

# CLINICAL CASES OF BLEPHARITIS SUPPLEMENTED WITH DHA TRIGLYCERIDE





**BRUDYITIS**®. Food supplement with Omega-3 fatty acids in triglyceride form (DHA 70%, EPA 8,5%, DPA 6%), Trace elements (Se, Mn, Zn, Cu), and Glutathione

Composition	In 1 capsule	In 2 capsules	%RI*
Omega-3 fatty acids:			
Docosahexaenoic			
(22:6ω3, DHA) (mg)	500	1.000	-
Eicosapentaenoic			
(20:5ω3, EPA) (mg)	61	122	-
Docosapentaenoic			
(22:5ω3, DPA) (mg)	42	84	-
Trace elements:			
Zinc (mg)	5	10	50-100
Selenium (µg)	27,5	55	50-100
Copper (µg)	500	1.000	50-100
Manganese (mg)	1	2	50-100
Other components:			
Glutathione (mg)	5	10	-

(\*RI: Reference intake for 1 to 2 capsules)

#### **Energy values**

(kcal / kJ) 7,8 / 32,3 15,6 / 64,6

Ingredients: Omega-3 fatty acids concentrated **fish oil** (Tridocosahexanoína-AOX® as source of Docosahexaenoic acid); Capsule: Gelatin; Stabilizer: Glycerin; Thickener: Yellow bee wax, Stabilizer: Sorbitol syrup; Emulsifier: Sunflower Lecithin; Zinc Oxide, Selenium Compound (Dicalcium Phosphate, L-selenomethionine); L-Glutathione; Manganese sulphate; Coloring: Iron Oxides and Hydroxides; Stabilizer: Silicon Dioxide; Cupric sulfate. **Gluten and dairy free.** 

Nutritional and physiological effect: BRUDYITIS® has been conceived to supplement daily requirements in essential

fatty acids of the Omega-3 family and of the included group of minerals and Glutathione. Brudy has developed and patented a unique source of docosahexaenoic acid (DHA): Tridocosahexanoína-AOX®. Docosahexaenoic acid (DHA) is a polyunsaturated omega-3 fatty acid, which is necessary for normal brain and visual function. This benefit is obtained with a daily intake of 250 mg of DHA. Eicosapentaenoic acid (EPA) and DHA contribute to normal heart function. The beneficial effect is obtained with a daily intake of 250 mg of EPA and DHA. Zinc contributes to normal sight maintenance. Minerals such as zinc, copper and selenium contribute to normal functioning of the immune system, and together with manganese, contribute protecting cells from oxidative damage. Glutathione is a protein that is the source of the three amino acids that cells use to synthesize their own glutathione. To influence the immune-inflammatory response, it is advisable to increase the consumption of Omega-3 fatty acids, while reducing consumption of Omega-6 fatty acids to achieve a better ratio.

**Instructions for use:** It is recommended a daily dose of 1 to 2 capsules per day, accompanied by a glass of water at meal times.

Warnings: Food supplements should not be used as a substitute for a varied and balanced diet. It is important to maintain a healthy lifestyle. Do not go over the recommended daily dose. Not recommended in case of hypersensitivity or allergy to any of the formulation constituents. In case of pregnancy and breastfeeding, check with your doctor before taking this product. KEEP OUT OF THE REACH OF CHILDREN.

**Storage:** Best if consumed before the end of the month printed on the container. Keep away from light and heat. Store in a dry place in its original packaging and temperature below  $25\,^{\circ}$  C.

Text reviewed September 2020

## The mechanisms of action of BRUDYITIS® in eyelid and ocular surface conditions

1 Improvement of antioxidant protection in the ocular surface related with the increase in glutathione (GSH) produced by the corneal and conjunctival epithelial cells, which is induced by the greater presence of DHA in their membranes after supplementation. There is also an improvement in the systemic Total Antioxidant Capacity.

2 Reduction in the expression of proinflammatory cytokines present in the blood and in the reflex tear. This aspect derives from the inhibitory effect that DHA exerts on the activation of nuclear factor-KB in leukocytes and endothelial cells, which hinders the neosynthesis of proinflammatory cytokines such as: IL-6, IL-1B, TNF-alpha, IL-10, VEGF,...

