


VF Omega-3 & Omega-3 Index for Pets Test

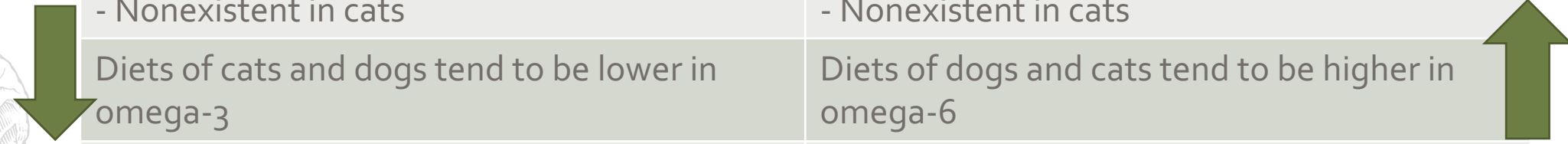
Bridging the EPA/DHA Nutritional Gap



Polyunsaturated Fatty Acids (PUFAs)



Omega-3	Omega-6
Alpha-linolenic acid (ALA) , eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA)	Linoleic acid (LA) , arachidonic acid (AA)
Conversion of ALA to EPA and DHA: <ul style="list-style-type: none">- Inefficient in dogs- Nonexistent in cats	Conversion of LA to AA: <ul style="list-style-type: none">- Inefficient in dogs- Nonexistent in cats
Diets of cats and dogs tend to be lower in omega-3	Diets of dogs and cats tend to be higher in omega-6
Tend to be anti-inflammatory	Tend to be pro-inflammatory



Biagig G., Mordentia A.L., Cocchi M., Mordenti A. *The role of dietary omega-3 and omega-6 essential fatty acids in the nutrition of dogs and cats: A review.* Progress In Nutrition VOL.6,N.2,000-000, 2004
Qiu X: *Biosynthesis of docosa-hexaenoic acid (DHA, 22:6-4,7,10,13,16,19): two distinct pathways.* Prostaglandins Leukot Essent FattyAcids 2003; 68: 181-6.

Where do the Omega Fatty Acids Come From?

Dogs and cats cannot produce essential omega-3 and omega-6 fatty acids on their own and are therefore required through the diet.

Omega-6 fatty acids are more abundant in diets of cats and dogs, resulting in an **imbalance** between omega-6 and omega-3s.

Omega-3	Omega-6
Plant oils	Fish
Nuts	Phytoplankton
Seeds	Algae
	Some seed oils, nuts



Omega-6 and Omega-3 Imbalance

- Grains and oils rich in omega-6 fats have been largely used in feed for farm animals, which has led to production of meat and eggs rich in omega-6s and poor in omega-3s.
- In addition, modern aquaculture produces fish containing less omega-3 fatty acids than wild fish.

Biagi G. MAL, Cocchi M., Mordenti A. The role of dietary omega-3 and omega-6 essential fatty acids in the nutrition of dogs and cats: a review. Progress in Nutrition. 2004;6.

van Vliet T, Katan MB. Lower ratio of n-3 to n-6 fatty acids in cultured than in wild fish. The American journal of clinical nutrition. 1990;51:1-2.



Omega-3: Pet Food Content

- Not required in commercial pet food
- May contain only ALA or varying amounts of EPA/DHA
- Home-prepared or ultra-low fat could be lacking
- Oxidation of PUFAs
 - Improper storage
 - Lack of antioxidant content



Omega-6:Omega-3 Ratio

- Pet Foods (farm-raised meat, grain fed)
 - **Omega-6 > Omega-3**
- Natural Diet (wild game, grasses)
 - **Omega-6 > Omega-3**

2-or-3:1

Ideal
Omega-6:Omega-3 for
healthy skin

5:1

Ideal
Omega-6:Omega-3 for
healthy immune system
response

10:1

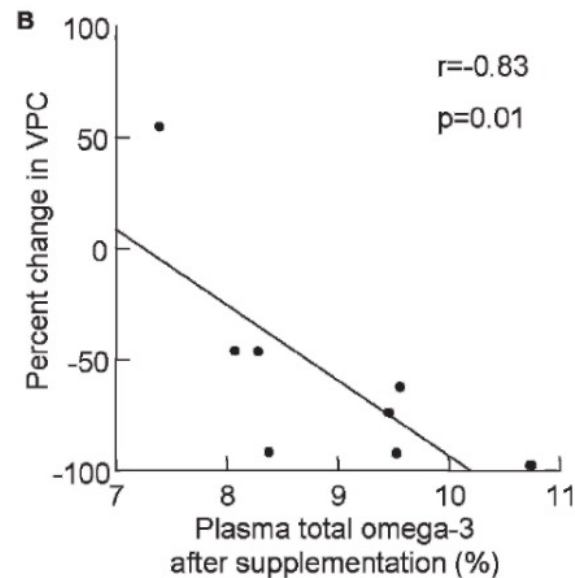
Actual ratio of Standard
American Dog Diet

