

Rezumat**Presbyond... experiența noastră la Clinica de Oftalmologie Ama Optimex**

Conf. univ. Mircea Filip, Andrei Filip, Miruna Nicolae, Raluca Moiescu, Eugen Rotaru
București, România

Laserul Presbyond este o nouă modalitate de tratament a pacienților cu prezbiopie. Acest tip nou de laser modern oferă o tehnică chirurgicală de ultimă oră în clinica noastră din 2019, timp în care au fost efectuate peste 150 de intervenții cu rezultate foarte bune. Cele mai importante aspecte ale acestei tehnici sunt: selecția pacienților, managementul așteptărilor și o experiență de lucru bună cu FemtoLasik.

Cuvinte-cheie: presbyond, presbiopie, FemtoLasik

The paper presents our experience with Presbyond, a modern Laser Refractive Surgery Technique, which treats presbyopia.

We started with Presbyond in March 2019. Since then, we have performed over 150 procedures, with amazing results and happy patients.

Some of the most important aspects of this technique are patient selection, management of expectations, and good experience with FemtoLasik surgery.

PRESBYOND is a technique performed using unique software that modifies spherical aberration to increase the depth of focus in each eye. The dominant eye is corrected to see far and intermediate

and the non-dominant eye to see intermediate and near. The surgical steps are the same as in the femtosecond LASIK technique.

Complications are those known to occur after FemtoLasik surgery.

Postoperative neuroadaptation represents a particular aspect to consider and enhancements may be required overtime to compensate for the decrease in accommodation.

In conclusion, we recommend Presbyond as the best minimally invasive technique for presbyopia correction.

Keywords: presbyond, presbyopia, FemtoLasik

UDC: 617.751.6-08:004.942+159.942

FACILITATING NEUROPLASTICITY AND REDUCING ANXIETY RELATED TO THE THERAPEUTIC MANAGEMENT OF AMBLYOPIA THROUGH VIRTUAL REALITY TECHNIQUES

Marcel-Alexandru Găină^{1,2}, Cristinel Ștefănescu^{1,2}, Dănuț Costin^{3,4}

¹ Department of Medicine (III) – Psychiatry, Faculty of Medicine, Grigore T. Popa University of Medicine and Pharmacy Iasi, 16 Universitatii Street, 700115 Iasi, Romania;

² Institute of Psychiatry „Socola”, 36 Bucium Str, Iasi, Romania;

³ Department of Surgery (II) – Ophthalmology, Faculty of Medicine, Grigore T. Popa University of Medicine and Pharmacy Iasi, 16 Universitatii Street, 700115 Iasi, Romania;

⁴ Hospital of Neurosurgery “Prof. Dr. Nicolae Oblu” Iasi, Ophthalmology Ward, 2 Ateneului Str, 700309 Iasi, Romania.

Rezumat**Facilitarea neuroplasticității și reducerea anxietății legate de managementul terapeutic al ambliopiei prin tehnici de realitate virtuală**

Marcel-Alexandru Găină^{1,2}, Ștefănescu Cristinel^{1,2}, Dănuț Costin^{3,4}

¹ Catedra de Medicină (III) – Psihiatrie, Facultatea de Medicină, Universitatea de Medicină și Farmacie Grigore T. Popa Iași, str. Universității nr.16, 700115 Iași, România; ² Institutul de Psihiatrie „Socola”, Str Bucium 36, Iași, România; ³ Secția de Chirurgie (II) – Oftalmologie, Facultatea de Medicină, Universitatea de Medicină și Farmacie Grigore T. Popa Iași, str. Universității nr.16, 700115 Iași, România; ⁴ Spitalul de Neurochirurgie „Prof. Dr. Nicolae Oblu” Iasi, Sectia Oftalmologie, Str Ateneului 2, 700309 Iasi, Romania.

Realitatea virtuală imersivă este înțeleasă drept transpoziția mediului virtual generat de o unitate de procesare grafică într-o manieră stereoscopică prin specializarea echipamentului precum căștile virtuale. Accesibilitatea acestor echipamente este determinată de investiții masive a marilor corporații, ceea ce a facilitat implimentarea lor în medicină. Aceste tehnologii pot oferi noi servicii în oftalmologie precum monitorizarea rezultatelor pacienților la perimetria computerizată, tratamentul ambliopiei etc.

