

Pendulum Therapeutics

Pendulum Partners

Pendulum *Team*



Meet the *Founders*

Colleen Cutcliffe (CEO), John Eid (CSO), and Jim Bullard (CTO) share a background and mutual passion for exploring the microbiome.

They created a discovery platform of high-resolution DNA sequencing and bioanalytics to validate their vision of addressing health at the root level. From their incredible discoveries and tireless work, Pendulum arose.



Colleen Cutcliffe, Ph.D. in
Biochemistry and Molecular
Biology at Johns
Hopkins University
*Chief Executive Officer &
Co-founder*



John Eid, Ph.D. in
Biophysics and Computational
Biology at the University of
Illinois, Urbana Champaign
*Chief Science Officer &
Co-founder*



Jim Bullard, Ph.D. in
Biostatistics at the University
of California, Berkeley
*Chief Technical Officer &
Co-founder*

Meet the *Clinical Team*

Our team takes pride in pioneering revolutionary solutions that people deserve to reclaim control of their health. We're here to transform and improve people's well-being.



**Kristin Neusel, MS, RDN,
LD, CDCES**
*Sr. Manager, Diabetes Education
& Patient Engagement*



Orville Kolterman, M.D. degree
from Stanford University,
B.A. degree from the University
of Kansas
Chief Medical Officer



Natalie Carabeo, MS, RDN, LDN
Nutrition Communications Liaison



Tara Karr, MS, RD, LDN, CDCES
Diabetes Educator



Jennifer McManus, RD, LDN
Diabetes Educator

Pendulum Glucose Control (PGC)

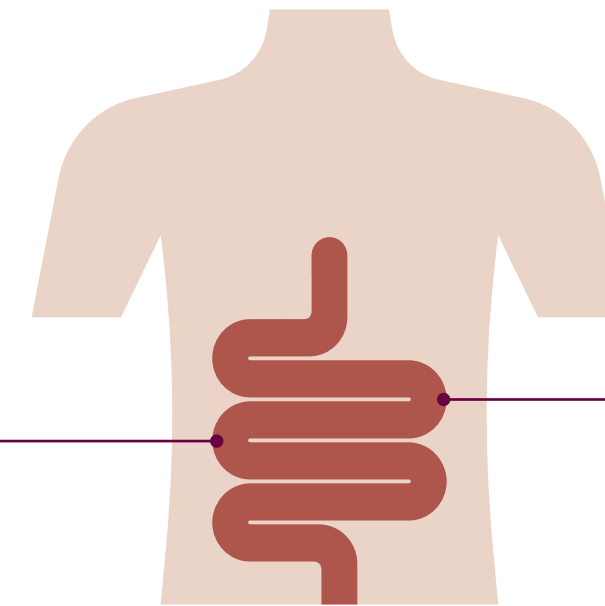




Glucose Control: A Targeted Approach To Type 2 Diabetes Care

Research indicates that two imbalances in the gut microbiome are linked to the incidence of type 2 diabetes:

Inability to produce the short-chain fatty acid butyrate, typically produced when the gut microbiome metabolizes some dietary fibers.



Impaired functional ability to maintain the mucin layer of the gut lining. Thinning of the mucin layer results in intestinal permeability, commonly known as “leaky gut syndrome.”

Pendulum Glucose Control (PGC) demonstrates:

A1C Reduction

↓ 0.6%¹

Meal-Related Blood Glucose Reduction

↓ 32.5%²

BMJ Open Diabetes Research & Care, July 2020

¹Reduction in mean A1C compared to placebo.

²Reduction in meal-related blood glucose following standard meal.

Pendulum®

Why strains *Matter*



Why Strains Matter

Proprietary blend

Pendulum Glucose Control (PGC) is a synbiotic with 5 anaerobic microbe probiotics and the prebiotic inulin. The 5 strains in PGC are known to be missing or lacking functionality in individuals with type 2 diabetes.



Akkermansia Muciniphila

Microbe heavily tied with SCFA production and mucin association. Involved in maintaining healthy mucin layer, which promotes (or increases) diversity in microbes.



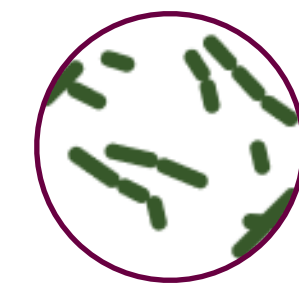
Clostridium Beijerinckii

Microbe involved in acetate and butyrate production. The short-chain fatty acid (SCFA), butyrate, binds to specific receptors within the gut mucosa and stimulates glucagon-like peptide-1 (GLP-1).



Anaerobutyricum Hallii

Microbe involved in acetate and butyrate production.



