



### How to Choose a Probiotic - Part 2







Atrium Innovations Brands ATRIUM



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### Speaker Disclosure



I am a paid advisor to Seroyal. I have no other conflicts of interest to disclose.

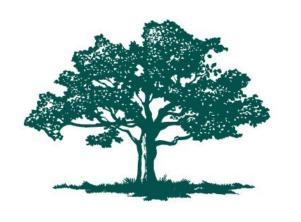
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### Key Concepts from Part 1



Indications for Use

Criteria for Choosing a Probiotic

Colonization Patterns of Microflora

Four Core Broadly Studied HMF Strains



### When should we recommend a probiotic?

#### Indications for Probiotic Use:

- Anti-biotic use
- Digestive symptoms (bloating, constipation, diarrhea)
- Symptoms of inappropriate immune activity (food intolerances)
- Ongoing use of certain medications (oral contraceptives, HRT, PPIs, SSRIs)
- Acute or chronic stress
- Pregnancy / Post-natal
- Preventative health maintenance

#### Other Considerations:

- Our microbiome influences how our body digests & assimilates nutrients.
- Consider recommending a probiotic when a patient is struggling to adhere to dietary recommendations (our microbiome influences our food choices).
- Also consider including a probiotic supplement when a patient is compliant with dietary changes, but not seeing expected results.

Microbiota in the small intestine help produce:

- acetylcholine
- dopamine
- serotonin
- catecholamines

- melatonin
- GABA
- histamine
- active B vitamins



### Critical Criteria for Choosing a Probiotic



1

100% Human Strain Bacteria



Human sourced strains have been shown to effectively adhere and colonize.

2

Clinical Research



Research on a particular strain can NOT be extrapolated to other strains.

3

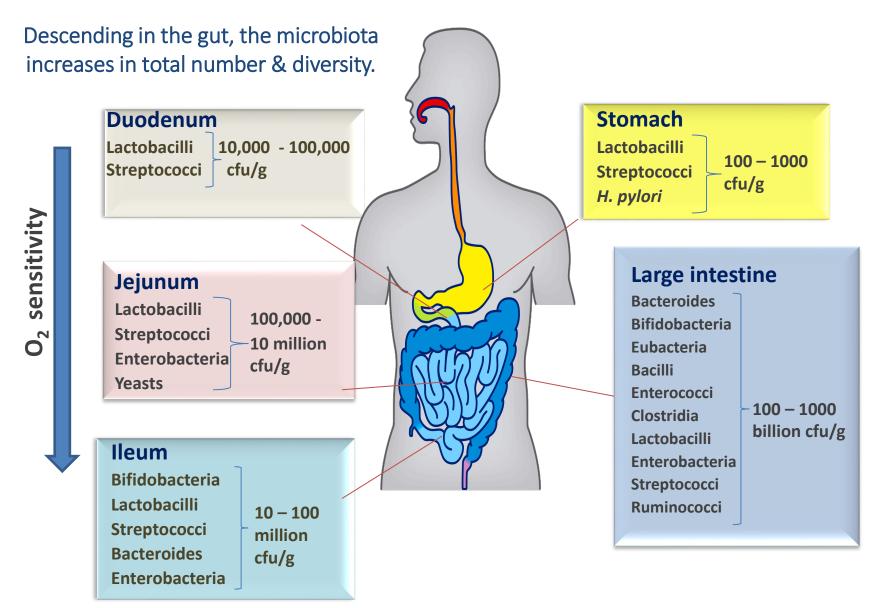
CFUs & Delivery Method



Bacteria colonize in varying concentrations throughout the gastro-intestinal tract.



