Buenos Aires, March 4th, 2023

Research Project for the Control of Myopia Progression

using Peripheral Defocus Glasses (MYOFIX STUDY)

Sociedad Argentina de Oftalmología

Ethics Committee.

Dear Dr. Marcelo Zas.

We are writing to request that you kindly consider the ethical aspects of the following research study in clinical ophthalmology aimed at halting the progression of myopia with special myopia control glasses, as referred to in this request.

Dr. Rafael Iribarren

Dr. Abel Szeps

MYOPIA CONTROL STUDY

Study on the Tolerance and Efficacy of the Use of Peripheral Defocus Spectacles for the Control of Myopia Progression in Children and Adolescents.

PRINCIPAL INVESTIGATOR. Dr. Rafael Iribarren

ASSOCIATE INVESTIGATORS. Drs. Abel Szeps, Carlos Kotlik, Liliana Laurencio, Sebastián Dankert, Alejandro Armesto, Leonardo Fernández Irigaray,

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TYPE OF STUDY

A longitudinal, prospective, interventional, clinical ophthalmology research study to evaluate the tolerability and efficacy of intervention with the use of a nationally designed eyeglass to control the progression of myopia in childhood and adolescence.

PROBLEM STATEMENT JUSTIFYING THE STUDY

Refractive errors are considered the second leading cause of visual impairment worldwide.[1] Global estimates indicate that approximately 312 million in 2015 are short-sighted, figure that could rise to 324 million by 2025[1] and a 4,758 million for 2050.[2,3] Geographically, the distribution of myopia in the world varies significantly,[4] with figures ranging from 6.1% for Morocco (Africa) up to 96.5% for Korea, (Asia).[3,5,6] Ethnic contrast and lifestyle habits in Asian and African populations are potential associated factors, although such a claim remains to be fully elucidated.[3]

In East Asia, the prevalence of myopia reaches 80%,[7,8] in Europe is lower, at 47.2% for the group between 25 and 29 years of age for the year 2015.[9] In Latin American populations such as Brazil, the prevalence in the adult population was of 29.7% for the year 2009.[10] In the United States, there is evidence of a disproportionate increase in the number of myopes, with a prevalence of between 25 and 41.6% between the ages of 12 and 54 years for the year 2011.[11]

In the report of the countries that make up the Ibero-American Epidemiological Network for Eye and Eye Health, for the period 2009-2010, the lowest prevalence for children was reported in Argentina (1.2%) and the highest in Ecuador with 25.2%. The low values in Argentina were determined only in rural areas and this is why they are so contrasting with the rest of the countries in the network. Another study from Argentina conducted in office workers in the city of Buenos Aires has found a prevalence of myopia of approximately an 25%.[12] In Colombia, the diagnosis of myopia in the 2009-2010 period was 21% and 22%, respectively, with a higher prevalence in the 5 to 14 years age group, followed by the 15 to 44 years age group.[13]

Myopia progression can trigger pathologic changes in the eyeball that affect structures such as the lens, retina, choroid and macula. Myopia progression doubles the risk of nuclear cataract,[14] open-angle glaucoma,[15] maculopathy, choroidal neovascularization and retinal detachment.[16] These degenerative changes are the most frequent cause of vision loss with irreversible blindness.[17] and are associated with refractive values of more than 5-6 diopters of myopia in adult life. [6,18-21]

Research work on preventive treatments, to date, is generally conducted on children 6-12 years of age,[22,23] and a few unpublished studies of natural history or treatment effectivity in

adolescents are ongoing. In addition, children who begin with their myopia between the ages of 5 and 7 years of age when they do not yet read intensely, they often have genetic myopia that may develop high myopia.[24] In turn, these children are the ones most at risk for adult disability due to myopic maculopathy.[17] It has been suggested that these children should be treated according to the myopia consensus of the SAOI Myopia Study Group with atropine 0.01% or 0.05% to prevent such rapid progression.[25] Children over 8 years of age progress at a slower rate, even more slowly as they get older.[26]

