EYECARE OPTOMETRY

John Doe Optometrist
123 Anywhere Street
Anytown | State 12345

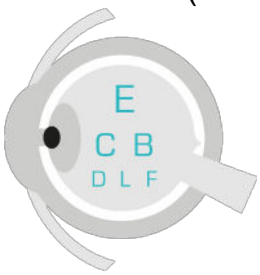
MYOPIA Report

04/03/2017 | 10:55 AM

Name	Date of birth, Age	ID
Orthokeratology Demo	**07/08/2004, 12.5 Y.**	**-**
Ethnicity	Gender	Email
East Asian	**female**	**-**

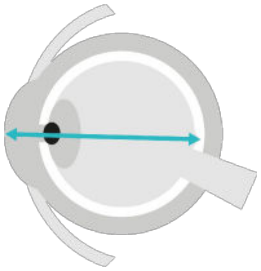
MEASUREMENT RESULTS

REFRACTION (SUBJ.)



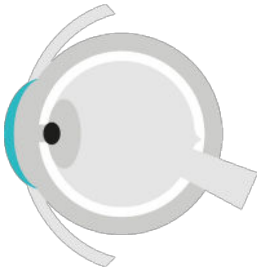
RI	LE
SEQ -1.50 D	SEQ -1.50 D
Sphere **-1.5 D**	Sphere **-1.5 D**
Cylinder **0 D**	Cylinder **0 D**
Axis **0°**	Axis **0°**
Visual Acuity **1**	Visual Acuity **1.25**

AXIAL LENGTH



RI	LE
Axial length 24.31 mm	Axial length 24.33 mm

KERATOMETRY



RI	LE
Keratometric Power 42.4 D	Keratometric Power 42.3 D

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PRACTITIONER'S ADVICE

- Ortho keratology contact lenses
- Minimum outdoor activity 2h
- Reduce reading time
- Reduce time & increase distance when using a smartphone
- Reduce time & increase distance when using a tablet
- Reduce time & increase distance when using a computer
- Do breaks and relax vision in far distance regularly when reading
- Use proper illumination when reading

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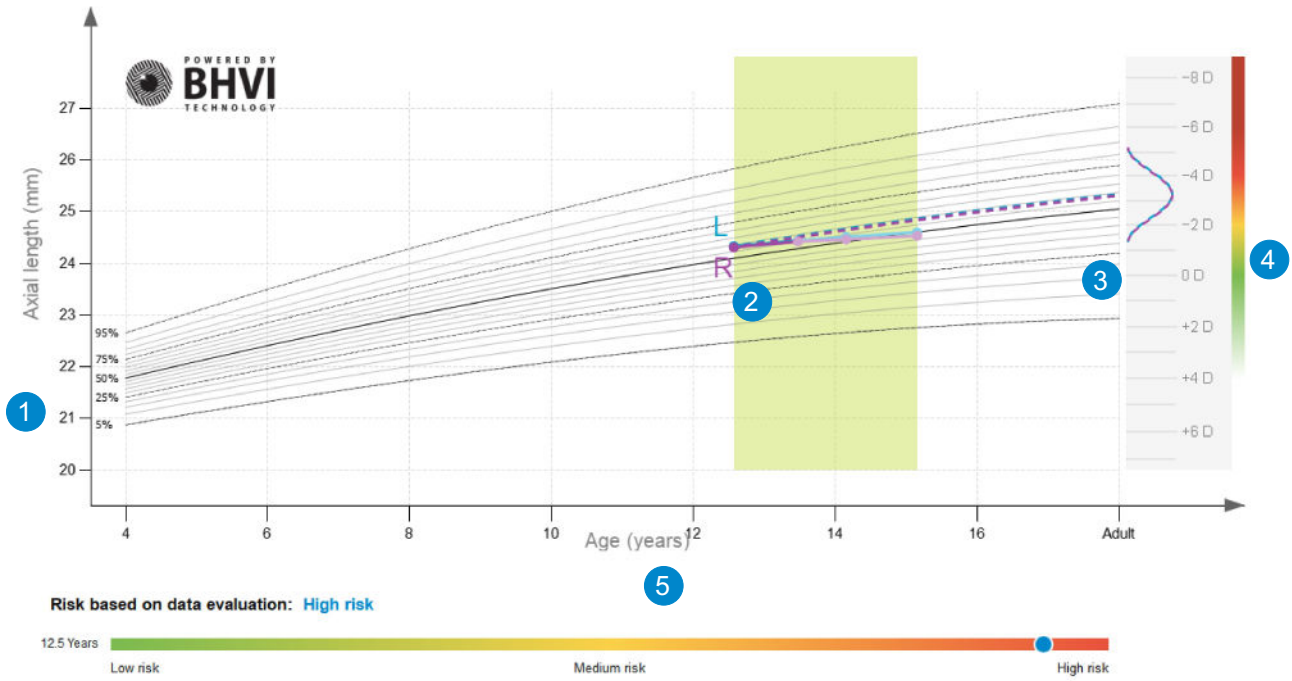
GROWTH CHART INTERPRETATION

