The Sunshine Sharing Hour

With Steven Horne, DNM, DHS, RH(AHG)

Tuesday, June 25, 2019

Probiotics
The Bacteria That Keep You Healthy

Bacterial Bad Guys

- Clostridium botulinum (botulism)
- C. difficile (severe, and potentially fatal, diarrhea)
- Salmonella sp. (food poisoning)
- Shigella (leading cause of diarrhea)
- Staphylococcus aureus or staph (respiratory infections, skin infections and food poisoning)
- Methicillin-resistant Staphylococcus aureus or MRSA (serious infections in hospitals)
- Vibrio cholera (cholera)
- Yersinia pestis (bubonic plague)
- Mycobacterium leprae (leprosy)
- Bacillus anthracis (anthrax)

Germ Phobia

- In combating bad bacteria we went overboard, not realizing that many bacteria are not only harmless, they are actually beneficial.
- Children raised in highly sterile homes have more problems with allergies and asthma – their immune systems are weaker.
- Autoimmune disorders have also increased as bacterial infections decreased.
- Also, the highest risk for catching an infection is a hospital as the overuse of disinfectants and antibiotics breeds stronger microbes.

Factors Which Can Disrupt Friendly Gut Flora

- Antibiotics
- Prescription corticosteroids (e.g. prednisone)
- Prescription hormones (like birth control pills)
- NSAIDS (ASA, ibuprofen, indomethacin) and aspirin
- Chlorinated water
- Diets high in refined carbohydrates, hydrogenated and processed oils
- Diets high in overcooked meat

Dysbiosis Symptoms

- Imbalances in gut microbes can cause digestive disturbances like gas, bloating, nausea, belching, irritable bowel syndrome, diarrhea or constipation.
- They also affect the immune system, making it easier to catch colds and flu and increasing the risk of allergies, asthma and autoimmune diseases.
- They also be involved in chronic infections like chronic sinusitis.
Gut Brain Connection

- Imbalances in gut microflora affect the brain and nervous system, which may result in problems like:
  - Brain fog
  - Depression
  - Mental illness
  - Autism
  - Parkinson's

Destroying the Bad without Killing the Good

- As much as possible, we should try to treat infections with substances that reduce harmful bacteria while allowing good bacteria to survive.
- These include:
  - Silver
  - Berberine and herbs containing it such as goldenseal, Oregon grape and barberry
  - Garlic

Cultured Foods

- Cultured dairy
  - Yogurt
  - Cheese
  - Kefir
- Cultured soy (miso, etc.)
- Fermented beverages
- Pickled Vegetables
  - Sauerkraut
  - Pickles (cucumbers)
  - Kimchi
- Fermented fish
- Sourdough

Prebiotics

- Prebiotics are non-digestible carbohydrates that feed friendly bacteria.
- They come in the form of oligosaccharides (short chains of sugar molecules).
- Most mother's milk contains oligosaccharides.
- Fructo-oligosaccharides are fructose based compounds that feed friendly flora such as inulin.
- Inulin is found in burdock, dandelion, elecampane, chicory, Jerusalem artichokes, garlic and onions.

Foods Rich in Prebiotics

- Fruits: Apple, banana, berries, raisins
- Vegetables: Onion, garlic, leek, Jerusalem artichoke, globe artichoke, asparagus, chicory root, burdock, yacon, jicama, tomato, greens (spinach, collard greens, chard, kale, mustard greens, dandelion greens, salsify)
- Legumes: Lentils, dry beans, chick peas, peas
- Whole Grains: Whole wheat, barley, rye, oats, brown rice, whole grain corn, buckwheat
- Seeds: Flaxseed, almonds
- Herbs: Dandelion root, burdock root, chicory root, elecampane, Echinacea
- Other: Honey

Who Needs Probiotics?

- People who suffer from yeast infections of any kind, including athlete’s foot, jock itch, vaginal yeast infections and nail fungus.
- People with weak immune systems, frequent respiratory infections and congestion.
- People with food or respiratory allergies.
- People suffering from inflammatory bowel disorders, constipation or intestinal infections.
- People with skin problems.
- People who travel can avoid infections from foreign food and water by taking probiotics with meals.
- Probiotics can also be given to children and infants to reduce the risk of infection.
Bacterial Good Guys

- Lactobacillus acidophilus
- L. brevis
- L. bulgaricus
- L. plantarum
- L. salivarius
- L. reuteri
- Bifidobacterium infantis
- B. longum
- B. bifidus
- Streptococcus thermophilus
- Bacillus coagulans

Lactic Acid Bacteria

- Lactobacillus, Lactococcus, Enterococcus, De
nococcus, Pediococcus, Streptococcus and Leu
conostoc
- These bacteria convert hexose sugars to
lactic acid thus producing an acid
environment which inhibits the growth of
several species of harmful bacteria
- Hexose sugars include:
  - Glucose
  - Mannose
  - Galactose
- They also digest milk sugar or lactase

