Achieving Digestive System Balance, from Top to Bottom

by Matthew Hollist, ND

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Upper Digestion

Basic Function & Common Myths

Foundation Keys

• Digestion starts long before we eat in the olfactory senses & autonomic stimuli
• Enzymes are the catalyst for assimilation and absorption
• Mechanical and/or chemical digestion proceed enzymatic assimilation
• Digestion is a parasympathetic process
• Eat calmly or have digestive breakdown
• Few people were ever taught how to breathe or how to eat
• You are not what you eat. You are what you properly digest & assimilate.

Big Picture Considerations

Mouth
L.E.S.
Salivary Juice Info

- 98% of salivary juice is water
- The mastication stimulates the release of salivary enzymes, primarily amylase to be secreted

In The Mouth

- **Mechanical** = Mastication, drink your food and chew your drink
- **Enzymatic Start** = Amylase family
- **Food Group** = Carbohydrates
- **Duration** = Chew each bite 30 times
Lifestyle
Salivary juices

- Chew each bite 30 times
- Oil pulling with coconut or sesame oil before drinking in the morning
- Eat - Traditionally fermented foods, lemon water, cardamom and other digestive bitters

Nutrients - Enzyme supplementation

Herbs - Slippery elm tea, ginger tea, cayenne (not in capsule)

Oils - Rosemary or clove essential oil, topical application over salivary glands (avoid neat application)

Supplements
Salivary juices
Dysfunctions beyond the scope of this lecture

- Lymphatic swelling or congestion
- Viral infections to soft tissue
- Hiatal hernia
- Erosion damage and inflammation to esophagus from acid reflux

TEST Question

How many of you chew each bite 30 times before swallowing or before adding more food?  
- Yes or No

“Few people have been taught how to breathe or how to eat.”
Stomach
Pyloric
In The Stomach

- **Chemical** = Functions of acid; 1- breaks mineral bonds, 2- breaks protein bonds, 3- kills pathogenic organisms
- **Enzymatic Start** = Protease & pepsin
- **Food Group** = Proteins
- **Duration** = No longer than 90 min before it passes through the pyloric valve

Role Of Acid

- Hypochlorhydria vs hyperchlorhydria
- Is heartburn from too much or too little acid?
- Autonomic nervous system role
- Are people chronically stressed or chronicle relaxed?
Low Acid

“It is my opinion, and the opinion of other professionals, that the medical profession’s obsession with reducing stomach acid levels is responsible for many of the GI problems we see. Medications that keep stomach acid levels artificially low not only impair digestion (many stomach enzymes require the acid to function), but also increase the risk of developing reflux.”

Dr. Russell Blaylock

Low ACID Concern

After using Heidelberg Gastro telemetry equipment to examine the stomach pH of thousands of his patients, Jonathan Wright, MD estimated that approximately 90% of Americans produce too little (HCL).

• Three dysfunctions, mineral bonds, protein bonds and pathogenic organisms

• Low vitamin B12 and iron absorption
The Pyloric Valve

- **Chemical** = Stomach pH drops to 2.5-3 and the valve starts pulsing
- **Operation** = Rhythmic pulsing allows small amounts of food at a time to pass
- **Necessity** = Small amounts at a time ensure that the stomach acid is neutralized before passing through the small intestine
Lifestyle
Proper acid balance

- Relax BEFORE you eat
- Eat calmly and slowly - device free dining
- Drink sparingly and avoid iced beverages
- Eat traditionally fermented foods, apple cider vinegar, papaya

Supplement
Proper acid balance

- **Nutrients** - Betaine HCL, enzymes, aloe vera, chlorophyll, papaya & mint blend
- **Herbs** - Ginger root, slippery elm
- **Oils** - Peppermint oil in water or chlorophyll with peppermint oil
Dysfunctions beyond the scope of this lecture

- H pylori
- Bacterial & viral infections
- Ulcerations
- Inflammation of the stomach lining

TEST Question

*What are the 3 functions of stomach acid*

- Break mineral bonds and break protein bonds, open the pyloric valve
- Break mineral bonds and break protein bonds, break vitamin bonds
- Break mineral bonds and break protein bonds, kill pathogenic organisms
Duodenum
GallBladder
Villi & Microvilli

- Villi
- Microvilli forming the brush border
- Brush border cells with lactase enzyme
- Blood vessels in folds of intestine
- Capillaries
In The DUODENUM

- **Chemical** = Emulsification of fat soluble nutrients & neutralization of acid
- **Enzymatic Start** = Lipase family
- **Food group** = Fats
- **Duration** = Full digestive transit time should range from 17 - 25 hours
WHAT’S NEXT

• The food is now called chyme
• It’s been mechanically/chemically broken down by chewing acid and bile
• It’s been blended with the full spectrum of digestive enzymes
• It now enters the microbiome where proper digestion flora will complete the digestion and assimilation process

Missing/sluggish gallbladder

• No gallbladder requires permanent supplementation to avoid nutritional deficiency
• Fat deficiency disorders
• Don’t cleanse without proper preparation
2 REQUIREMENTS FOR missing gallbladder

• Eat something small every few hours to evacuate the buildup of bile
• Supplement with emulsification agents such as bile salts and lipase until someone puts the gallbladder back

Supplement Absorbing healthy fats

• **Nutrients** - Probiotics, lipase enzymes, bile salts, pancreatin
• **Herbs** - Caraway Seed, dandelion root, gentian root, fennel seed, bitter herbs
• **Oils** - Grapefruit, geranium
• **Foods** - Apple cider vinegar cocktail before meals, moderate healthy fats
Dysfunctions beyond the scope of this lecture

- Leaky gut
- Ulcerative/irritable bowel
- Fungal overgrowth / candida
- Mucus build up

TEST Question

What could someone without a gallbladder do?

- Supplement with emulsifying agents until someone puts your gallbladder back
- Eat every few hours to prevent bile reflux
- Supplement with healthy fats
- All the above
REVIEW

• Proper food mastication, eat slowly
• Ensure proper acid levels - eat calmly
• Healthy gallbladder, healthy fats
• Supplement with enzymes, acid and probiotics as needed

Sources

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Basic Function & Common Myths

Thank you Dr. Hollist!