Ametropia
(Errors of Eye Refraction)
and
Homoeopathy

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AMETROPIA (ERRORS OF EYE REFRACTION) AND HOMOEOPATHY

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CONTENTS
Definition ........................................................................................................................................... 2
Etymology ........................................................................................................................................... 2
Pathophysiology .................................................................................................................................. 2
  Anatomy ........................................................................................................................................... 2
  Cornea ............................................................................................................................................. 2
  Lens .................................................................................................................................................. 2
  Retina ............................................................................................................................................... 2
Physiology ........................................................................................................................................... 2
Types ................................................................................................................................................ 3
  Myopia .......................................................................................................................................... 3
  Hyperopia .................................................................................................................................... 3
  Astigmatism ................................................................................................................................... 3
  Presbyopia .................................................................................................................................... 3
  Anisometropia ............................................................................................................................... 3
  Antimetropia .................................................................................................................................. 3
Symptoms ......................................................................................................................................... 3
Causes .............................................................................................................................................. 4
  Myopia ......................................................................................................................................... 4
  Hyperopia ................................................................................................................................... 4
  Astigmatism ................................................................................................................................ 5
  Presbyopia .................................................................................................................................. 5
Diagnosis .......................................................................................................................................... 5
Treatment ......................................................................................................................................... 7
  Homoeopathic treatment ............................................................................................................... 7
    Common remedies for refractive errors of eye ................................................................. 7
    Short repertory of refractive errors of eye ....................................................................... 7
Bibliography ................................................................................................................................. 9
Ametropia (Errors of Eye Refraction) and Homoeopathy

**DEFINITION**

The ametropia is a condition with focusing of light on the retina due to the shape of the eye, resulting in a blurred image. (Psora)

**ETYMOLOGY**

- Ametropia
- Refractive error
- Refraction error

**PATHOPHYSIOLOGY**

Ametropia results from an imbalance between the refractive power and the axial length of the eye. In this case, instead of sharp image, blur circle forms which is proportional to the size of refractive error and pupil. (Psora/ Sycosis/ Syphilis) The power of the eye to focus and see an image clearly is dependent on several structures within the eye. The distortion in the components of eye structure may lead to errors of refraction. (Psora/ Sycosis/ Syphilis)

**ANATOMY**

**CORNEA**

The cornea is a transparent dome-shaped tissue that forms the front part of the eye. It functions as a window and allows light to enter the eye. It also begins the process of focusing light rays.

**LENS**

The lens is composed of transparent, flexible tissue, located directly behind the iris and the pupil. It is the second part of the eye, after the cornea, which helps to focus light and images on the retina. Because the lens is flexible and elastic, it can change its curved shape to focus on objects and people that are either nearby or at a distance.

**RETINA**

The retina is light-sensitive tissue that lines the inside surface of the eye. Visual information is transmitted from the retina to the brain by the optic nerve.
To see as clearly as possible, images must be focused by the cornea and lens directly onto the retina. In order for vision to be as sharp as possible, the focusing power of the lens and cornea must correspond appropriately to the length of the eye so that the light rays ultimately come together at the retina.

The relaxed and focused state of the normal eye on an object more than 6 meters or 20 feet away is called Emmetropia. The light rays coming from that object are essentially parallel, and the rays are focused on the retina without effort.

If they focus either in front of the retina or behind the retina, the image becomes unclear or blurred, and it is called as refractive error. (Psora/ Sycosis/ Syphilis)

### TYPES

The most common refractive errors are-

**MYOPIA**

Difficulty in seeing distant objects clearly is called myopia or nearsightedness. Close objects are clear, and distant objects are blurry. (Psora)

**HYPEROPIA**

Difficulty in seeing close objects clearly is called hyperopia or hypermetropia or farsightedness. Close objects are more blurry than distant objects. (Psora)

**ASTIGMATISM**

Distorted vision resulting from an irregularly curved cornea is called astigmatism. (Psora/ Sycosis/ Syphilis)

