

Stop Heartburn Before It Starts!

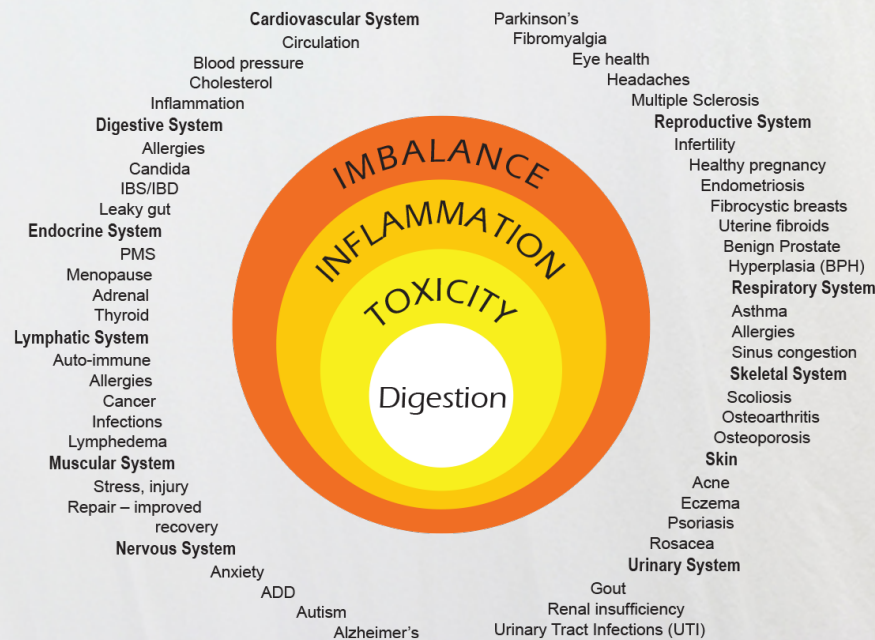
Amy Rawls

MS, RD, LD, FMNS, CGN

Director of Education and
Technical Services
Transformation
Enzyme Corporation



“Less than 5% are born with genetic defect. We are not born diseased—we create it, and we can *uncreate* it”



Heartburn, Acid Indigestion, GERD



- 60 million people
- 20% of the US Population
- Top 2 PPI's \$13.6 Billion
- 110 million prescriptions
(IMS Health, a health-care market research firm)
- Approximately 80% of PPIs in the US are purchased without either a prescription or physician evaluation of upper gastrointestinal symptoms

Overuse of Reflux Medications in Infants

- A study was done in the state of Virginia to evaluate the overuse of PPI's in infants (0-11 months) between 2016-19
- 7% of 270,000 infants were prescribed a PPI or H2RA
- Fewer than 1/3 of these infants actually had a diagnosis of GERD
- Infants were more likely to be prescribed these medications if they had commercial insurance or had a rural address

Overuse of Reflux Medications in Infants

- Overuse of proton pump inhibitors (PPIs) in infants is a growing concern due to potential risks like increased infections, nutrient deficiencies, and allergies.
- Their widespread use for mild reflux in infants is being questioned, as they may not be effective for all cases and can lead to unintended consequences.

