

## CONTACT LENSES

*Myagkov A. V., Novikov C. A.*

**Physicochemical properties of materials for contact lenses from the standpoint of safety of their use and comfort in their use** 3

The main characteristics of polymeric materials for the production of contact lenses, affecting the safety and comfort in their wear by patients, are considered in the article. The authors attempted to standardize and order the main terms, definitions and units of measurement of the physico-chemical and biomechanical properties of materials and some important properties of the contact lenses themselves. The article is addressed to young professionals and all those who feel insecure when discussing with patients this very significant side of the use of contact lenses.

**Keywords:** coefficient of friction, hydrophilicity, modulus of elasticity, moisture content, oxygen permeability, oxygen transmittance, water balance coefficient, wettability

*Chang A., Compañ V., Weissman B. A.*

**Evolution of the critical oxygen tension** 13

While many have tried to pinpoint an exact value, it is now proposed that this value can't be fixed.

**Keywords:** contact lenses, hypoxia, metabolism, oxygen, oxygen tension

## RESEARCH

*Suzaki. A., Maeda N., Fuchihata M., Koh Sh., Nishida K., Fujikado T.*

**Visual performance and optical quality of standardized asymmetric soft contact lenses in patients with keratoconus** 18

Purpose: to evaluate the visual performance and optical quality of a standardized asymmetric soft contact lens (SCL) used for correction of higher-order aberrations (HOAs) in eyes with keratoconus. We included 30 eyes (26 patients) with keratoconus [average K: 45.7  $\pm$  2.3 diopters (D)]. The patients were subjected to corneal tomography, aberrometry, measurements of manifest refraction and visual acuity (VA), and visual analog scale (VAS) assessments. The study lenses were made using a molding method and consisted of six standardized types, Results: the standardized asymmetric SCL improved the best spectacle-corrected VA from 0.07  $\pm$  0.09 to 0.11  $\pm$  0.08 logMAR ( $p < 0.05$ ) and the mean VAS score from 66.2  $\pm$  21.8 to 75.4  $\pm$  20.5 ( $p < 0.05$ ). Conclusions: a standardized asymmetric SCL can reduce HOAs and improve vision quality when compared with spectacles in patients with keratoconus who wear rigid gas-permeable lenses.

**Keywords:** aberrations, contact lens, keratoconus

## POINT OF VIEW

*Rosenfield M.*

**Digital eye strain: How should we be dealing with it?** 29

The article is a review of literature on the problem of the influence of artificial light sources (screens of monitors, laptops, smartphones, tablets, e-books) on the state of the human visual system and methods of therapy for visual fatigue.

**Keywords:** accommodation, blue light, computer visual syndrome, eye fatigue, optical filter

## EDUCATION

*Shcherbakova O. A.*

**19<sup>th</sup> MAFO Conference “Industrie 4.0 – Reloaded”** 32

MAFO – The Conference 2018 is the 19<sup>th</sup> conference dedicated to the professionals of the ophthalmic business which is organized by the publisher of MAFO – Ophthalmic Labs & Industry. Conference opened the doors in Milan – on February 23, 2018, on the day before Mido. “Industrie 4.0 – Reloaded” was the topic of the conference – containing lectures with a high value of pure technical or physical information.

**12<sup>th</sup> International Conference on Contact Lenses “Acuvue Eye Health Adviser”** 40

On April 21–22, 2018, Johnson & Johnson Vision held a traditional international conference on contact vision correction in Moscow. The venue “Radisson Slavyanskaya” was chosen as in previous years. We present to you a brief summary of the reports that were made during the conference program.