Why are EPA/DHA so important for overall health?

Heart Health

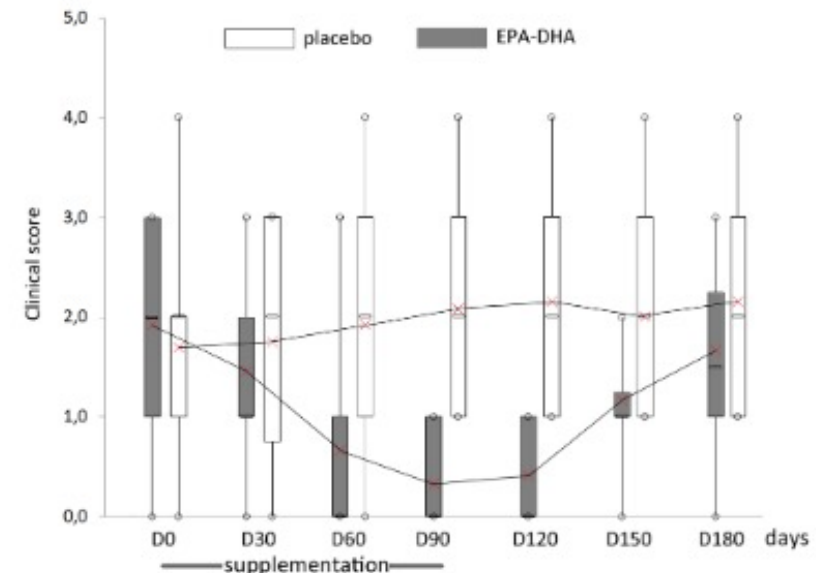
24 Boxers with arrhythmogenic right ventricular cardiomyopathy (ARCV) were randomized to either receive fish oil (EPA/DHA), flax oil (ALA), or control – after 6 weeks ventricular premature contractions (VPCs) per 24 hours were reduced only for fish oil group.¹

Spearman correlations
in the Fish oil group



Skin and Coat

24 dogs with poor hair coat received placebo or EPA/DHA supplement daily for 90 days – significantly improved haircoat and skin quality in dogs.²



1. Smith CE, Freeman LM, Rush JE, Cunningham SM, Biourge V. Omega-3 fatty acids in Boxer dogs with arrhythmogenic right ventricular cardiomyopathy. Journal of veterinary internal medicine. 2007;21:265-73. <https://pubmed.ncbi.nlm.nih.gov/17427387/>
2. Combarros D, Castilla-Castaño E, Lecru LA, Pressanti C, Amalric N, Cadiergues MC. A prospective, randomized, double blind, placebo-controlled evaluation of the effects of an n-3 essential fatty acids supplement (Agepi® ω3) on clinical signs, and fatty acid concentrations in the erythrocyte membrane, hair shafts and skin surface of dogs with poor quality coats. Prostaglandins, leukotrienes, and essential fatty acids. 2020;159:102140.

Other Benefits

- Pathways that regulate joint health
- Central nervous system health
- Brain development of puppies and kittens



How is Need Determined?

- Can we assume all dogs will need added omega-3s?
- Would be great if level of omega-3 could be measured
- Would remove guesswork of whether supplementation is needed

Omega Index for Pets Test

- Measures percentage of EPA/DHA in red blood cells
- Simple to administer; only need one drop of blood
- Results emailed in about 2 weeks
- Best practices
 - Useful for discussing omega-3 needs
 - Register kit (important step for getting results)
 - Whole blood or EDTA blood can be used
 - Mail same day as collection
 - Expect results in about 2 weeks
 - Help determine need and dose of omega-3
 - Retest is recommended after 4 months of supplementation



