

JOURNAL

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page 36

The Time is
Now: Preparing
for an Audit

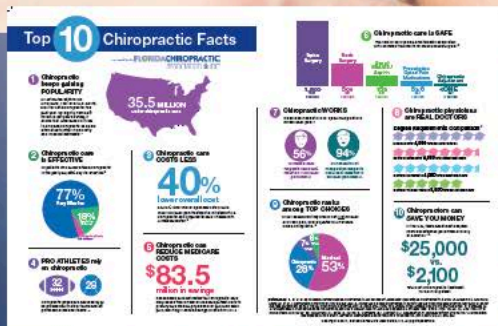
page 24

It's a wrap!
Legislature Ends
2017 Session
in Overtime

page 12

Mandated Compliance
Manuals: Are they
working for you, or are
you working for them?

page 40

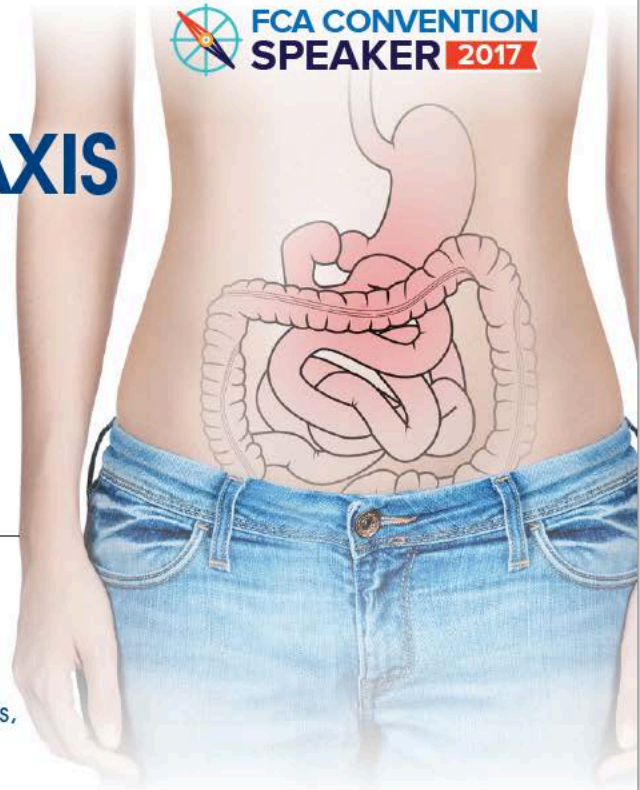


LOOK INSIDE
for a pull-out poster of
Top 10 Chiropractic Facts
page 26

THE GUT-BRAIN AXIS

in Health and Disease

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THE BRAIN IS THE MOST NUTRIENT-DEPENDENT, ENERGY-DEPENDENT AND TOXIN- AND STRESS-VULNERABLE ORGAN IN THE BODY. The gut and the brain are very tightly linked. In the gut-brain axis, damage to one is often damage to the other.

Concussion is a good example. When a blow to the head or severe jolt causes a concussion, the damage to the neurons has a parallel in damage to the gut lining. The tight junctions of the lining almost immediately open up and become permeable. This produces inflammatory cytokines that can penetrate the blood-brain barrier, leading to additional brain inflammation. In other words, when the gut is on fire, so is the brain.

If the sudden intestinal permeability caused by a concussion goes untreated, the concussion symptoms will be worse, due to the additional inflammation. The gut permeability may not resolve by itself, which could contribute to making the concussion symptoms linger on for weeks instead of days. Intestinal permeability may also play a role in those patients who go on to develop post-concussion syndrome by causing ongoing brain inflammation.

So, in addition to treating the concussion itself with nutrition, the

intestinal permeability, particularly the release of occludin and zonulin, needs to be immediately addressed.

The intercellular permeability of the gut lining can be treated through repair and regeneration with xanthohumol. A natural phenol derivative of hops, xanthohumol has a very extensive (more than 250 publications in preclinical science) record of efficacy and safety. In the brain, xanthohumol acts as an antioxidant and anti-inflammatory; it also helps with the biogenesis of mitochondria in damaged neurons. In the gut, the polyphenols are strongly anti-inflammatory. They modify the inflammatory kinases in favor of antioxidant pathways and, just as important, block the kinases in the cell-damaging inflammatory pathways for tumor necrosis factor, COX-2, and others.

On a chronic level, we know that neurodegenerative diseases such as Alzheimer's, depression, and anxiety

may not be exclusively triggered within the brain. When the intestinal barrier is breached, so is the blood-brain barrier. Inflammation from circulating gut-derived lipopolysaccharides (LPS) pass through the blood-brain barrier and have been linked to a number of neurodegenerative disorders. In particular, LPS stimulates the production of IgA, IgG, and IgM antibodies that can cross-react with tissues and induce autoimmune disease and neurodegeneration.

Treating brain inflammation caused by gut inflammation starts with removing the cause through a modified elimination food plan and the removal of pathogens. Anti-inflammatory supplements, such as berberine, and digestive enzymes, such as lipase and amylase, help restore the gut lining. The next step is to reinoculate and regenerate the gut with a powdered nutritional supplement if needed, continuation of the modified elimination diet, and the addition of

probiotics, vitamin D, alpha-lipoic acid, and specialized pro-resolving mediators (SPMs). Xanthohumol is also very helpful for regenerating intestinal mucosa.