Lactobacillus Genus

- Lactobacilli are normally present in the
gastrointestinal tract
- Along with Bifidobacterium they are
some of the first bacteria to colonize
newborn intestines
- Some Lactobacillus species are used as
starter cultures in industry for
controlled fermentation in the
production of wine, yogurt, cheese, sauerkraut, pi
cola, beer, cider, kimchi, cocoa, kefir,
and other fermented foods
- They are also used in animal feeds
- The antibacterial and antifungal
activity of Lactobacillus species rely on
production of bacteriocins and other
compounds that inhibits these
microorganisms

Lactobacillus acidophilus

- One of the most well-known strains of friendly bacteria and
one of the most common species of probiotics in
supplements
- Produces many antimicrobial substances, including both
hydrogen peroxide and lactic acid, which inhibit the growth
of harmful microbes and aid immunity
- Lives in the mouth, intestines, and vagina
- It helps maintain the integrity of the small intestinal wall
  aiding nutrient absorption and immunity
- Adheres to the walls of the vagina and urinary system where
  it helps to fight infection

L. acidophilus continued

- Helps to synthesize vitamin K and many antimicrobial
  substances, giving it antibiotic properties.
- Has been used for the treatment of travelers’ diarrhea,
  prevention or treatment of bacterial vaginosis, reducing
  urinary tract infections in children and reduces irritable bowel
  symptoms
- Acidophilus has antifungal activity and knocking down
  acidophilus bacteria, antibiotics may contribute to thrush (a
  yeast infection in the mouth or throat) or vaginal yeast
  infections, as well as yeast overgrowth in the intestines

Lactobacillus plantarum

- In a study giving this probiotic to children with Autistic
  Syndrome Disorder, many positive results were noted
- Supplementation was found to stimulate nerve growth in the
  area of the brain responsible for memory and emotions
- It may be helpful in reducing depression, a study suggests it
  increases hippocampal brain derived neurotrophic factor
- A 2008 study suggested it could reduce allergic reactions to
  soy flour
**L. plantarum continued**

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**Lactobacillus reuteri**

- *L. reuteri* produces a substance known as reuterin, which inhibits the growth of both Gram-positive and Gram-negative bacteria.
- It helps prevent the growth of yeasts, fungi, protozoa, *H. pylori* and *E. coli* infections and maintain a healthy immune system.
- Can be used to prevent and treat diarrhea, also helpful for vaginal infections and UTIs.
- It helps reduce LDL cholesterol.
- It is found in breast milk.
- It helps diarrhea in children, infant colic, aids feeding intolerance and shortens the duration of hospital stay in preterm infants.

**Lactobacillus reuteri**

- *L. reuteri* may promote dental health, as it has been proven to kill Streptococcus mutans, a bacterium responsible for tooth decay.
- Patients afflicted with severe gingivitis showed decreased gum bleeding, plaque formation and other gingivitis-associated symptoms after chewing gum containing *L. reuteri*.
- Research suggest that *L. reuteri* may play a role in mental health.
- Researchers who gave autistic mice *L. reuteri* found that it normalized some of their behaviors.
- It appears to increase production of oxytocin, which has been called the “bonding hormone,” because it promotes human bonding, feelings of love and general well-being.

**Lactobacillus bulgaricus**

- *L. bulgaricus* is now officially known as *Lactobacillus delbrueckii* subsp. *bulgaricus*.
- It is used along with another bacteria, *Streptococcus thermophilus*, to create yogurt and cheese.
- It was first identified in 1905 and was named for the Bulgarians who consumed yoghurt containing it.
- Ilya Metchnikoff, a professor at the Pasteur Institute in Paris, researched the relationship between the longevity of Bulgarians and their consumption of yogurt and believed that it prevented putrefaction in the intestines.
- It is a transient bacteria, which means it doesn’t colonize the intestinal walls.
- Transient species can still be important in our health by helping to maintain a healthy balance of intestinal microbes.

**Lactobacillus brevis**

- *L. brevis* is a gram positive species of *Lactobacillus* is found in fermented dairy foods like kefir and cheese, as well as raw sauerkraut and pickles.
- It is found in the intestines and vagina.
- It produces lactic acid and other antibacterial agents that inhibit unfriendly microbes.
- It also produces CO2 (gas) and can also produce ethanol alcohol.
- It aids with the synthesis of vitamins D and K.
- It can cause spoilage in beer.

**Lactobacillus rhamnosus**

- One of the most effective strains for combating antibiotic-associated diarrhea and traveler’s diarrhea.
- Lives in the intestines, and fights infections both in the gut and urinary tract.
- Assists in dairy digestion and lactose intolerance.