What is a growth chart and what are percentile curves?

Growth charts use percentile curves to illustrate the distribution of selected body measurements in children. Here, the length of the eye (axial length) is displayed. The curves show the percentage of children that have a certain axial length at a given age



1. Spaced at increments of 5 %, the percentile curves cover the range from the 5th to the 95th percentile. The bold curve in the middle represents the 50th percentile, or median curve. Example: The 35th percentile curve represents the axial length in relation to which 35 out of 100 children have a shorter and 65 out of 100 children a longer eye.

2. The points marked R and L represent the axial length of an individual patient's right and left eye at the time of the examination, located at the 58th and 59th percentile, respectively. The two coloured dotted curves indicate the progression in axial length for these two percentiles over age.

3. The highlighted percentile curves trace the patient's most likely progression of axial length up to the age of 18 ('adult' on the time axis). In this case the patient's axial length is expected to be 25.31 mm and 25.33 mm by age 18.

4. Axial length data can be converted to ocular refraction in the adulthood. The growth curve for the right eye points to a refraction between -5.25 D and -1.25 D, for the left eye between -5.25 D and -1.25 D by adult age.

5. The overall risk factor assigned by the practitioner based on the data analysis is "high risk".

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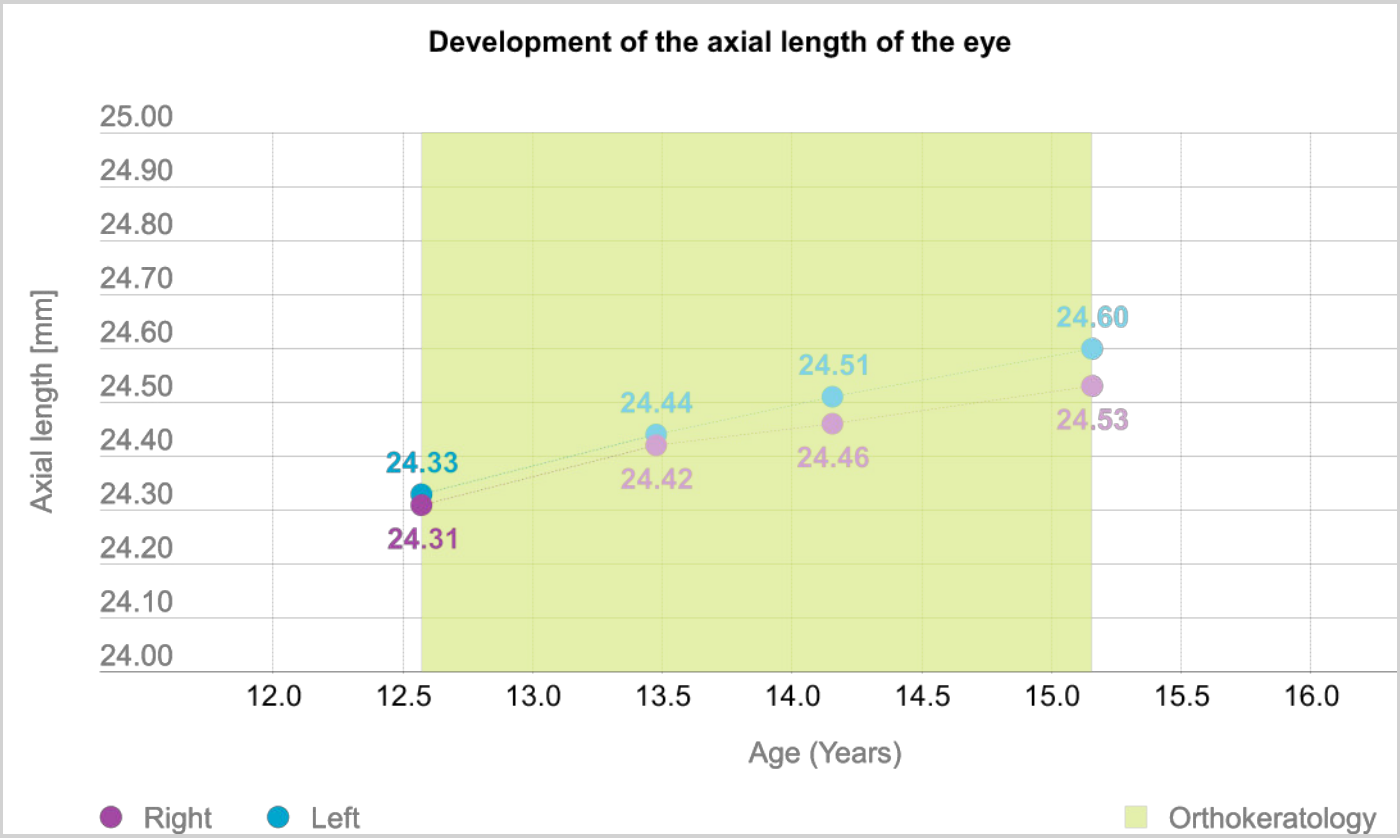
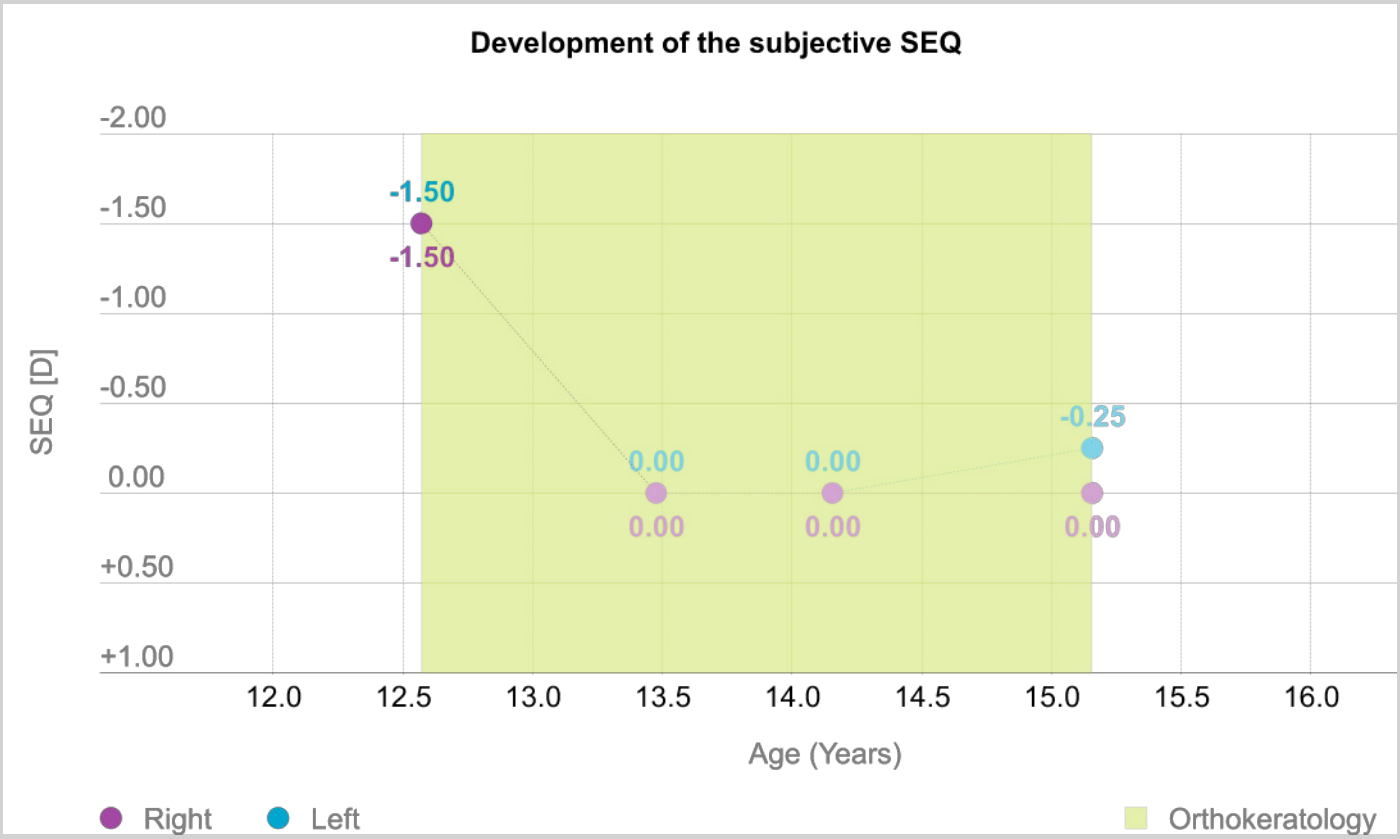
HISTORY DIAGRAMS





