

# Astenopija un refrakcijas izmaiņas

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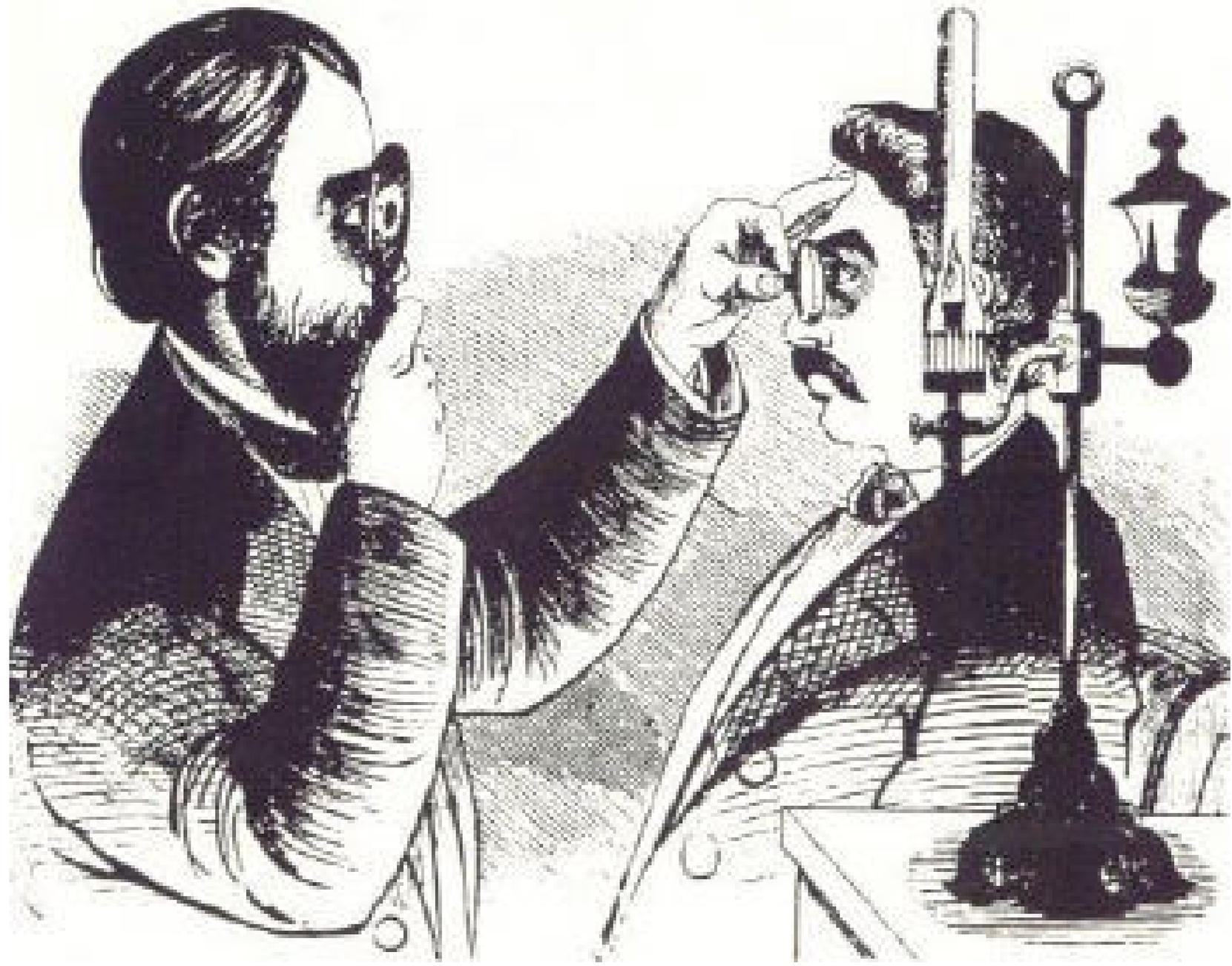
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**Pieredze ar bērnu audzināšanu – 5 gadu laikā – ar katru dažādas vadlīnijas**

**Saruna ar profesoru Kalviņu par Krebsa ciklu – nav iespējams mākslīgi radīt jo viss notiek uz membrānām.**

**S.Zalmanov «Rietumu medicīniskā doma beidzās ar 1.pasaules karu.»**

**«Jebkurš zāles stiebrs ir daudz sarežģītāks par jebko cilvēku radīto»**



# Ophthalmologist William Fisher Norris



History of Ophthalmology pp 45-57

William Fisher Norris: A Philadelphia ophthalmologist

William C. Frayer

In 1870, **William Fisher Norris** returned from studies abroad to find himself at the forefront of new developments in American ophthalmology. Recognition of the specialty was just beginning and **Norris was named Professor of Ophthalmology** in the **department just established at the University of Pennsylvania. Norris was well-qualified for the job.**

He was a born leader, bending his efforts toward the development of a new department, and recruiting a faculty all dedicated to the creation of a new and better specialty. The **year 1870** marked the end of a truly remarkable two decades in ophthalmology. During these years **Helmholtz** had invented the ophthalmoscope, **Von Graefe** had discovered the value of iridectomy in congestive glaucoma, **Donders** had published his classic paper 'On the Anomalies of Accommodation and Refraction of the Eye', and **Snellen** had devised a method for the consistent measurement of visual acuity.

