Unleashing the Microbiome: How Gut Health is Transforming Companion Animal Care

Presented by:

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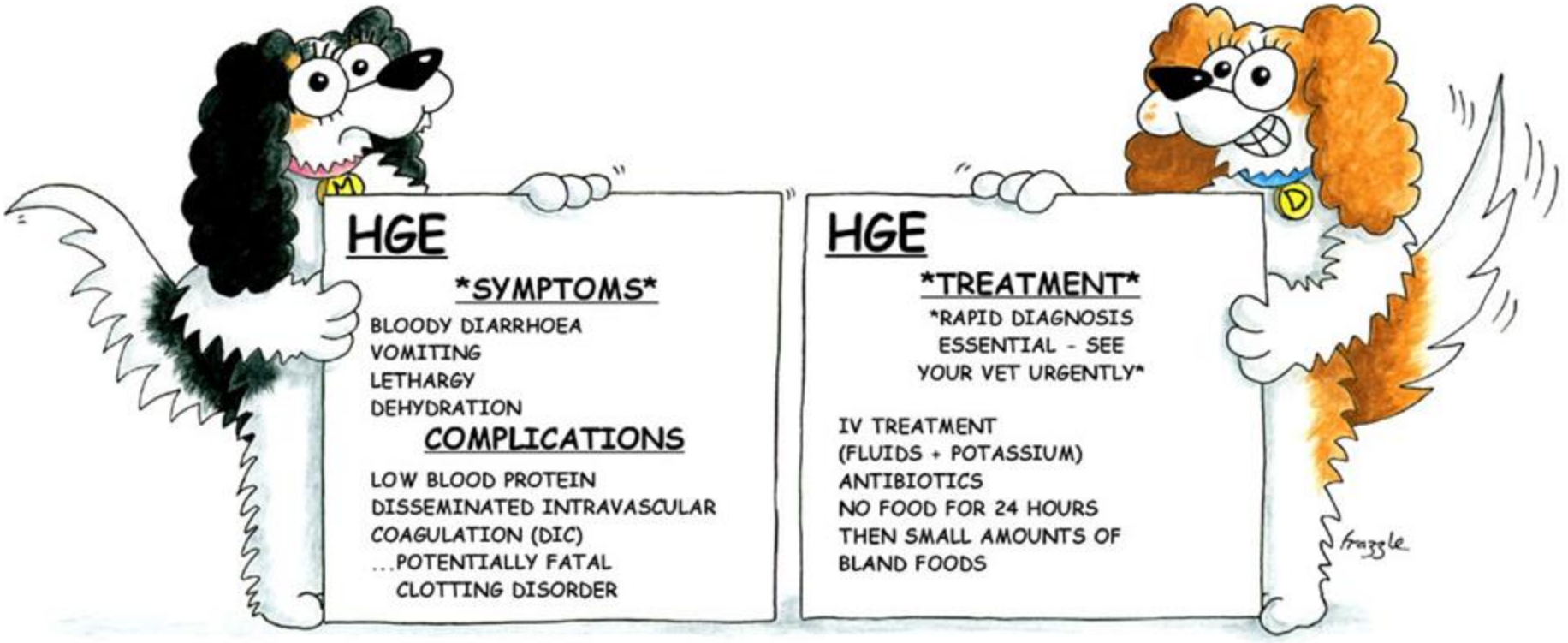
2003


2005


2013



Yuki’s Story is All Too Common — We’re Solving It with Personalized Microbiome Restoration

1 in 5 pets

↓

$14B spend

↓

70% have imbalance

Test

↓

Analyze & Personalize

↓

Restore

Our Microbiome Platform:
From Big Data to Breakthrough Probiotics

Scale & Real-World Data

AI Driven Microbiome Analytics

Biobank Generation

Targeted Product Development

Next-Gen Probiotic

80k+ Samples World's largest pet microbiome dataset	Comp-micro + proprietary metadata	**3k+** Biobank of next-gen candidates	15 products launched All data-driven	1st proprietary probiotic launching in 2025