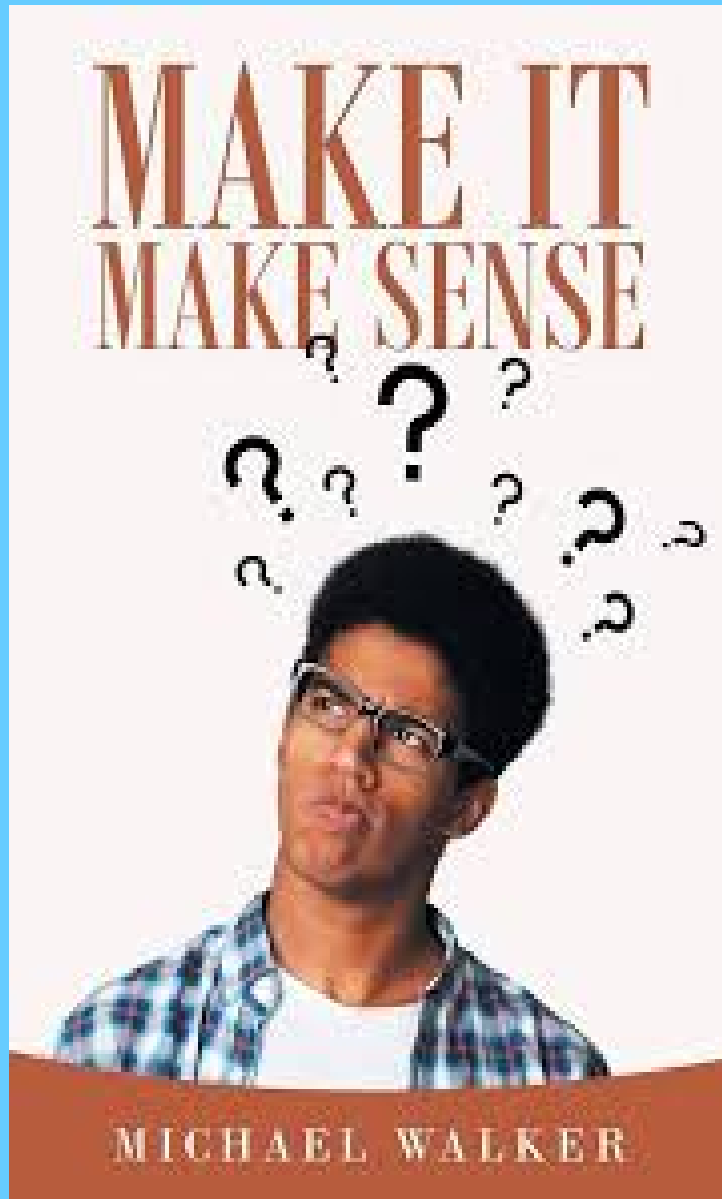
Side Effects of Rx and OTC Antacids

- increased blood calcium
- hypersensitivity
- vomiting
- mental impairment, malaise, confusion
- severe allergic reactions (rash, hives, itching, difficulty breathing, tightness in chest, swelling of the mouth, face, lips, or tongue)
- fever, hearing loss, nausea, ringing in the ears
- severe constipation, headache, diarrhea
- muscle or joint pain
- blurred vision, hair loss, dizziness.....

This is not a complete list of side effects and others may occur

Not to mention the long term effects of acid blockers.....

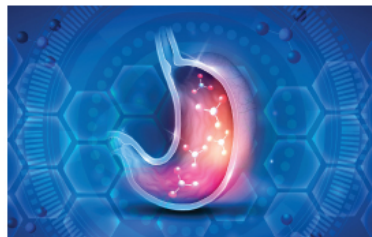
- Inability to digest proteins affects
 - Muscles
 - RBC/WBC
 - Hormones
 - Enzymes
- Risk of bacterial infections – *H. pylori*, *C. diff.*
- Decreased calcium absorption – bone loss
- Various vitamin and/or mineral deficiencies due to impaired digestion



- WE DON'T HAVE A PPI DEFICIENCY
- WE HAVE IMPAIRED DIGESTION THAT IS CONTINUALLY IGNORED
- WE HAVE TREATMENTS THAT DEplete THE ACTUAL NUTRIENTS NEEDED TO REGULATE VAGAL TONE AND SPHINCTER FUNCTIONALITY

IS ACID EVEN THE PROBLEM?





SCIENTIFIC VIEWPOINT

When is HCL Supplementation Necessary?

If someone is having digestive issues, we do not assume it is a lack of HCL. As long as food is present, the body will make HCL. For most, HCL supplementation is not getting to the root of the digestive problem.

Hydrochloric acid (HCL) is an important component of the gastric juice. It is needed to denature proteins in the stomach, activate pepsinogen, and enhance the absorption of vitamin B12 and various minerals. HCL supports digestion by converting pepsinogen to pepsin for protein digestion, but it is not a digestive "enzyme" itself. And in most cases, the stomach produces enough acid to perform these functions.

Pepsin is a proteolytic enzyme secreted by the stomach to digest the proteins. The Transformation™ Protease blend is likewise effective at this and actually cleaves at more peptide bonds, thus there is no need to carry pepsin in our products. Also, pepsin in digestive supplement products is typically derived from various animal sources such as porcine or bovine. For various reasons including the questions related to the conditions of the animals used to derive commercial pepsin, Transformation™ has elected not to carry that enzyme. Again, that decision is based on the advanced effectiveness of the Transformation™ Protease blend as well as the various health questions often raised by animal-derived products.

- **Did You Know?** Many think that hypochlorhydria is indicative of HCL supplementation, when in fact the only time HCL is really required is in the case of A-chlorhydria. True A-chlorhydria is actually very rare.

Diet plays a significant role in low output and stagnation in HCL production. When digestion is compromised, we assist with the actual digestion of the food with enzymes. For these purposes, Transformation™ uses alkaline, neutral, and acid enzymes that perform in a wide pH range. So, in the early stages of digestion before HCL has been secreted, or when there is none, the alkaline and neutral enzymes—including those for protein digestion—are working to break down the food. This is what supports a rebalancing of proper amounts of HCL from the stomach, i.e., more HCL when there is not enough and less when there is too much.

