

* Researched Conclusions on ill effects of alcohol in eye drops.

Sachsenweger, Rudolf and Matthias (1982)

Kompendium und Atlas der Augenheilkunde. 3. Auflage, Gustav Fischer Verlag Stuttgart.

Intoxications and medicament caused damages of the eye can be aroused by ethyl alcohol.

Fanta, Helmut (1983)

Augenerkrankungen. Praxis der Allgemeinmedizin, Bd. 6. Urban und Schwarzenberg München-Wien-Baltimore.

Ethyl-alcohol is listed next to acids and alkalies as a possibility for eye corrosion. Especially in drop form ethyl alcohol causes corrosions of the conjunctiva and cornea which are similar to acid corrosions.

Fassihi, AR. & Naidoo, NT (1989)

Irritation associated with tear-replacement ophthalmic drops. A pharmaceutical and subjective investigation.

In: South African Medical Journal. Mar. 1989, 75(5), S. 233-235.

Alcohols produce irritants at the eye when applied topically. This is usually accompanied by conjunctival and corneal injury.

Olsen, EG. & Olsen, H. (1993)

Influence of ethanol ingestion on the cornea. In: Acta Ophthalmologica Copenhagen. Oct. 1993, 71(5), S. 696-698.

Alcohol leads to a low but significant increase of corneal thickness. The reason for this possibly is that alcohol leads to a temporary depression of the endothelial pump activity. A resulting loss of contrast sensitivity may have consequences for car driving and other things.

Schoffling-Krause, U. (1993)

Arzneiformenlehre. Der Pharmazeutisch-technische Assistent. Deutscher Apotheker Verlag Stuttgart.

Eye medicines shall not disturb the tear film in its physiological function since otherwise

(a) the protecting function of the tear liquid is jammed

(b) the applied drops are rinsed out early by the increased tear fluid production.

Eye drops containing alcohol (Alcohol representing a very weak acid with pH not corresponding to pH of the tear fluid) surely do not meet this requirement.



Voigt, R. (1993)

Pharmazeutische Technologie 7. Aufl. Ullstein Mosby GmbH & Co. KG Berlin.

The eye represent one of the most sensitive organs of human organism. High quality demands are therefore justified from an eye remedy namely good effectiveness, physiological compatibility (free from pain and irritation) and sterility. Pain and irritation are primarily important factors as the retention time of the drug should be as long as possible. The eye reacts on pain and irritation with increased secretion of tear fluid, which leads to a fast loss of the active agent. (Alcohol content with no medicinal value, is the cause of pain and irritation in eye drops containing alcohol).

Forth, W. et al. (1992)

Pharmakologie und Toxikologie. 6. Aufl. B I Wissenschaftsverlag Mannheim-Leipzig-Wien-Zürich.

Even the disinfectant effect of ethanol is not considered in ophthalmic solutions. A high percentage alcohol solution produces corneal epithelial sloughing and corneal oedema, which is verified in studies on rabbit eyes.

Following authors have described changes like substance loss, higher number of mitosis and others on the mucous membrane (The conjunctiva of the eye is a mucous membrane) induced by alcohol influence.

Leydhecker & Grehn (1993)

Augenheilkunde. 25. Aufl. Springer Verlag Berlin -Heidelberg-New York.

Vaughn, D. & Asburg T. (1983)

Ophthalmologie. Springer Verlag Berlin-Heidelberg New York-Tokyo.

Born, I. A.; Zoller, J.; Weidauer, H. (1996)

Auswirkungen des chronischen Alkoholkonsums auf die Mundschleimhaut. Eine morphometrische Untersuchung. In: Laryngorhinootologie. Dec. 1996, 75(12), S. 754-758.

Al-Harbi, M. M.; Qureshi, S.; Raza, M.; Ahmed, M. M.

Afzal, M. & Shah, A. H. (1997)

Takahashi, S.; Yamazaki, T. & Okabe, S. (1997)

Lemnoprozole protects cultured gastric mucosal cells against damage caused by ethanol, indometacin and taurocholate. In: Pharmacology Mar. 1997, 54(3) S. 118-126.

Collins, J. F. & Augustin, A. J. (1997)

Augenheilkunde. Springer Verlag Berlin-Heidelberg, describes damages done to the eye by different chemicals including alcohol.

Allwood M. C., Medicinal Research Unit, Derbyshire - U.K. (1989)

Regarding the question of alcohol in eye drops, the U.K. Authorities would never allow alcohol to be included in such formulations because of the risks of irritation and damage to the corneal epithelium.

No wonder liquids which are
used as contact lens wetting solutions
or intra ocular irrigating solutions
NEVER contain alcohol.