Test Report



OmegaQuant Analytics
5009 W. 12th St, Suite 7
Sioux Falls, SD 57108
omegaquant.com

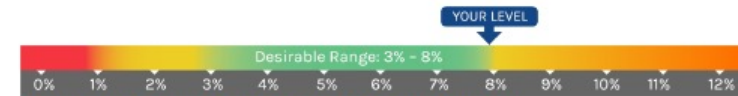
Omega-3 Index for Dogs

NAME: Fido
DOB: 12/25/2020
WEIGHT: 35 lb
OWNER: Joe Owner
SAMPLE ID: USTE12345

COLLECTION DATE: 05/10/2021
RESULT DATE: 05/12/2021
PROVIDER: Dr. Vet
ACCOUNT: Consumer

Omega-3 Index

7.91%



* Referencerange encompasses 99% of the fatty acid levels measured in dogs by OmegaQuant.

Ideal range is 3-8%

The Omega-3 Index is the proportion of long-chain omega-3s, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), divided by all fatty acids in red blood cell membranes. It reflects the omega-3 status over the last 4 months. As a part of an overall healthy lifestyle, an Omega-3 Index of 3-8% may help to support your dog's coat, skin, joint and immune system health. To increase your dog's Omega-3 Index, include foods rich in EPA and DHA, like fish, fortified dog foods, or omega-3 supplements in their diet.

The amount of EPA and DHA needed to achieve an Omega-3 Index will be different for every dog due to dietary, metabolic and genetic factors individual to your dog. Routine testing and changing the amount of EPA and DHA in the diet of your dog with the guidance of your veterinarian should be used to determine the appropriate dose of EPA and DHA needed to maintain an optimal Omega-3 Index. The [National Research Council](#) recommends a supplemental dose of EPA and DHA at 50-75 mg/kg/day with the safe upper limit of 2800 mg EPA+DHA per 1000 Calories. Below is a suggested dosage chart to correct a low Omega-3 Index, based on [Mehler et al.](#)

Dog weight (kg)	EPA+DHA Dose (mg/day)
4 to 14	720
15 to 27	1440
28 to 41	2160
Over 41	2880

Report provides general dosing recommendation

Please consult with your veterinarian before making any changes to your dog's diet or supplement regimen. The most efficient way to raise your dog's Omega-3 Index is to incorporate more omega-3 EPA and DHA from fish, fortified dog food, or supplements into their diet. Omega-3 fatty acids from flaxseed oil (alpha-linolenic acid, or ALA) will have little to no effect on the Omega-3 Index. A dog's conversion of ALA to EPA and DHA is low, therefore, ALA is not an effective substitute for EPA and DHA. It will take 3-4 months for the Omega-3 Index to reach its new level and we recommend re-testing at that time. Once your dog has achieved the desirable Omega-3 Index, it is advised to re-check their values every 6-12 months.