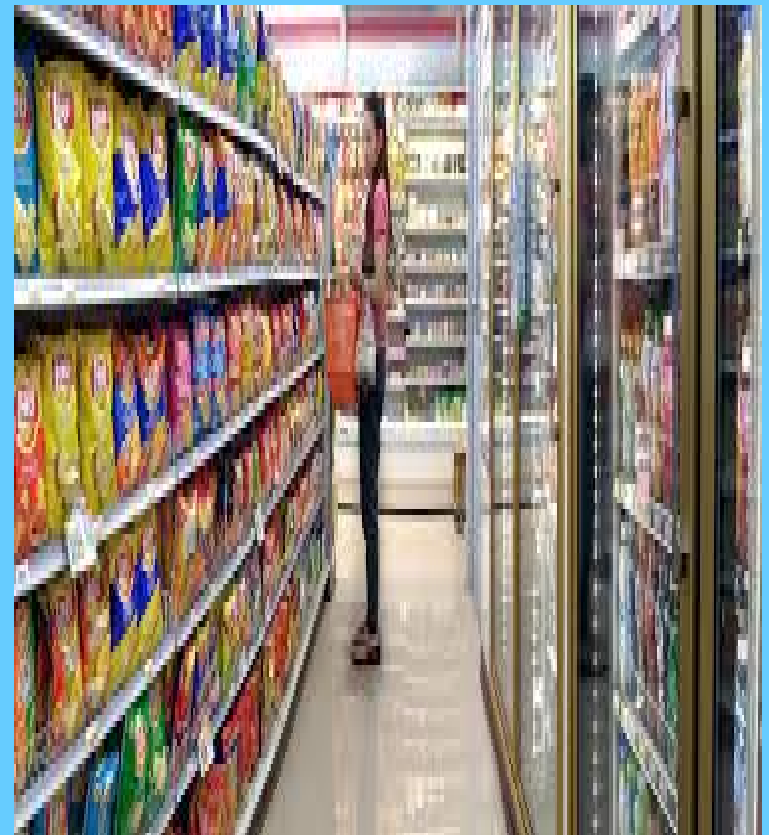
In 25+ years of specializing in digestive enzymes and digestive health, Transformation™ has not found a need or demand great enough to add HCL to our product line. For those who do have a true need for HCL, the supplements are available and Transformation's products work well with them. But the determination of acid deficiency should be carried out meticulously, and only then should the acid be given.



Questions or comments?
Contact 1-800-777-1474 or email
moreinfo@tecenzymes.com

ARE YOU ADDRESSING NUTRITION BEFORE OPTING FOR A PPI OR HCL?

- Micronutrient inadequacies have important implications for long-term health and increase one's risk for chronic diseases like cancer, cardiovascular disease, type 2 diabetes mellitus, osteoporosis, and age-related eye disease.
- **BUT THAT'S ONLY A PROBLEM IN UNDERDEVELOPED COUNTRIES...RIGHT?**



OVERFED & UNDERNOURISHED

WRONG!!!

- A significant portion of the US population exhibits deficiencies in multiple micronutrients
- A survey by the Linus Pauling Institute (LPI) revealed that 94.3% of the US population does not meet the daily requirement for vitamin D, 88.5% for vitamin E, and 52.2% for magnesium
- Additionally, 44.1% do not meet the requirement for calcium, and 43.0% for vitamin A
- For nutrients where requirements are not set, 100% of the population had intakes lower than the AI (Adequate Intake) for potassium, 91.7% for choline, and 66.9% for vitamin K

Limitations of the Infant Digestive Tract & How Formula Can Contribute to GI Issues

- Newborn stomach secretions contain pepsin and HCL which, along with the pancreatic enzymes, effectively break down the specific proteins, minerals, and fats presents in **breast milk**.
- The walls of the infant's small intestine are extremely permeable during the first 9 months ensuring maximum absorption but with less discretion than that of a mature gut.
- Breakdown of more complex starches occurs in the small intestines and involves pancreatic amylase around 15 months.
- Gut lining closes at closer to 24 months.
- Foods that come in too early are going to bring on more toxicity and inflammation in that child if there is not proper digestive support provided.

- While about 80% of babies are breastfed at birth, by 3 months less than 20% are exclusively breastfed.
- The official recommendation is that babies are exclusively breastfed for 6 months but only 1% of babies are exclusively breastfed by this point.

Table 1.1

Composition of milk from different types of animals.

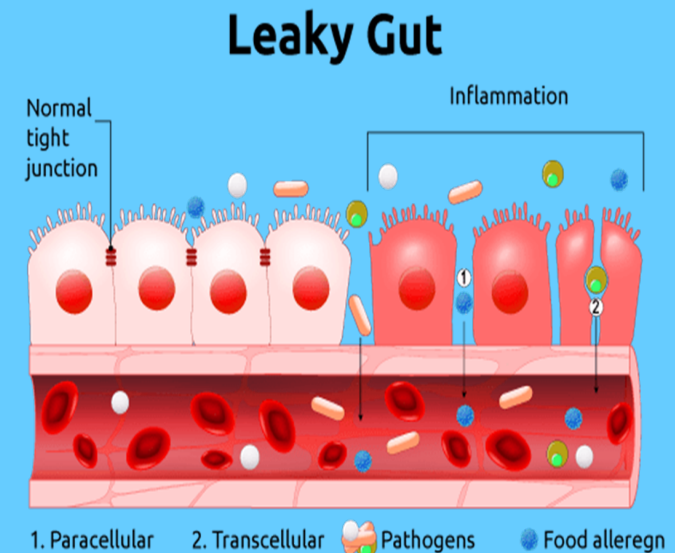
Animal	Protein total %	Casein %	Whey protein %	Fat %	Carbo- hydrate %	Ash %
Human	1.2	0.5	0.7	3.8	7.0	0.2
Horse	2.2	1.3	0.9	1.7	6.2	0.5
Cow	3.5	2.8	0.7	3.7	4.8	0.7
Buffalo	4.0	3.5	0.5	7.5	4.8	0.7
Goat	3.6	2.7	0.9	4.1	4.7	0.8
Sheep	5.8	4.9	0.9	7.9	4.5	0.8

