# EVALUATING THE EFFECTIVENESS OF TREATMENT METHODS FOR REFRACTIVE AMBLYOPIA IN CHILDREN

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## ABSTRACT

In three cases, in the treatment of refractive amblyopia in the children's department of the Bukhara Regional Ophthalmological Hospital, the device MACDEL-08 "Speckle" was used and its results were studied. 35 patients aged 7-18 years were examined in the outpatient clinic. Examination of children was carried out according to standard plans, and groups of outpatients used methods of lymphostimulation, laser stimulation. The pre- and post-treatment results were analyzed to evaluate treatment outcomes.

**Key words**: amblyopia refraction, laser stimulation, lymphostimulation.

## АННОТАЦИЯ

Ушбу ишда Бухоро вилоят офтальмология шифохонаси болалар бўлимида рефракцион амблиопияни даволашда МАКДЕЛ-08 «Спекл» аппаратини қўллаб унинг натижасини ўрганилди. Шифохона поликлиникасида 7-18 ёшгача бўлган 35 та бемор текширувдан ўтказилди. Текширув давомида болалар стандарт текширувлардан ўтказилди ва гуруҳларга бўлиниб, амбулатор шароитда лимфастимуляция, лазерстимуляция усуллари қўлланилди. Даводан олдинги ва даводан кейинги натижалар тахлил қилиниб, даво самарадорлиги бахоланди.

**Калит сўзлар**: рефракцион амблиопия, лазерстимуляция, лимфастимуляция.

## АННОТАЦИЯ

В трех случаях при лечении рефракционной амблиопии в детском отделении Бухарской областной офтальмологической больнице применялся аппарат МАКДЭЛ-08 «Спекл» и изучались его результаты. 35 больных в возрасте 7-18 лет обследованы в поликлинике больнице. Обследование детей проводили по стандартным планам, а группам амбулаторных больных применяли методы лимфостимуляции, лазерной стимуляции. Результаты до и после лечения были проанализированы для оценки результатов лечения.

**Ключевые слова:** рефракционная амблиопия, лазерная стимуляция, лимфостимуляция.

Amblyopia (“lazy eye”) is a pathology characterized by a permanent decrease in vision that cannot be treated with visual aids (glasses or contact lenses). Visual impairment occurs as a result of incorrect reception of incorrect signals and information entering the cerebral hemisphere. In most cases, visual impairment occurs in one eye, bilateral amblyopia is less common. It is very difficult to identify clinical signs in a child with amblyopia, the disease is asymptomatic in its early stages. Sometimes, parents complain about the lack of looking at an object in babies, the violation of color perception, the lack of orientation in the external environment. Amblyopia is a dangerous disease that is the main cause of a sharp decrease in visual acuity not only in children, but also in people of drinking age. Early diagnosis makes it possible to develop an effective treatment scheme and achieve high positive results up to the complete restoration of visual function. Amblyopia is a lazy eye syndrome characterized by a low level of activity in one eye, resulting in difficulty seeing. Sometimes it can become completely immobile. [Avetisov E.S., Kovalevsky E.M., Khvatova A.V., 2017; Libman E.S., Shakhova E.V., 2015]. In the world, this pathology occurs in about 2 percent of the population, mostly in children. In most cases, people with other types of visual impairments suffer from amblyopia. In particular, in the presence of squint, astigmatism, cataracts, the probability of developing a lazy eye increases.

Amblyopia is a medical term used to describe a condition in which the vision in one eye is reduced due to an improper interaction between the eye and the brain. Outwardly, an eye with pathology also looks healthy, but its functions are disturbed and do not work properly, because the work of the brain is focused on a healthy eye. If we move away from medical terms and use the language of "common people", this phenomenon can also be called "lazy eye". Today, among the eye diseases observed in children, amblyopia is a serious problem, which continues with a decrease in vision, and its distribution among young people often leads to a loss of efficiency in choosing a profession. According to different authors, the frequency of anisometropia in the population ranges from 2.5 to 54.8%. p. Shamshinova A.M. Klinicheskaya fiziologiya zreniya. - 3~e izd., pererab. - M.: Nauchno-meditsinskaya firma MBN, 2006. - 944 p.). Refractive and anisometropic amblyopia in children of preschool and school age is 2.3%. Medicine, 2005. - 202 p. Shamshinova A.M. Klinicheskaya fiziologiya zreniya. - 3~e izd., pererab. - M.: Nauchno-meditsinskaya firma MBN, 2006. - 944 p.)