In recent years, several treatments have been developed to halt the progression of myopia at school age, among which the daily instillation of 0.01% atropine drops stands out for its efficacy.[27] Despite the high dilution, there are reservations among pediatric ophthalmogists about the toxic effect that a daily instilled drop could have from elementary school age to 25 - 30 years of age, and therefore there is interest in developing other less invasive therapeutic methods.[27] In this regard, the different types of spectacles and peripheral defocus contact lenses have recently shown good effectiveness in several randomized and controlled clinical trials against the natural history of progression.[28] In some cases these studies have been ongoing for 5 years and have shown similar effectiveness to atropine (60% reduction in progression) as presented at the last International Myopia Conference in Rotterdam last month. Studies combining both therapeutics are already underway with modest results of an increase in effectiveness to 70% reduction of progression (presented at the same Conference). These peripheral defocus lenses and peripheral contrast decreasing lenses could replace formal glasses in the case of myopic children, since formal glasses could favor the progression of myopia since they produce peripheral hyperopic defocus.[29] Studies in monkeys from 2005 by Earl Smith III showed that the area surrounding the fovea was in control of eye growth, as compensation of the imposed lenses occurred equally even with the laser ablated fovea.[30] Thus, attention began to be paid to where the

images fell in the mid-periphery and was tested on animals and humans with positive addition multizone defocus lenses that place part of the image plane in front of the retina, thus slowing down ocular growth.[31] Since 2011, several studies have been presented showing how myopia slows down its progression with the adaptation of multizone defocus contact lenses with positive additions in the periphery. [31] There are even multifocal glasses for myopia control such as Essilor's Varilux for more than 20 years, which follow the same principle although they are not as effective (20% effect) and therefore have not been widely used.[32]

Currently there are several patented commercial brands that offer (in Asia and Europe) multizone defocus lenses with positive defocus in the periphery to stop the progression of myopia. None of them is still on sale in our country, but CooperVision's Proclear multifocal contact lenses, designed to treat presbyopia in adults, of which there is a variety with a center for distance (like the lenses tested for myopia) are sometimes accessible in our environment with the difficulty that the population of opticians and ophthalmologists are mostly unaware of their possible use and do not recommend them. These same lenses were used “off-label” in a clinical study in 2013 in England showing modest results with a 40% decrease in progression.[33]

CURRENT STATE OF RESEARCH

At the aforementioned International Conference a month ago, Mark Bullimore[34] and other researchers pointed out that it has become a problem to conduct randomized controlled studies against natural history because it is unethical to leave them to their own devices when off-label treatment with 0.01% atropine has already been accepted in various consensuses.[25,28,35,36] This diluted drug has already been approved in Singapore, Japan and India where it exists in commercial form, but in other countries it is only available as a

compounded formula.

Thus, at the Conference, several investigators showed that ongoing studies with a natural history control group see their number of cases decrease with follow-up as patients drop out to seek medical care to prevent myopic progression with the means available today. These means are dilute atropine drops, daily outdoor exposure,[34] reading with inverted contrast,[35] special contact lenses for myopia control, peripheral defocus glasses and contrast reduction glasses, both designed for myopia control. In our environment, only the first three are available to the population. That is, we can recommend more outdoor exposure, reading with inverted contrast (not yet tested in a randomized study) or instilling diluted atropine drops off-label.

Due to the problem of attrition in the control group, it has been suggested in the last International Myopia Conference that controlled field studies be performed by a virtual group, without performing a non-inferiority study, since atropine 0.01% could not be taken as gold standard because it is not yet approved and as we said, it is off-label in Argentina. Data on progression in Asia or Europe could be used for this virtual control group, but it would be more convenient to have a virtual control group in one's own living environment. In the case of our country there is already a possible control group of 114 children of 12 years of age on average who were followed up with cycloplegia during the years pre-pandemic and from which it is known that the progression was from 0.43+/-0.52 diopters in one year.[36]

It is thus proposed to perform a prospective clinical study in 100 children who will be enrolled when in the usual consultation for their eyeglasses control they can choose to do the treatment accessible in our environment (the diluted atropine drop) or a treatment that is possibly equally effective with special glasses designed in our environment. It is

expected that there will be similarity of effect on progression because the lens is based on the principles of defocusing of eyeglasses and contact lenses already proven by the international industry.[37] Our lens has the characteristic of being much simpler in its carving and construction, making it more economical for our environment where it has already been presented from the theoretical point of view.[38]

Moreover, the special myopia control spectacle lacks the possible toxic effects of a drop instilled in the eye for many years until emerging adulthood. In addition, to avoid including children who may have rapid progressions to high myopia, treatment will be offered only to children over 8 years of age. In our environment, where children are outdoors a lot, the progression is slower than in Asian countries and is around -0.50 diopters per year, as we said.[36] A strong myopia is the one that exceeds -5.00 diopters.[39] Thus the risk for a child included in this project is to progress -0.25 diopters in six months (the resolution limit of the measurement method), so each child who does not respond well with arrest of progression at six months may be removed from the protocol and switched to atropine treatment.

