# SAFE HEALTH REPORT

Scientific Data … Informed Choice … Actionable

*August 2023* *Official Newsletter for MrGineaPig* *Issue 13*


**Please repeat once before proceeding: He Can Do It, She Can Do It, I Can Do It!**

## Inside …

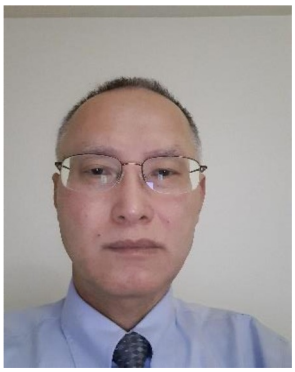


# In Search of Best Probiotics

## Your Ticket to Exuberant Health for the Next 5 Years

### *Akkermansia muciniphila*

In last month's Safe Health Report, we discussed the immuno-modulatory effects of Lactobacillus johnsonii in attenuating respiratory viral infections. Specifically, it reduces dendritic cell (DC) function, airway T helper type 2 (Th2) cytokines, and increases regulatory T cells (Treg), as reported by Fonseca W et al in the November 2017 edition of Mucosal Immunology. Starting with the current issue of the Safe Health Report, our main focus will be on the immunomodulatory effects of various probiotic bacteria, as the author's primary interest lies in immunomodulation in transplant patients.



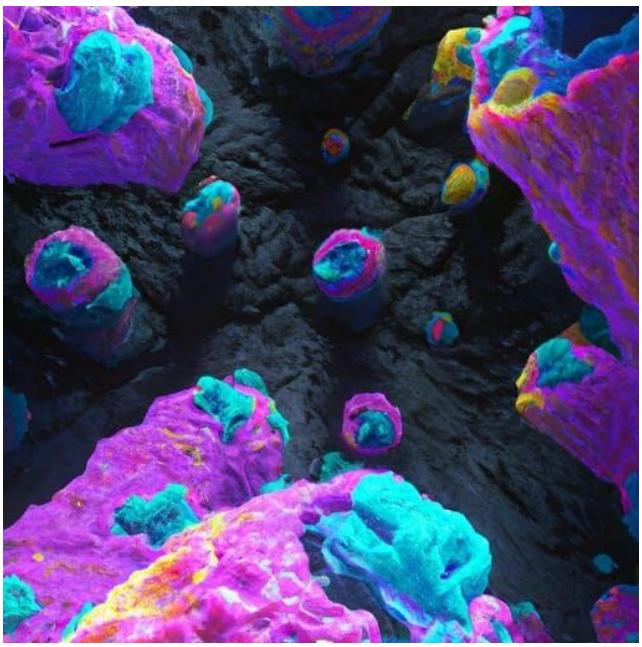
**Ike Kim**
**Editor**

*Akkermansia muciniphila* (*A. muciniphila*) is a Gram-negative, anaerobic, non-motile, oval-shaped bacterium that is highly abundant in the large intestines of infants and healthy adults, accounting for 0.5-5% of the human gut microbiota. It is found in human breast milk and can be readily transmitted from mother to infant. *A. muciniphila*'s beneficial effects are mainly due to its ability to degrade mucin, a major component of mucus in the gut. This degradation leads to increased production of mucin, which in turn restores the intestinal barrier function of the mucus. Additionally, *A. muciniphila* improves intestinal barrier integrity by increasing the expression of tight junction proteins and reducing the production of bacterial lipopolysaccharide (LPS), which is thought to cause systemic inflammatory cascades. Since its discovery in 2004, numerous studies have found that a reduction in the abundance of this bacterium is

frequently associated with obesity, diabetes, liver steatosis, inflammation, and response to cancer immunotherapies. Conversely, a high abundance of A. muciniphila has been linked to improved blood lipids and other metabolic parameters that ultimately lead to better health in obese individuals.