**PRESBYOPIA**

Presbyopia is a natural occurrence in which the eye can no longer focus near objects leading to difficulty in reading or seeing near objects, it is linked to ageing and occurs almost universally. (Psora/ Syphilis)

**ANISOMETROPIA**

Anisometropia is the condition in which the two eyes have unequal refractive power. Generally, a difference in power of two diopters or more is the accepted threshold to label the condition anisometropia. (Psora/ Sycosis/ Syphilis)

**ANTIMETROPIA**

Antimetropia is the condition of each eye being nearsighted, farsighted or a combination of both. (Psora/ Sycosis/ Syphilis)

### SYMPTOMS

- Blurred vision
- Difficulty reading or seeing up close
• Crossing of the eyes in children called as esotropia
• Double vision
• Haziness
• Glare or halos around bright lights
• Squinting
• Headaches
• Eye strain

**CAUSES**

Overuse of the eyes does not cause or worsen refractive error. The causes of the main types of refractive error are described below:

**MYOPIA**

It is usually inherited and often discovered in childhood. Myopia often progresses throughout the teenage years when the body is growing rapidly. (Psora/ Syphilis)

**HYPEROPIA**

It can also be inherited. Children often have hyperopia, which may lessen in adulthood. In mild hyperopia, distance vision is clear while near vision is blurry. In more advanced hyperopia, vision can be blurred at all distances. (Psora/ Sycosis/ Syphilis)
ASTIGMATISM

It usually occurs when the cornea has an asymmetric curvature. Normally the cornea is smooth and equally curved in all directions, and light entering the cornea is focused equally on all planes, or in all directions. In astigmatism, the front surface of the cornea is curved more in one direction than in another. This abnormality may result in vision that is much like looking into a distorted, wavy mirror. Usually, astigmatism causes blurred vision at all distances. (Psora/ Sycosis/ Syphilis)

PRESBYOPIA

After age 40, the lens of the eye becomes more rigid and does not flex as easily. As a result, the eye loses its focusing ability and it becomes more difficult to read at close range. This normal aging process of the lens makes it hard and it can also be combined with myopia, hyperopia or astigmatism. (Psora/ Syphilis)

DIAGNOSIS

A refraction test is usually given as part of a routine eye examination. Diagnosis of refractive errors can be done with refractometer or vision testing by Snellen’s method and ophthalmoscopy. The results of the test can help diagnose the following conditions:

- Myopia
- Hypermetropia
- Astigmatism
- Presbyopia
- Macular degeneration
- Retinal vessel occlusion
- Retinitis pigmentosa
- Retinal detachment

Snellen chart

<table>
<thead>
<tr>
<th>Snellen</th>
<th>Estimated prescription</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/10</td>
<td>Plano (zero)</td>
</tr>
<tr>
<td>20/15</td>
<td>Plano</td>
</tr>
<tr>
<td>20/20</td>
<td>Plano to -0.25</td>
</tr>
<tr>
<td>20/30</td>
<td>-0.50</td>
</tr>
<tr>
<td>20/40</td>
<td>-0.75</td>
</tr>
<tr>
<td>20/50</td>
<td>-1.00 to -1.25</td>
</tr>
<tr>
<td>20/100</td>
<td>-1.75 to -2.00</td>
</tr>
<tr>
<td>20/200</td>
<td>-2.00 to -2.50</td>
</tr>
</tbody>
</table>
TREATMENT

Refractive disorders are commonly treated using corrective lenses, such as eyeglasses or contact lenses. Presbyopia, in the absence of any other refractive error, can sometimes be treated with over-the-counter reading glasses. Some refractive disorders may be corrected with refractive surgery, which may comprise of:

- Photorefractive keratectomy (PRK)
- Laser in-situ keratomileusis (LASIK)
- Laser epithelial keratomileusis (LASEK)
- EpiLASIK

HOMOEOPATHIC TREATMENT

Though, there is no prevention for refraction errors of eyes, Homoeopathic medicines often cure ametropia if applied properly on basis of similia. The constitutional remedies cure these conditions very well. The following are common remedies for refractory errors of eyes.