Given the above-mentioned background, the following study has been designed to evaluate the arrest of myopia progression with the daily use of nationally designed glasses, comparing such progression with a virtual control group of similar age in a population of myopic children and adolescents of the same environment in our country.

WORKING HYPOTHESIS

The nationally designed lenses can be as effective as the proven international industry designs that have been subjected to controlled trials against natural history of the disease.

PURPOSE

To treat a group of consecutive volunteer patients who choose between the affordable treatment in our environment (daily diluted atropine drops for several years) or the special lenses for myopia control designed by the National Industry. The purpose is to compare the progression during one year with the national lenses with respect to the progression with the foreign lenses and/or with the natural history of a virtual control group.

OBJECTIVES

Primary

To assess whether the intervention with locally designed spectacles is well tolerated and adhered to with daily use in childhood and adolescence.

Secondarily

To assess whether intervention with locally designed glasses can control myopia progression in childhood and adolescence.

DEFOCUS GLASSES OF NATIONAL DESIGN

The design of the national defocus lens is based on the original design presented by Carly Lam,[40] with a 9 mm central zone for distance correction and a correction ring with a +3.50 dioptre defocus between 9 and 32 mm in diameter to act in principle on the para foveal zone which is the one that detects the defocus that governs the growth of the eye.[41] Instead of peripheral defocusing micro lenses that do not alter the visual field in the area of the 32

mm diameter ring with the treatment,[40] the national design that was presented has a uniform +3.50 diopter power zone that alters the visual field by 5% at 10 degrees from the circular shaped fovea,[38] as presented at the International Myopia Conference a month ago. As it is known that positive defocus in 30-40 minutes of exposure modifies the axillary length (measured with Lenstar) by 10 microns due to changes in the choroidal thickness,[42] The national design has been tested on 17 volunteer subjects showing a significant change of 11 microns in the axial length of their eyes, suggesting this pilot study (in the process of being published) that the lenses should be effective in halting the progression of myopia, as changes in the choroid are the first event in the retinal message that governs ocular growth.[43] This, coupled with the survey that gave a good reading tolerance in 70% of the 17 respondents within a month of wearing them, was presented at the Conference and is in the public domain. Respondents found it difficult to walk around with these lenses because they are like an executive bifocal, but tolerated them well for reading at home, with small lateral movements of the head when reading A4 texts or the computer. It is therefore our intention to do a free field test with such lenses on a larger sample.

POPULATION

Consecutive patients between 8 and 16 years of age who attend the institutions accredited for this study. These institutions will be accredited only if they can perform routine studies for myopia control (refraction exam and optical biometry).

USE OF GLASSES

Once the eyeglass prescription has been written by the ophthalmologist, the enrolled patients will be seen in opticians accredited for this study in close proximity to the

ophthalmology offices that are members of the research team. The opticians and ophthalmologists will be asked to watch a video on myopia control developed by the principal investigators where this treatment methodology is explained during the evaluation process at the center of care. The opticians will verify the optical centration in the frames chosen ad hoc, with a modern digital centration system provided by the sponsors. After 15 days, when the glasses with the correct centering are ready, the subjects will go to the optician's office to try on the glasses in that room. On this occasion, as always in these cases, the optician will evaluate the subject's adaptation and mobility in the optician's shop, instructing the child to wear the glasses at home for a couple of days and then to wear them for as long as possible.

SAMPLE AND SAMPLE SIZE

The sample size will be 50 subjects of both genders to compare with the studies abroad that consist of an n between 40 and 90 subjects and the natural history in our country that counted 114 subjects. There will be a group of subjects who will be treated with the nationally designed defocus glasses. Statistical calculation for a difference of 0.25 diopters in progression with respect to controls, for a standard deviation of 0.50 diopters gives an n = 31 subjects and taking into account a 20% loss to follow-up the n should equal 38 subjects in the group. Thus reaching 50 subjects exceeds expectations.

METHODS

This field study to test tolerance and percentage of effectiveness of defocus lenses in the control of myopia will include boys and girls from 8 to 15 years of age who voluntarily

