1:4
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• Obesity 1:3
• Major Depression 1:3
• Cancer 1:2
• Dementia 1:1
Root Cause of Disease?
Inflammation is the root of all chronic disorder and disease.
Oxidative Stress

- Acute inflammation can save our lives
  - Injury Repair
  - Infection control
- Chronic inflammation
  - Oxidative stress = positive charge/acid
  - Shutdown/overwhelm of the antioxidant system

chronic inflammation = loss of communication
Neurologic Inflammation
Brain Fog – Anxiety – Depression – Fatigue – Chronic Pain

An adult spectrum disorder continuum

• Repeated/chronic stress leads to loss of volume in the hippocampal formation –
  – Hippocampus – memory processing
  – Amygdala – Intense emotion processing
The Brain and Chronic Inflammation

Hypothalamic Stress

- immune (oxidative)
- hormonal
- neural/muscular
- psychological/emotional

Amygdala
What has changed??

• Did you have these same symptoms 10 years ago?
• Did your parents have the same problems you do when they were your age?

– 1900, Major Depression 1:100
– 2000, USA Major depression prevalence 1:3
– 2015, USA Major depression prevalence 1:2
What Is the Root Cause of Inflammation?
Ecosystem News

- Bacterial population patterns in the human gut predict occurrence of chronic inflammatory disease
  - Obesity/Diabetes
  - Asthma
  - Autoimmunity
  - Cancers
  - Dementia
  - Autism
Intercellular Tight Junctions
Firewalls of Defense
The GALT

- Gastrointestinal-Associated Lymphoid Tissue

**GALT:** 80% of the antibodies in your body are made here

Gut Inflammation
Food Sensitivity
Asthma/Eczema
Allergy
Autoimmune
Gut/Brain Axis

- Gut injury: Gluten, Glyphosate, Lipopolysaccharides
- Zonulin goes systemic
- Tight junction injury
  - Gut
  - Blood/brain barrier
  - Vascular system
  - Kidney tubules
Blood/Brain Barrier Leak

Healthy brain and cerebrovascular endothelium

Traumatic brain injury

Blood vessel

Blood flow

Leukocytes

CD 11, CD18, ...

Selectins

Integrins

Brain tissue

Resting microglia

Activated microglia

Neuron
CNS inflammation

• Leaky Brain
  – Interleukin inflammatory cytokines
  – Neurotransmitter dysregulation
  – Neurohormonal stress
What Is the Root Cause of Population Gut/Brain Injury?
A Catastrophic Vulnerability

Bacteria

Unprotected Membranes
Tight Junction Toxins
Bacterial Metabolites: Carbon-Based Redox System

- Each bacterial species (30,000 species) creates a unique subset of carbon metabolites during the digestive process.

- These function as an interspecies molecular communication network that allows for coordinated cell protection, injury response, and repair.

www.restore4life.com
What are your bacteria saying?

• Dysbiosis: broken ecosystem
  – Monoculture
    Antibiotics, pesticides, chemicals, processed foods
    • Weeds grow up: E.coli, Klebsiella, Pseudomonas, Candida

    Probiotics – 3 - 24 species, $30 Billion monoculture

  Monoculture = limited vocabulary = limited defense

• Optimal bowel ecology = 20,000 species

  Biodiversity = fluid communication = strong defense
Functional Gut Barrier

Small Intestine - IEC6

TEER Ohms/cm²

VEH
GLUT
GLY
GLUT/GLY

www.restore4life.com
Gliadin (Gluten)
Tight Junction Imaging

CONTROL

Gliadin in 1 slice of pizza

www.restore4life.com
Glyphosate
Tight Junction Imaging
CONTROL
GLYPHOSATE 10 PPM

www.restore4life.com
Bacterial communication impacts tight junction function

![Bar chart showing TEER ohms/cm² for different treatments: Control, Herbicide, Restore + Herbicide, Gluten, Restore + Gluten.](www.restore4life.com)
Gut/Brain Leak

GLUTEN

Toxic Peptides

GLYPHOSATE

BACTERIAL/YEAST OVERGROWTH

ZONULIN

Enzymes

Chronic Inflammation

Leaky Gut/Brain

TJ breakdown
Leaky Gut - Leaky Brain
Inflammation Cascade
from birth to death

Colic
Sensory-Processing Defects
Attention Deficit
Anxiety Disorders
Major Depression
Disordered Sleep
Insulin Resistance
Infertility
Diabetes
Vascular Disease
Cancer
Dementia
US Ranks 49th in Health Outcomes
Gut/Brain Injury

What can we do about it?

Gut/Brain Communication Supplement:

- Tight junction firewall up and running
- Direct toxin antidote – glyphosate, gluten, pharmacy
- Promote eco-diversity in the gut and beyond
- Increase enzyme breakdown of toxins
- Increase bio-availability of food nutrients

Maximize the Biome:

Get out in nature – breathe biodiversity
Grow your own food
Eat from the bottom of the food chain
Stop dairy (high glyphosate, highly acidic)
Wild Fermented foods:
  miso soup, sauerkraut, etc.
What’s in Restore?

• Raw ingredients include Carbon-based redox molecules from fossil soil in the USA. This inert raw material is shipped to VA where we put the substrate through a redox process to achieve the safety and biologic efficacy of the finished product.

• Trace micronutrients – minerals and amino acids with concentration profiles similar to that of a sweet potato skin.

• Unprecedented results in cellular safety studies
  – Gold-standard Renal Tubule Toxicity studies – No LD50, extends life of cell lines at every concentration.
  – Even at 100% concentrations renal and hepatocyte studies show zero toxicity, instead at every concentration Restore increases longevity/decreases apoptosis rates.
Restore Logistics

• For very sensitive individuals:
  – 2-5 drops by mouth – plain or with non-chlorinated water/juice
  – Slowly increase to 1 TSP – 1 TBL three times/day

• Reduce or stop probiotics and digestive enzymes to speed recovery of natural gut biome diversity and healthy digestive processes

• No drug-drug interactions
Intelligent membranes, What to expect

- Bowel changes – formed stools, more bulk to the stools, typically resulting in two large soft, formed stools when at optimal use
- Nutritional changes – food absorption and digestion improves, decreased dark circles under eyes, better skin health
- Metabolic changes – growth recovery
- Neurologic changes – verbal changes, attention/focus, visual processing changes, gait and 3D processing changes
Side effects of the rehydration/refeeding syndrome

• Constipation/Bloating
  – Hydration
  – Magnesium Calm powder twice to three times daily
  – Reduce to two drops or nasal use of Restore if needed

• Diarrhea/cramping – this can indicate parasite – discuss with your pediatrician/consult usage guidelines
Side effects of the rehydration/refeeding syndrome

- Neurologic
  - Mood changes
  - Hyperactivity
  - Sleep changes
- Wrapping/nurture techniques
- Knapping
- Brain Gym
- Nitric Oxide breathing exercises – buteyko breathing


References


8. Moriame G; et al. Viral Suppression and Immune Restoration in the Gastrointestinal Mucosa of HIV Type 1-Infected Patients Initiating Therapy during Primary or Chronic Infection Journal of Virology, August 2006, p. 8236-8247, Vol. 80, No. 16


References


Bacterial Communication Induces Differential Mitochondrial ROS Activity

ROS assay RT-PCR

![Graph showing ROS production over time for healthy and damaged cells (MCF-7)](www.restore4life.com)
Bacterial Communication Impacts Stem Cell Activation

Urine CD133 Stem Cell Marker before and two hours after Restore