3 Improvement of the anti-evaporative effect of non-polar meibomian lipids due to the greater stability provided by the polar lipid layer of the tear film. This derives from the greater presence of DHA in the membranes of meibomian acinar cells after supplementation. DHA provides greater fluidity and flexibility of its 6 double bonds to the phospholipids that make up their cell membrane, and which are responsible for forming the tear polar lipid film. (Responsible for the TBUT).

4 It is the set of these 3 activities that is responsible for the evident improvement in the symptoms (OSDI index) and clinical signs (TBUT, T. Schirmer, Oxford,...) of dry eyes.



## CLINICAL CASES OF BLEPHARITIS SUPPLEMENTED WITH DHA TRIGLYCERIDE

In this monograph, the results of a series of clinical cases of patients affected by blepharitis are presented in which Ioana Romero MD and Amaia Urkia MD from the Galdakao-Usansolo Hospital assess the evolution of the patients after having carried out a period of supplementation with BRUDYITIS® capsules.

#### Material and methods

- All patients have been diagnosed suffering blepharitis.
- Patients maintain the treatments they have been performing and adding 2 capsules per day of BRUDYITIS® for the following 90 days (each capsule contains 500mg of DHA-Triglyceride).
- Cases consists of an initial assessment/examination and a new final assessment/examination after having completed a 3-month supplementation period.

## Aspects that are valued and presentation of results

- 1. Identification data: age and sex of the patients.
- 2. Which is the usual treatment at the beginning of supplementation period and at the end of it after 90 days.
- 3. Schirmer test at the initial and final situation.
- 4. Evolution of the tear non-invasive break-up time (NIBUT) at the beginning and at the final situation.
- 5. OSDI index at the initial and final moments.

- 6. Initial and final photographic evaluation of the anterior segment of the eye and of the lid skin.
- 7. Opinion of the patient regarding his level of satisfaction.
- 8. Examiner comments.

#### Results table

The clinical aspects that include points 1 to 8 are presented in a table that differentiates the initial situation, and again at the end of the 3-month period, indicating the result obtained in the right eye (RE) and in the left eye (LE).

### Photographic evaluation of the ocular surface and of the periocular skin

At the bottom of the page the photographic image of the starting situation is shown and below it is shown the image of the final situation.

C.L., 45-year-old male

Patient is seen in the clinic due to a red eye with discomfort, wakes up with rheum and difficulty opening his eyes.

Treatment with hygiene, tears and vitamin A ointment at night is indicated.

After 2 months, he comes back to the clinic with no improvement in his condition, so Brudyitis® is added 2 capsules a day.

After 3 months, the improvement in both the symptoms and the decrease in inflammation is objective, even at a photographic level.

Visited a posteriori, he comments on a worsening of his situation once the treatment was abandoned, so it was decided to resume supplementation.

	FIRST VISIT	SECOND VISIT
Schirmer's test RE (mm)	12	17
Schirmer's test LE (mm)	15	20
NIBUT RE (seconds)	8	10
NIBUT LE (seconds)	8	10
OSDI Index	6,3	2
Oxford Test	3	1





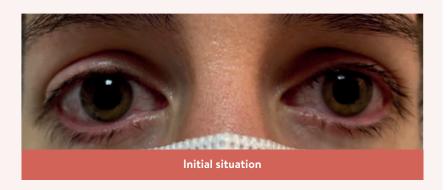
A.P.M., 35-year-old female

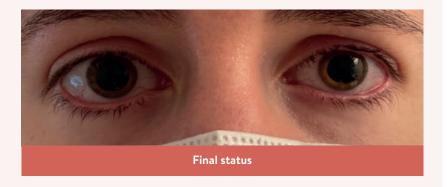
Diagnosed of suffering rosacea blepharitis that produces severe meibomian gland dysfunction. Over the years she has tried multiple hygiene treatments, tears, topical corticosteroids... etc.

She started treatment with Brudyitis  $^{\!0}$  500mg 2 tablets a day, and progress was observed at 3 months.