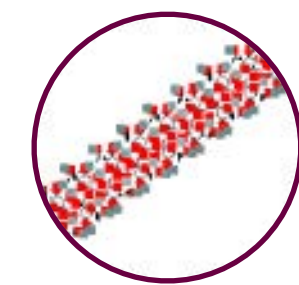
Clostridium Butyricum

Microbe involved in acetate and butyrate production.



Bifidobacterium Infantis

Microbe involved with improved digestive health by way of acetate production and anti-inflammatory benefits.



Inulin

Although not a strain, this is a prebiotic that serves as nutrition for the strains.

Beyond *Probiotics*



Beyond Probiotics: *What We Do*

Driven by the desire to find improvements to managing chronic illnesses through the microbiome, Pendulum is empowering people with groundbreaking products and tools to achieve long-term health.

Our clinical team is dedicated to providing a variety of nutrition services and personalized care to all our customers. We understand the importance of addressing microbiome imbalances by introducing beneficial strains and consuming adequate soluble fiber.



Pendulum

Clinical Studies

& *What's in the Works*

Study		Planned	In-Progress	Completed	Published
2020	Improvements to Postprandial Glucose Control in Subjects with Type 2 Diabetes (T2DM)				Randomized Double-Blind Parallel Arm Placebo-controlled
2021	Medical Food Assessment Using a Smartphone App with Continuous Glucose Monitoring Sensors: Proof-of-Concept Study				Double-Blind Placebo-controlled
2021	Review: Butyrate-producing human gut symbiont, Clostridium butyricum, and its role in health and disease				
2021	Prediabetes Observational Study				Double-Blind Placebo-controlled
2021	Mayo Clinic Partnership Customer Registry				
2021	Exploratory Customer CGM Study				
2022	Safety and Metabolic Effects in T2D — Part II				
2022	Metabolomics in T2D				

**Let's Work
Together**



Why Should We Collaborate?

Build. Learn. Grow

1

Microbiome Training

Become a **microbiome expert** while earning a free continuing education unit* for your licensure!

2

Increase Your Exposure

Interact with other microbiome experts and **expand your network** across the nation!

3

Added Perks

Improve the health of your patients, receive exclusive discounts, connect with other thought leaders, participate in brand collaborations and **reward yourself by joining the Pendulum Partners network!**

See What Healthcare Providers Say About Pendulum Glucose Control



“When the production of butyrate is reduced [it is] harder to maintain healthy glucose control—even with a healthful diet...Adding Pendulum Glucose Control, a probiotic backed by clinical trial results published in the journal BMJ Open Diabetes Research & Care, to your diet can help.”

Erin Palinski-Wade, RDN, CDCES, CPT



“[Akkermansia Muciniphila is] one of the most compelling bacteria for cardiometabolic disease prevention or therapeutics.”

Dr. Noel Mueller, Ph.D., Assistant Professor John Hopkins Bloomberg School of Public Health



“Pendulum Glucose Control...a combination of five microbial strains including an Akkermansia strain together with a prebiotic really stands aside quite distinctly from the great majority of other microbes. Pendulum Glucose Control has been specifically developed for a very important medical indication, namely glucose control, lowering of hemoglobin A1C...”

Dr. Emeran Mayer, Gastroenterologist, Neuroscientist, and Distinguished Research Professor in the Departments of Medicine, Physiology and Psychiatry at the David Geffen School of Medicine at UCLA

Helpful *Resources*



Helpful Resources

BLOG

Our Clinical Study, Explained

Hope Warshaw, MMSC, RD, CDCES, BC-ADM

This blog breaks down the results of Pendulum's double-blind, placebo-controlled 12-week study.

[READ MORE](#)

PODCAST

Soundbites: The Gut Microbiome & Type 2 Diabetes

Melissa Joy Dobbins with guests Orville Kolterman, M.D. and Kristin Neusel, MS, RDN, LD, CDCES

Prefer podcasts? Listen in and earn CEUs! This episode provides further insight on potential microbiome dysfunctions, how certain food choices and eating patterns, and the benefits of PGC!

[LISTEN NOW](#)

**1 FREE
CEU**

BLOG

The Health Benefits of Butyrate (and How to Boost Your Levels)

We know why diet alone may not be enough to manage type 2 diabetes, but why? Discover how PGC helps produce butyrate, leading to a series of metabolic events that decrease HgA1c and postprandial glucose.

[READ MORE](#)

Next
Steps





Next Steps

Becoming a Pendulum Partner

- ✓ Eager to become a microbiome expert?
- ✓ Ready to set yourself apart from your peers?

- ➔ Connect with a group of cutting edge healthcare providers and obtain free Continuing Education Credits.

[Sign Up to Become a Pendulum Partner](#)

Thank You