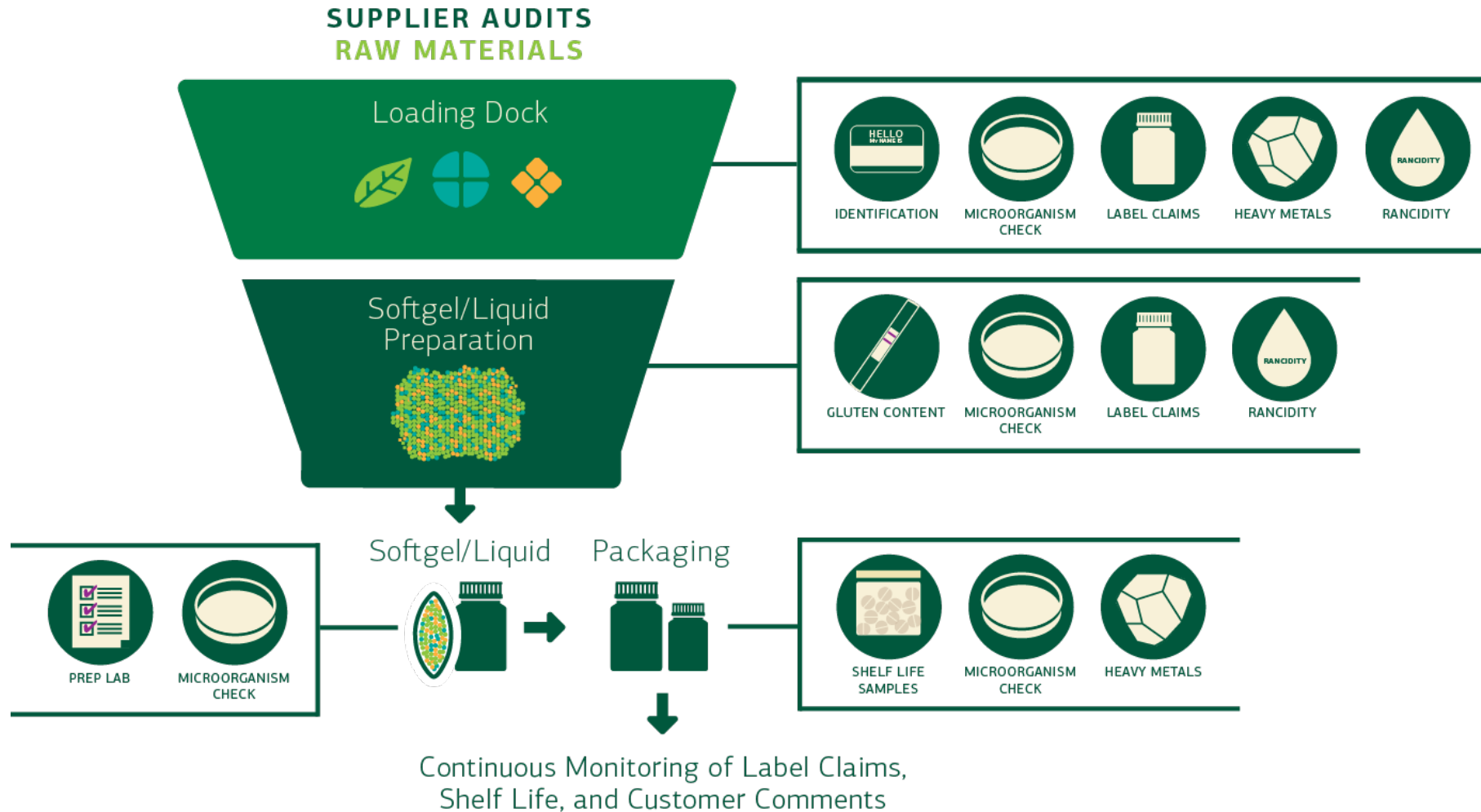
Part II

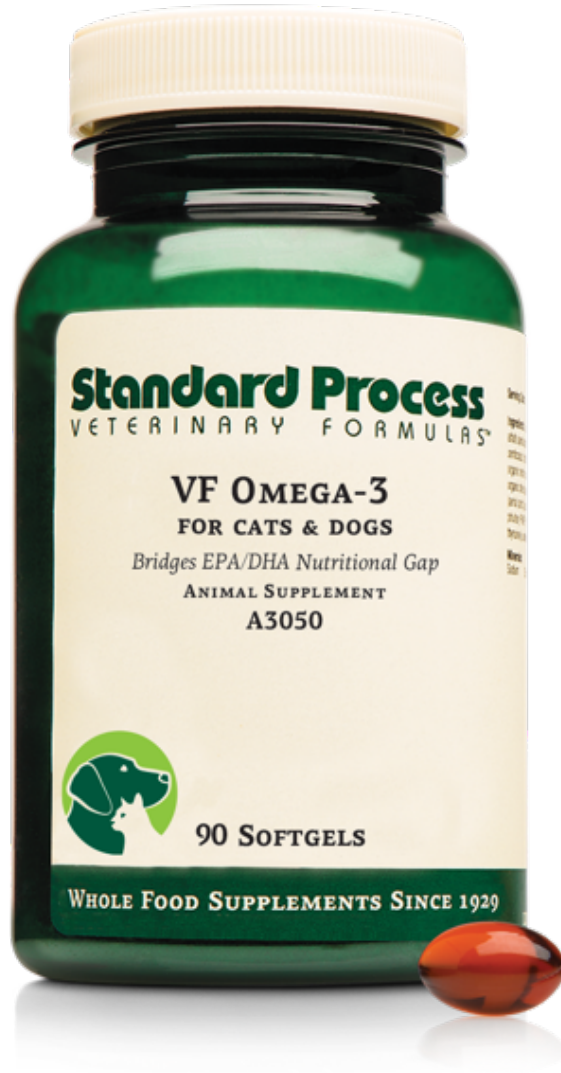
High-Quality, Holistic Clinical Nutrition