### Typical Microbiota of the Adult Gastrointestinal Tract





### Four Core Broadly Studied Strains





Lactobacillus acidophilus (CUL-60)
Lactobacillus acidophilus (CUL-21)

Bifidobacterium bifidum (CUL-20)

Bifidobacterium animalis subsp.lactis (CUL-34)

#### **Alongside Anti-biotics**

- Reduce the growth of opportunistic infections
- Reduce growth of antibiotic resistant bacteria
- Reduce incidence of antibiotic associated diarrhea

#### **Immune Health**

- Reduction of frequency, duration and intensity of Upper Respiratory Tract Infections in children
- Lower frequency of visits to doctor's office and reduced antibiotic use

#### **Digestive Health**

- Improves intestinal permeability
- Provides relief from IBS symptoms with respect to days without pain and improved satisfaction with bowel movements
- Reduces the occurrence of IBS symptoms in endurance athletes

#### Cognitive Health

- Lessening trait anxiety
- Support cognitive health, memory & overall brain health



### HMF Research Driven Probiotics







### **Specialty Strains**

Lactobacillus plantarum (CUL-66)

Lactobacillus rhamnosus (CUL-63)



### Speicialty Strains – Fat Metabolism

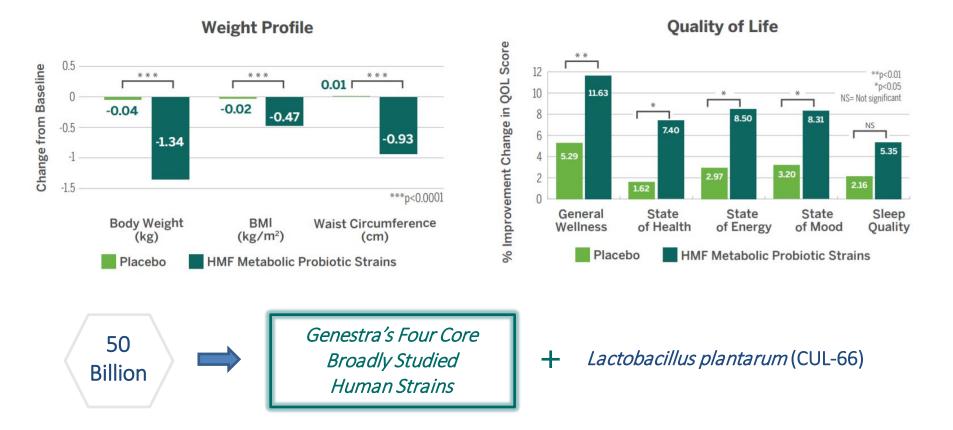




Genestra HMF *Lactobacillus plantarum* (CUL-66)

🖈 Participants in Promegen study made NO changes to diet or lifestyle 💢





### **Metabolic Strains**



50 Billion 16.5 Billion CFU of Genestra HMF *Lactobacillus plantarum* (CUL-66)

33.5 Billion CFU of Genestra's 4 HMF *broadly studied* probiotic strains

Research involving the combination of proprietary strains in HMF Metabolic suggest this combination of probiotics:

Helps assist in weight management when used with a program of reduced intake of dietary calories and increased physical activity.

Supports gastrointestinal health

Increased quality of life scores, including general wellness and state of health













FOS

### **Specialty Strains**





#### Lactobacillus rhamnosus (CUL-63)





Lactobacillus rhamnosus (CUL-63) has been shown to facilitate the metabolism of undigested wheat and dairy proteins.

These proteins when left incompletely digested are exorphins, opiate food peptides. They elicit an 'opiate-like effect' in the brain, resulting symptoms experienced by individual include a cloudiness of consciousness, or what many refer to as 'brain-fog'

### Specialty Strains – HMF Neuro Capsules & Powder



12 Billion Genestra's HMF *Lactobacillus rhamnosus* (CUL-63)

Combined with Genestra's Broadly Studied Strains and Glutamine

Genestra's Four Core Broadly Studied Human Strains



Lactobacillus rhamnosus (CUL-63)
Glutamine



250 mg Glutamine No FOS



500 mg Glutamine 250 mg FOS













### HMF Research Driven Probiotics







#### Moms & Infants

Lactobacillus salivarius (CUL-61)

Lactobacillus paracasei (CUL-08)

Bifidobacterium bifidum (CUL-20)

Bifidobacterium animalis subsp.lactis (CUL-34)