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Number of myopic parents

12.5

0 1 2

Age

The genetical component shows a link between the refractive error of the parents and their children.
The more myopic parents a child has, the higher the probability of a myopic outcome during adulthood.

Outdoor activity time

12.5

>10 5.5 <1

Age

Outdoor activity time influences the myopia onset. Once myopia has developed, time spent outdoors no longer influences progression.
The more time a child spends outdoors during daylight, the later the potential myopia onset.

Near-work activity in addition to school / work

12.5

low medium high

Age

The more time spent on near-work, the faster the myopia progression and the earlier the myopia onset. Similarly, the shorter the near-work distance, the faster the myopia progression and the earlier the myopia onset.

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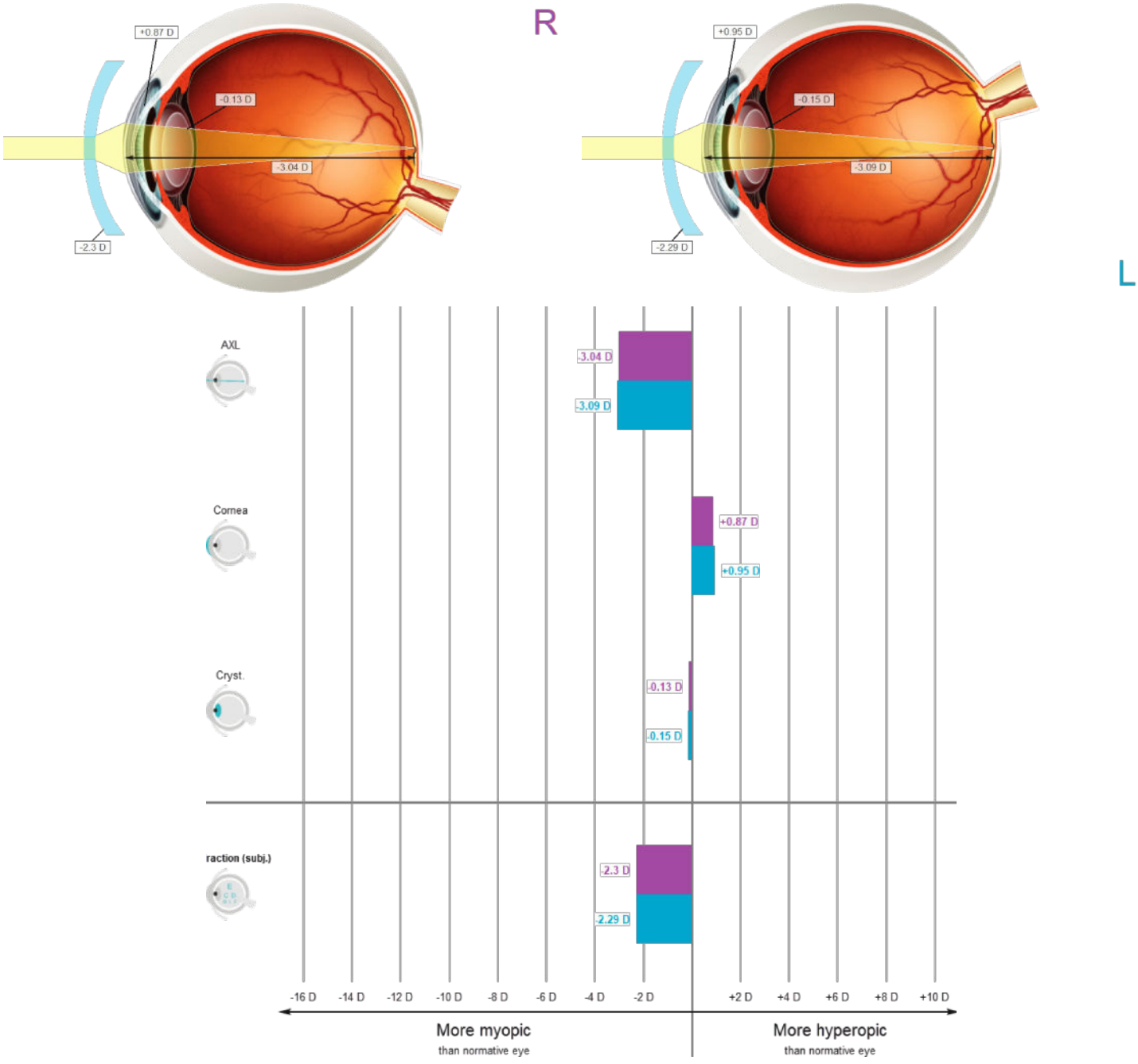
GRAS - GULLSTRAND REFRACTIVE ANALYSIS SYSTEM

Alvar Gullstrand, an ophthalmologist and optician born in the 19th century, measured many human eyes to define a normal eye. This unique work is the foundation for many modern research projects worldwide.

Measuring the refraction of the whole eye helps eye care practitioners to choose the best glasses or contact lenses. GRAS simulates the refractive effect for every individual refractive component of the eye in comparison to the normal eye as defined by Gullstrand: axial length, crystalline lens and keratometry. The Gullstrand Eye provides a very good standard for the adult eye, but is not optimized for children. The age-dependent Gullstrand Eye is a correction model for children between 4 and 22 years and is used for the GRAS.



Disclaimer

The age-dependent Gullstrand Eye was generated using 7,628 eyes in total, 6,029 eyes from children between 4 and 22 and 1,599 eyes from subjects between 22 and 60 years to determine the age-dependent refractive components. Treatment recommendations should not be made from GRAS alone, further investigations are necessary.