**Anti-inflammatory Effects**

In a study published in the November 2020 edition of Food Research International, Menglu X and colleagues reported that colonization and increased symbiosis of *Akkermansia muciniphila* in early life contribute to the maintenance of the host intestinal barrier by increasing short-chain fatty acids (SCFA) levels and decreasing inflammatory markers such as LPS, IL-1, IL-17, and TNF-α levels, simply by increasing stachyose in the diet of experimental mice.



Further research by Zhang L and colleagues showed that oral supplementation of *Akkermansia muciniphila* significantly improved alveolar structure and inflammatory infiltration in COPD mice, and reduced IL-17, IL-6, and TNF-α levels in their blood. The researchers induced COPD in the mice with cigarette exposure, which elevated levels of IL-17, IL-6, and TNF-α in their blood. These findings were published in the March 15th, 2023 edition of Cellular Microbiology.

These studies confirm that *Akkermansia muciniphila* plays an important role in maintaining the separation between the external world and the intestinal borders of the human body through its effect on the mucus layer, and in reducing systemic inflammatory mediators. They also confirm the existence of the gut-lung axis, an emerging concept that describes the ability of the gut microbiota to influence the course of underlying lung disease, and vice versa. While the gut-lung axis (GLA) remains less studied than the gut-brain axis, it is a critical area of research for various lung diseases.

**Obesity and *Akkermansia muciniphila***

One of the most important applications for *Akkermansia muciniphila* is in the medical field of obesity and obesity-associated disorders. These have become major public health issues in the US due to their association with a variety of disorders such as metabolic syndrome, type 2 diabetes mellitus, cardiovascular disease, fatty liver disease, and the severity of COVID-19.

In a proof-of-concept study for weight loss, Depommier C et al. administered either live or pasteurized 10 billion colony forming units (CFU) of *A. muciniphila* daily for 3

months to 40 overweight/obese patients in a single-center randomized study. Thirty-two subjects completed the study. The authors demonstrated that the administration of *A. muciniphila* for 3 months was safe and well-tolerated. Compared to the placebo group, pasteurized *A. muciniphila* improved insulin sensitivity (+28.62 ± 7.02%, P = 0.002), reduced insulinemia (-34.08 ± 7.12%, P = 0.006) and plasma total cholesterol (-8.68 ± 2.38%, P = 0.02). Furthermore, pasteurized *A. muciniphila* supplementation slightly decreased body weight (-2.27 ± 0.92 kg, P = 0.091) compared to the placebo group, and fat mass (-1.37 ± 0.82 kg, P = 0.092) and hip circumference (-2.63 ± 1.14 cm, P = 0.091) compared to baseline. These results were reported in the July 2019 edition of Nature Medicine.

While these results are not groundbreaking in the field of weight loss medicine, supplementing with *A. muciniphila* is an additional option in the armamentarium.

**Summary**

*Akkermansia muciniphila* reduces gut permeability of lipopolysaccharides (LPS) that is involved in the leaky gut syndrome. It helps maintain the integrity of gut lining. Finally, it may help improve metabolic parameters as well as help lose weight. Is it worth taking it at $89 for 30 day supply?

**Actionable Recommendation:**

- ✓ **For obese patients with metabolic abnormalities, it may be worth a try.**
- ✓ **Cheaper alternative would be to take food rich in polyphenols such as apples, beans, berries, grapes, flaxseed, green tea, nuts, olives, asparagus, onions, oats to naturally increase *Akkermansia muciniphila* in your gut.**

## Misleading Catchphrase: "Nature's Ozempic"

The use of the social media catchphrase "Nature's Ozempic" to describe berberine can be misleading. In this article, we will examine the properties of berberine and semiglutide (Ozempic) and compare the two.

According to the 2019-2023 National Health and Nutritional Examination Survey (NHANES), a major program of the National Center for Health Statistics (NCHS) which is part of the Centers for Disease Control and Prevention (CDC), 42% of the US population meets the definition of obesity, defined as having a body mass index (BMI) of 30 or higher. BMI is calculated by dividing an individual's weight in kilograms by their height in meters squared, or by dividing their weight in pounds by their height in inches

squared and then multiplying by 703. If we include individuals who meet the definition of overweight, with a BMI between 25 and 29.9, the total percentage of the US population wanting to lose weight approaches 73% (42.4% + 30.7%) of adults. This means that nearly three out of four adults in the US are overweight or obese. Even individuals in the lean weight category may have central obesity. Given these staggering numbers, it is not surprising that the supplement industry is utilizing social media influencers to market weight loss products.