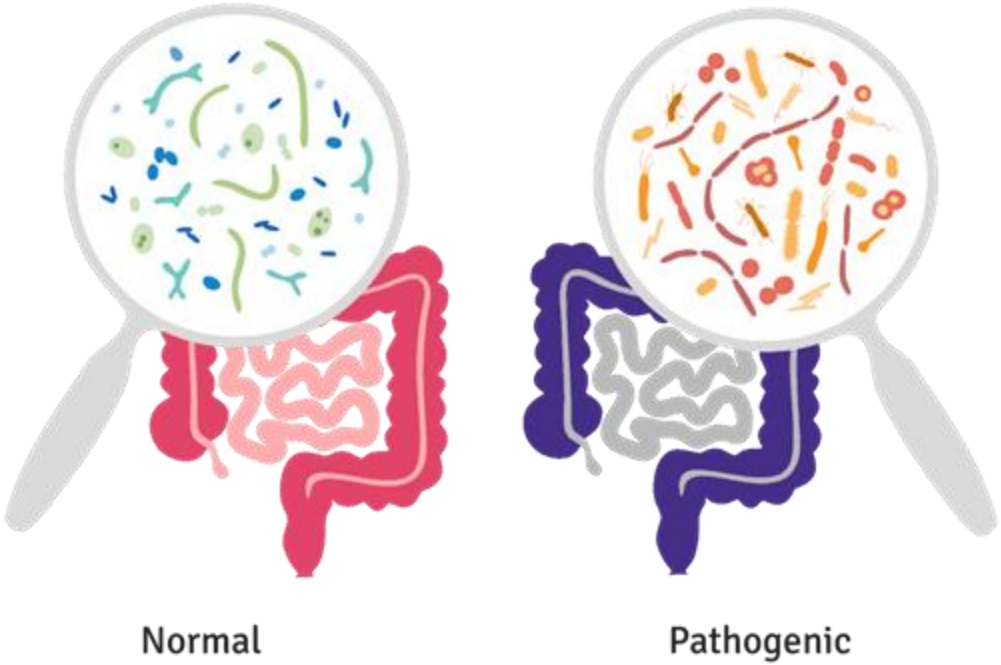
Importance of the gut microbiome

A healthy microbiome supports the following functions in companion animals:

Dysbiosis

High diversity

Greater representation of Lachnospiraceae, Ruminococcaceae, Bacteroidaceae, and Prevotellaceae



Reduced diversity

Pioneer species increased: ***C. perfringens***, ***Streptococcus***, pathogens: ***Enterobacter, Salmonella, E. coli, Shigella, Proteus, Serratia, C. difficile***

Signs of dysbiosis in the gut microbiome

An unhealthy microbiome contributes to the following signs in companion animals:

