
PRESS RELEASE

Do Swimming Goggles Limit Microbial Contamination of Contact Lenses?

October 2011

Wearing goggles over contact lenses while swimming is often recommended by eye care professionals. However, limited data are available to assess this recommendation. For this reason a study has been carried out in Australia by the optometrists Yvonne T. Wu et al. to examine whether wearing goggles while swimming limits bacterial colonization on contact lenses and whether the type of lens worn affects contamination rates. The results have been published in the American Academy of Optometry journal "Optometry and Vision Science" in April 2011.

For the purpose of the study, twenty-three subjects underwent two swimming sessions at an ocean (salt water) pool (Maroubra beach Rock Pool, Sydney, Australia). Silicone hydrogel (Ciba Focus Night and Day) or hydrogel lenses (Ciba Focus Daily) were inserted into subjects' eyes before 30 min of swimming sessions, and subjects used modified goggles to mimic goggled and non-goggled conditions. At the end of each session, lenses were collected for microbial investigation. Viable bacterial colonies were classified as gram positive and gram negative and enumerated. The level of bacterial colonization on contact lenses between goggled and non-goggled conditions and between the two lens materials were compared.

In terms of results, the range of colony forming units recovered from goggled lenses were 0 to 930 compared with 0 to 1210 on non-goggled lenses. The majority of subjects (16/23) had more microorganisms in the non-goggled condition than when wearing goggles. Gram negative organisms were found in three non-goggled lenses. No significant difference was shown in the number of bacteria isolated from silicone hydrogel and hydrogel lenses irrespective of wearing goggles. Water samples had consistently higher numbers of bacterial counts than those adhered to the lenses; however, no association was found between the number of bacteria in the water sample and those found on the contact lenses.

Consistently fewer bacterial colonies were found on the goggled contact lens, thus suggesting goggles offer some protection against bacterial colonization of contact lenses while swimming. Based on the study, the authors conclude that bacterial adhesion to contact lenses while swimming is possible, and this is particularly so when not wearing goggles. These data would support the recommendation encouraging lens wearers to use goggles while swimming.

The full article can be accessed here:

http://journals.lww.com/optvissci/Fulltext/2011/04000/Do_Swimming_Goggles_Limit_Microbial_Contamination.4.aspx

Notes for editors

The study on “Do Swimming Goggles Limit Microbial Contamination of Contact Lenses?” was carried out by Yvonne T. Wu (BOptom), Jess Tran (BOptom), Michelle Truong (BOptom), Najat Harmis (BSc), Hua Zhu (PhD) and Fiona Stapleton (PhD, FAOO) from the Brien Holden Vision Institute, Sydney, New South Wales, Australia (YTW, NH, HZ, FS) and School of Optometry and Vision Science, University of New South Wales, Sydney, New South Wales Australia (YTW, JT, MT, HZ, FS). It was published in “Optometry and Vision Science”, Vol. 88, No. 4, pp. 456-460.

About ECOO

The European Council of Optometry and Optics (ECOO) is the European organisation which represents the interests of optometrists and opticians from 31 countries. It aims to promote eye health to the public across borders and to harmonise clinical and educational standards of optometric and optical practice throughout Europe.

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