Berberine has been heavily promoted as

"Nature's Ozempic." However, this term is a marketing ploy and implies that berberine is similar in shape, form, or mechanism to Ozempic, which is not the case. Ozempic is an FDA-approved medication for weight loss, while berberine is not.

Berberine is a bitter-tasting, yellow-colored polyphenol present in the roots, rhizomes, and stem bark of various plants, including European barberry, goldenseal, goldthread, greater celandine, Oregon grape, phellodendron, and tree turmeric. It is often used as a yellow dye but also as an herbal medicine to treat ulcers, infections, jaundice, and inflammation. Despite the lack of clinical evidence, it has gained interest as a weight loss product.

The meta-analysis of berberine by Omid A et al showed that berberine treatment moderately decreased body weight (WMD = −2.07 kg, 95% CI -3.09, −1.05, $P < 0.001$), body mass index (BMI) (WMD = −0.47 kg/m2, 95% CI -0.70, −0.23, $P < 0.001$), and waist circumference (WC) (WMD = −1.08 cm, 95% CI -1.97, −0.19, $P = 0.018$). The study included 12 studies and the results were published in the August 2020 edition of Clinical Nutrition.

Subsequent review studies confirmed similar findings. However, the sample size of most primary studies was rather small and was mostly from China and Iran. These published studies are important findings on the effect of berberine but still do not have high-quality data demonstrating efficacy for weight management. The clinical effects of berberine still need to be confirmed in high-quality randomized controlled trials (RCTs).

On the other hand, FDA approval of semaglutide (aka Ozempic) is based on a clinical trial where obese patients who took semaglutide lost about 15% of body weight over 68 weeks. Semaglutide is a GLP-1 agonist similar to the naturally occurring satiety hormone in our body that suppresses appetite after eating. Despite its efficacy, affordability is holding back potential

beneficiaries due to its extraordinarily high cost of about $1000-$1300/month.

Berberine is an herbal compound that is likely safe when used orally and appropriately. While its exact mechanism of action has not been fully elucidated, it is believed to rearrange the intestinal microbiome, similar to many other herbs containing polyphenols. Dong C et al reported in the July 2021 edition of Biomedical Pharmacotherapy that berberine is prebiotic that indirectly promotes the growth of Akkermansia by stimulating gut mucin secretion.

Berberine has been used safely in doses of up to 1500 mg daily for up to 6 months or 1000 mg daily for up to a year. While it is generally well-tolerated, common side effects include constipation, diarrhea, abdominal pain/distension, flatulence, nausea, and vomiting. Berberine is unsafe during pregnancy, for preterm neonates, and during lactation due to reported cases of kernicterus, a type of brain damage that results from high levels of bilirubin in a baby's blood. Berberine crosses the placenta during pregnancy and may stimulate uterine contractions

Berberine has many drug-drug interactions with critical medications such as warfarin, cyclosporine, tacrolimus, and others that undergo metabolism via cytochrome p450 2C9, 2D6, and 3A4. These drugs include anticoagulants (blood thinners), diabetic medications, and immunosuppressive medications.

**Actionable Recommendation:**

- ✓ **Berberine is not 'Nature's Ozempic'. Please consult your primary care provider for an in-depth discussion on weight management.**
- ✓ **Berberine may be an option for moderate weight loss of about 2 kg or about 4.5 pounds over several weeks to months.**
- ✓ **Berberine has many serious drug-drug interactions. Please discuss these berberine-drug interactions with a primary care provider and pharmacist in order to avoid serious drug toxicity.**

**Body Temperature and Viral Infectivity**

Fever is a common symptom of both the flu and COVID-19. However, its role in host resistance to viral infection was not well understood until a study by Nagai M and colleagues from Tokyo was published in the June 30th, 2023 edition of Nature Communications. The study revealed a mechanism by which high body temperature induces resistance to viral infections.