Component	Human	Bovine
Protein (g/dL) ¹	0.9 to 1.2	3.3
Fat (g/dL) ¹	3.2 to 3.6	3.7
Lactose (g/dL) ¹	6.7 to 7.8	4.5
Oligosaccharides (g/dL) ¹	0.7 to 1.2	0.1
No. of identified oligosaccharides ²	<200	approximately 40
% fucosylated ²	35% to 50%	approximately 1%
% sialylated ²	12% to 14%	Less than 25%

Sources:¹ (Ballard & Morrow, 2013), ²(Totten et al, 2012).

What is the Cost of Poor Digestion in Infancy Through Adolescents to Adulthood?

- Prolonged toxicity and inflammation from not digesting damages the intestinal lining as well as hormone and neurotransmitter balance.
- Lack of nutrients needed to keep GI lining strong also contributes to damage
- When gut flora is abnormal due to poor diet/digestion, it can penetrate the gut lining and allow poisonous and pathogenic microorganisms to enter the blood stream.
- Many of these microbes have their own metabolisms and produce/regulate hormones and neurotransmitters.
- **What is occurring in epidemic proportions amongst our youth? adults?**



Our Toxic (Internal) World

- Poorly digested carbohydrates ferment
 - Nutrients cannot be properly absorbed or utilized and become toxins
- Poorly digested lipids turn rancid
 - Toxins in the colon are absorbed into the bloodstream, oxidized to become free radicals
- Poorly digested proteins putrefy
 - Results in toxic amines and the kidneys become overloaded
 - The lymphatic system, which also works to remove toxins, will also suffer



Making The Connection

- **TOXICITY**

- Headaches
- Fatigue
- Dry skin
- Bad breath
- Disturbed sleep
- Cholesterol imbalances
- Compromised immunity



Making The Connection

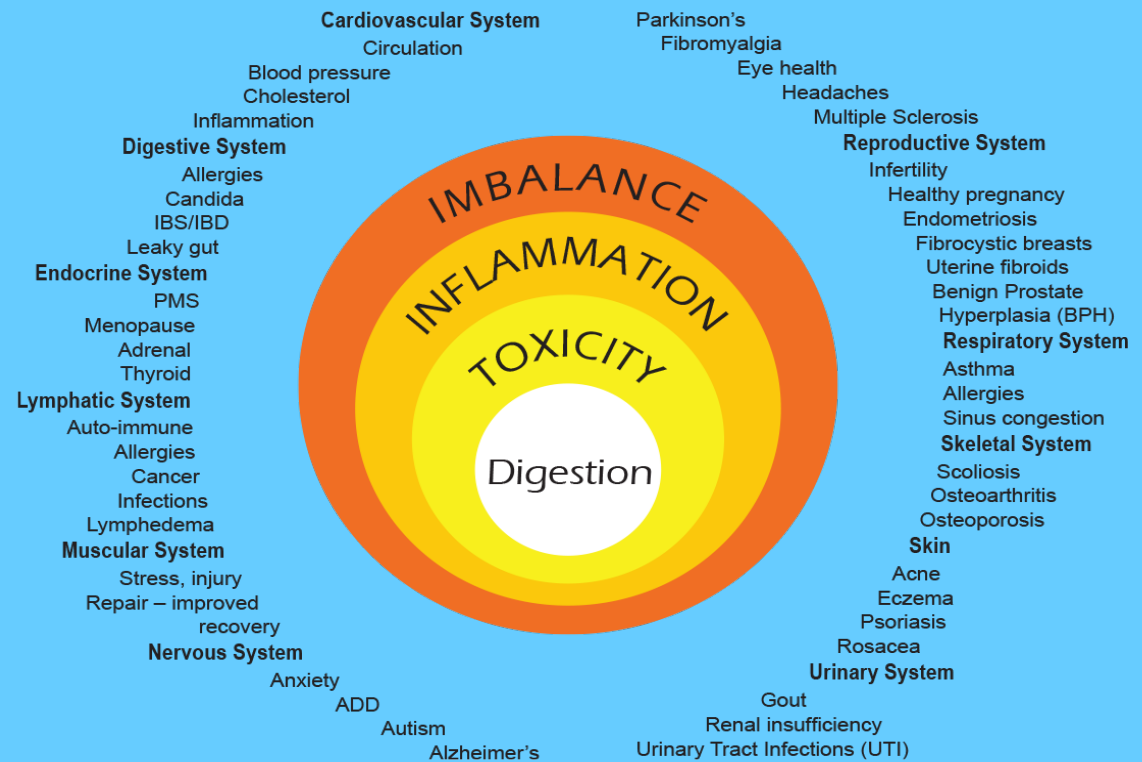
- **INFLAMMATION**
 - Inflamed bowels
 - Achy joints
 - Sinus congestion
 - Acid reflux
 - Frequent infections