### Strains for Moms & Infants



# Objective of the double-blind, placebo controlled study:

#### TO INVESTIGATE:

- The safety of proprietary human probiotic strains\* in pregnancy and for newborns
- The effect of a proprietary human probiotic on skin and immune health

\*Strains used in trial:
Lactobacillus salivarius (CUL-61)
Lactobacillus paracasei (CUL-08)
Bifidobacterium bifidum (CUL-20)
Bifidobacterium animalis subsp.lactis (CUL-34)

#### Design of the study:

- 454 pregnant women and infant pairs
- 10 billion CFU
  HMF probiotic\*
  provided to
  mothers in 3rd
  trimester and babies
  daily from birth for
  6 months
  - Follow up occurred at 6 months and 2 years of age

#### Outcome of the study:

- 57% decrease in incidence of atopic eczema
  - 44% decrease in skin prick allergy sensitivity testing to common food allergens (milk, eggs, pollen, etc.)
    - Benefits maintained in cohort receiving probiotics at 2 year follow up



### **Strains for Moms & Infants**



Four proprietary human probiotic strains that have been tested for safety during pregnancy and newborns.

Lactobacillus salivarius (CUL-61)

Lactobacillus paracasei (CUL-08)

Bifidobacterium bifidum (CUL-20)

Bifidobacterium animalis subsp.lactis (CUL-34)



### Strains for Moms & Infants



1 Billion

CFUs per 5 drop serving in a shelf-stable liquid option

HMF Baby Drops are beneficial for promoting infant gut health and decreasing symptoms associated with colic.

HMF Baby Drops consists of a combination of two probiotic organisms to support gastrointestinal health and provide relief in infant colic

Pediococcus pentosaceus (KABP™-041) & Bifidobacterium longum (KABP™-042).

Clinical trials demonstrate that these organisms help to:

- Promote favorable gut flora and support gastrointestinal health
- Improve colic symptoms in infants, such as crying, fussing, or irritability
- Reduce total crying time and duration of crying episodes in infants with colic by providing gut comfort and colic symptom relief













EACH SERVING [5 DROPS (0.25 mL)] CONTAINS:

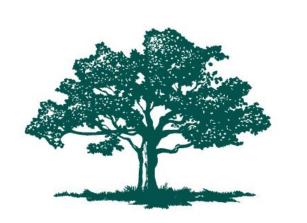
Bifidobacterium longum subsp. longum (KABP™-042) . . . . . . . . 0.5 billion CFU Pediococcus pentosaceus (KABP™-041) . . . 0.5 billion CFU



### HMF Research Driven Probiotics







### **Specialty Combination Probiotics**

*Immune Support* 

Cognitive Health

Digestive Support

Urinary Tract & Vaginal Health



### Immune Support



#### **HMF Fit For School**

fit for school



#### HMF Immune



#### **HMF Immune Powder**



#### All three formulations deliver 1000 IU of immunomodulatory vitamin D

#### Each chewable tablet contains:

12.5 billion CFU of the four core broadly studied HMF strains in a convenient chewable form, combined with 1000 IU of Vitamin D and 50 mg of Vitamin C. Fit for School is also available in a powder form.

Each chewable tablet contains: 25 billion CFU four core broadly studied HMF strains combined with a 5<sup>th</sup> strain with it's own clinical study for preventing URTIs. Along with 1000 IU of Vitamin D, now available in a shelf-stable option!











#### Each sachet contains:

12.5 billion CFU four core broadly studied HMF strains alongside a combination of 16 vitamins and minerals that include Vitamin D 1000 IU, Vitamin C 1000 mg & Zinc 5.5 mg.



### Cognitive Health



The four broadly studied proprietary HMF strains combined with Bacopa, Lutein & Zeaxanthin, helps support memory as well and brain function.

12.5 Billion Genestra's Core Four Broadly Studied Human Strains



Bacopa Lutein Zeaxanthin

**BACOGNIZE Bacopa** has been clinically shown to support cognitive heath (attention, freedom from distractibility and working memory).

Helps maintain eyesight in conditions such as cataracts and age-related macular degeneration and improves macular pigment optical density.