To conduct their experiments, the team kept mice at temperatures of 4, 22, or 36 °C for 7 days before inducing influenza virus infections. After the viral infection was induced, the cold-exposed mice (4 and 22 °C) mostly died due to severe hypothermia, whereas the heat-exposed mice (36 °C) were able to raise their basal body temperature above 38°C and became highly resistant to the infection even at increasing doses of the virus. The researchers were able to show that the mice were able to produce more bile acids in a gut microbiota-dependent manner.

The scientists repeated their experiments using Syrian hamsters with lethal SARS-CoV-2 infection. However, antibiotic-treated mice succumbed to viral infection despite having a body temperature over 38 °C. In summary, the study reveals that high body temperature increases gut microbiota-dependent host resistance to influenza A virus and SARS-CoV-2 infection.

This study provides scientific evidence for what we have instinctively been doing all along - keeping warm when infected with the influenza virus. Thanks to the Japanese researchers for sticking to their gut!


**Summary:**

- ✓ **Keeping warm or being in a warm environment is likely beneficial for overcoming viral infections.**
- ✓ **Keep hydrated while fighting any viral infections.**
- ✓ **If concurrently on antibiotics that kill off the gut microbiota, high body temperature may not be protective!**

9HEALTH RECIPE #5 SHE CAN DO IT, HE CAN DO IT, I CAN DO IT!

# [Vegetable Stew Icaria Style]

**Servings:** [2 Servings]
**Prep time:** [20 min]
**Total time:** [35 min]

## *Ingredients*

[2 tablespoons olive oil]
[1 large onion, chopped]
[2 cloves of garlic, minced]
[2 large carrots, sliced]
[2 celery stalks, chopped]
[2 potatoes, diced]
[1 cup of green beans, trimmed]
[2 tablespoons tomato paste]
[1 bay leaf]
[2 cups vegetable broth]
[1 teaspoon dried oregano]
[salt and pepper to taste]

## *Directions*

1. Heat the olive oil in a large pot over medium heat.
2. Add the onion and garlic and sauté until onion is translucent.
3. Add the carrots, celery, potatoes, and green beans and cook for 5 minutes
4. Stir in the tomato paste, bay leaf, vegetable broth, and oregano.
5. Simmer for 20 minutes, or until vegetables are tender.
6. Season with salt and pepper to taste.
7. Serve warm.

## Special Cooking Information

[Max Cooking Heat for Olive Oil: Extra Virgin – 350°F, Virgin – 420°F, Olive oil – 390°F-470°F, once boiling point is reached, olive oil becomes toxic! Baking, boiling and steaming Is preferred over frying]

## Recent FDA Medication/Food December Recall

| Recall Date | Brand Name | Product Description | Recall Reason Description | Company Name |
|---|---|---|---|---|
| 6/28/2023 | Private Labels | Multiple frozen fruit with mango products | Potential Contamination with Listeria monocytogenes | Townsend Farms Inc |
| 6/30/2023 | Everest | Sambhar Masala and Garam Masala spices | Potential Foodborne Illness-Salmonella | Everest Food Products Private Limited |
| 7/5/2023 | Fromager Affineur | Tome De Brebis Sheep Milk Cheese | Potential Foodborne illness | Estancia Holdings |
| 7/7/2023 | Cipla | Albuterol Sulfate Inhalation Aerosol, 90 mcg (200 Metered Inhalation) | Failure to deliver the recommended dose | Cipla |
| 7/21/2023 | Cooperstown Cheese Company | Cheese Products | Potential Listeria monocytogenes contamination | Cooperstown Cheese Company LLC |

**Case Number 10: Non-resolving right knee pain post-operative total knee arthroplasty**

**What's the probability of 5-year survival for this 78-year-old male with chronic pain?**

*The following real life-like case examples are hypothetical stories in the palliative or hospice care settings, imagined by the author with the help of artificial intelligence. Frailty scores are commonly used not only to decide if a patient should be placed in palliative or hospice care, but also to assess whether the patient is suitable candidate for major surgery in the case of surgical intervention. Unfortunately, patients with low frailty scores often do not survive five years after a major health crisis. No one is no exception since everybody eventually succumbs to the law of gravity.*

Ronald Petersen, a 78-year-old male, has suffered from acute pain since right total knee replacement for osteoarthritis six months ago. His past medical history includes Barrett's esophagitis and myocardial infarction five years ago.