COMMON REMEDIES FOR REFRACTIVE ERRORS OF EYE


SHORT REPERTORY OF REFRACTIVE ERRORS OF EYE

EYE - ASTHENOPIA – myopic esin. lil-t.
EYE - ASTIGMATISM - headache, from gels.
EYE - DETACHMENT - retina, of - myopia, in Gels.
EYE - PAIN - accompanied by - myopia viol-o.
Eyes - ASTIGMATISM - granular, eyelids, from sep.
EYES - ASTIGMATISM - myopic - vertical meridian, in, left phys.
Eyes - ASTIGMATISM - returning, in spite of glasses, causing dull pain in back of neck and head pic-ac.
Eyes - ASTIGMATISM - turns, head to left when reading - trying to look with left eye out of right glass of spectacles, to see whole of letters b and d Lil-t.
Vision - AMBLYOPIA - refraction, dependent upon anomalies of Ruta
Vision - ASTHENOPIA - hypermetropia, in Arg-n.
Vision - ASTIGMATISM - returning, in spite of glasses, causing dull pain in back of neck and head pic-ac.
Vision - BLINDNESS, loss of vision - hemeralopia - myopic eye, in a Hyos.
Ametropia (Errors of Eye Refraction) and Homoeopathy

VISION - DIM - refraction, anomalies of from ruta
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - asthenopia, with Jab.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - choroiditis, in Coloc.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - distant, objects appear more distant Con.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - eating, after mez.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - evening hyper.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - headache, during choc.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - long, lasting stram.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - overuse, of eyes, in fine work Arg-n. ruta sil.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - pupils, dilated carb-an.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - reads fine print without glasses petr.
Vision - FARSIGHTEDNESS, hyperopia, hypermetropia - right, commencing in, eye sulph.
VISION - MYOPIA - candlelight than by daylight; sight worse by arg-n.
VISION - MYOPIA - children; in bar-ox-suc.
VISION - MYOPIA - exerting the eyes, after Carb-v.
VISION - MYOPIA - looking away from work amel. ph-ac.
VISION - MYOPIA - myopic astigmatism lil-t.
VISION - MYOPIA - reading agg. agar. grat. lyc. podo. symph.
VISION - MYOPIA - turning head sideways to see clearly lil-t.
Vision - NEARSIGHTED, myopia - burning, with, heat in face grat.
Vision - NEARSIGHTED, myopia - candlelight, sight worse by, than by daylight arg-n.
Vision - NEARSIGHTED, myopia - diarrhea, with, typhus, after Chin.
Vision - NEARSIGHTED, myopia - exerting, the eyes, after Carb-v.
Vision - NEARSIGHTED, myopia - increasing Phos.
Vision - NEARSIGHTED, myopia - looking, away from work amel. ph-ac.
Vision - NEARSIGHTED, myopia - objects, seem too large, left eye, after a blow Phys.
Vision - NEARSIGHTED, myopia - reading, while agar. grat. lyc.
Vision - NEARSIGHTED, myopia - sleepy, feeling, with eup-pur.
Vision - NEARSIGHTED, myopia - spasm, from ciliary - and twitching of lids Agar.
Vision - NEARSIGHTED, myopia - spasm, from ciliary PHYS.
Vision - NEARSIGHTED, myopia - touch, nose has to, paper to read Calc.

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Chapter 12. Strabismus > Determination of Refractive Error Vaughan & Asbury’s General Ophthalmology, 18e... It is important to determine the cycloplegic refractive error by retinoscopy. Cycloplegic refraction is most often performed utilizing cyclopentolate 1% ophthalmic solution.

Chapter 15. The Visual System > Errors of Refraction Clinical Neuroanatomy, 27e... In myopia (nearsightedness), the refracting system is too powerful for the length of the eyeball, causing the image of a distant object to focus in front of, instead of at, the retina. (The object will be in focus only when it is brought nearer to the eye. Myopia can be corrected...