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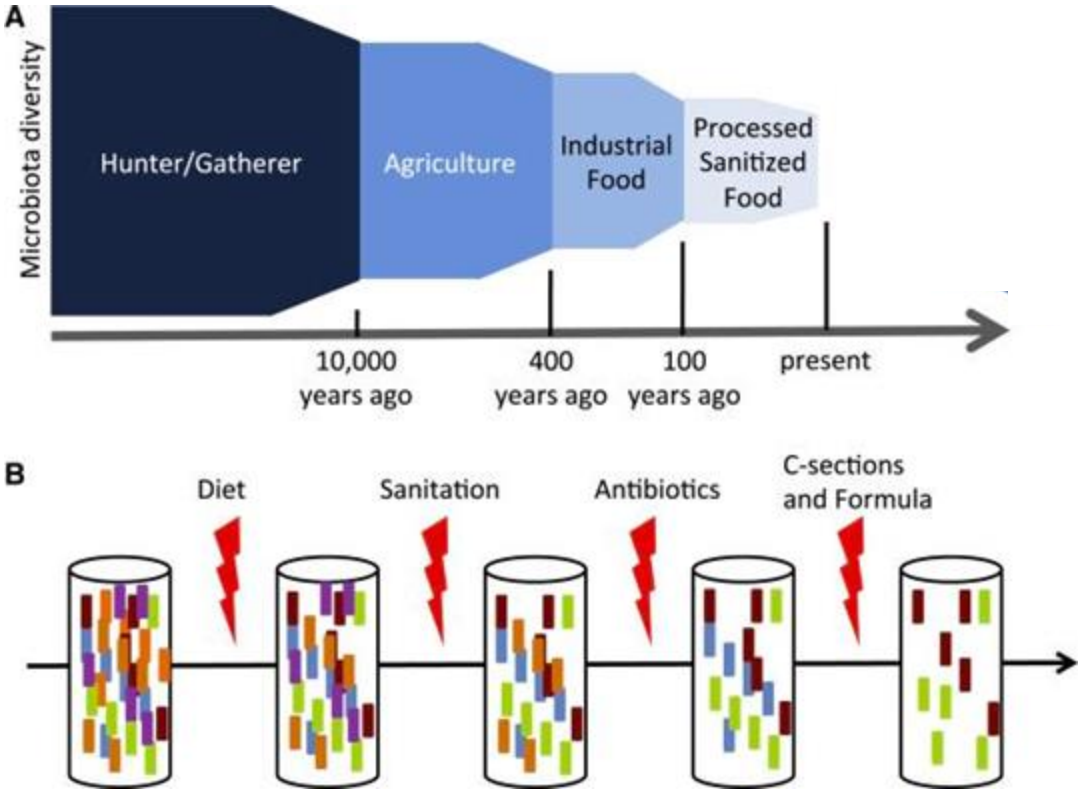
Gut Microbiome Imbalances

In a sample size of over 5,000 stool samples from sick cats and dogs, AnimalBiome researchers discovered some sort of an imbalance in

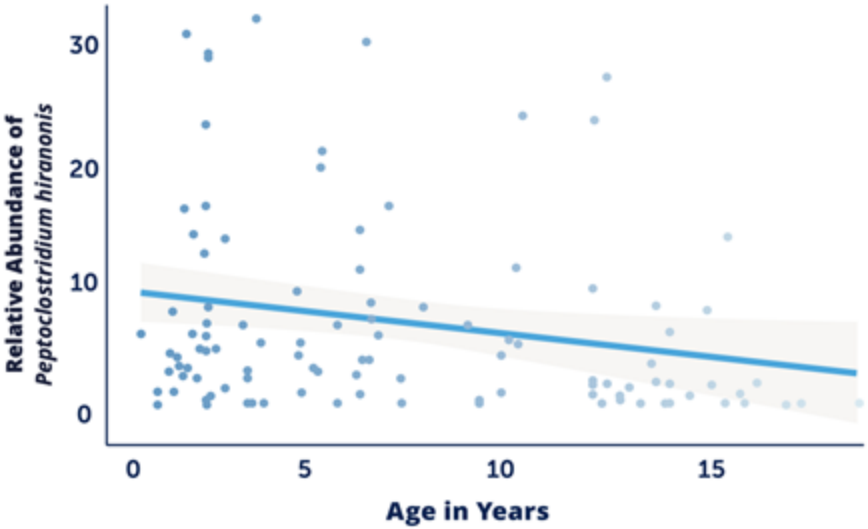
5 in 6 microbiomes

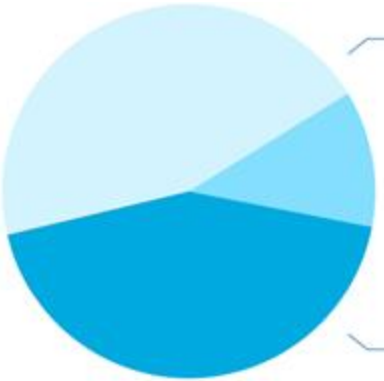
Modern living affects the gut microbiome.