agree to take the test for one year, with no ocular pathology other than myopia, with spherical equivalent (sphere + 50% of the cylinder) between -0. 50 D and -5.00 D, with astigmatism less than -2.00 D in each eye, with anisometropia less than -1.00 D, with keratometry less than 47.00 D in the most curved meridian. Genetic syndromes will not be included or ruled out. A complete ophthalmologic evaluation will be performed including tonometry, fundus, subjective refraction and refraction under cycloplegia with two drops of 1% cyclopentolate instilled 5' apart and performed 40' after the last drop. Visual acuities of the subjective refraction will be greater than 8/10 in each eye. Axillary length measurements with optical biometry will be performed at the beginning of treatment at follow-up and at the end of the study. New cycloplegic refractions will be performed during follow-up and at one year of treatment. A survey of habits and history, including reading, outdoors, ON-OFF contrast use, hours of schooling, age of onset of spectacle use and family history of high myopia (also likely use of devices to monitor these habits in selected group) will be conducted. A pair of spectacles and their frames will be provided free of charge to all children studied for one year with the special addendum of peripheral defocus treatment or laser treatment for contrast reduction depending on the treated group. The children will be instructed to wear the glasses especially in front of smartphones, tablets, PC's or books at home after five o'clock in the afternoon and until going to bed, every day of the week including Saturdays and Sundays. During the rest of the day they will use their usual correction without properly updated defocus. As defocus in experimental animals has more effect in stopping experimental myopia in the afternoon than in the morning,[44] It is expected that use in the afternoon only will be sufficient to achieve the effect. On the other hand, the peripheral contrast-lowering lens that has shown good tolerance and absence of visual field alteration will be used all day long by the subjects under treatment.

All the data of affiliation, contact telephone number, date of birth, refraction under cycloplegia, axillary length and questionnaire will be entered in a centralized digital history by NOVAR developers. These data will be kept confidential. During follow-up visits, accredited professionals throughout the country will have access to upload the data required for each visit. One month after the eyeglasses are delivered, the professional will conduct a telephone survey to parents to evaluate adherence. The first stage of the study will be completed after one year and the child will be able to continue with the treatment for myopia control according to the consensus guidelines on myopia treatment of the Myopia Study Group of the SAOI (Annex I). For virtual control group, data will be taken from 114 children followed with cycloplegia by the pandemic study group during the years 2018-2019 that showed for an average age of 12 years an annual pre-pandemic progression of -0.45 D. In the present study, We expect to evaluate the progression with peripheral defocus treatment over one year of an equivalent group of children.

WORK PLANNING / GANTT CHART:

TIME IN MONTHS							
Activity	1	2-4	5-24	25	26	27	28
Project Design	X	X					
Bibliographic search	X			X	X		
Ethics Committee Presentation		X					
Data collection			X				
Data analysis				X	X		
Preliminary results					X	X	
Final Results						X	X
Report writing							X

INCLUSION / EXCLUSION CRITERIA

All consecutive patients of both genders who freely opt for lenses of national industry will be included in the present study. All patients who present any systemic or ocular pathology that may affect their refraction measurements or their evolution will be excluded from the study. Also excluded from the protocol in the follow-up will be those patients who, even using defocus glasses, had in 6 months an improvement equal to that expected without any intervention. These patients will be treated with other options available in our environment at the time of the change. The computerized medical records system will be configured to detect such patients at the time of loading the follow-up data and will send an alert to the investigators.

EVALUATION OF TOLERANCE AND ADHERENCE

Adherence will be evaluated at the one-year follow-up and will be reported as the number of cases that failed to complete the three scheduled visits in one year with respect to the total number of cases that were enrolled in compliance with the first visit and the delivery of the spectacle. Tolerance of these glasses will be assessed with a tolerance questionnaire that is presented in the attached medical record. This questionnaire has already been tested on 24 subjects aged 18 to 24 years in a pilot trial presented at the International Myopia Conference, as explained in the previous section on the defocus spectacle, showing good tolerance in these subjects. Some tests in younger children that were performed in the last months show that tolerance is very good in them, since minors have greater plasticity and adaptability than young adults previously tested. Tolerance and adherence will be classified as GOOD / BAD, in a dichotomous way, with the cut-off according to the answer given by whether the child tolerated them well or not. On the other hand, tolerance will also be evaluated in dichotomous form with responses to reading and walking

performance.

PROCEDURES TO GUARANTEE ETHICAL ASPECTS

The anonymity of all participants will be preserved. Patients' names will be removed from the database for statistical analysis. The only ones who will know the names of the patients are the physicians involved in their primary care, and they will have to keep the information in their respective institutional medical records and enter the data necessary for the research in a web form designed by the sponsoring company.

The Declaration of Helsinki and its modifications, the Good Clinical Practices guide, the harmonization norms and the resolution of the Ministry of Health 1480/11 will be observed and taken into account as guidelines (See informed consent ANNEX VI). It is stated for the record that the principal investigator does not have any type of conflict of interest since the patenting of the defocus glasses is the responsibility of the sponsor's company.