- Standard Process® goes to great lengths to find ingredient sources that practice sustainable methods and apply high quality standards
- Standard Process Omega-3 products are formulated in our facility and tested for rancidity and heavy metals
- Our In-house scientists rigorously test each batch



VF Omega-3 Quality Checks






VF Omega-3

VF Omega-3 — which is formulated for both dogs and cats —delivers concentrated EPA and DHA fish oil in softgel form to bridge the nutritional gap and helps support:

- the pathways that regulate joint health
- heart health
- canine healthy skin and coat
- the central nervous system
- brain development of puppies and kittens
- 450 mg of EPA/DHA combined in one softgel

VF Omega-3 Dosing



VF OMEGA-3
FOR CATS & DOGS
Bridges EPA/DHA Nutritional Gap
ANIMAL SUPPLEMENT
A3050

Dose Size: 1 Softgel
Doses per Container: 90


Ingredients: Fish oil concentrate (from anchovy and sardine), gelatin, water, glycerine, rosemary, and astaxanthin.

Guaranteed Analysis:
EPA (min) 250 mg / softgel
DHA (min) 200 mg / softgel


Dose Schedule:
Cats and Dogs <10 lbs. Consult veterinarian
Cats and Dogs 10-20 lbs. 1 softgel / day
Dogs 21-40 lbs. 2 softgels / day
Dogs 41-60 lbs. 3 softgels / day
Dogs 61-80 lbs. 4 softgels / day
Dogs 81-100 lbs. 5 softgels / day
Dogs 101-120 lbs. 6 softgels / day

Or as directed by your veterinarian.

Softgel may be consumed whole or snipped and the oil applied directly on your pet's food.



90 SOFTGELS



8 12122 01398 7 01

WHOLE FOOD SUPPLEMENTS SINCE 1929

Standard Process Inc.
1200 W. Royal Lee Dr. | Palmyra, WI 53156

Standard Process® Canine Omega Pilot Study

Objective: Determine whether supplementation with VF Omega-3 in canines would improve the omega ratio and omega-3 index in dogs.

- 12 client-owned dogs who were not previously consuming an omega-3 rich supplement were included in a 4-month intervention trial
- Each dog was orally administered VF Omega-3 for 4 months
- Dosing was individually determined for each dog based on veterinary recommendations and baseline omega ratios
- Dosing ranged from 19 mg EPA+DHA/kg/d to 112.5 mg EPA+DHA/kg/d
- A dried blood spot was collected from the dogs before and after the trial and the omega ratio was calculated (omega-6 (AA): omega-3 (EPA+DHA))
- The adjusted omega-3 index was calculated from whole blood

Standard Process Canine Omega Pilot Study

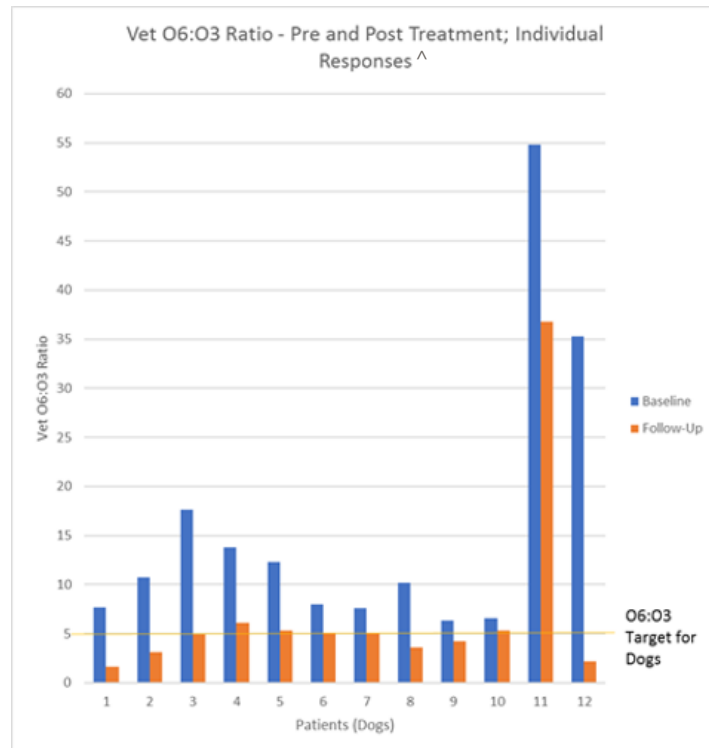
Table 1. Baseline Characteristics and Dosing