Making The Connection

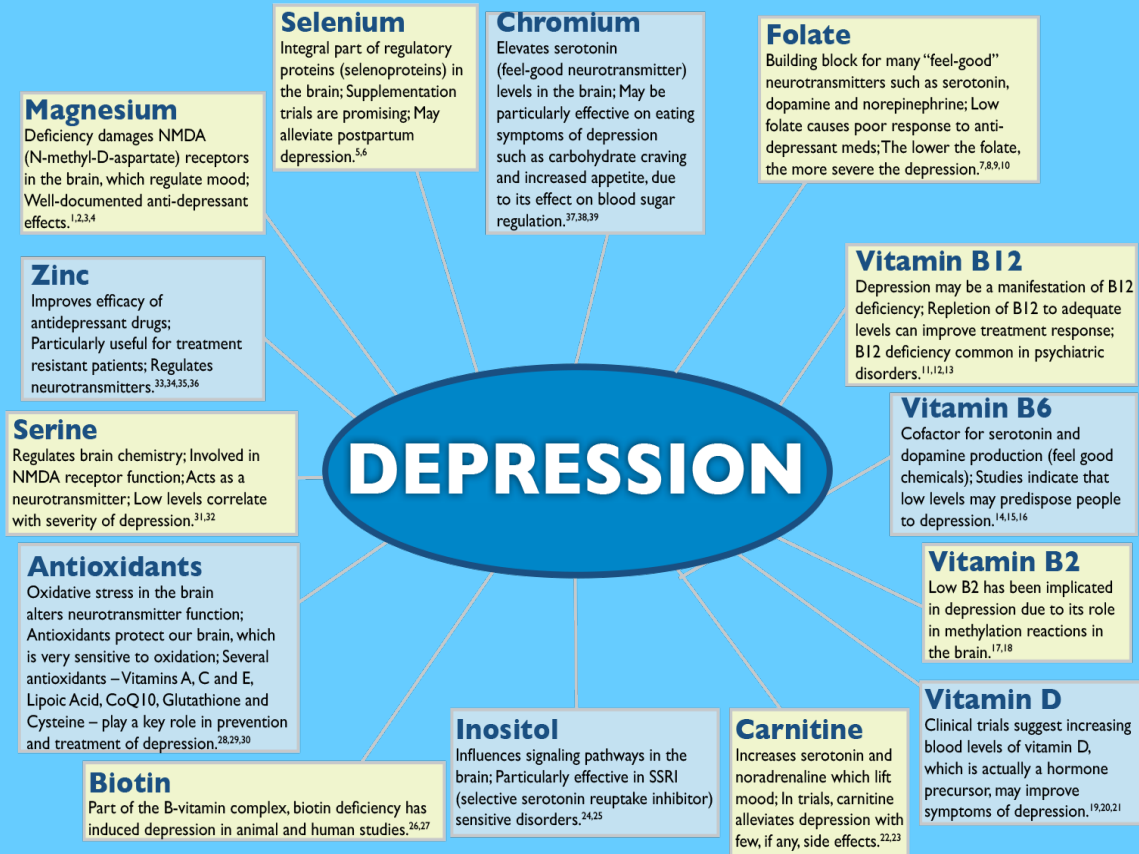
- **IMBALANCE**

- Food allergies
- Arthritis
- Auto-immunity
- Asthma
- Eczema
- Gout
- MS
- Cancer



Making The Connection

- A link between Proton Pump Inhibitors (PPIs) and increased risk of depression and anxiety has been observed in some studies, particularly in children.

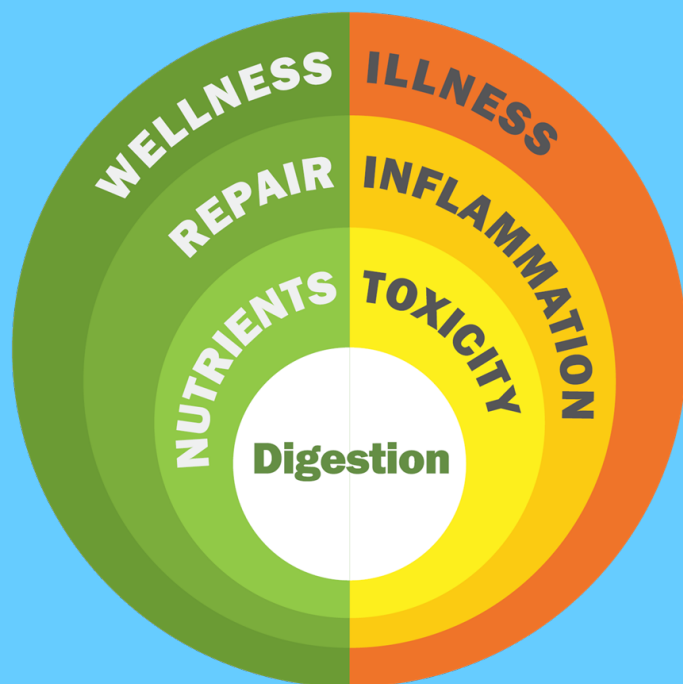


The mechanisms behind this potential link are still being investigated, but research suggest that PPIs may disrupt the microbiota-gut-brain axis, which plays a crucial role in regulating mood and behavior.