SAFETY PRECAUTIONS

One month after the delivery of the spectacle, the principal investigator in charge will make a telephone call to the parent of the study subject conducting the tolerance survey and thus verifying adherence to spectacle use. The survey is detailed in the attached medical record and responses will be uploaded into the computerised web-based system that will be developed for this study. The system will automate the alerts for these safety calls with automatic emails sent to the principal investigator in the month of spectacle delivery.

PLAN FOR ANALYSING THE RESULTS

The results of numerical variables shall be expressed as mean and standard deviation or median and interquartile range according to whether they are normally or skewed. Nominal variables will be expressed as absolute frequency and percentage. For the comparison of numerical variables, Student's t-test or Mann Whitney U-test will be used as appropriate. Nominal variables will be compared using the Chi-square test or Fisher's exact test as appropriate. A p-value of $p \leq 0,05$.

HUMAN RESOURCES

Dr. Abel Szeps and Dr. Rafael Iribarren are in charge of the design and control of the research. Statistical analysis will be performed by Dr. Rafael Iribarren. Physicians accredited to treat patients will have to demonstrate the ability to perform routine consultations for myopia control, refraction studies under cycloplegia and optical biometry. Once accredited, they will have a username and password to upload their data into the web form. Accredited doctors will be in permanent communication with doctors Abel Szeps and Rafael Iribarren. There will be a myopia progression monitoring system within the computerised system that will send reports if any child progresses more than 0.25 dioptres in six months to alert researchers so that precautionary measures can be taken in such cases.

MATERIAL RESOURCES

Optotypes, Retinoscope, Autorefractometer and Biometer posters of accredited institutions. Approximately four institutions with a high turnover of paediatric consultations are expected to be accredited for an estimated enrolment time of 6 months.

Peripheral defocus spectacles will be provided by the sponsor (NOVAR) free of charge to all study subjects for one calendar year with the possibility of extending the study for two years. At the end of the study, if the expected positive results are found, the glasses will remain in the possession of the study subjects.

FINANCIAL RESOURCES

It is considered necessary for the development of the study the free coverage by the sponsors (NOVAR) of the peripheral defocus glasses. Money will also be spent for the web form system programmers and for the two ophthalmologists in charge of the study. The expenses of the medical consultations made by the subjects at the time of enrollment and follow-up will be paid by the medical system of each of the accredited institutions (whether these are social security or prepaid health insurance of the subjects) since no more consultations are required for the study than the three per year recommended for myopia control according to the last consensus of the Myopia Study Group of the SAOI (Annexed). No corneal or eyeball complications are expected (as with contact lenses or drops) since the glasses are a prosthesis that is not introduced into the body and acts at a distance.

CENTERS OF ATTENTION

Eight enrollment centers will be chosen. To avoid biases in the methodology and to adjust the feasibility of developing a joint protocol, training interviews will be conducted with the investigators from each center in a timely manner. The principal investigator will maintain weekly communication by telephone with each of the investigators involved in each center.

ENROLLMENT

Consecutive patients attending the above-mentioned care centres for glasses prescription will be enrolled. Family members will be informed in writing and verbally of the objectives of the study and will sign an informed consent for the study.

Subjects must be willing to participate in a study lasting 1(one) year (it will be explained to them at the beginning of the study that the free treatment materials will in principle only extend for that period).

Risks, discomforts or ethical issues related to participation:

Clinical and biometric ophthalmological studies with or without cycloplegia are routine and free of discomfort for patients.

CRITERIA FOR INCLUSION

- Patients of both sexes aged between 8 and 16 years, without ocular pathology added to myopia.

- Myopia ranges between 2.00 D and 5.00 D in both eyes.
- Refractive astigmatism less than one diopter in each eye.
- Visual acuity 20/25 or better in both eyes.

EXCLUSION AND ELIMINATION CRITERIA

Patients who do not meet the aforementioned inclusion criteria.

Patients with poor adherence to treatment demonstrated by poor compliance with follow-up interviews.

Patients whose family members do not sign the informed consent form.

Drs. Rafael Iribarren and Abel Szeps.

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PROTOCOL V 1.2 - MARCH 2023

NAME and SURNAME ....
DNI..... .....
CELL PHONE..... ....
EMAIL..... ....
DATE OF BIRTH .... BOY GIRL

PART I
DATE OF FIRST VISIT ....
SPHERICAL RIGHT EYE .....CYLINDRICAL .... AXIS..... .....
LEFT EYE SPHERICAL..... ....CYLINDRICAL .....AXIS ....
AXIAL LENGTH OD..... ..... OI..... .....

K1 OD..... K2 OD ..... .
K1 OI..... K2 OI ....