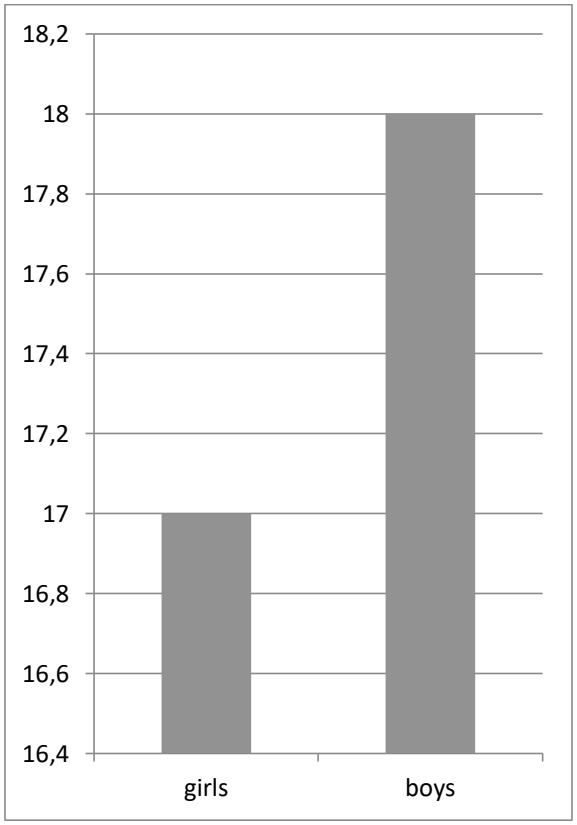
In accordance with the implementation of the educational policy of our state, one of the priority tasks of the modern school is to protect and strengthen the health of students, to form their need for a healthy and safe lifestyle. In order to achieve results, each educational organization determines its own set of pedagogical technologies suitable for the age of students, specific characteristics of the organization’s activities,

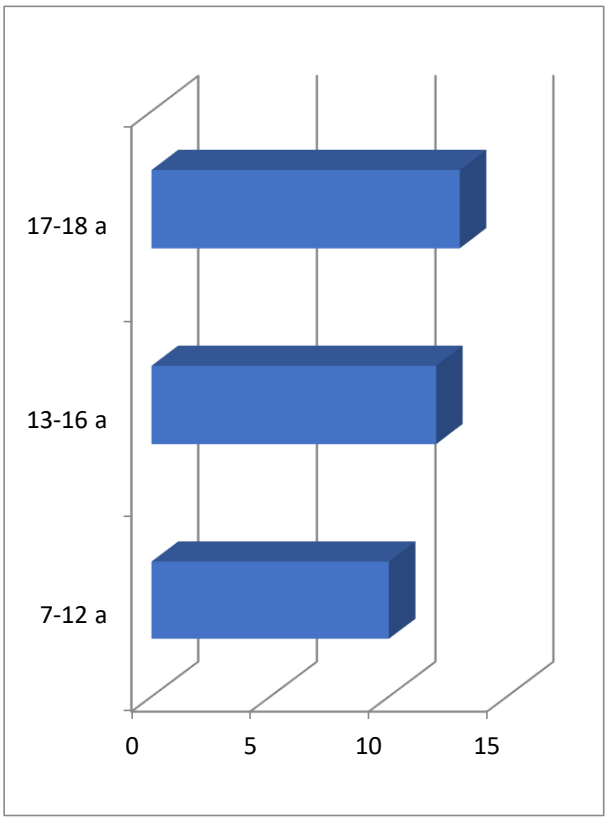
material and technical base and training of pedagogical personnel. An important task of the educational system is to socialize schoolchildren, to form their ability to act in society, to realize their creative potential, to be creators of their own destiny, which is necessary for society and people around them. It requires high-quality knowledge, high-quality education and scores.

**Purpose**: to study the result of using the MAKDEL-08 "Spekl" device in the treatment of amblyopia in children with refractive amblyopia in the Bukhara regional eye disease hospital.

## MATERIAL AND STYLE

35 patients and children were examined in the consultation polyclinic of the hospital. Children's age ranged from 7 to 18 years, of which 18 (51%) were boys and 17 (49%) were girls. The age distribution was as follows. Children aged 7-12 made up 10 (28%), children aged 13-16 made up 12 (34%), children aged 17-18 made up 13 (37%).



