

the first prism glasses which will permanently remain. However, in some cases disturbances may again arise after a certain period of wearing the prism glasses. Then new lenses make sense. The expenses arising in this way will not be defrayed by all health insurance funds.

Such modifications of the measured data may occur when the firmly settled counter steering of the eyes is gradually released by wearing the prism glasses for a longer period of time. The true magnitude of the associated heterophoria will show itself only after this relaxation.

If there is no improvement even after a longer period of wearing the prism glasses, the noticeable problems are not caused by an associated heterophoria. In rare cases (approx. 2%) the associated heterophoria is of such a magnitude that a correction with prism glasses is inappropriate because of the weightiness, the thickness and the aberrations of the lenses. Then an alternative operation of the ocular muscles may be considered.

### Criticism on MCH

There are differing opinions in the professional world as to whether and how associated heterophoria should be corrected. Prism glasses according to MCH, particularly with children, are recommended by only a few ophthalmologists. In particular the theoretical basis of the MCH is a controversial issue. This may make persons concerned insecure. But in practice this is accompanied by a multitude of impressive successes with eyeglasses after MCH. This in fact does not count as academic proof of the effectiveness of such eyeglasses, but according to the frequency of successes it appears highly unlikely that it is solely a placebo effect. A strictly academic proof neither exists for many other established method so far.

## Associated heterophoria and prism glasses

With best regards:

### *Do you have ...*

- Stress symptoms as headache, migraine, eye pain, burning eyes?
- Fast fatigue with reading, even with eyeglasses?
- Annoying light sensitivity?
- Visual problems with screen handling?
- No good vision with hitherto existing eyeglasses?

In any of these cases you should have tested whether you possess an associated heterophoria.

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## What is associated heterophoria?

Associated heterophoria is a visual defect which is present with most people and which may be corrected with so-called prism (eye)glasses.

This visual defect may, among other things,

- cause "bad" or blurry vision in different characteristic,
- lead to strenuous or fatiguing vision, in particular with work at screens and with reading for a long time,
- lead to burning eyes, tears, reddened eyes,
- produce or fortify eye pain, headache, migraine,
- produce or fortify hardening in the area of throat, neck and shoulder,
- cause annoying light sensitivity.

If there exists one of the mentioned noticeable problems with you and no disease could be found as cause, a check for associated heterophoria is to be recommended. This even applies when you have the sensation of being able to see sufficiently sharp and is independent of already using eyeglasses or not.

In most cases disturbances caused by associated heterophoria can be reduced or even eliminated by eyeglasses with specifically ground lenses (prism glasses).

When binocular vision is to function perfectly, both eyes have to align exactly to the object looked at. There are some pair of eyes, with which this procedure proceeds without problems as they are in the position of least strain when they align accurately. With eyes with associated heterophoria this is not the case. For them "proper" vision will cause stress.

There are two possibilities for vision with associated heterophoria: Either there is a small deviation from the most comfortable position of the eyes, leading to inferior or unsettled vision, or

the eyes align perfectly, but this is combined with stress. Each of these processes is going on unconsciously.

## How shall associated heterophoria be determined?

Associated heterophoria can be determined with the **Measuring and Correcting Methodology** after H.-J. Haase (**MCH**), which has been successfully used for more than 50 years by optometrists and ophthalmologists both of whom being specialized in that field of activity. This measurement is complex, requires special equipment, detailed expert knowledge and a precise approach. Then the MCH will provide the necessary correction values for manufacturing a pair of prism glasses.

## What are prism glasses?

Prism glasses relieve people with associated heterophoria from "readjusting" the position of the eyes which otherwise is strenuous for the ocular muscles. Thus it becomes possible for the eyes to take a more comfortable position ("position of rest"). The prism glasses secure that the images nevertheless meet the correct spots in both eyes providing the highest quality of vision.

Associated heterophoria is no disease but a visual defect. Therefore prism glasses do not "cure". To exclude pathological causes for certain troubles a medical diagnosis is suggested primarily. Prism glasses do not alter anything concerning the existence of associated heterophoria being a visual defect. As with any other kind of visual defect (e.g. shortsightedness) the eyeglasses only compensate the defect as long as they are worn. Prismatic effects can be integrated into any lens through additional grinding, even into progressive-power lenses.

## Does one squint with prism glasses?

With the rare associated heterophoria of high magnitude the eyes actually seem to "squint" behind

the prism glasses. However this is no real squint but rather just the appearance of the relieved position of the eyes. With real squint the co-operation of the eyes is out of order in a sustainable manner. For the person with associated heterophoria on the other hand the prism glasses enable an ideal co-operation of the eyes.

After a sufficient and successful period of wearing the prism glasses associated heterophoria of high magnitude may be disposed of by an operation of the ocular muscles, if nothing else because of the thickness and weightiness of the lenses.

## Does every associated heterophoria require prism glasses?

No, because the visual system possesses possibilities of compensation within individual limitations. However, this leads to a reduced quality of vision and/or stress symptoms. And with increasing stress these problems will mostly occur intensified.

But it is also possible that despite associated heterophoria being present no disturbances will be sensed in everyday life. In that case prism glasses are not essentially necessary. However, many symptoms caused by associated heterophoria will not be considered to be connected with the eyes. Experts using MCH will always provide an individual and comprehensive explanation. The decision upon a prismatic correction will of course be met by the person concerned oneself.

## How does it go on after the first pair of prism glasses?

Please stick with the recommendation for wearing the prism glasses given by your optometrist and after some time evaluate yourself the success produced by the use of wearing your prismatic correction. In most cases a success will appear after a short period of acclimatization to