MOM HAS HIGH MYOPIA OR NOT
DAD HAS HIGH MYOPIA OR NOT
AGE OF FIRST EYEGLASSES PRESCRIPTION ....
HALF DAY SCHOOL SCHEDULE OR WHOLE DAY
HOUSE WITH GARDEN OR APARTMENT
LOOK WITH INVERTED CONTRAST ON CELL PHONE OR COMPUTER? YES NO

ON ANY DAY YOUR CHILD GOES TO SCHOOL .....
(If he/she goes to school by car or bus, leave the next question blank)
If he/she walks or rides a bike to school, how many minutes does it take him/her to get there?.....Min.

Do you take tutoring outside of school? (Circle) YES NO
How many hours do you spend outdoors when you leave school? .....Hs
How many hours per day do you spend reading books or doing homework?
.....Hs
How much time per day do you spend playing with your cell phone or tablet? ....
.....Hs
ON ANY SATURDAY OR SUNDAY.....
How many hours per day do you spend reading books or doing homework? .....Hs
How many hours per day do you spend outdoors on a weekend day? .....Hs
How much time per day do you spend playing with your cell phone or tablet?
.....Hs

PART II EYEGLASS DELIVERY
DATE .....

PART II. BIS (ATTACHMENT QUESTIONNAIRE)
AT THE MONTH OF DEFOCUS EYEWEAR DELIVERY (TELEPHONE SURVEY)
DATE .....
Have you worn the glasses at home during this month? YES NO
Have you worn glasses all day this month? YES NO
If you answered “YES” to any of the above, continue with these .....

In general, do you tolerate them well? YES NO

Have you ever had trouble turning your head to look sideways? YES NO

Out of the seven days of the week, how many days do you not use

them?.....

Have you ever had trouble turning your head to look down when reading? YES NO

Have you ever had trouble turning your head to look down when walking? YES NO

PART III

DATE SECOND VISIT AFTER SIX MONTHS.....

EYE DER SPHERICAL .....CILINDRICAL ..... AXIS.....

SPHERIC IZQ EYE.....CILINDRITRIC ..... AXIS.....

AXIAL LENGTH OD..... OI.....

PART III (BIS) SIX MONTH ADHERENCE QUESTIONNAIRE

Have you worn your glasses at home during this month? YES NO

Have you worn glasses all day during this month? YES NO

If you answered "YES" to any of the above continue with these.....

In general, do you tolerate them well?

YES NO

Have you found it difficult to turn your head to look sideways? YES NO

Of the seven days of the week, how many days do you not use them? .....

Did you have trouble turning your head to look down when reading? YES NO

Have you had trouble turning your head to look down when walking? YES NO

PART IV

DATE THIRD VISIT AT TWELVE MONTHS.....

RIGHT EYE SPHERICAL .....CILINDRICAL ..... AXIS.....

LEFT EYE SPHERICAL.....CYLINDRICAL .....AXIS.....

AXIAL LENGTH OD..... OI.....

INFORMED CONSENT

STUDY ON TOLERANCE AND EFFICACY

OF GLASSES "MYOPIA CONTROL"

CONSENT FORM

(Study on the Tolerance and Efficacy of the Use of Peripheral Defocus Spectacles

for the Control of Myopia Progression in Children and Adolescents).

PROTOCOL NUMBER:……..

PRINCIPAL INVESTIGATOR. Dr. Rafael Iribarren

RESEARCH CENTER. Office Dres. Iribarren. Arenales 981. CABA.

OPHTHALMOLOGY OFFICE

PHONE 54911-5147-9312

EMAIL : rafairibarren@gmail.com

This consent form may contain words that you do not understand, so please ask the investigator or person responsible for the study to clarify any words or questions you have. You have the right to a copy of this consent form to think about your participation in this study or to discuss it with family and friends before making a decision.

The purpose of this document is to help you make an informed decision on whether or not to participate in the study entitled TOLERANCE AND EFFICACY OF WEARING EYE EYES FOR MYOPIA CONTROL (CONTROL MYOPIA) **with/without funding**.

I.- INTRODUCTION:

Your child has been invited to participate in a research study. However, before you or your child agrees to participate in the CONTROL MIOPIA study.

Before you decide to participate in the study, read this form carefully and ask any questions you may have, to ensure that you understand the study procedures, risks

and benefits, so that you can decide voluntarily whether or not you wish to participate. If after reading this document you have any doubts, ask the responsible investigator or study staff to explain them to you, feel free to ask about any aspect that helps you to clarify your doubts. They should provide you with all the information you need to understand the study.