### **Digestive Support**



Four proprietary human probiotic strains combined with broad spectrum enzyme support to aid in the digestion of proteins, fats and carbohydrates.

12.5 Billion Genestra's Core Four Broadly Studied Human Strains



Digestive Enzyme Support

Protease Lipase

Amylase



Impaired enzyme activity can compromise absorption of nutrients, particularly fat soluble vitamins (A, D, E, K).

Aids digestion and promotes gastrointestinal health.

Microbial derived enzymes make them stable across a wide range of pH levels, and suitable for vegans.









### **Digestive Support**



Five proprietary human probiotic strains given in a large dose to support colonization of bacteria in both small and large intestine.

500 Billion Genestra's Core Four Broadly Studied Human Strains



Lactobacillus salivarius (CUL-61) (same strain present in HMF Replenish/Antibiotic Care)



**300 billion CFU of Bifidobacterium** provide high potency dose required to impact the densely concentrated microflora of the large intestine.

#### Concentration of Microflora

**Duodenum** – 10,000 to 100,000 cfu/g (Lactobacillus are the dominant species due to high  $O_2$ )

**Large Intestine** – 100 to 1000 billion cfu/g (Bifidobacterium are the dominant species due to low  $O_2$ )



### **Urinary Tract Protection**



10-20% of women experience one or more incidents of urinary discomfort or UTIs each year. Cranberries are rich in polyphenol antioxidants, which reduce the ability of E. coli bacteria to attach to epithelial lining of urethra & bladder.

Genestra's Core Four Broadly Studied Human Strains



Lactobacillus gasseri (CUL-09)





15 Billion CFU

12.5g Fresh Fruit
Equivalent
(PACRAN®)



10 Billion CFU

30g Fresh Fruit
Fquivalent
+

600 mg Vitamin C 1515 mg Potassium



### **Urinary Tract Protection**



Lactobacillus are the dominant microflora of the vaginal canal, they compete with undesirable flora for nutrients, adherence to lining, promote optimal pH and produce antimicrobial compounds.

Genestra's Core Four **Broadly Studied** Human Strains



Lactobacillus gasseri (CUL-09)



Cranberry Fruit Extract



Lactobacillus acidophilus (La-14) Lactobacillus rhamnosus (HN001)





17.6 Billion **CFU** 

7.5-10.8 g Dried **Equivalent** 

Helps restore & maintain healthy vaginal flora

Supports intestinal health

Helps prevent recurrent urinary tract infections in women

Now available in chewable form, as well as a shelf-stable option



### Shelf-stable HMF Vaginal Health



100 Million

CFUs of shelf-stable probiotics in a vaginal suppository

HMF Vaginal Health contains Lactobacillus plantarum KABP™-061, a patented probiotic strain with unique properties for restoring the vaginal flora and a high capacity for adherence to vaginal mucosa.

By producing lactic acid, this lactobacillus strain stabilizes the vagina's physiological pH and helps the body's natural defences to support vaginal health. By colonizing the vaginal cavity, this organism forms a protective barrier that inhibits the growth of other unwanted microorganisms.

Designed to help maintain a healthy vaginal microflora and to restore a healthy microflora following antibiotic treatment of recurrent candidiasis.

HMF Vaginal Health should be considered in situations where vaginal health is altered or is at risk of being altered.





### What's New with HMF?





New Shelf-stable Formulations
Updated Labels



### New Shelf-Stable HMF Formulations!



#### Same clinically researched formulas, new shelf-stable convenience











**Best-sellers** 





Condition specific

Great options for daily maintenance



### **Shelf-stable Offerings**



#### All clinical trials associated with current formulations also apply to the shelf-stable formats

#### Original Shelf-stable Formulations:

- HMF Travel
- HMF Fitness
- HMF Intensive 50
- Candaclear Four

#### Current Formulas, Now Also Available in Shelf-stable Option

- Shelf-stable HMF Intensive
- Shelf-stable HMF IBS Relief
- Shelf-stable HMF Forte
- Shelf-stable HMF Immune
- Shelf-stable HMF Women's Daily
- Shelf Stable HMF Multi Strain

#### New Shelf-stable Formulations with NEW Delivery format:

- HMF Baby Drops
- HMF Vaginal Health



## NO REFRIGERATION NECESSARY

Shelf-stable probiotics undergo the same manufacturing process as refrigerated formulas. The only difference is *an increased overage of bacteria* (above the label claim of viable bacteria guaranteed at time of expiry).