Sonnenburg and Sonnenburg 2014 DOI:https://doi.org/10.1016/j.cmet.2014.07.003

Beneficial bacteria can decline with age





43.2%
thought the microbiome became more diverse

11.8%
thought the microbiome diversity stayed the same

44.9%
thought the microbiome became less diverse

Most of us are unaware...

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Gut Microbiome Imbalances

Wrong Proportions

Key groups of healthy bacteria are present, but not in the correct proportions.

Missing Common Bacteria

Key groups of healthy bacteria are missing

Harmful Bacteria Above Threshold

An overgrowth of harmful (pathogenic) bacteria.

Using their state-of-the-art sequencing technology, here is what AnimalBiome researchers found:

34%

Wrong Proportions

49%

Missing Common Bacteria

26%

Harmful Bacteria Above Threshold

One microbiome can have more than one kind of imbalance.

Gut Microbiome Imbalances

We asked pet parents how often their pet experienced common symptoms of a microbiome imbalance, on a scale from Never to Always.

35% of dogs often or always had Skin and/or GI Issues

24% of cats often or always had Skin and/or GI Issues

Too many pets are living with chronic digestive and skin conditions

Understanding and restoring the gut microbiome can eliminate this epidemic

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Pets with the following are more likely to have a microbiome imbalance:

- Older pets
- Pets with chronic health conditions
- Certain purebred pets (brachycephalic breeds)
- Pets taking medications, especially antibiotics
- Overweight or obese pets

What can you do to support a healthy gut in your pet?

https://animalbiome.com/state-of-the-gut-2024

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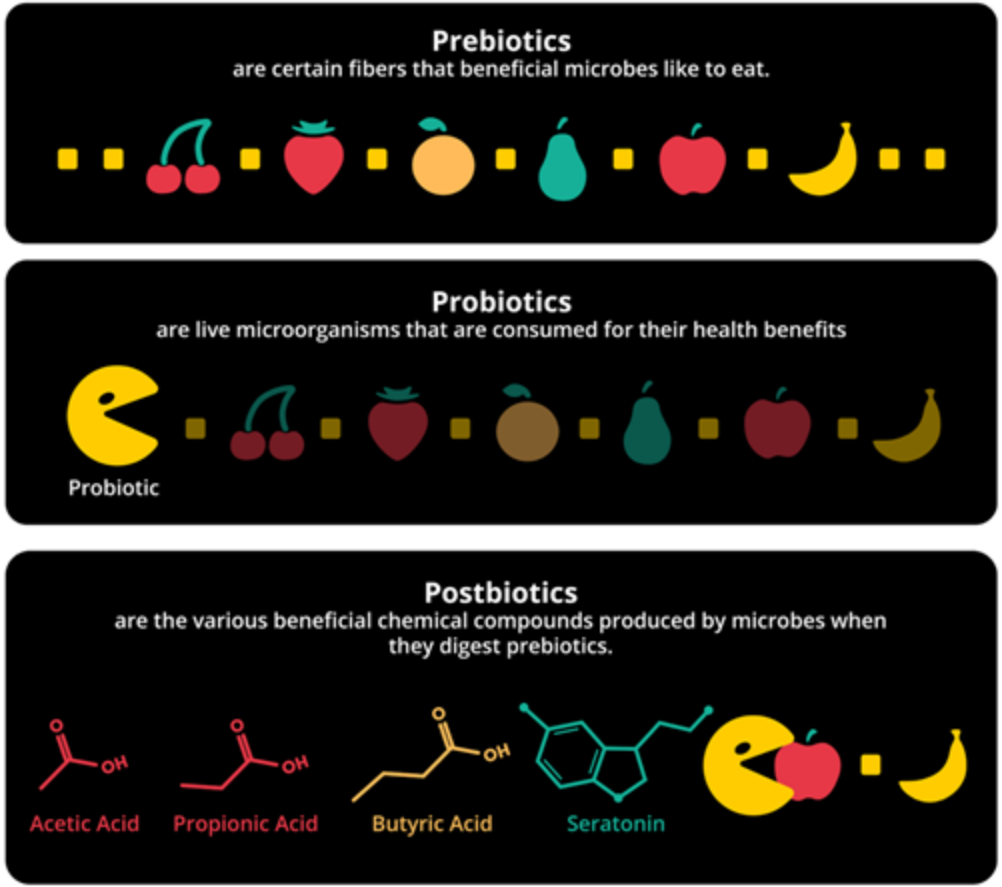
Prebiotics, Probiotics Postbiotics Oh, my!