Once you have understood the study and if you wish to participate, then you will be asked to sign this consent form, of which you will receive a signed and dated copy.

II.- PURPOSE OF THE STUDY

The main reason for participating in this study is to try to slow the annual progression of myopia in children using a specially designed myopia control eyeglass.

III. JUSTIFICATION FOR THE STUDY.

This myopia control is justified to prevent your child from progressing to high values of myopic correction in the eyeglasses, since these high values generate a higher percentage of disability in adulthood.

IV. OBJECTIVE OF THE STUDY

You are being invited to participate in a research study that aims to slow down the progression of myopia in children year by year, with the result that they will have to change their glasses for higher magnification over time. The aim of this study is to measure the tolerance to 'myopia control' designer glasses and to confirm their effectiveness.

V.- STUDY PARTICIPANTS:

5.1.- Children aged 8 to 15 years with confirmed myopia without other ocular or general diseases will be included.

5.2.- Forty children of both genders will participate in this study.

VI.- STUDY PROCEDURES:

6.1.- What will be done in this study? In this study, the usual ophthalmologic examination will be performed with the prescription of glasses for daily life as every year, and a free eyeglass with a special design "myopia control" will be made for the child to use it at will most of the time to test its tolerance and effectiveness.

6.2. What research procedures will I participate in if I decide to enter the study?
The only research procedure implemented will be the use of the "myopia control" glasses in daily life.

6.3.- The aim is to investigate whether this myopia control spectacle is tolerated for reading, playing with the tablet, watching television, talking, eating and walking, that is, in all activities of daily life. In addition, with the annual control of the prescription it will be seen if the "myopia control" glasses stop the progression of myopia.

6.4.- This project has a duration of one calendar year.

6.5.- This includes visits every six months as is routine in cases of myopia.

VII. STUDY BENEFITS

The benefit of participating in this study is to be able to make a treatment that controls the progression of myopia. There is already the alternative of using diluted atropine drops off-label and this treatment has been applied in our environment for several years. There have also been trials with myopia control glasses and contact lenses in Asia and Europe with good results. The advantage of using myopia control glasses instead of diluted atropine drops is that the latter are more invasive and may have long-term toxic effects. Myopia control glasses have no toxic or undesirable effects. The myopia control contact lenses recently approved in the USA are not yet available in our country and have more undesirable effects such as possible eye infections associated with the use of contact lenses. Therefore, myopia control glasses seem to be the best option. This study does not include compensations and the myopia control glasses with their respective frames and their replacement in case of breakage during the year of the trial will be provided free of charge.

VIII. RISKS ASSOCIATED WITH THE STUDY

In the judgment of the researchers, the study does not involve any physical or psychological risk to you. Your answers will not cause you any risk or consequences of any nature. You will participate in the usual consultations for the prescription of lenses, will make the necessary studies for the ocular examination and will answer periodic surveys about the tolerance to the use of the myopia control glasses. There are no known undesirable effects from the use of these glasses in previous studies. Should you develop any adverse side effects or require other care, it will be provided on the terms that have always been offered. If the child has any type of discomfort, the doctor should be informed as soon as possible in order to reach a diagnosis and receive the appropriate treatment. The expected benefit of this treatment is to slow down, in part, the progression of progressive myopia, thus achieving that the final increase that the person will have in his adult life will be the smallest possible. It is not expected that the eyeglasses will decrease during the treatment, but simply that the problem will not advance so much. If this happens, it is possible that the child will not have to change the magnification of his glasses every year.

IX.- BENEFITS

You may not receive any personal benefit from participating in this study.

Your **myopia** may stop completely or progress slowly rather than as expected as a result of your participation in this study, however, there is no guarantee that this will occur.

This study has the benefit of producing scientific knowledge for the community of ophthalmologists and opticians seeking to control myopia, and the research findings could

contribute to science for better treatment for the future of this disease, which is the leading cause of visual impairment in the working age.

This study does not contemplate direct benefits for the guest.

X.- TIME:

How long will it take me to participate in this study? This study does not involve more time than the time necessary for regular ophthalmologic care and the visit to the optician for the provision of glasses for myopia, with subsequent control every six months.

When will my participation end? Participation will end at the end of one year of wearing the “myopia control” glasses, after which the participant may choose to continue wearing them or switch to the myopia control methods that are available at that time, as the outlook in this regard is changing. In total the participant will make three office visits and three visits to the optician who will provide the glasses.

VII- COSTS

There are no additional costs to participate in this study since the visits are the usual ones provided by the health systems for ophthalmologic control and the myopia control glasses will be delivered and replaced free of charge.

