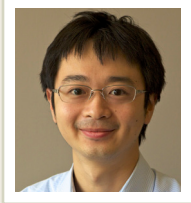


Contact Lens Update

CLINICAL INSIGHTS BASED IN CURRENT RESEARCH

Summary: Report of the Contact Lens Interactions with the Ocular Surface and Adnexa Subcommittee

April 28th, 2014



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Efron N, Jones L, Bron AJ, Knop E, Arita R, Barabino S, McDermott AM, Villani E, Willcox M, Markoulli M. The TFOS International Workshop on Contact Lens Discomfort: Report of the Contact Lens Interactions With the Ocular Surface and Adnexa Subcommittee Investigative Ophthalmology and Vision Science 2013 54:TFOS98-TFOS122.

Meibomian glands and the lid wiper: strongest association to contact lens dryness

Meibomian gland dysfunction is a chronic abnormality of the meibomian glands typically involving obstruction of the terminal duct and changes in glandular secretion. It alters the composition of the tear film, resulting in eye irritation, inflammation and ocular surface disease.

There is a shared clinical impression that contact lens wear increases the risk of meibomian gland dysfunction. Evidence indicates that desquamated epithelial cells can obstruct the meibomian gland orifices with contact lens wear, and that lens wearers have higher rate of meibomian gland drop out.

The lid wiper is a narrow ridge on the under-side of the eyelid. Lid wiper epitheliopathy refers to the staining of this region of the lid, thought to result from the mechanical friction between the marginal conjunctiva and the contact lens surface. Lid wiper epitheliopathy is found in 67-80% of symptomatic contact lens wearers, but only in 13-32% of asymptomatic wearers.

Lid parallel conjunctival folds, conjunctival metaplasia and goblet cell density: some evidence of link to contact lens discomfort

Lid parallel conjunctival folds (LIPCOF) are subclinical parallel folds of the lower bulbar conjunctiva, parallel to the lower lid margin. They have been found to be present in dry eye patients. The suggested etiology of friction is similar to that of lid wiper epitheliopathy.

Flattening of epithelial cells and change to cell nuclei shape in the conjunctiva around limbus has been correlated with contact lens wear and discomfort.

Goblet cells secrete mucins and lubricating proteins. Evidence suggests that contact lens wear results in a decrease in goblet cell density.

Ocular changes with little or no link to contact lens discomfort

Corneal staining and contact lens discomfort are not associated or at best weakly associated. There is no clear relationship between severity of corneal staining and contact lens discomfort. Extensive inferior staining from exposure keratitis can be virtually asymptomatic, whereas tracking stains from a foreign body can be excruciatingly painful.

Stromal infiltrates can present in asymptomatic patients, indicating that there is no direct relationship between low levels of infiltrates and comfort during contact lens wear.

Both contact lens-induced neovascularization and limbal redness are asymptomatic and thus not related to contact lens discomfort, and there is no proven association between epithelial microcysts and contact lens discomfort.

While subjects with overt contact lens papillary conjunctivitis are symptomatic, there have been no direct reports linking contact lens discomfort with general, non-pathological changes to the palpebral conjunctiva.

For further details, please refer to The TFOS International Workshop on Contact Lens Discomfort: Report of the Contact lens Interactions with the Ocular Surface Subcommittee.