Chapter 17. Special Subjects of Pediatric Interest > Refraction Vaughan & Asbury's General Ophthalmology, 18e .... About 10% have refractive errors that require correction before age 7 or 8. Myopia often develops between ages 6 and 9 and increases throughout adolescence, with the greatest change at the time of puberty. Astigmatism is relatively common in babies but decreases in prevalence during the first few years...

Chapter 2. Ophthalmologic Examination > Refraction Vaughan & Asbury's General Ophthalmology, 18e... Common imperfections of the optical system of the eye. Ideally, light rays from a distant target should automatically arrive in focus on the retina if the retina is situated precisely at the eye's natural focal point. Such an eye is called emmetropic...

Chapter 20. Causes and Prevention of Vision Loss > Uncorrected Refractive Error Vaughan & Asbury's General Ophthalmology, 18e... When included in the global statistics, uncorrected refractive error accounts for over 18% of profound vision loss, with a much larger percentage of moderate and severe vision loss, affecting approximately 8 million people with 1 million in India alone. It is clearly avoidable and should be easy...

Chapter 21. Optics & Refraction > Natural History of Refractive Errors Vaughan & Asbury's General Ophthalmology, 18e... Most babies are slightly hyperopic, mean refractive error at birth being 0.5 D. The hyperopia slowly decreases, with a slight acceleration in the teens, to approach emmetropia. The corneal curvature is much steeper (6.59-mm radius) at birth and flattens to nearly the adult curvature (7.71 mm...

Disorders of the Eye > DOUBLE VISION (DIPLOPIA) Harrison's Principles of Internal Medicine.... pterygium), uncorrected refractive error, cataract, or foveal traction may give rise to monocular diplopia. Occasionally it is a symptom of malingering or psychiatric disease.
Diplopia alleviated by covering one eye is binocular diplopia and is caused by disruption of ocular alignment. Inquiry should...

Disorders of the Eye > REFRACTIVE STATE Harrison's Principles of Internal Medicine.... the acute onset of diabetes mellitus can produce sudden myopia because of lens edema induced by hyperglycemia. Testing vision through a pinhole aperture is a useful way to screen quickly for refractive error. If visual acuity is better through a pinhole than it is with the unaided eye, the patient needs...

Disorders of the Eyes & Lids > 2. Treatment of Refractive Error Current Medical Diagnosis & Treatment 2016... Various surgical techniques are available to remove refractive errors, particularly nearsightedness. Laser corneal refractive surgery reshapes the middle layer (stroma) of the cornea with an excimer laser. Laser assisted in situ keratomileusis (LASIK), including wavefront or topography-guided...

Disorders of the Eyes & Lids > REFRACTIVE ERRORS Current Medical Diagnosis & Treatment 2017... Refractive errors are the most common cause of reduced clarity of vision and may be a readily treatable component of poor vision in patients with other diagnoses. In the normal state (emmetropia) objects at infinity are seen clearly. Focusing on objects nearer...

Encyclopedia Homoeopathica

Eye > REFRACTIVE ERRORS CURRENT Diagnosis & Treatment Pediatrics, 23e

Neurophysiology > Errors of Refraction Medical Physiology: The Big Picture... distances are produced, depending on the plane on which light enters the eye. Eyeglasses with a cylindrical lens are needed to correct the refraction error of astigmatism. People with normal vision (emmetropia) focus distant objects clearly, with the ciliary muscle completely relaxed

Radar 10

The Eye & Ocular Adnexa > LASER SURGERY FOR CORRECTION OF REFRACTIVE ERROR CURRENT Diagnosis & Treatment: Surgery, 14e... LASIK is a lamellar refractive surgical procedure, which involves creation of a partial-thickness corneal flap under high suction. The flap is then lifted and an ArF (argon-fluoride) excimer beam is used to ablate stromal tissue with minimal thermal effect. The flap is then replaced and allowed...