

PYCNOGENOL® FOR EYE HEALTH

Blindness represents the most feared disability and vision loss most commonly results from the diseases cataract, macula degeneration, retinopathy and glaucoma. The retina is the tissue with the highest metabolic turn-over in the body, with the consequence of the highest oxidative stress. Free radical damage is understood to be involved in the processes leading to cataract and macula degeneration.

Retinopathy is a disease affecting the capillaries supporting the retina, which turn brittle and leak blood into the retinal tissue. In turn, the light-sensing cones and rods in the retina decay, causing irreversible vision loss. Retinopathy typically is a consequence of a systemic disease affecting the vascular system, predominantly diabetes but also atherosclerosis and hypertension. Addressing the systemic disease, therefore, represents the best preventative measure. Retinopathy is considered a "stealth disease" as it develops slowly, there are no warning signs (it is painless) and causes no symptoms until the disease is relatively advanced. Retinopathy is the leading cause of blindness in people under the age of 60 in industrialized nations.



Healthy eye background



Retinopathy
Areas with defective capillaries
with tiny spot-like bleedings and
fat deposits

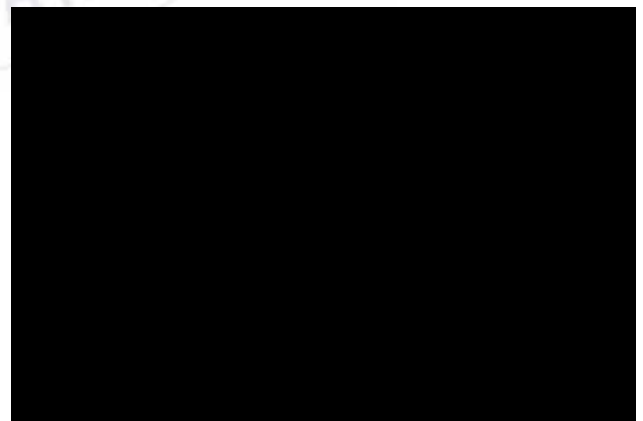


Proliferative retinopathy
Growth of new blood capillaries
which cause severe bleedings

Advanced retinopathy is typically treated by laser photocoagulation, which can significantly reduce further vision loss in the proliferative stage. However, laser photocoagulation is a late and destructive treatment. Clinically manifest retinopathy at early stages, however, is currently left with few treatment options.

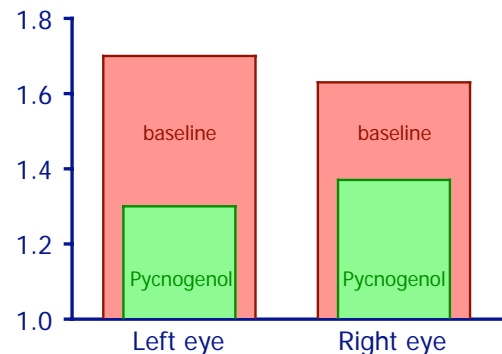
Five clinical studies with more than 1200 patients have shown that the desire of patients and physicians for effective medication addressing retinal micro-bleedings and gradual vision loss can be achieved with Pycnogenol®.

Pharmacological and clinical studies have demonstrated that Pycnogenol® strengthens capillaries and reduces capillary wall permeability. Pycnogenol® is a potent inhibitor of matrix metallo proteinases and possesses significant anti-inflammatory activity (Grimm et al., 2004). As result, Pycnogenol® counteracts edema and bleedings in retinopathy. Furthermore, Pycnogenol® normalises platelet activity by increasing endothelial nitric oxide synthesis which helps prevent retinal vein occlusion.



Pycnogenol[®] was investigated in an Italian double-blind, placebo-controlled trial for treatment of patients diagnosed with diabetic-, hypertensive- or atherosclerotic retinopathy. In this study particular emphasis was given on obtaining objective parameters indicating improved micro-vascular function of the retina [Spadea et al., 2001].

Injection of fluorescent dye into the blood stream was used for visualization and quantification of retinal bleedings (fluorangiography). After two months treatment with Pycnogenol[®] the intensity of retinal bleedings was statistical significantly reduced. Placebo did not give any effect. Coherent with the reduced bleedings, electroretinography gave significantly better values in the Pycnogenol[®] group indicating better retinal integrity and function in these patients.



Most noteworthy is the slight improvement of visual acuity in response to Pycnogenol[®] treatment, whereas visual acuity in the placebo group further deteriorated.

German multi-center field study
1169 retinopathy patients
20–160 mg Pycnogenol[®] a day
6 months treatment
Improvement of eyesight

In a field study 1169 diabetic retinopathy patients were treated with Pycnogenol[®]. All of these patients showed retinal degeneration and 49% had previously received other medication. The primary goal of this study was to demonstrate that Pycnogenol[®] is efficacious for controlling the deterioration of visual acuity.

The outcome showed that Pycnogenol[®] did not only successfully stop further deterioration of visual acuity, but improved the eyesight to some extent [Schönlau et al., 2002]. The trend towards improved visual acuity was already noticeable after 3 months treatment. Treatment was generally well tolerated, only 1.45% of the patients experienced minor side-effects, predominantly stomach discomfort.

Pycnogenol[®] offers a safe and efficacious measure to control retinopathy at the non-proliferative stage. With consideration of the high risk for developing retinopathy, particularly in diabetes, and the reality of frequently lacking early diagnosis, Pycnogenol[®] represents a valuable preventative measure. As Pycnogenol[®] helps reduce blood sugar in type II diabetes this will be of further benefit. For more information please check [PYCNOGENOL[®] FOR DIABETES](#).

- ✚ Grimm T, Schäfer A, Högger P. Antioxidant activity and inhibition of matrix-metalloproteinases by metabolites of maritime pine bark extract (Pycnogenol[®]). Free Rad Biol Med 36: 811-822, 2004.
- ✚ Rohdewald P. A review of the French maritime pine bark extract (Pycnogenol[®]), a herbal medication with a diverse pharmacology. Int J Clin Pharmacol Ther 40: 158-168, 2002.
- ✚ Spadea L, Balestrazzi E. Treatment of vascular retinopathies with Pycnogenol[®]. Phytother Res 15: 219-223, 2001.
- ✚ Schönlau F, Rohdewald P. Pycnogenol[®] for diabetic retinopathy. A review. Int Ophthal 24: 161-171, 2002.

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