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Diet is the leading influence on gut and overall health.

Protein

Protein is essential for cats and dogs, and their bodies have evolved to need a lot of it. As protein is digested, it is broken down into important molecules that are critical for beneficial gut bacteria to perform their functions. Not only are the building blocks of protein an important source of energy for gut bacteria, but they are also important for improving the diversity of the gut community.

Fiber

Dietary fiber is important for maintaining a healthy stool consistency and frequency of bowel movements, and it also feeds beneficial gut bacteria. When bacteria break down fiber in a process called fermentation, they produce important molecules that are critical for healthy immune system function and for combating inflammation. Diets high in fiber are associated with lower rates of cancer and several other long-term health conditions.

Carbohydrates

Long-term feeding of higher-carbohydrate diets and treats can result in poor gut health. Too many carbohydrates can cause an overgrowth of a group of bacteria called Firmicutes. The body needs some Firmicutes to keep the microbiome healthy, but too many of these bacteria can spread excess inflammation throughout the body.

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Prebiotics

What are they

Prebiotics are non-digestible parts of food that feed beneficial bacteria in your pet's gut. When bacteria break down prebiotics, they release beneficial molecules that other cells in your pet's body need.

When to use them

Prebiotics are beneficial for almost every pet, regardless of age or health status, because they promote the growth of beneficial gut bacteria. Some prebiotics are great for generating important molecules, while others are better for improving the consistency of bowel movements.

https://www.health.harvard.edu/nutrition/foods-high-in-fiber-boost-your-health-with-fiber-rich-foods

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Dos

- Use a high-protein food topper for your pet's food
- Diversify the types of fiber your pet eats
- Choose treats that are low in carbohydrates, such as liver
- Change your pet's diet to meet each life stage's nutritional needs
- Establish a routine around eating

Don'ts

- Make sudden or drastic changes to your pet's diet
- Ignore symptoms of digestive upset or food sensitivities
- Overfeed or ignore your pet's daily caloric intake
- Give dog food to cats and vice versa
- Offer an excessive amount of treats

Feed good food,
feed good microorganisms.

Probiotics are also useful.