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**Lactobacillus salivarius**
- *L. salivarius* is also helpful in maintaining a healthy intestinal microflora
- It may inhibit the growth of *H. pylori*, the bacteria associated with developing ulcers
- It has been found to relieve symptoms of irritable bowel syndrome and reduce intestinal gas
- It may be helpful in pancreatic necrosis along with other probiotics
- It has also aided atopic dermatitis symptoms in some children

**Lactobacillus casei**
- Found in the urinary tract as well as the intestines and mouth of both infants and intestines
- Survives a wide variety of pH and temperatures
- Helps control diarrhea, has potential anti-inflammatory effects on the GI and aids in relieving antibiotic-associated diarrhea
- May be helpful in easing constipation, some forms of diarrhea, restoring vaginal health in bacterial vaginosis, reducing symptoms of rheumatoid arthritis
- Modules the immune system and impedes the growth of harmful bacteria such as Salmonella and Staphylococcosis

**Bifidobacterium**
- The genus *Bifidobacterium* includes various Gram positive non-motile anaerobic bacteria
- They are also commonly used bacteria in probiotic supplements and produce lactic acid
- Many species are also highly tolerant of bile salts
- In general *Bifidobacterium* species have been used to relieve constipation, travelers' diarrhea, antibiotic-associated diarrhea and lower cholesterol

**Bifidobacterium longum or B. infantis**
- *B. infantis* gets it's name from the fact that it is one of the first probiotics to colonize the digestive tract in infants
- Breast milk contains a complex sugar that specifically feeds this species of bacteria
- An abundant probiotic in the large intestine, which crowds out pathological organisms and undesirable yeast and organisms like clostridia, salmonella and shigella and boosts immunity
- May be helpful in prevention and treatment of necrotizing enterocolitis in newborns
- Helps neutralize toxins in the gut
- Helps to maintain regular bowel movements

**B. longum cont.**
- Aids production and absorption of B vitamins
- Helps the digestive system break down carbohydrates without producing excess gas
- May help to prevent or minimize various allergies or allergic reactions, inflammation associated with Crohn's disease, or colitis
- May have positive impact on cholesterol levels
- Also reported to be helpful in easing irritable bowel syndrome
- Recent studies have also shown this strain to be beneficial in supporting a balanced mood and healthy management of stress and anxiety

**Bifidobacterium bifidus**
- *B. bifidus* is a probiotic organism that colonizes the mucus membrane lining of the colon and the vaginal tract
- It is found in the colon, lower part of the small intestine and breast milk, and often in the vagina
- Enhances mineral assimilation
- Produces substances that lower the pH of their environment so bad bacteria cannot thrive and prevents invading pathogenic bacteria from attaching to the intestinal wall
- May reduce risk of diarrhea and E. coli infections
- In one study it resulted in a reduction of hospital stay of children with acute diarrhea
- May reduce total cholesterol
**Streptococcus thermophilus**
- The name of this genus, Streptococcus, comes from a Greek term that means easily bent. This refers to the way these bacteria group themselves into chains resembling strings of beads that have been twisted.
- One of the most useful strains in the commercial food industry.
- Mentioned earlier as a bacteria used to culture yogurt, it is also used in some cheeses.
- Produces the lactase enzyme to break down lactose and is one of the best strains for people who have trouble digesting dairy foods.
- Helps prevent the growth of harmful bacteria causing food poisoning.
- May have benefits for chemotherapy patients.
- It may be helpful in reducing symptoms of irritable bowel syndrome.

**Bacillus coagulans**
- A lactic acid producing bacteria that forms spores, which means it can be used as a shelf-stable probiotic.
- A few studies have found it may be helpful for irritable bowel syndrome, constipation, intestinal gas and inhibiting respiratory tract infection.
- It can also help increase populations of other beneficial bacteria in the gut.
- It is approved by the FDA and the European Union as a probiotic in animal feed.

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**Using Probiotics**
- Should always be taken after antibiotics.
- Generally best taken on an empty stomach.
- Can be used in enemas or douches for yeast infections.
- Friendly flora can be thought of as a little internal “garden” that requires care and feeding.
- Diet plays a critical role in maintaining one’s friendly flora in their proper balance, so eat prebiotic rich foods to promote gut flora.

**Probiotic Supplements**
- Acidophilus (L. acidophilus)
- Bacillus coagulans
- Bifidophilus flora force (L. rhamnosus, L. casei, L. acidophilus and B. longum)
- Probiotic Eleven, Eleven Elevated, Probiotic Power (L. rhamnosus, B. bifidum, L. acidophilus, L. brevis, L. bulgaricus, L. plantarum, Streptococcus thermophilus, B. infantis, L. casei, L. salivarius, prebiotics)
- EnviroDetox (contains L. reuteri)

**Upcoming Education**
- **Upcoming Member Webinars**
  - Sunshine Product Training – Tuesday June 11, 6:00 MT: Glandular System Products
  - Sunshine Sharing Hour (Tue, June 25) – Probiotics: The Bacteria that Keep You Healthy
- **Other Classes and Events**
  - 2019 Healthy Perspective Webinar Series – [https://events.genndi.com/channel/healthyperspective](https://events.genndi.com/channel/healthyperspective)
  - 2019 Seeking Light and Truth – [Webinar series: https://events.genndi.com/channel/seekinglight](https://events.genndi.com/channel/seekinglight)
Comments, Questions and Answers

- Type your questions about tonight's topic into the chat box
- Product presentation to follow this Q&A