IOWA Study Results
Remarkable experimental results of arterial compliance improvement with PEOs
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Long-term Results
IOWA: Investigating Oils With Respect to Arterial Flexibility
Significant differences in biological age compared to physical age

Brian Peskin, BSEE: Founder Life-Systems Engineering Science
with David Sim, M.D., Interventional Cardiologist

Long-term Use in Subjects with PEO Formulation

> **Significant differences (p=0.0015) with an experimental error of the mean +- 5 years. Subjects' cardiovascular biological age (average of) 8.8 years lower than their actual physical age.**

Long-term (48 month maximum) PEO use

The effects of long-term PEO supplementation were evaluated in thirty-four (34) subjects with a daily dosage of 2,900 mg PEO formulation. The sub-groups were as follows: thirteen (13) male subjects and twenty-two (22) female subjects aged 35-75, with a *median age of 62-years-old*, utilizing the formulation a minimum of three (3) months to a maximum of forty-eight (48) months. The median duration usage was twenty-four (24) months with half of the subjects using the PEO formulation less than 2 years and the remaining half utilizing the formulation over 2 years but less than 4 years. Vascular assessment was made via photoplysmography measuring arterial flexibility.

Overall Improvement = 73% Effectiveness – Highly Significant

Twenty-five (25) subjects of the 34 subjects in the trial improved. **This corresponds to a seventy-three per cent (73%) effectiveness rating.** The average improvement in arterial flexibility was 9 years improvement meaning the average subject utilizing the PEO formulation had a cardiovascular system with the arterial flexibility of a subject representative of nearly a decade younger.

The best subject measured 39 years less (improvement) than their physical age waveforms would suggest. Of the 34 subjects, there was only one (1) subject who worsened.

NNT Effectiveness = 1.4 — A "Remarkable" Result

The number needed to treat (**NNT**) is calculated as follows: 34 subjects / 25 improved subjects = **1.4**.

NNT quantifies how many patients have to be treated to obtain one successful outcome. An NNT of less than 50 is considered effective in the pharmaceutical industry.

Comparison to Statins

As a comparative example, statins, as reported by the pharmaceutical industry, have NNTs > 80 in preventing a cardiovascular event.

This means a minimum of 80 patients would need to be treated to see a single (1) positive outcome when using statins.

In contrast, the PEOs improve a much more direct physiologic measure, i.e., arterial flexibility, in a profound way resulting in a **remarkable 1.4 NNT**.

Statistics (Highly Significant) — 99.8% Accuracy

Long Term Results — No Baseline

IOWA: Investigating Oils With respect to Arterial Flexibility
Significant differences in biological age compared to physical age
Brian Peskin, BSEE: Founder: Life-Systems Engineering Science with David Sim, M.D., Interventional Cardiologist
(Based on 34 patients using the PEO formulation over 3 months - 48 months)

Age: 35-75	**Median age: 62**	22 females, 13 males

Paired t-test. Median: 24 months PEO formulation use / Maximum: 48 months PEO formulation use

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Significant differences (**p 0.0015**) with an experimental error of the mean +-5 years.
Subjects' **biological age being (average of) 8.8 years lower than their actual physical age.**

Note: This experiment has a 99.85% accuracy—30 times more accurate than the 5% standard error used in most clinical trials. Therefore, this result is *not* due to possible error and is *highly* significant with patient CV health 8.8 years better than physical age predicts.

Analysis by Alex Kiss, Ph.D. (statistics) — January 21, 2010
Analysis Variable : agediff

N	Minimum	Maximum	**Mean**	Std Dev	Pr > |t|
34	-39.00	22.00	**-8.82**	14.84	0.0015

Short-term Results
IOWA: Investigating Oils With Respect to Arterial Flexibility
Significant differences in biological age compared to physical age

Brian Peskin, BSEE: Founder Life-Systems Engineering Science

with David Sim, M.D., Interventional Cardiologist

Short-term Improvement in Subjects with PEO Formulation

> Significant differences (p=0.0099) with an experimental error of the mean +- 5 years. Subjects' cardiovascular biological age (average of) **7.2 years lower** than their actual physical age.

Short-term (3-month) PEO use

The effects of short-term PEO supplementation were evaluated in sixteen (16) subjects with a daily dosage of 2,900 mg PEO formulation. The sub-groups were as follows: seven (7) male subjects and nine (9) female subjects aged 46-84, with a *median age of 64-years-old*, utilizing the formulation a median of 2.5 months usage (half of the subjects with less duration and half of the subjects with more duration) and mean average of 3 month's usage. Minimum PEO formulation usage was one (1) month and the maximum subject usage was eight (8) months PEO usage. Vascular assessment was made via photoplysmography measuring arterial flexibility.

Overall Short-term Improvement = 43% Effectiveness – Highly Significant

Seven (7) subjects of the sixteen (16) subjects in the trial improved. **This corresponds to a forty-three per cent (43%) effectiveness rating over a very short period of time.** The average improvement in arterial flexibility was 7.2 years improvement meaning the average subject utilizing the PEO formulation had a cardiovascular system with the arterial flexibility of a younger subject.

NNT Effectiveness = 2.3 – A "Remarkable" Result

The number needed to treat (**NNT**) is calculated as follows: 16 subjects / 7 improved subjects = **2.3**, an outstanding result for such a short period of time.