Cuvinte-cheie: neuroplasticitate, anxietate, ambliopie, realitate virtuală

Immersive virtual reality (VRi) is currently understood as the transposition of a virtual environment generated by a graphics processing unit into a stereoscopic manner through specialized equipment such as virtual headsets. The recent accessibility of iVR equipment, determined by the massive investments of large corporations have indirectly facilitated the implementation of the potential of virtual reality in medicine. Along with the overcoming of the graphical processing deficit, concepts were turned to real types of equipment that nowadays possess the capacity to offer synesthetic visual, auditory and haptic stimuli at a level that impair human capacity to differentiate reality from the virtual. The concept of gamification therapy enhances therapeutical potential within a playful interface, and was already proven to be capable of facilitating the dynamics of rehabilitation in neurological, psychiatric or motor disorders, by amplifying the patient's motivation. As iVR opens new perspectives in ophthalmology, such as monitoring patient-related outcome measures through standard automated perimetry, current literature reflects a growing interest in also improving therapeutical outcomes.

This paper aims to assess the current state of the art regarding the applicability of iVR in the treatment of amblyopia, as well as the influence on the anxiety

valences associated with the recovery process of stereoscopic vision, focusing in the manner recovery benefits from virtual reality by providing a dynamic frame, which avoids fixed head positions, indirectly reducing the stress associated with the current gold standard. According to the literature, the recovery of anisometropic amblyopia with the help of iVR has led to significant improvements since the first treatment session, with an upward trend in the deficit recovery curve positively correlated with the repetitiveness of exercises and maintenance of long-term benefits of exposure sessions. Last but not least, iVR technology may become a tool used to diagnose and quantify the level of visual impairment in amblyopia.

iVR represents a disruptive technology whose impact in ophthalmology benefits the transition of contemporary medicine to the future of individualized techniques, designed to improve therapeutic efficacy depending on the individual characteristics of the patient. In conclusion, although iVR stands as a promising therapeutic ophthalmological tool, there is a growing need for implementation as the lack of a standardized means of research designs calls for the expertise of medical experts worldwide.

Keywords: neuroplasticity, anxiety, amblyopia, virtual reality

CZU: 617.753.2-072.7:004.89

APLICAȚIA „MYOPIA CALCULATOR”

Rodica Bîlba ¹, Eugeniu Bendelic ², Victoria Caraman ¹

¹Catedra de Oftalmologie și Optometrie, Universitatea de Stat de Medicină și Farmacie „Nicolae Testemițanu”

²Catedra de Oftalmologie, Universitatea de Stat de Medicină și Farmacie „Nicolae Testemițanu”

Summary

„Myopia computer” application

Rodica Bîlba ¹, Eugeniu Bendelic ², Victoria Caraman ¹,

¹Department of Ophthalmology and Optometry, SUMPh „Nicolae Testemițanu”

²Department of Ophthalmology, SUMPh „Nicolae Testemițanu”

The exponential growth of myopic patients and the integration of information technologies in the medical system creates the need to implement programs for diagnosis, treatment and recommendations for these patients. Presentation of the application “Myopia computer”. The “Myopia Calculator” application is a program that allows users to find out about the evolution of the patient's myopia depending on the selected treatment, the degree of myopia, age, the annual gradient of progression of the initial myopia and family factor. The “Myopia Calculator” application can be installed in any gadget that supports the operation of the screen and allows the visualization of the numerical value and the graphical visualization of the result for reading and interpretation.

Keywords: myopia, application, computer

Introducere. Creșterea exponențială a pacienților miopi și integrarea tehnologiilor informaționale în sistemul medical creează necesitatea implementării programelor de diagnostic, tratament și recomandări pentru aceste persoane.

Scopul studiului constă în prezentarea aplicației „Myopia calculator”.

Rezultat. Aplicația „Myopia Calculator” este un program care permite utilizatorului să se informeze cu privire la evoluția miopiei pacientului în dependență de tratamentul selectat, gradul miopiei,