A decrease in the Schirmer test of both eyes is observed, which would be attributable to the reduction of inflammation in the ocular surface provided by the supplementation. Thus, the initial inflammation could be favoring tearing. Compared with the basal situation an improvement in the NIBUT is seen. The patient's subjective feeling of improvement is shared by the explorer, there are obvious signs of improvement.

	FIRST VISIT	SECOND VISIT	
Schirmer's test RE (mm)	33	20	
Schirmer's test LE (mm)	27	15	
NIBUT RE (seconds)	3	10	
NIBUT LE (seconds)	5	10	
OSDI Index	6,3	6,8	
Oxford Test	4	2	





A.H.I., 60-year-old woman

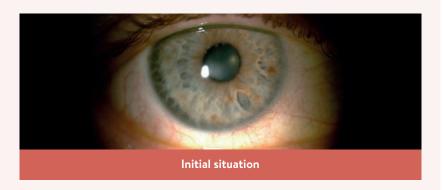
The patient is a user of daily replacement hydrophilic contact lenses, consulting due to eyelid discomfort, foreign body sensation and epiphora. She had previously suffered similar episodes and had been treated with Hydrocortisone.

She was diagnosed suffering Meibomian gland dysfunction and an artificial tear was prescribed on demand, which was associated with 2 Brudyitis® capsules/day.

In the 2-month check-up, she refers to her subjective improvement and objectively, a whiter eye is observed. The patient is seen again 6 months after completing follow-up. During that period, she decided to continue with the supplementation and remains happy with her situation.

	FIRST VISIT	SECOND VISIT
Schirmer's test RE (mm)	17	5
Schirmer's test LE (mm)	13	5
NIBUT RE (seconds)	8	10
NIBUT LE (seconds)	5	10
OSDI Index	6,3	0
Oxford Test	2	0

Situation of the ocular surface





I.G.P., 26-year-old male

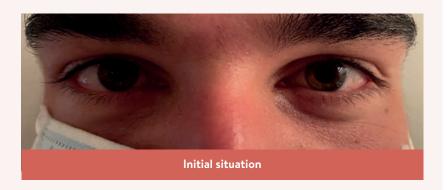
The patient is visiting our clinic due to red eyes of years of evolution with a hypersecretory blepharitis. It does not perform any type of treatment.

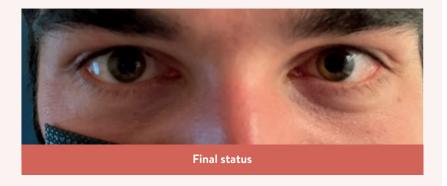
A regimen with Brudyitis® is started, 2 capsules a day for 3 months without associating artificial tears or hygiene.

He returned after 3 months with a significant change in the vasodilatation of the eyelid margin, a significant decrease in conjunctival inflammation and symptomatic improvement. There is even an evident improvement in his facial dermatitis.

It is maintained 1 capsule of Brudyitis® in a daily regimen and treatment is started with palpebral hygiene and artificial tears. The worsening in NIBUT would be attributable to a reduction in hypersecretion.

	FIRST VISIT	SECOND VISIT	
Schirmer's test RE (mm)	8	8	
Schirmer's test LE (mm)	10	10	
NIBUT RE (seconds)	10	4,6	
NIBUT LE (seconds)	10	4	
OSDI Index	14,6	4,2	
Oxford Test	2	2	





I.U.G., 76-year-old woman

Since the use of the mask, the patient is feeling as having tired eyes, hyperemia, and eye discomfort.

Previously she had not performed any ocular surface treatment.

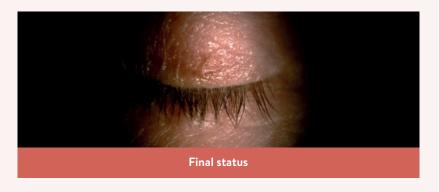
Treatment is started with Brudyitis® 2 capsules per day and artificial tears 4 times/day.

At the 3-month check-up, the patient reported feeling much better, without subjective discomfort. We maintain treatment and the patient is seen in another 6 months to assess her evolution.