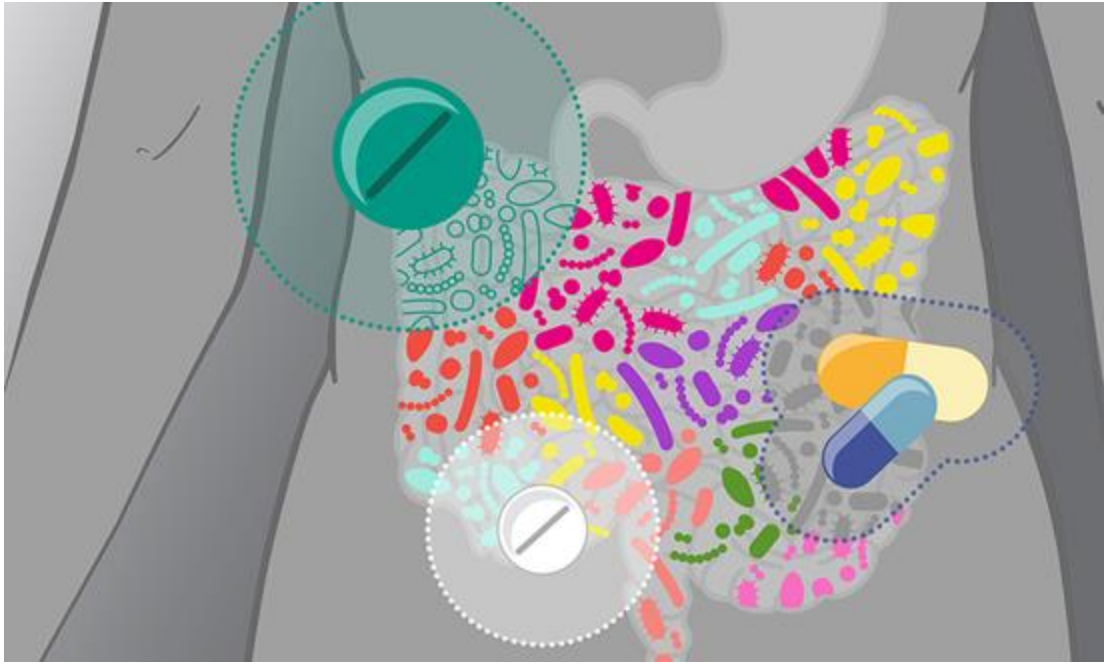
45% of dog parents

bought a probiotic supplement for their pet in the last 12 months

42% of cat parents

bought a probiotic supplement for their pet in the last 12 months

Antibiotics and medications can also affect commensal bacteria.



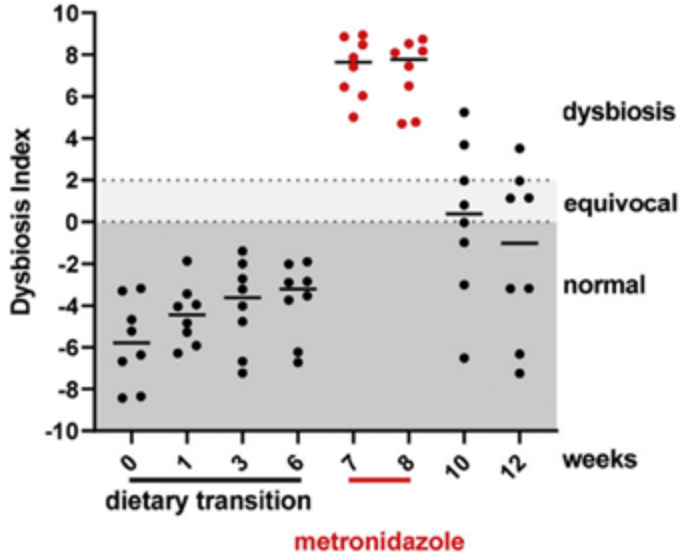
https://www.embl.org/news/science/the-impact-of-drugs-on-gut-microbes-is-greater-than-we-thought/

Antibiotics commonly used to treat IBD in cats and dogs are associated with high relapse rates.

