2018 Research Recap

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2018 Research Recap

To say it’s been a banner year in research is an understatement! Here are some of the most significant new research studies of 2018.

### PYCNOGENOL® Update

**Moving the Needle**

- **40+ Years of Research**
- **160+ Clinical Studies**
- **420+ Scientific Publications**
- **1,000+ Product formulations worldwide in 80 Countries**
- **10,000+ Subjects tested**

### Pycnogenol® Effective in Improving MCI Symptoms

New published research shows the cognitive health benefits of natural super antioxidant Pycnogenol® for reducing symptoms associated with Mild Cognitive Impairment (MCI) – a potential risk factor for early onset dementia and other degenerative cognitive conditions. Findings show the extract significantly enhances the ability to remember friends and family, improves ability to remember where things are and the ability to manage finances. This study builds upon previous research supporting the benefits of Pycnogenol® for cognitive health improvement including brain health functions like memory, decision-making and focus.

#### Cognitive Function / Moderate Cognitive Impairement

<table>
<thead>
<tr>
<th>MMSE Score at 8 weeks (Minimal Mental Stage Examination)</th>
<th>Improvement IQCODE* Score (Informant Questionnaire on Cognitive Decline in the Elderly)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>23.9</strong></td>
<td><strong>23.2</strong></td>
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<td><strong>23.2</strong></td>
<td><strong>22.3</strong></td>
</tr>
</tbody>
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### Pycnogenol® Helps with Travel Health

Recent published research shows that Pycnogenol® is beneficial for travel health, with proven benefits for reducing lower leg swelling and jet lag symptoms often associated with long-haul flights. Researchers found that participants who supplemented with Pycnogenol® resulted in greater reduction of ankle circumference and lower leg swelling and also reported less leg pain after flights. The extract also helped alleviate jet lag symptoms like fatigue, visual impairment and inability to sleep. This study builds on previous research on Pycnogenol®’s benefits for reducing venous conditions and managing jet lag symptoms.

#### Travel Health / Ankle Circumference

<table>
<thead>
<tr>
<th>Ankle Circumference (cm)</th>
<th>Control Group</th>
<th>Stockings Group</th>
<th>Pycnogenol® Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.9</td>
<td>23.2</td>
<td>22.3</td>
<td></td>
</tr>
</tbody>
</table>

150 mg/day N=295 *p<0.05 vs both controls


#### Travel Health / Jet-Lag

<table>
<thead>
<tr>
<th>Jet-Lag Score / Long-Haul Flights (Moderate Risk Subjects)</th>
<th>Control Group</th>
<th>Stockings Group</th>
<th>Pycnogenol® Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9</td>
<td>3.2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

150 mg/day N=295 *p<0.05 vs both controls

Pycnogenol® Improves IBS
Irritable bowel syndrome (IBS) affects the large intestine. Signs and symptoms include cramping, abdominal pain, bloating, gas, and diarrhea or constipation. In a recent study, Pycnogenol® was shown to improve IBS symptoms by 75% and performed better than Buscopan and Antispasmina Colica Forte. In addition, Pycnogenol® helped decrease the need for rescue medication.

Pycnogenol® Reduces Post-thrombotic Syndrome & Recurrent Thrombosis Risk
Pycnogenol® may reduce the incidence of post-thrombotic syndrome (PTS) and recurrent thrombosis, a potentially life-threatening condition that may occur as a long-term complication of deep vein thrombosis (DVT), caused by a blood clot forming in the lower leg. More than one third of people who have DVT then develop PTS, and symptoms include redness, swelling, ulcers, and chronic leg pain. The new peer-reviewed study followed 815 patients over the course of six years. Daily supplementation with Pycnogenol® was shown to perform better than aspirin, ticlopidine and sulodexide in the treatment of DVT and PTS symptoms.