PPIs can alter the gut microbiome, which may impact the production of neurotransmitters and other molecules involved in brain function and mental health.



Making The Connection



What's Really Causing the Burn?

- Diet and Lifestyle
- Lack of Enzymes
- Slowed digestion
- Buildup of pressure
- More acid secretion
- Weakened LES
- REFLUX

Get to the **Root** of the Problem with Enzymes



Solutions: Natural vs Rx and OTC

QUICK REFERENCE GUIDE

Category	RX/OTC Names	Purpose	Active Ingredient	Inactive Ingredients	Side Effects
Antacids	Tums®, Maalox®, Rolaids®, Mylanta®	Neutralize acid	Calcium Carbonate	Sucrose, calcium carbonate, corn starch, talc, mineral oil, natural & artificial flavors, adipic acid, sodium polyphosphate, Red 40 Lake, Yellow 6 Lake, FD&C Yellow 5 Lake (tartrazine), Blue 1 Lake	Side effects may include increased blood calcium, hypersensitivity, vomiting, mental impairment, malaise, confusion
Oral Suspension	Pepto Bismol®	Coat the esophagus and stomach	Bismuth subsalicylate	Benzoic acid, flavor, magnesium aluminum silicate, methylcellulose, red 22, red 28, saccharin sodium, salicylic acid, sodium salicylate, sorbic acid, water	Severe allergic reactions (rash, hives, itching, difficulty breathing, tightness in the chest, swelling of the mouth, face, lips, or tongue), fever, hearing loss, nausea, ringing in the ears, severe constipation, vomiting
All-Natural Alternative	Gastro™	Soothe digestive mucosal lining with herbal and antioxidant support to encourage more complete digestion*	Enzyme, antioxidant, and herbal blends	Cellulose, water	None reported
Histamine type-2 receptor antagonists	Pepcid AC®, Zantac®	Reduce stomach acid indirectly by preventing the activation of acid production	Ranitidine	FD&C Yellow No. 6 Aluminum Lake, hypromellose, magnesium stearate, microcrystalline cellulose, titanium dioxide, triacetin, and yellow iron oxide	Constipation, headache, and diarrhea are common side effects of Zantac®. Some of the side effects that are less common include muscle or joint pain, blurred vision, and hair loss.
Proton Pump Inhibitors (PPI)	Prilosec®, Prevacid®, Nexium®	Proton pump inhibitors (PPIs) reduce stomach acid by deactivating acid production directly	Esomeprazole magnesium	Glyceril monostearate 40-55, hydroxypropyl cellulose, hypromellose, magnesium stearate, methacrylic acid copolymer type C, polyisobutyl 80, sugar spheres, talc, and triethyl citrate. The capsule shells have the following inactive ingredients: gelatin, FD&C Blue #1, FD&C Red #40, D&C Red #28, titanium dioxide, shellac, ethyl alcohol, isopropyl alcohol, n-butyl alcohol, propylene glycol, sodium hydroxide, polyvinyl pyrrolidone, and D&C Yellow #10	The most common side effects are diarrhea, nausea, vomiting, headaches, rash, and dizziness. This is not a complete list of side effects and others may occur.

*Stop the Burn with a Better Choice!**

PROFESSIONAL PROTOCOL™

Gastro

- **Enzymes**
 - Polysaccharolytic blend
 - Protease blend
 - Lipase
- **Herbs**
 - Mucilaginous herbs
 - Digestive support
 - Antioxidant blend

Supplement Facts

Serving Size 1 Capsule

Servings Per Container 60/90

Amount Per Serving	% Daily Value	
Vitamin E (as d-alpha tocopheryl succinate)	1 mg	7%
TZyme® Polysaccharolytic Blend (Phytase, Amylase, Alpha-galactosidase, Glucoamylase, Pectinase, Lactase, Diastase, Cellulase, Hemicellulase, Invertase)	91 mg	†
TZyme® Protease Blend (Protease, peptidase) (44,396 HUT + 3.6 SAPU)	76 mg	†
Papaya (leaf)	80 mg	†
Marshmallow root extract	80 mg	†
Ginger (root)	70 mg	†
Turmeric (root)	60 mg	†
Fennel (seed)	40 mg	†
Gotu kola (leaf and stem) extract	40 mg	†
Artichoke leaves extract	30 mg	†
Tzyme™ AntiOx Blend (Dunaliella salina extract, Flax seed, Alpha-lipoic acid, Eleuthero root, American Ginseng root)	43 mg	†
Bladderwrack algae	15 mg	†
Aloe vera (leaf) gel powder	15 mg	†
Peppermint (leaf)	10 mg	†
Lipase (125 FIP)	0.44 mg	†

† Daily Value not established

OTHER INGREDIENTS: VEGETABLE CAPSULE
(HYPROMELLOSE, WATER), CALCIUM CITRATE

May contain fish or shellfish. Bladderwrack algae is a natural

*Get to the Root of the Problem!**

PROFESSIONAL PROTOCOL™

Digest

- **Comprehensive Enzyme Formula**

- 13 Polysaccharolytic (starch, sugar, fiber)
- Protease blend (54,601 HUT)
- Lipase blend (7,467 FIP)
- Other ingredients minimal

