

CONTACT LENSES WITH NANOPARTICLES – PERSPECTIVE MEDICINAL FORM AFTER LASER VISION CORRECTION

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Modern society dynamically develops in many directions. New educational reforms require: presences of base knowledges of computer technologies; abilities of work with resources the Internet; skills of handling electronic gadgets and new items of technical progress. From a school bench children and teenagers develop without tearing away from electronic devices, mobile telephones, computer programs and other attributes of progress of IT-technologies. Mobile telephones, other electronic devices became inalienable attributes, people can not do without them neither at home, neither at work nor even in a transport. It results in that now every 3-4th and student at initial school and every 2th in senior classes have violations of refraction, myopia. To great regret, for swift technical progress humanity disburses the health.

In the 20th century had appeared a disturbance about harmful influence of computers on a human health. Especially it touches the organs of sight and psyche. Ophthalmology a long ago disposes instruments for a correction and treatment of pathologies of refraction: it is both glasses and contact lenses, and also cardinal methods are a laser correction by an excimer laser.

The very first effective and best-known method of laser correction is the method of photorefractive keractomy (PRK). The methods of laser eye surgery, which return the patients visual acuity, unfortunately, have a number of certain disadvantages. For example, recovery from PRK is accompanied by pain, photophobia and tearing.

To avoid infection and alleviate the condition after surgery every several hours antibiotics and anesthetics in the form of drops are input in the patient's eyes. In addition, after surgery patients need to wear special bandage contact lenses that prevent injury to the cornea and promote its healing.

In connection with the data presented and the research carried out, there are developments and further prospects for the creation of nanoparticles with anesthetic and antibiotics for their introduction into hydrogel contact lenses. And for the subsequent restoration of the cornea after laser correction are promising contact lenses with the inclusion of hyaluronic acid molecules in the pores.

Currently, work is underway to create a dosage form in the form of contact lenses and wear special bandage contact lenses (eye inserts, according to the State Pharmacopoeia of Ukraine) with nanoparticles.