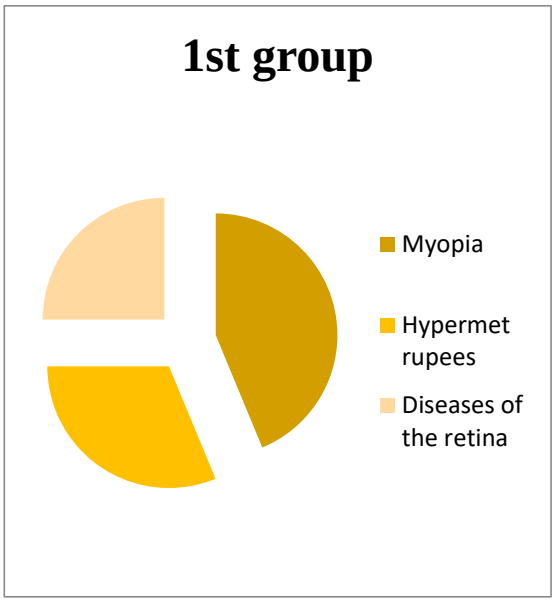
The distribution of diseases among children was reflected as follows.

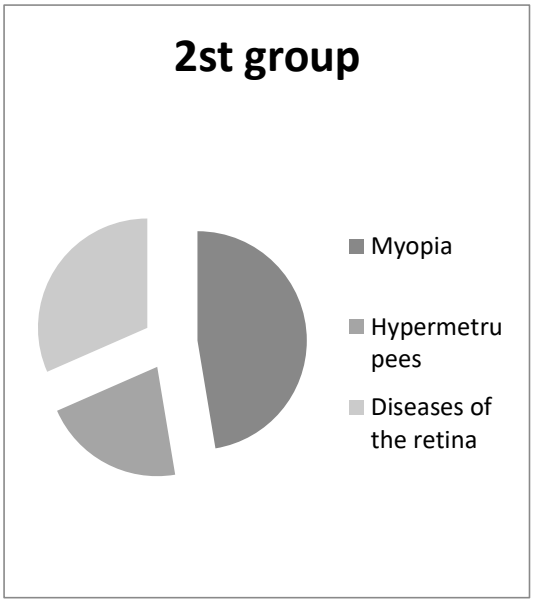
| Girls (17 people) | | | | Boys (18 people) | | |
|---|---|---|---|---|---|---|
| Age | Myopia | Hypermet rupees | Diseases of the retina | Myopia | Hypermet rupees | Diseases of the retina |
| 7-12 | 1 | 1 | 2 | 2 | 1 | 3 |
| 13-16 | 2 | 2 | 2 | 3 | 1 | 2 |
| 17-18 | 4 | 2 | 1 | 3 | 2 | 1 |

Standard ophthalmological examinations (visiometry, refractometry, OST, perimetry, pneumotonometry, A-Vscan) were performed in all patient children. Patients received treatment methods (lymphostimulation and laser stimulation) in an outpatient setting. Children were divided into 2 groups. In the 1st group, 16 children were treated in the traditional way (lymphostimulation). In the 2nd group, 19 children received lymphostimulation and laser stimulation. In the 1st group, traditional treatment: emoxipin, ascorbic acid and riboflavin solutions were used for lymphostimulation, and the lymph nodes of the lower jaw were stimulated. In the treatment of the 2nd group: emoxipin, ascorbic acid and riboflavin solutions were used for lymphostimulation, and the lymph nodes of the lower jaw were stimulated. Laser stimulation using the MAKDEL-08 device took 5-10 minutes.


## RESULTS AND THEIR DISCUSSION

Among the children of the 1st group, the high level of myopia was 7 (43%), the high level of hypermetropia was 5 (31%), retinal diseases - 4 (25%). Among the children in the 2nd group, the high level of myopia was 9 (47%), the high level of hypermetropia was 4 (21%), retinal diseases - 6 (31%).