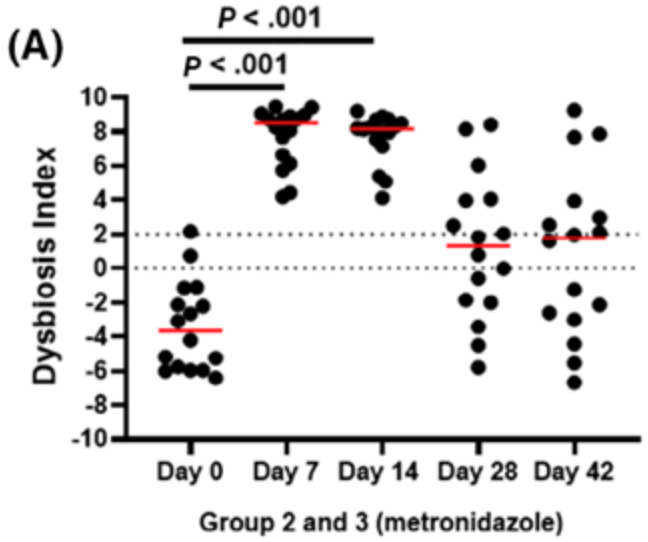
- Tylosin: 88% within 2 months (Westermarck et al. 2005, Kilpinen et al. 2014)
- Metronidazole: 100% after 6-12 months (T. Spillmann, ACVIM Forum)

14 days of metronidazole in healthy dogs altered microbiome composition and introduced dysbiosis.

Ziese & Suchodolski **2021**



Pilla et al. 2020



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Medications affect balance between pathobionts and other gut bacteria.

Cats and dogs with GI conditions tend to have dysbiosis in gut bacteria and elevated levels of *E. coli* and *Streptococcus* spp.

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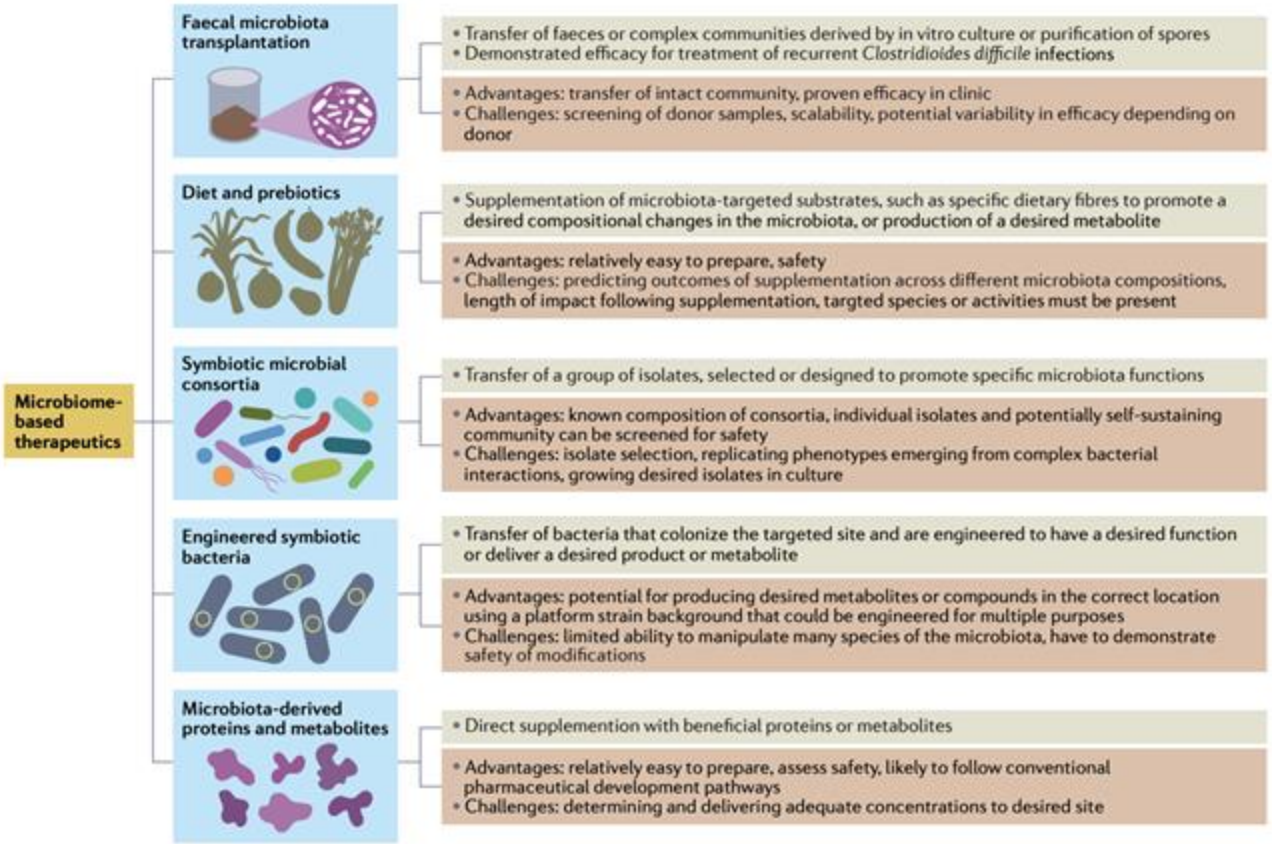
Probiotics and prebiotics can help restore balance and reduce gut dysbiosis.