Pycnogenol® Improves BPH Urinary Symptoms
Benign Prostate Hypertrophy (BPH) is a common benign tumor that develops in men and is bothersome in elderly patients. The prevalence of lower urinary tract symptoms in the general population increases with aging. In this new study, Pycnogenol® was shown to improve multiple urinary BPH symptoms such as frequency with statistically significant results after 8 weeks.
Robuvit® Shown to Reduce Symptoms of Workplace Burnout

New research shows daily supplementation with Robuvit® French oak wood extract can help curb workplace burnout symptoms, including fatigue, low tolerance levels and lack of job satisfaction. Robuvit® was shown to help individuals with high-stress jobs feel better at work because its antioxidant properties cut down on oxidative stress which can lead to fatigue. This study builds upon a growing catalogue of research on Robuvit® for its natural energy and detoxification benefits.

Robuvit® Shown to Improve Recovery from the Flu

Recent research demonstrates Robuvit® provides flu recovery support. With few flu convalescence products on the market, this research provides the first evidence that Robuvit®’s natural antioxidant properties help to support the body’s defenses after the immune system is weakened from fighting the virus. Supplementation with Robuvit® was shown to help patients recover faster from the flu by increasing post-flu strength, boosting recovery after exerting effort, enhancing sleep quality and more.

It’s been a busy summer for Horphag’s new proprietary French oak wood extract Robuvit® with several new research studies published on the extract’s health properties. Robuvit® is a caffeine-free natural energizer shown to support detoxification and liver function, boost energy in those with fatigue and chronic fatigue syndrome and support sports performance. Innovative product formulations can be found at www.robuvit.com
What the Advocates are Saying…

"It’s hard to believe I have been educating my radio listeners for more than two decades about Pycnogenol®. From skin to heart health, this clinically proven nutraceutical from French maritime pine bark extract is ideal for addressing vascular health and wellness. With my busy travel schedule, Pycnogenol® is the perfect solution for reducing jet lag and improving leg circulation when on long flights. It continues to be one of the most successful stories in branding history for a single, natural supplement and for its impact on human health."

-Danielle Lin, CN Syndicated Radio host – The Danielle Lin Show – The Art of Living and Science of Life®

"I’m a strong advocate for Pycnogenol® and regularly recommend it to most patients because of its versatility as a healthy aging ingredient. Pycnogenol® is important for aging and looking and feeling younger, longer because it works directly with the collagen and elastin in your body which prevents us from having wrinkles, protects our blood vessels and supports our muscles and joints. If I’m stranded on a desert island and could only choose a handful of supplements, Pycnogenol® would definitely be one of them."

-Dr. Fred Pescatore, best-selling author and renowned natural health physician

"The sheer amount of science on Pycnogenol® more than 25 years ago led me to discover and start researching this supplement myself. The more research I did on it, the more it made sense to me how this ingredient works to not only prevent illness but to modify common disorders such as varicose veins, hypertension, and elevated cholesterol and be an important building block of wellness. Pycnogenol® is one of my go to recommendations for my patients that are looking to enhance their level of wellness with one product."

-Dr. Steven Lamm, Medical Director of NYU Langone Center for Men’s Health
I recently sat down with our science team and we collectively counted more than fifteen Pycnogenol® publications on Medline thus far in 2018 – a pivotal moment for all of us!

As our partners and colleagues, you understand how deeply rooted our company is in research and we are proud of each study and article that educates and elevates Pycnogenol® as a gold standard ingredient, positively impacting how well people live every day.

We are grateful to be the guides that navigate this extraordinary ingredient as it moves the needle in groundbreaking scientific discoveries.

Enjoy this special science edition of the Report!

Best Regards,

Victor Ferrari
Chief Executive Officer
Horphag Research

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Pycnogenol® French maritime pine bark extract, is a registered trademark of Horphag Research Ltd and is protected by U.S. patents #5,720,956 and #6,372,266 and other international patents.

www.pycnogenol.com