In 4 (25%) of the 1st group of patients who underwent treatment, visual acuity increased to 0.06-0.08 before treatment, in 6 (37.5%) to 0.1-0.2 before treatment, in the remaining 6 (37.5%) ) was 0.3-0.4, and visual acuity after 1 course of treatment was 0.09-0.1 in 4 patients, and this effect was maintained for 8 months. 6 had a visual acuity of 0.4-0.5, and this effect did not change during the next 6 months, and after 6 months the visual acuity gradually decreased. In the remaining 6 patients, the visual acuity after the first course of treatment was 0.6-0.7. In this case, the effectiveness of the treatment remained unchanged for 4-6 months, and in the following months it began to gradually decrease. In 5 patients (26%) of the 2nd group of patients who underwent treatment, visual acuity decreased to 0.07-0.08 before treatment, in 6 patients (32%) to 0.1-0.2, and in the remaining 8 patients (42%) to 0.3- equal to 0.4, and after 1 course of treatment, visual acuity was equal to 0.1-0.2 in 5 patients. 6 had visual acuity equal to 0.4-0.5, and this effect remained unchanged for the next 6-8 months. In the remaining 8 patients, visual acuity after the first course of treatment was equal to 0.6-0.7.

**SUMMARY**

1. Laser stimulation with MAKDEL-08 device combined with lymphostimulation method in the treatment of refractive amblyopia in children treated in the hospital and very positive results were achieved.

2. No side effects were observed in any of the patients who participated in the combined use of lymph stimulation and laser stimulation. And all the patients who participated in the treatment had a positive result, the visual acuity of the patients improved significantly.

3. Along with visual acuity, positive changes were observed in the field of vision, which led to the improvement of peripheral vision.

4. As a result of the combined use of lymphostimulation and treatment methods using the MAKDEL-08 device, the regenerative properties of the eyeball tissues have improved, the nutrition of the retina and optic nerve, the strength of the blood vessel wall has improved, and the visual functions have improved.

**REFERENCES:**

1. Avetisov S. E., Kashchenko T. P., Shamshinova A. M. //Zritelnye funktsii ix correction u detey: Rukovodstvo dlya vracha. - M.: Medicine, 2005.-872 p.)
2. Levartovsky S., Oliver M., Gottesman N., Shimshoni M.// Factors affecting long term results of successfully treated amblyopia: initial visual acuity and type of amblyopia // Brit. j. ophthalmol. - 1995. - Vol. 79. – P. 225–228
3. Shamshinova A.M., Yakovleva A.A. Clinical physiology zreniya. - M.: Nauchno-meditsinskaya firma MBN, 2002. - 672 p.
4. Shamshinova A.M. Clinical physiology zreniya. – 3~e izd., pererab. - M.: Nauchno-meditsinskaya firma MBN, 2006. - 944 p
5. Aznauryan. I.E. The system of restoration of visual function in refractive and dysbinocular amblyopia and detection in children. , 2008. 6. Wenger L.V. Metody lecheniya amblyopiai i ix effektivnost // Oftalmologicheskiy zurnal. 2000. No. 4. S. 74–79)
7. Balashova N.V., Kovaleva O.V., Zenina M.L. i dr. Complex method of treating amblyopia // Novoe v ophthalmology. 2002. No. 2. S.
8. Brutskaya L.A. Etiopathogeneticheskie mechanism of amblyopia // Vestnik ophthalmology. 2007. No. 3. S. 48–51).
9. Libman E.C., Shakhova E.B. Blindness and invalidity vsledstvie pathologii organa zreniya v Rossii // Vestnik oftalmologii. — 2006. — No. 1. S. 35-37.
10. Chicherin L.P. Vedushchie problemy okhrany zdorovya detey i podrostkov // Byulleten Natsionalnogo NII Obshchestvennogo Zdorovya RAMN. — 2011. No. 2. S. 17-20.
11. Tarutta E.P. Vozmojnosti prophylactici progressiruyushchey i oslojnennoy myopia v svete sovremennykh znaniy o ee pathogenesis //Vestnik ophthalmology. — 2006. T. 122, No. 1. S. 43-47.
12. Boboeva Ra’no Rakhimovna "Isledovanie cholereticheskoy activitiy rutana pri lekarstvennom" EURASIAN JOURNAL OF ACADEMIC RESEARCH, June 3, 2021, p. 14-19.
13. Boboeva Rana Rakhimovna "Study of the choleretic activity of rutan in the treatment of rats with heliatrine hepatitis", EURASIAN JOURNAL OF ACADEMIC RESEARCH, 2021, 20-25b.
14. Boboeva Rano Rakhimovna "Eye Injury in Chronic Viral Hepatitis", Central Asian Journal of Medical and Natural Science, September 2021, 390-393b.
15. Boboyeva Rano Rakhimovna. «Improving methods of treatment of retinal diseases in children», educational, natural and social sciences// Oriental Renaissance: Innovative, p. 27-32.