### Stabilizer Ingredients Matter



#### Stabilizers are a necessary component of the manufacturing process

Some form of stabilizer **MUST** be used to protect the integrity of the bacterial organisms in probiotic formulations.

Since the range of stabilizer options is broad the ingredients a company uses for this purpose matters immensely!





2) Protect during drying by bridging three-dimensional structure of protein when water is removed during drying process



The sugar equivalent in our stabilizers in many cases is as little as 1/3 of a blueberry



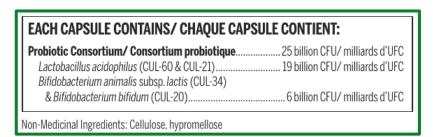
### **HMF Probiotic Labels Are Evolving**



All Genestra HMF Probiotics are the exact same clinically proven formulations used for the past 30 years!



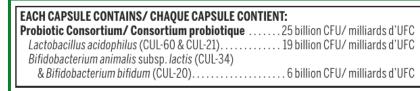
#### **Current Label Format**







#### **Updated Label Format**



Non-Medicinal Ingredients: Cellulose, hypromellose. Ingredients used to maintain viability of probiotics (dipotassium phosphate, monopotassium phosphate, trehalose, sucrose).



### Summary



The supplementation of probiotics alongside a fiber rich diet offer numerous health benefits, particularly for the gastro-intestinal tract. The benefits conferred however vary with the individual *strains* NOT species of bacteria.

#### **Key Factors for Choosing a Probiotic**

- 1. Human sourced strains (to maximize adherence to species specific attachment sites)
- 2. Strains (not species) backed by clinical research
- 3. CFU count & delivery method (avoid enteric coating)

#### Key Instructions for Patient

- 1. Ideally always take with food for maximal attachment in duodenum
- 2. Take 2-3 hours away from antibiotics
- 3. Aggravation of symptoms means the product is indicated & working



### Clinical Trials and Key Outcomes



#### The Cambridge Clinical Trials

Substantial positive impact on constructive repopulation of the microbiome

- Decreased overgrowth of potentially harmful anaerobic bacteria (enterobacteria, enterococci and staphylococci)
- Minimized loss of lactobacilli bacteria
- Significant reduction in antibiotic resistance
- Decreased incidence of C. Difficile associated diarrhea
- Neutralization of toxins produced by C. Difficile bacteria

#### The Sheffield Clinical Trial

Remarkable reduction in the severity scores of IBS symptoms

- 22% decrease in days with intestinal discomfort
- 32% improvement in satisfaction with bowel habits

#### The Keele Study

HMF core four probiotic strains improved mood & ability to pay attention

- Significant decrease in feelings of worry and nervousness
- Significant increase in ability to focus and avoid distraction



### Clinical Trials and Key Outcomes



#### The Promegen Metabolic Study

The largest human study on how probiotics effect weight loss

- Reduction in weight, waist circumference and BMI
- Most weight loss in people 50+ with high cholesterol (they also saw reduction in LDL, the most dangerous type of cholesterol)
- Decreased incidence of upper respiratory tract infections
- Improvements in energy, mood & general wellness
- · Less headaches & muscle pain

#### The Pro Child Study

Remarkable reductions repeated in a follow up trial

- 51% decrease of days with upper respiratory tract infection (URTIs) symptoms
- · 33% reduction in frequency of URTIs
- 30% decrease in absenteeism from school

#### The Swansea Baby Clinical Trial

HMF Proprietary Probiotic Consortium deemed safe and beneficial for use in pregnancy and early infancy

- 44% decrease in skin prick sensitivity to common food allergens (milk, eggs, pollen, etc.) in infants
- · 57% decrease in the expression of atopic eczema (skin rash) in infants



# Thank you for your participation!









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