	FIRST VISIT	SECOND VISIT
Schirmer's test RE (mm)	16	10
Schirmer's test LE (mm)	16	10
NIBUT RE (seconds)	4	5,7
NIBUT LE (seconds)	7,7	9,7
OSDI Index	14,6	4,2
Oxford Test	3	1

Situation of the periocular skin





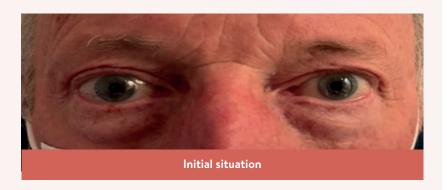
J.F.C., 68-year-old male

He comes to consultation with a previous diagnosis of blepharitis. He has tried different types of eyelid and tear hygiene.

His most bothering complaint is the continuous tearing. 2 capsules of Brudyitis® per day are associated.

He goes to the clinic 2 months later with an evident improvement, both objective and subjective. An improvement in palpebral aesthetics is also appreciated.

	FIRST VISIT	SECOND VISIT	
Schirmer's test RE (mm)	18	18	
Schirmer's test LE (mm)	20	18	
NIBUT RE (seconds)	3	10	
NIBUT LE (seconds)	10	10	
OSDI Index	25	2,5	
Oxford Test	4	0	





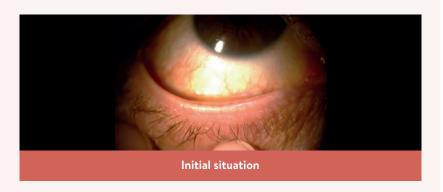
M.C.I.S., 61-year-old woman

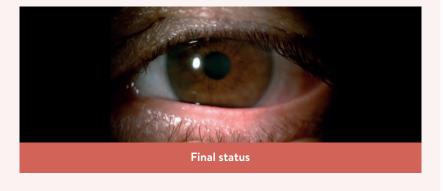
For some years she has been treated with different types of artificial tears and hygiene, without obtaining clinical improvement of dry eyes and constant foreign body sensation. Her condition is associated with hyperlaxity of both lower eyelids.

2 capsules/day of Brudyitis® is prescribed and a single night application of Brudyderm dry eye® gel-cream on the periocular skin area.

She attends 3 months later, reports symptomatic improvement. The Oxford Test has decreased from 2 to 1 but refers improvement in the skin of the periocular area, mainly in the improvement of the roughness to the touch of the skin.

	FIRST VISIT	SECOND VISIT	
Schirmer's test RE (mm)	16	12	
Schirmer's test LE (mm)	15	6	
NIBUT RE (seconds)	10	5,3	
NIBUT LE (seconds)	9	3,8	
OSDI Index	18,7	4,5	
Oxford Test	2	1	





G.G.G., 55-year-old male

The patient is consulting to get a second opinion. Diagnosed of suffering blepharitis, being treated with hygiene and artificial tears on demand.

He keeps noticing itching, stinging and suffering red eyes, mainly due to the associated dry eye syndrome.

After 3 months receiving Brudytis® 2 capsules/day, he comes back reporting a great subjective improvement; has reduced the use of artificial tears and the stinging sensation persists only when he is fixing his sight on the screen computer. Objectively, there is a clear improvement.

	FIRST VISIT	SECOND VISIT
Schirmer's test RE (mm)	17	8
Schirmer's test LE (mm)	20	18
NIBUT RE (seconds)	8	8
NIBUT LE (seconds)	8	8
OSDI Index	8,3	1,2
Oxford Test	2	1











taking care of your patient' s lid skin

#### B R U D Y I T I S

Tridocosahexanoína-AOX®

Food supplement rich in DHA-triglyceride, glutathione, and minerals, to contribute relieving the inflammatory conditions of the lid skin







BRUDYAL PLUS

MULTI

A solution of Sodium hyaluronate with a high viscosity, sterile,

preservatives free, having a 3-month authorized period of consumption.





#### BRUDYDERM DRY EYE

Palpebral gel with Tridocosahexanoína-AOX® to hydrate and decongest the skin of the lids and of the ocular surface.







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