NNT quantifies how many patients have to be treated to obtain one successful outcome. An NNT of less than 50 is considered effective in the pharmaceutical industry.

Comparison to Statins

As a comparative example, statins, as reported by the pharmaceutical industry, have NNTs > 80 in preventing a cardiovascular event.

This means a minimum of 80 patients would need to be treated to see a single (1) positive outcome.

In contrast, the PEOs improve a <u>much more direct physiologic measure</u>, i.e., arterial flexibility, in a profound way resulting in a **remarkable 2.3 NNT**.

<u>Statistics (Highly Significant) — 99% Accuracy</u>

Short Term Results — With Baseline

IOWA: Investigating Oils With Respect to Arterial Flexibility
Significant differences in biological age compared to physical age (short-term)
Brian Peskin, BSEE: Founder: Life-Systems Engineering Science with David Sim, M.D., Interventional Cardiologist
(Based on 16 patients using the PEO formulation 1 month - 8 months)

Age: 46-84	**Median age: 64**	9 females, 7 males

Paired t-test. Median: 2.5 months PEO formulation use / Mean: 3 months PEO formulation use

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Significant differences (**p 0.0099**) with an experimental error of the mean +-5 years.
Subjects' **biological age being (average of) 7.2 years lower than their actual physical age.**

Note: This experiment has a 99.00% accuracy—<u>5 times more accurate than the 5% standard</u> error used in most clinical trials. Therefore, this result is *not* due to possible error and is significant with <u>patient CV health 7.2 years better than physical age predicts</u>.

Analysis by Alex Kiss, Ph.D. (statistics) — March 26, 2010
Analysis Variable : agediff

N	**Mean**	Std Dev	Pr > |t|
16	**-7.24**	10.19	0.0099

PEOs versus Fish Oil
IOWA: Investigating Oils With Respect to Arterial Flexibility
Significant differences in biological age compared to physical age

Brian Peskin, BSEE: Founder Life-Systems Engineering Science
with David Sim, M.D., Interventional Cardiologist

Subjects Discontinued Fish Oil Supplementation, replacing it with PEO Formulation

> Significant differences (p=0.0001) with an experimental error of the mean +- 5 years. Subjects' cardiovascular biological age (average of) **11.1 years lower** than their actual physical age.

PEOs versus fish oil

The effects of the PEOs were evaluated in subjects who ceased fish oil supplementation, replacing it with a daily dosage of 2,900 mg PEO formulation. The effects of the PEO formulation were measured in 15 subjects: seven (7) male subjects and eight (8) female subjects aged 46-74, with a *mean age of 60-years-old*, utilizing the formulation an average duration of 3.5 months. Vascular assessment was made via photoplysmography measuring arterial flexibility.

Overall Improvement

Thirteen (13) of the fifteen (15) subjects improved with the PEOs for an **87% effectiveness** rating and an **NNT of 15 / 13 = 1.2**. **Improvement was 11.1 years** as measured by standard population samples.

On average, the PEO formulation quickly improved the cardiovascular system's arterial flexibility by over 11 years (younger) in the subjects. Thirteen (13) subjects improved; one (1) subject remained the same, one (1) subject worsened by 1 year. Results were highly statistically significant **(p=0.0001) — 99.99% accuracy**.

Subjects with "high cholesterol"

Of the seven (7) subjects previously diagnosed with high cholesterol levels replacing fish oil supplements with the PEO formulation instead, six (6) subjects improved their cardiovascular biological ages. This translates to an **NNT of 7 / 6 = 1.2** for improvement in cardiovascular system compliance in subjects with high cholesterol manifestations of heart disease.

Subject with both diabetes and "high cholesterol"

One (1) subject having both diabetes and high cholesterol diagnosis also improved.

Comparison to Statins

As a comparative example, statins, as reported by the pharmaceutical industry, have NNTs > 80 in preventing a cardiovascular event.

This means a minimum of 80 patients would need to be treated to see a single (1) positive outcome.

In contrast, the PEOs improve a much more direct physiologic measure, i.e., arterial flexibility, in a profound way resulting in a **remarkable 1.2 NNT**.

Statin user improvements

Two patients are taking statins and both subjects improved their biological age by twenty years for an **NNT = 1 in those patients taking statins**. NNTs of less than 50 are considered excellent. Even with the small number of subjects in this sub-group taken into account, the results of this trial are exceptional and not due to chance.

> **These results clearly show that the PEO formulation is superior to fish oil supplements in preventing and reversing cardiovascular disease. In fact, as this experiment definitely shows, fish oil WORSENS arterial compliance.**

Statistics (Highly Significant) — 99.99% Accuracy

Analysis by Alex Kiss, Ph.D. (statistics) — August 20, 2010

Mean of BIO_AGE_W_FO variable	Mean of BIO_AGE_PEO variable
Analysis Variable: BIO_AGE_W_FO	Analysis Variable: BIO_AGE_PEO

Mean	Std Dev		Mean	Std Dev
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49.20	11.33		38.07	8.12
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Paired t-test run: mean change (FO - PEO) was found to be 11.1 (sd=8.4). This was statistically significant (p=0.0001)

Analysis Variable: diff

Mean	Std Dev	t value	Pr > |t|
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11.13	8.37	5.15	0.0001
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