X.- CONFIDENTIALITY AND STORAGE OF INFORMATION

Your identity will be protected. All information and/or data that can identify the participant will be handled confidentially, taking security measures in which your computerized medical history will only be visible to the treating physician and the principal investigators. Only Rafael Iribarren and Abel Szeps will have access to data that can identify a participant (directly or indirectly), the members of the research team. We will not disclose any information from you or provided by you during the research. When the results of the research are published or discussed at scientific conferences, information that could reveal your identity will not be included. Any disclosure of information obtained will be for scientific and/or educational purposes.

Specify data management for each activity, the form of registration and confidentiality, for example: Each participant will have a unique computerized record to which only the treating physician will have access and who will have a unique username and password. In this way only the acting professional will have access to the subject's information. This information will be automatically dumped into an anonymized Excel table for statistical study. The statistical study will be in charge of the principal investigator (Rafael Iribarren). Each treating physician will keep the identity of the participants under his/her care confidential.

XI.- VOLUNTEERS

Your participation in this study is completely voluntary. You may decide whether or not to participate in this project; your decision whether or not to participate in this project will not affect the care you may continue to receive (or your current or future relationship with your treating physician and the research team).

You may withdraw from the research at any time, without penalty or loss of benefits to which you would be entitled; withdrawing is of no consequence to you.

You may request information related to the research project at any time from the Responsible Investigator, Sr Rafael Iribarren, Phone +54911-5147-9312, Email rafairibarren@gmail.com

XIII.- QUESTIONS/INFORMATION:

You have the right to clarify any doubts you may have, you may request more detailed information about the research or any topic related to the study, at any time you wish, you should contact the principal investigator. Dr. Rafael Iribarren, Phone +54911-5147-9312

If you consider that there are no doubts or questions about your participation, you may, if you wish, sign the Letter of Informed Consent that is part of this document.

When changes occur in the conditions or procedures of a study and also in long-term studies, the responsible investigator must renew the Consent.

XV. ETHICAL COMMITTEE

The Committee is a group of people independent of the study, which evaluates the compliance with national and international ethical regulations and ensures the protection of the rights, safety and welfare of the human beings involved in a research.

With the purpose of watching over the faithful fulfillment of the Informed Consent, it is possible that you may be contacted by a member of the Committee to carry out a brief interview or survey, in person, by telephone or electronically. The investigator responsible for the study will be aware of the communication between you and the Committee. You may refuse to participate in the survey without affecting your participation in the study.

This study was approved by the Research Ethics Committee of the Argentine Society of Ophthalmology (CEISAO). The main mission of the Ethics Committee is to protect the people who participate in the research. If you have any doubts or questions about any aspect of this study DO NOT hesitate to contact us, as well as you can report any event. You may, if you wish, make your inquiry anonymously, and your decision will be respected. You may be contacted by a CEISAO member to evaluate how the study is developing. You can contact us by e-mail: ceisociedadoftalmologia@gmail.com and/or by cell phone (11) 62074223 from 10 am to 4 pm, Monday to Friday.

XVI. RIGHTS OF PARTICIPANTS

I have read, understood and discussed the above information with the investigator responsible for the study and my questions have been answered to my satisfaction.

My participation in this study is voluntary; I may withdraw from participation at any time, without cause and without liability.

If, during the course of the research, information relevant to my continued participation in the study becomes available, the investigator must provide this information.

I have been informed and understand that the data obtained in the study may be published or disseminated for scientific and/or educational purposes.

If during the course of the research I have questions about the research or my participation in the study, I can contact the responsible investigator, Sr Rafael Iribarren, Phone +54911-5147-9312, Email rafairibarren@gmail.com

I agree that my child (NAME AND LAST NAME) ..... may participate in this research study entitled “Myopia Control.” I will receive a signed and dated copy of this consent form.

_____ _____

Mother/Guardian Signature

_____

Date

_____

DNI

_____ _____

Signature of parent / guardian

_____

Date

_____

DNI

_____ _____

Witness (optional in case of vulnerability of the child / a)

_____

Date

_____

DNI

_____ _____

This part must be completed by the Investigator (or his/her representative):
I have explained to Mr. _____ the nature and purposes of the research; I have explained to him/her about the risks and benefits involved in his/her participation. I have answered questions to the extent possible and have asked if he/she has any doubts. I agree that I have read and know the relevant regulations for conducting research with human subjects and I adhere to them. Once the question and answer session was concluded, the present document was signed.

_____ _____

Researcher's signature Date of registration