**Assessment and plans** on the morning of 07/03/2023 include: the patient is a 78-year-old man with a history of Barrett's esophagitis and myocardial ischemia, which occurred 5 years ago. He underwent percutaneous coronary intervention (PCI) for the dilation of his right coronary artery and the placement of a bare metal stent. In early January 2023, he underwent a total knee replacement on his right knee due to osteoarthritis. The patient reports experiencing acute pain in his right knee, rating it as 9 out of 10 at night and 6 out of 10 during the day. He states that he is unable to sleep through the night due to the pain. He is currently taking hydrocodone/acetaminophen (5mg/325mg), two tablets every four hours, but reports that this is not sufficient to relieve his surgical pain, even 6 months after the procedure. The patient had an appointment with an orthopedic surgeon and primary care physician, who ruled out joint-related causes such as infections, instability, loosening of the implant, fractures, femoropatellar problems, and other causes such as component overhang, irritation of the lateral facet of the patella, patellar clunk syndrome, and popliteal tendon dysfunction. His medical team also ruled out non-joint-related issues such as neurological disease, hip disease, vascular disease, and reflex sympathetic dystrophy.

**Ronald Petersen**

*All patient data is fictional and imagined by the author with AI assistance. Safe Health Report complies fully with US HIPPA regulations.

Age: .....78
Sex: .....male
Weight: .....170 pounds
Height: .....6 feet 2 inches

**Activities of Daily Living (ADL) components: transfer, bed mobility, toileting, and eating**

**▪ 0 – Independent: If the resident completed the activity with no help or oversight every time during the 7-day prior period.**
**▪ 1 – Supervision: If oversight, encouragement, or cueing was provided three or more times during prior 7 days.**
**▪ 2 – Limited Assistance: If resident was highly involved in the activity and received physical help in guided maneuvering of limb(s) or other non-weight-nearing assistance three or more times during the last seven days.**
**▪ 3 – Extensive Assistance: If resident performed part of the activity over the prior 7 days, help of the following type(s) was provided three or more times: ▪ Weight-bearing support provided three or more times. ▪ Full staff performance of activity during part, but not all, of the prior 7 days.**
**▪ 4 – Total Dependence: If there was full staff performance of an activity with no participation by the resident for any aspect of the ADL activity. The resident must be unwilling or unable to perform any part of the activity over the entire prior 7-day period. ▪ 7 – Activity occurred only once or twice: If the activity occurred but not 3 times or more. ▪**
**8 – Activity did not occur: If, over the prior 7-day period, the ADL (or any part of the ADL) was not performed by the resident or staff at all. ADL support measures the most support provided by staff over the prior 7 days.**
*Adapted from Minnesota Department of Health Guideline

Ron's ADL Score ..... 0

Further assessment of the patient's condition may include evaluating for soft tissue irritation, which could be caused by

impingement due to oversized components, or overuse of muscles and tendons such as the patellar tendon, quadriceps tendon, iliotibial band, and pes anserine tendon. This could be related to aggressive kinesiotherapy with the physical therapist from the medical facility.

**Eye of the Tiger Test for Ronald Petersen**

*All patient data is fictional. Safe Health Report complies fully with US HIPPA regulations.