Supplement Facts

Serving Size 1 Capsule

Servings Per Container 60/90/120

Amount Per Serving	% Daily Value
Tzyme™ Protease Blend	67 mg †
(Protease and peptidase) (55,131 HUT + 11 SAPU)	
Lipase (7,518 FIP)	24 mg †
Tzyme™ Polysaccharolytic Blend	301 mg †
Amylase	20,000 DU †
Phytase	42 FTU †
Glucoamylase	25 AGU †
Alpha-galactosidase	438 Gal U †
Macerase	400 CU †
Beta-glucanase	25 BGU †
Lactase	610 ALU †
Pectinase	14 endo-PGU †
Cellulase	295 CU †
Diastase	168 DP° †
Invertase	56 SU †
Hemicellulase	28 HCU †

† Daily Value not established

OTHER INGREDIENTS: VEGETABLE CAPSULE
(HYPROMELLOSE, WATER), CALCIUM CITRATE

*Support Natural Healing!**

PROFESSIONAL PROTOCOL™

Probiotic

- **Comprehensive Probiotic**
 - 6 strains
 - 5 billion cfu
 - Jerusalem artichoke
- **Clinically Proven**
 - Digestive support
 - Elimination
 - Inflammation and immune support

Supplement Facts

Serving Size 1 Capsule

Servings Per Container 60

Amount Per Serving	% Daily Value
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TZyme® Probiotic Blend (5.1 billion cfu)	225 mg †
<i>Lactobacillus acidophilus, Lactobacillus plantarum, Bacillus coagulans, Bifidobacterium longum, Lactobacillus salivarius, Lactobacillus casei</i>	

Inulin (from Jerusalem artichoke root extract)	18 mg †
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Lactoferrin (milk)	10 mg †
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† Daily Value not established

OTHER INGREDIENTS: VEGETABLE CAPSULE (HYPROMELLOSE, PECTIN, WATER)



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Enzyme Therapy

GASTROESOPHAGEAL REFLUX (GERD)

Reflux is the backflow of the stomach's contents into the esophagus and is often the result of lower esophageal sphincter (LES) incompetence. Gastric juices are very acidic and can damage the lining of the esophagus, causing inflammation and discomfort. Chronic reflux results in gastroesophageal reflux disease (GERD), and long-term GERD can result in Barrett's Esophagitis. The traditional treatment is to prescribe anti-acids, however reflux does not occur because there is too much acid in the stomach, therefore anti-acids only mask the problem, do nothing to correct it and can even cause long-term digestive problems. Our recommendations include assisting the patient to improve LES pressure, decrease pressure within the stomach and heal the mucosal lining of the esophagus and stomach through proper nutrition, eating habits and enzyme therapy.*

- A digestive enzyme formula with meals will help ensure proper assimilation and helps lower the stomach pressure, reducing gas and belching.*
- An all-natural blend of soothing herbs and enzymes to help soothe the digestive mucosal lining and encourage more complete digestion.*
- A protease formula between meals will help promote optimal blood flow and efficient detoxification as well as help manage inflammation and promote healing of the damaged tissue.*
- A probiotic supplement further supports digestion and the immune system while maintaining a healthy gut environment.*

TPP DIGEST	1 cap	with every meal or snack
TPP GASTRO	2 caps	after meals & as needed
TPP PROTEASE	1 cap	3 x day between meals
TPP PROBIOTIC	1 cap	morning and bedtime

Transformation™ offers several formulas for the "sensitive" patient.* If needed, you may substitute:

DIGESTZYME	3 caps	with every meal or snack
GASTROZYME	3 caps	after meals & as needed
PUREZYME	2 caps	3 x day between meals
PLANTADOPHILUS	3 caps	morning and bedtime

Questions? 1-800-777-1474
email moreinfo@tecenzymes.com
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This product is not intended to diagnose, treat, cure, or prevent any disease.



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Enzyme Therapy

GASTROESOPHAGEAL REFLUX (GERD)

Additional support formulas you may want to consider for patients with GERD.

CALMZYME 2-3 caps between meals and/or before bed

- One of the symptoms of anxiety is muscle tension. It is therefore easy to see the relationship between stress and heartburn, with the excess tension from anxiety causing acid reflux in the stomach. This formula will feed and fortify the nervous system, assisting with stress management.*

TPP PROTEASE IFC 1 cap 3 x day between meals

- Inflammation in the esophagus stimulates GERD. Additional inflammatory and antioxidant support may be beneficial, and this unique formula provides proteolytic enzymes and antioxidants to help regulate inflammation anywhere in the body.*

REPAIRZYME 2 caps 2 x day

- Narrowing of the esophagus may be caused by scar tissue resulting from GERD or Barrett's esophagitis. This formula provides the necessary building blocks for healthy growth and repair of damaged tissue in the body.*

RELEASEZYME** 1 cap after each meal
OR RELEASEZYME** 3 caps at bedtime

- Constipation can create or exacerbate GERD in some individuals. Straining to eliminate hardened stool can widen the LES over time, allowing acids to back up through the esophagus. This formula provides a gentle blend of herbs and enzymes to effectively "jump start" the sluggish colon.*

**ReleaseZyme is intended for short-term use (1-3 months) during the healing process and periodical use afterwards as needed for chronic constipation.