Once the process is underway, retesting is important to see the gains and make any necessary adjustments to the treatment plan. As healing progresses, retaining the gains with a better diet and appropriate supplements becomes the focus of treatment.

Healing the intestinal barrier is only half the equation. The brain inflammation needs to be treated as well. Low-level laser therapy (LLLT) is a valuable tool for improving neurological function. In concussion patients, it has been shown to help reduce inflammation, modulate oxidative stress and nitric oxide production, and down-regulate pro-inflammatory microglial cytokine expression.

LLLT is also valuable for reducing inflammation of the vagus nerve. The longest of the cranial nerves, the vagus is often called the great wanderer for the way it wanders through the visceral organs. A major function of the vagus nerve is preventing inflammation. In the gut, the vagus nerve endings sense the chemical signals of inflammation, such as cytokines and tumor necrosis factor, and send messages to the brain telling it to release anti-inflammatory neurotransmitters via the cholinergic anti-inflammatory pathway. When the brain-gut axis is disrupted, the vagus nerve is affected and the messages back and forth are garbled or don't get through at all. Decreased vagal nerve activity has some serious effects on the gut. Hydrochloric acid and pancreatic enzyme secretion is reduced, as is bile secretion. The parietal cells in the stomach, which are responsible for producing intrinsic factor, don't work as well, leading to reduced absorption of B vitamins.

We know that post-injury vagal nerve stimulation (VNS) after a concussion can help prevent the breakdown of epithelial cells in the gut and keep the tight junctions from opening. This only

works when administered within 90 minutes of the injury, however. Later on, stimulation of the vagus nerve with LLLT using 405 nm violet light can help to restore communications and reduce inflammation.

Treatment modalities such as those discussed here help repair the integrity of the gut lining and the blood-brain barrier. They're a hopeful new approach to restoring the functionality of the gut-brain axis and returning the body to harmony.

Dr. Silverman graduated magna cum laude from the University of Bridgeport College of Chiropractic and has a Masters of Science in human nutrition. His extensive list of educational accomplishments includes designations as a certified nutrition specialist, certified clinical nutritionist, certified strength and conditioning specialist, certified Kinesio® taping practitioner, NASM-certified corrective exercise specialist, and a certified sports nutritionist from the International Society of Sports Nutrition. Dr. Silverman is a diplomate with the American Clinical Board of Nutrition and a diplomate with the Chiropractic Board of Clinical Nutrition. Dr. Silverman is also a HardStyle Kettlebell Certified instructor.



He has a full-time private practice in White Plains, NY, where he specializes in the treatment of joint pain with innovative, science-based, nonsurgical approaches and functional nutrition. He has published articles in Dynamic Chiropractic, JACA, ACA News, Chiropractic Economics, The Original Internist, and Holistic Primary Care. Dr. Silverman is also on the advisory board for the Functional Medicine University. Dr. Silverman is also on the advisory board for the Functional Medicine University, a health contributor to Fox News Radio and has appeared on Fox & Friends, Fox News, NBC News, CBS News, The Wall Street Journal Live, NewsMax TV, and Westchester's Channel 12 as a health expert. Dr. Silverman also appeared on Talks at Google – author.

Dr. Silverman was awarded the prestigious 2015 Sports Chiropractor of the Year by the ACA Sports Council. In 2016 he published Amazon's #1 Best Seller Inside/Out Health: A Revolutionary Approach to Your Body.

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Compliance Manuals continued from page 41

HIPAA Privacy and Security Manual, which includes the 20+

forms needed for compliance

- Record Retention, Copy Charges & Disposal
- Notice of Privacy Practices
- Electronic Transfer or PHI Privacy Practice
- Release of Patient Records
 - Charging for copies of records
- Requests for Correction or Amendment of Health Information
- Patient Complaints
- Special confidential communications requests
- Business Associate Agreements
- Employee Training
- Breaches of privacy or security

What are these three manuals?

- HIPAA Manual, aka HIPAA & Sections 466.057 & 501.171, Florida Statutes, Privacy & Security Compliance Manual 2016, includes all necessary forms that can be personalized to your practice.
- Non-Discrimination Manual, aka §1557 of the Affordable Care Act and Nondiscrimination Rule Compliance Manual
- Compliance Manual, aka PPACA Compliance Manual and sometimes called the "OIG Manual" **FCA**

Members can find your FREE BASIC MANUALS on the FCA website by logging in as a member and typing **compliance manuals** in the search box. The article "Compliance Manuals: What Is Required, What Is Not Required" will come up as the first item in the search. This article contains all of the instructions and links you need to download the manuals.

FCA CONVENTIONS

YOUR DESTINATION
FOR CE + VACATION!



February 9-12, 2017
Sheraton Bay Point Resort
Panama City Beach



March 30-April 2, 2017
Hyatt Regency Jacksonville Riverfront
Jacksonville



August 24-27, 2017
Hyatt Regency Orlando
Orlando



December 7-10, 2017
Naples Grande Beach Resort
Naples



June 22-25, 2017
Trump National Doral
Doral

WHEN YOU'RE LOOKING FOR CE'S IN 2017 ...

Each convention hosted by the FCA is cultivated to inspire and motivate doctors & staff of the chiropractic profession. Each convention is created for DC's & Staff to connect with the latest education, policies, services, and products. The experience is unlike any other, and we always host our conventions in 4 or 5 star resorts ... a great place for your family to vacation while you attain CE's for your practice!

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- Complimentary Lunch Options

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