**Clinical Frailty Score**

- 1 – Very Fit: Very fit for their age with no disease symptoms, very active, and exercise regularly- 5 days a week
- 2 – Fit: Still no active disease as in 1 but exercise only occasionally – three times a week or only seasonally
- 3 – Managing Ok: Disease symptoms are well managed. Not able to exercise at all other than walking.
- 4 – Very Mild Frailty: Symptomatic disease. Not dependent on others for daily activities but disease symptoms slow down their activities. May need a cane for walking occasionally for example
- 5 – Mild Frailty: Symptomatic disease limits daily activities. Needs walkers. Needs help with walking and shopping.
- 6 – Moderate Frailty: Needs help with walking, shopping, climbing stairs, and bathing with disease progression.
- 7 – Severe Frailty: Completely dependent for personal care and daily activities but seem stable and at risk of death within the next 6 months.
- 8 – Very Severe Frailty: Same as 7 but unstable and even mild illness is likely to cause death.
- 9 – Terminally Ill: As in 8 but not likely to live next 3-6 month.

*Adapted from Rockwood & Theou 2020

Ron's Frailty Score ..... 2

The patient agrees to a two-week trial of a nutritional supplement combination of pantetheine (Vitamin B5 analog) and hyaluronic acid.

**Active Range of Motion (AROM):**
-2° right knee extension, 75° right knee flexion.
**Passive Range of Motion (PROM):**
-4° right knee extension, 80° right knee flexion.
**Ambulation:**
Walking half a mile daily with pain (6 out 10 pain score) directly over the anterior right knee.
**Stairs:**
No assistance is needed.
**Balance:**
No assistance is needed.

**Current Medications:**

Aspirin 81 mg daily

Clopidogrel 75 mg daily

Atorvastatin 80 mg daily

Omeprazole 20 mg daily

Hydrocodone/APAP (5mg/325 mg 2 tablet four times daily.

Supplement:

Pantetheine 450 mg one capsule daily

Hyaluronic acid 333 mg with MSM one capsule daily

Hyaluronic acid 50 mg 1 capsule daily

**Synopsis:**

After following the treatment protocol for 14 days, the patient reported an improvement in his pain score, which decreased to 4 out of 10. He was able to sleep through the night without experiencing severe pain. The patient's improvement coincided with the natural healing process that typically occurs around 6 months after a total knee replacement. It is difficult to determine if the supplements contributed to the patient's improvement in pain. The patient has resumed playing golf and based on his ADL score and the Eye of the Tiger test, his five-year survival prognosis looks excellent. One recommendation is to maintain an active lifestyle and consider making dietary changes that promote a balanced microbiome. However, it can be challenging to change ingrained dietary

habits. Despite this, the patient is grateful for the positive results. However, it is important to note that human studies on this topic are limited and more research is needed to fully understand the potential benefits of these supplements.

When considering any nutritional supplement therapy, it is important for discerning physicians to rule out potential causes of postoperative pain using confirmatory laboratory or imaging studies if necessary. Using the principle of Occam's razor, it may be worthwhile to determine if oral hyaluronic acid could provide benefits to the patient.

**Hyaluronic Acid:**

Hyaluronic acid (HA) is a high molecular weight polysaccharide composed of repeating polymeric disaccharides of D-glucuronic acid and N-acetyl-D-glucosamine, with a mean molecular weight ranging from several hundred to several million. All hyaluronic acids have high viscosity in water. HA is synthesized by all vertebrates, including humans, and is present in every connective tissue and organ such as skin, synovial fluid, blood vessels, serum, brain, cartilage, heart valves, the umbilical cord, and synovial fluid, which has the highest concentration of hyaluronic acid. HA serves as a lubricant for joint movements, resulting in a coefficient of friction of nearly zero in joint cartilage. It is known that osteoarthritis patients have diminished HA concentrations in their synovial fluid. To restore the decreased levels of HA and treat OA, intra-articular injections of HA are widely used.