Questions? 1-800-777-1474
email moreinfo@tecenzymes.com
www.transformationenzymes.com



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CASE STUDY

- 45 year old female (ht 65" wt 165)
 - Weight loss, better energy, “trying to get healthier”
 - History of heartburn, Gall bladder removed 2 years ago
- Processed foods / fast foods 4 x week
- No exercise / works full time
- Rx – thyroid, PPI
- How many BM's do you have per day? 0-1
- Dark Field – RBC aggregation, toxicity
- BCA – 40% fat, ICW=ECW, phase angle 5.0

CASE STUDY Protocol

- Plan Menu – breakfast, lunch , light dinner
 - Fresh fruits and vegetables , fiber
 - Increase water intake
 - Chicken, fish
 - Season w/ herbs
 - Avoid bread, pasta, fried foods, sauces
- Begin walking 20-30 minutes 5 x week
- Enzyme protocol
 - 1 Digest at beginning of each meal
 - 1 Gastro following each meal and as needed for HB
 - 2 Probiotics at bedtime
 - Discussed Protease and Thyroid Complex

CASE STUDY Results

- At 1 month
 - Wt 155 (diet and exercise still needing work)
 - Darkfield congested but RBC's moving
 - BCA 37% fat, ICW:ECW better, PA 5.2
 - BM's daily, energy was about the same
 - Added Protease and Thyroid Complex
 - She stopped taking the PPI
- At 3 months
 - wt 140
 - Darkfield clean
 - BCA 30 % fat, ICW/ECW 3:2, PA 5.8
 - She stopped taking the Gastro
 - Digest, Protease, Probiotic, Thyroid Complex

COMPLETE LIFESTYLE SUPPORT

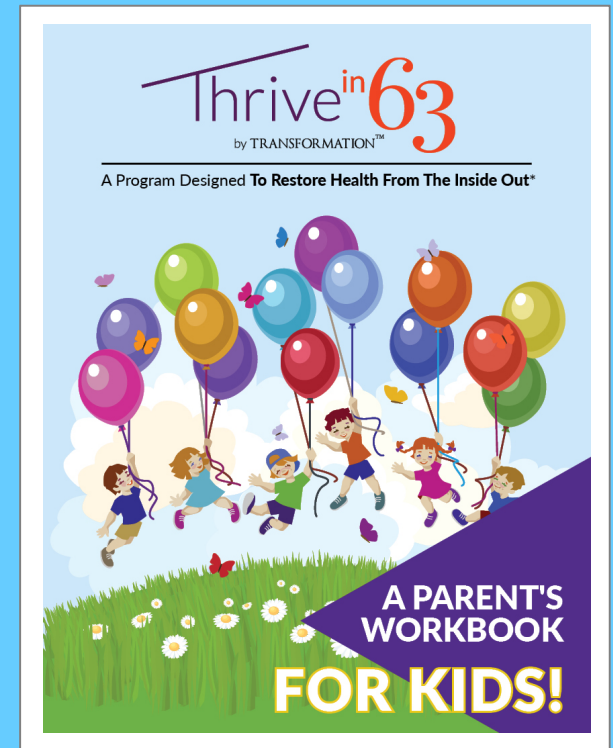
- Approved Food List
- 9 weeks of Meal Plans with Grocery List
- Daily Anti-inflammatory Menus
- Recipes
- Enzyme Protocols
- Food Journal



COMPLETE LIFESTYLE SUPPORT FOR KIDS!

Parent's Workbook:

- Food Lists
- Kitchen Tips
- Protein Powder Advice
- Daily Anti-inflammatory Meal Plans
- Kid Friendly Recipes
- Enzyme Protocols – Using Sensitive Formulations



KIDZ HEALTH* BUNDLE FOR INFANTS



KIDZ HEALTH* BUNDLE FOR TODDLERS



KIDZ HEALTH* BUNDLE FOR CHILDREN



KEEP
THE
FIRE
ON THE
GRILL



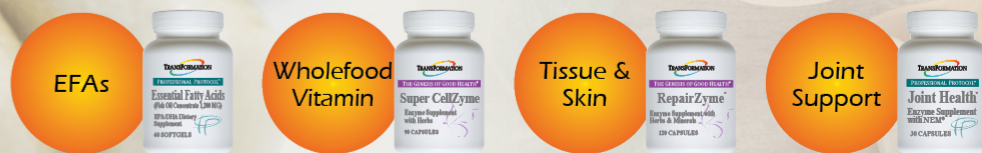
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VIRTUAL WORKSHOP
Saturday, June 14th

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- Get this recording plus browse our webinar archives on Thrive in 63, Histamine Intolerance, GMO's, Detoxing, and more
- Access our Thrive in 63 support group on Facebook
- Download the Gut Dysfunction (Leaky Gut) Clinical Study

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