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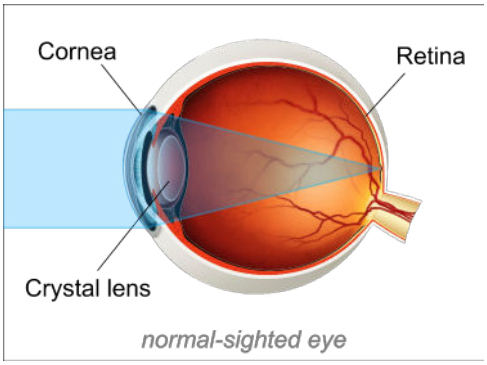
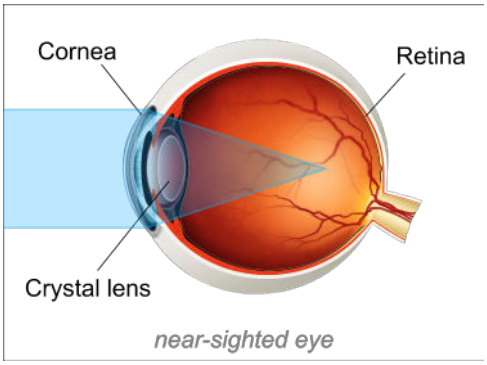
PATIENT INFORMATION

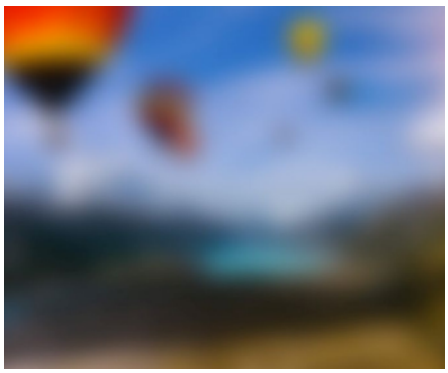
What is near-sightedness?

Near-sightedness, also known as myopia in professional circles, means that nearby objects can be seen clearly, while objects which are further away cannot. In eyes with normal vision, the cornea and the crystalline lens bundle the incoming light rays so that they meet precisely on the retina. This creates a sharp image on the retina.

In near-sighted eyes, the refractive power is too high and/or the eye is too long overall. In both cases, the point of focus is in front of the retina, creating a blurred image.







Why is it important to measure the axial length of the eye?

Normally, children are far-sighted after birth. In the first years of life, the eye grows until the focus is located on the retina. This results in normal vision. Once this condition has been reached, the eye should stop growing. However, if the eye continues to grow, near-sightedness develops. The most common form of near-sightedness develops when children start school (school myopia). While most children are still slightly far-sighted or have normal vision when they start school, they may develop near-sightedness during the following years of their life. To document this, the length of the eye should be measured at regular intervals.

When is a person considered to be extremely near-sighted?

Once near-sightedness reaches -6.00 diopters or the eye length reaches or exceeds 26 mm, one is considered to be extremely near-sighted. In this case, the eyes should be checked regularly, as there is a significant increase in the risk of eye diseases as a result.

PATIENT INFORMATION

Which eye diseases can be caused by advanced near-sightedness?

The most common disease which can be caused by progressive near-sightedness is retinal detachment. If left untreated, this leads to blindness. The growing length of the eye leads to continuously increasing forces pulling on the retina, ultimately causing it to detach from the choroid. Even with a near-sightedness of -3.00 diopters, danger of a retinal detachment increases 10-fold. Above -6.00 diopters, it even increases 16-fold. Other secondary diseases of progressive short-sightedness are: choroidal neovascularization (new vessel formation in the choroid), retinoschisis (gap formation in the center of the retina), staphyloma (local sagging of the posterior eye), glaucoma (death of the optic nerve fibres), cataracts (hazing of the eye lens).

Why is it so important to manage near-sightedness?

According to studies, the most significant changes to the eye occur in the year before the onset of near-sightedness. This means that it is possible to detect probable development of near-sightedness in eyes with normal vision or even far-sighted eyes in advance.

When should the management of near-sightedness start?

Considering that the most common form of near-sightedness (school myopia) starts when children enter school, management of near-sightedness should start as early as possible. As a consequence, it may be possible to slow down or even stop the progression of near-sightedness, minimising the risk of secondary diseases.