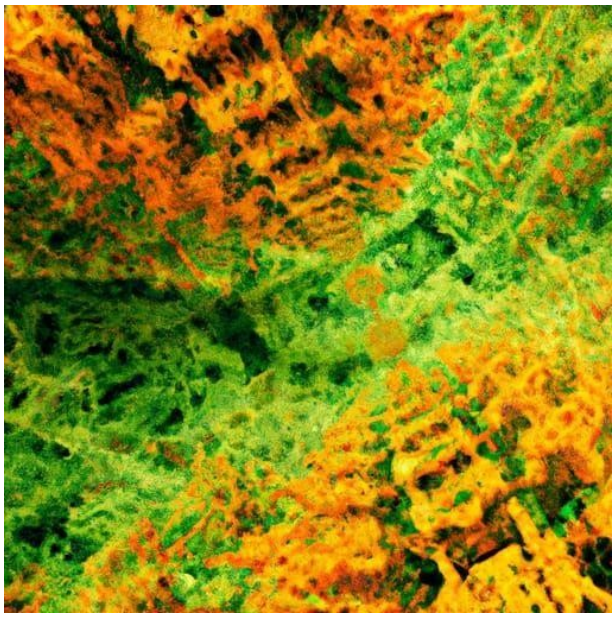
Generally, it is difficult for the body to absorb polysaccharides including hyaluronic acid. HA is not absorbed into the body as a high-molecular-weight polymer after oral intake. Rather it is decomposed into 2–6-membered polysaccharides by enteric bacteria, *Lactobacillus and Bifidobacterium*, in the small intestine. These polysaccharides are partially absorbed systemically from the large intestine and then translocated into blood and tissues. At a cellular level, hyaluronic acid is synthesized by HA synthases on the inner surface of the cellular membrane. Once again, we see that the intestinal microbiome plays a critical role.

Khan M and colleagues conducted a systematic meta-analysis of 19 randomized controlled studies (n=1629) to evaluate the role of injectable hyaluronic acid in soft tissue indications. The inclusion criteria for the literature search were hyaluronic acid injection, soft tissue injuries (e.g., Achilles/hamstring tendinopathy, and rotator cuff tears), nonsurgical studies, and randomized controlled study. Of the 19 RCTs, 11 were placebo-controlled and 9 used active comparators (platelet-rich plasma, cortisone injection, prolotherapy (sugar injection), or extracorporeal shockwave therapy). The primary outcomes were physical function and pain relief, further categorized as short-term (<6 weeks, 6-12 weeks) and mid-term (>12 weeks). The authors found that hyaluronic acid had a beneficial effect across most soft tissue indications against both placebo and active comparators in both short-term pain <6 weeks (mean difference [MD] visual analog scale [VAS] 2.48, 95% CI 2.31-2.65) and 6 to 12 weeks (MD VAS 2.03, 95% CI 1.86-2.20). Mid-term pain relief also favored HA over comparators across indications >12 weeks from administration (MD VAS 3.57, 95% CI 3.35-3.78). On the visual analog scale, 0 is no pain, a score of <3.4 corresponds with mild pain, 3.5 to 7.4

with moderate pain, and >7.5 with severe pain. The authors discussed their findings in the February 3rd, 2022 electronic edition of Sports Health that these MD VAS scores were substantially higher than the standard minimal important difference (MID) of 1.4 points on a scale of 10. The MID is the smallest effect that a patient who was informed regarding available treatment options would perceive as valuable enough to justify a change in therapeutic management when weighing the anticipated benefits against the possible harms of an intervention.

In 2013, the American Academy of Orthopedic Surgeons (AAOS) strongly recommended against the use of intra-articular hyaluronic acid (IA-HA) for the treatment of knee osteoarthritis pain. Their meta-analysis found that the standardized mean difference (SMD) for improvements in pain after IA-HA did not meet the accepted threshold for minimal clinically important improvement (MCII). Notably, their calculated effect size was derived from pooled studies of diverse molecular weight products. In 2019, The American College of Rheumatology also recommended against the use of IA-HA in the treatment of knee OA using a similar rationale. However, later studies supported using high molecular weight hyaluronic acid provided evidence of significant clinical benefit, surpassing accepted thresholds for minimal clinically important improvement in treating knee osteoarthritis pain. We will cover medical evidence on the use of high molecular weight vs low molecular weight hyaluronic acid in later issues.