Dog	Weight (kg)	Baseline Omega Ratio (omega 6:omega 3)	EPA+DHA Dose [^] (mg/kg/d)	Dose of VF Omega-3 [^] (mg/day)
1	25	8.0	36.0	900
2	26	7.6	34.6	900
3	13	10.7	34.6	450
4	15.5	35.3	87.1	1350
5	25	10.2	36.0	900
6	27	6.3	33.3	900
7	6.8	7.7	19.0	129
8	18	6.6	50.0	900
9	8	54.8	112.5	900
10	8	17.6	56.3	450
11	5	13.8	90.0	450
12	6.4	12.3	70.3	450

[^]The omega-3 dose was determined by the veterinarian based on the baseline omega ratio, not the recommended dose schedule listed on the VF Omega-3 label.

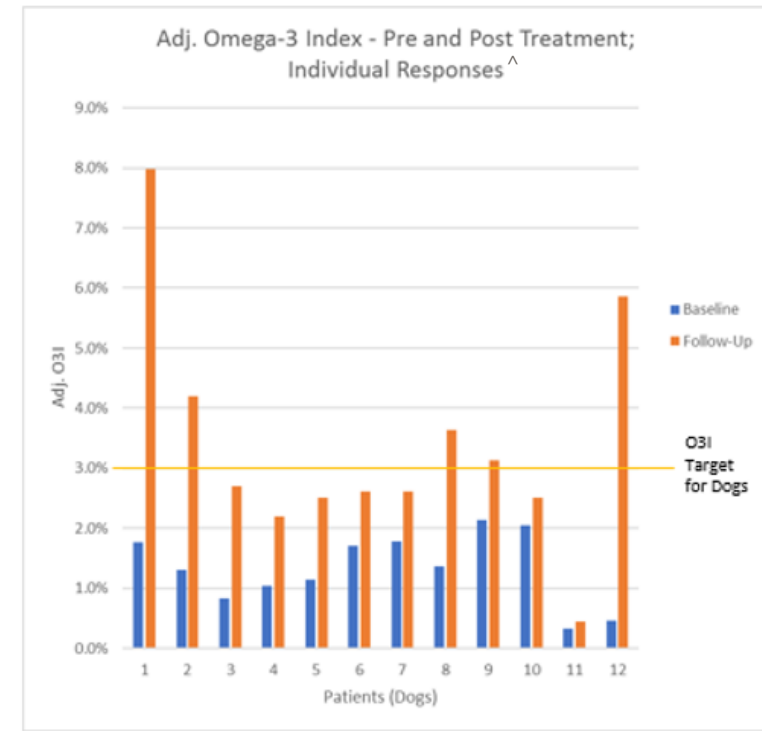
Standard Process Canine Omega Pilot Study

- All dogs reported abnormal omega ratio scores pre-intervention ranging from 6.3 to 54.8.
- There was a significant improvement in omega ratio scores from pre- to post-intervention ($P < 0.01$).
- 50% of participating dogs ($n=6$) improved their omega ratio into a targeted normal range (< 5.0) after the intervention.



^The omega-3 dose was determined by the veterinarian based on the baseline omega ratio, not the recommended dose schedule listed on the VF Omega-3 label. See Table 1 for dosages used in the study.

- All dogs reported abnormal adjusted omega-3 index scores pre-intervention ranging from 0.3% to 2.1%.
- There was a significant improvement in adjusted omega-3 index scores from pre- to post-intervention ($P < 0.01$).
- A total of 5 dogs improved their adjusted omega-3 index scores into a targeted normal range ($> 3\%$) after the intervention.



Order Form

**Omega-3 Index
for Pets Test**
Product #: T2000
SLP: \$49.95

Quantity: _____



VF Omega-3
90 Softgels
Product #: A3050
SLP: \$39.00

Quantity: _____

ACCOUNT INFORMATION ACCOUNT NAME

ACCOUNT NUMBER

PHONE NUMBER

EMAIL ADDRESS

PAYMENT LAST 4 DIGITS OF CREDIT CARD ON FILE

EXPIRATION DATE

NAME ON CARD



Questions?

Veterinary Technical Support

888-982-8130

Vethelp@standardprocess.com