Saccharomyces boulardii

Bacteriophages targeting *E. coli*

Microbiome restorative approaches



Sorbara et al, Nature review 2022

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Yuki was patient zero for Gut Restore capsules.

veterinary sciences

MDPI

Article

Microbiome Responses to Oral Fecal Microbiota Transplantation in a Cohort of Domestic Dogs

Connie A. Rojas, Zhandra Entrolezo, Jessica K. Jarett, Guillaume Jospin, Alex Martin and Holly H. Ganz *

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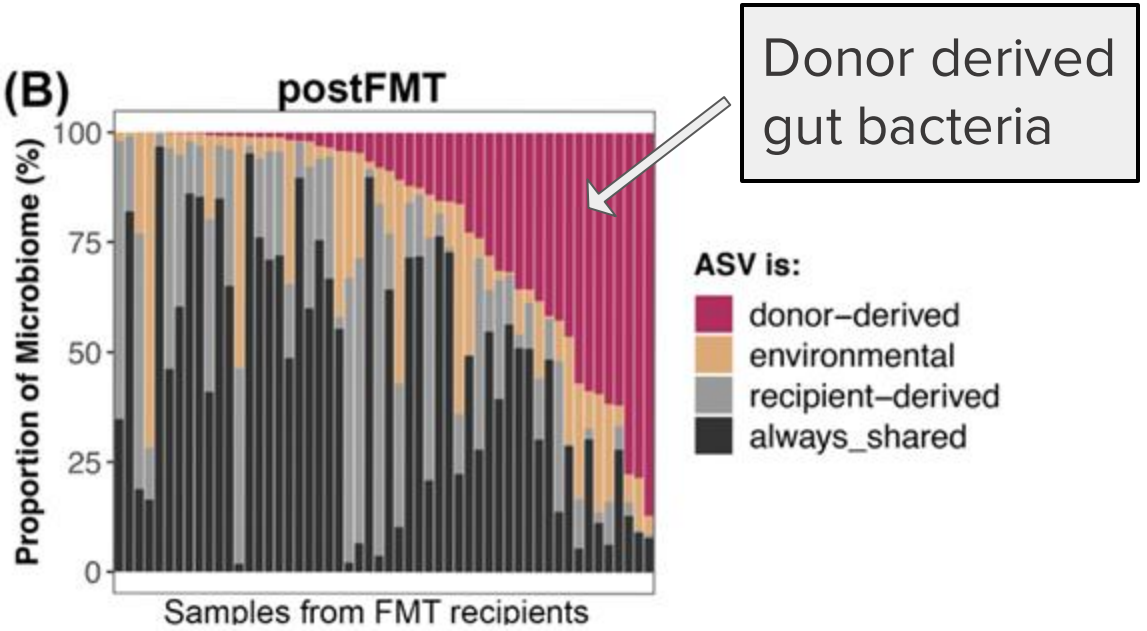
She didn't have HGE again.



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Thank you for your time!

Do you have any questions?

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