The evidence for the effectiveness of oral hyaluronic acid is even more controversial and lacking. In theory, if an individual's body is deficient in the basic building blocks of hyaluronic acid, supplementing these components should result in clinical benefits. However, by taking oral hyaluronic acid, one is essentially volunteering to be a human test subject



For any medical condition, we recommend medical interventions with evidence to relieve your suffering. However, there is a limit to what is available through traditional medicine. When traditional medicine runs out of options for providing therapeutic treatment, it is important not to give up. While taking food supplements may be at the bottom of the medical evidence hierarchy, this is where your own translational medicine comes into play. This means that we can try to apply therapies even if they are at the pre-clinical trial levels.

While medical evidence is lacking for most nutritional supplements, consumers still spend billions of dollars on them annually, subjecting themselves to self-experimentation. It would be an exaggeration to call such an effect a therapeutic for a given medical condition. However, it is important to remember that

there are still ‘options’ available even when traditional medicine reaches its limit.

**Take Home Lesson:**

- ✓ **It is important to follow up with an orthopedic surgeon to rule out any joint and non-joint-related causes of persistent pain after total knee replacement surgery, especially infections sooner than later.**
- ✓ **It takes up to six months for complete healing to occur.**
- ✓ **Please consult your primary care physician (PCP) about adding supplements to your pain regimen!**

## MrGineaPig's Core Long-Term Trial

| LONG-TERM TRIAL | SUPPLEMENT | START DATE | |
|---|---|---|---|
| Muscle Weakness | Hyaloronic Acid | 07/01/2019 | 50 mg-1 capsule daily |
| Digestive Aid | Bacillus coagulans | 10/4/2022 | take one gummy bear daily after dinner |
| Back Pain | Pantothenic acid<br>Pantethine | 09/1/202<br>09/01/2022 | 500 mg 1 capsule daily<br>450 mg 1 capsule daily |
| BPH/ prostatitis Prevention | Cranberry Extract 600 mg | 12/20/2022 | 1 capsule three times a day |
| Mealtimes | Breakfast 09:00 -Lunner (13:00) | 01/07/2023 | +Salad with Balsamic Vinegar Lunner = Lunch + Dinner |



## March Risk Factors for Premature or Unexpected Death

| Immediate Risks | Internal Threat | External Threat | Other Topics |
|---|---|---|---|
| 1. Covid 19 - XBB.1.5<br>2. Covid 19- XBB 1.16<br>3. Fentanyl-laced pills<br>4. Gun violence<br>5. Drug shortage<br>6. RSV<br>7. HMPV | 1. Poor diet<br>2. Smoking<br>3. High blood pressure<br>4. Obesity<br>5. Sedentary Lifestyle<br>6. Suicide | 1. War<br>2. Earthquake<br>3. FDA recalls<br>4. Meat preservatives<br>5. Trans fatty acid<br>6. Pesticides<br>7. Heavy metals | 1. Shortness of breath<br>2. Back pain<br>3. Hemorrhoids<br>4. Incontinence<br>5. Joint swelling<br>6. Fibromyalgia<br>7. Health Insurance |
| **Topics Chosen: Covid-19 update, Clostridium difficile, Search of Best Diet Series** | | | |

## Format of Safe Health Report

Section 1: Conditions or internal environment that increases the risk of premature death or

pose immediate danger to your health (both mental and physical) as in avalanche.

Section 2: External environment that increases the premature death, FDA recalls.

Section 3: Case examples of premature death. If you are in similar situation, remove yourself out of harm's way! Can we extend **our expiration dates** when in the eye of the storm before disease strikes at a tissue level? Remember epigenome is what activates a specific set of genes.


**Purpose of Safe Health Report**

If you feel you are being used by someone or somebody or institution or institutionalized philosophy or even by your parents or siblings or your coworkers or even your boss, you are a GineaPig. This newsletter is designed to empower GineaPigs in the area of human health and possibly decrease the risk of **premature death**.

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