1886. Williams F. Norris

## Some remarks on Asthenopia and the changes refraction in adolescent and adult eyes

When we look at the soft, elastic, bluish sclerotic of the  
young, we can readily appreciate, how under

**any softening influence**

it would give way slowly, even to normal intraocular pressure.

**Transient congestion is the universal law of  
physiological activity;**

if we use our muscles more blood circulates in them, and for the time  
they become tense and swollen

If we converge and accommodate with our eyes,

**more blood flows to them,**

the vast choroidal vascular network, as well as the ciliary processes and ciliary muscle, occupy more space and transiently raise the intraocular tension, while the sclerotic also carries more blood, and its lymph spaces, as well as those of the cornea, become fuller of serum.

**The retina shares in the general excitement;** it becomes swollen and less transparent,

And presents a faint pinkish hue in its thicker parts, it veils but does not entirely hide the upper and lower margins of the disc. ....We have in short a state which has been so well described and pictured by Jaeger as retinal irritation. (Netzhaut Reizuizg.)

The reflex actions which determine a normal flow of blood to the organ become disturbed, and we have a congestion of the eyelids and of the tarsal and bulbar conjunctiva, accompanied by an **itching, burning, and watering of the eye, with a feeling of sandiness or sleepiness.**

**The low grades of congestion of the tarsal and ocular conjunctiva cause the eye to feel sandy and the lids heavy, while the individual becomes drowsy and perhaps falls to sleep promptly over his book.**

In healthy individuals where there are sufficient intervals of rest, the blood-vessels contract, the increased exudation of serum is absorbed, and the eye once more subsides into a state of quiescence. If, however, the period of work be too long prolonged or too often repeated, the capillaries remain dilated, the lymph spaces fuller, and there is never a period of complete contraction and quiet.

When eye-work is persisted in after this point, we have blurring - of the print, and burning and itching of the eyes. If work still be persisted in, neuralgic pain develops, and is felt in the eye itself, but is usually more marked in the **forehead** and **temple**, while in some cases there are shoots of **pain back to the junction of the head and neck**. If such eyes are examined with the ophthalmoscope ample evidence is obtained that there is a **congestion of the retina and of the intraocular end of the optic nerve, as well as of the conjunctiva and lids**.

Almost all cases of myopia will tell you that there was a time when they **had considerable neuralgic pain in the forehead, temples and eyes, as well as itching and burning on the prolonged use of the eyes,** but that while the latter symptoms still often recur, the neuralgia has disappeared. This is due to the fact that the neuralgia is present so long as the ocular shell **is tough and resistant, but usually disappears when it softens and gives way.**

In striking contrast to this form of asthenopia is that occurring in medium grades of hypermetropia where **the sclerotic is dense, thick and unyielding**, and where severe neuralgic pain is often the prominent symptom of the asthenopia.

The more mobile and weaker the nervous system of the patient, the more severe are the neuralgic pains.

The eyes often become so sensitive that any rapid change of focus from distant to near objects is uncomfortable, and is in some cases accompanied by nausea and dizziness.

**Such eyes usually do not become myopic**

**Need to limit his work or change his occupation.**

Nothing to my mind demonstrates more forcibly the truth of the foregoing remarks than **the prompt relief of many cases of long standing and constantly recurring conjunctivitis and blepharitis by the habitual use of correcting glasses.**

**It is my belief that it is always worth while to correct ametropia, no matter how slight, if it produces asthenopia, and that we thus go far to prevent congestion and softening of the eye and its elongation in the visual axis.**

## *Other case of asthenopia....*

The patients often complain of the lids sticking to the eyeball during sleep, so that on waking during the night, they have difficulty in opening their eyes even after resorting to bathing them in warm water. This is due to perverted sensation, and **not to any glueing of the conjunctival surfaces by secretion.**

**It must be remembered that a diminishing hypermetropia and an increasing myopia are merely arbitrary expressions referring to different stages in a process essentially the same; in both cases it being simply a slow distension of the softened eyeball in the direction of its visual axis.**

I would urge therefore the careful correction of every case of ametropia where there is any accompanying asthenopia; such correction going far to **diminish and prevent the congestive and softening influences** which always accompany the use of the eye and facilitate the diminution of hypermetropia and the production of myopia. In my judgment, **this as important is quite a preventive of elongation of the visual axis**, as any other one measure to which we habitually resort, not excepting the usual precautions as to **lighting, hygiene, and health.**

# Conclusions

**1. All such cases should be carefully measured under a strong mydriatic, as it is impossible to correct them accurately without it, either by the use of test glasses, of the ophthalmoscope, or of retinoscopy. Moreover, the enforced rest of the eye during the influence of the mydriatic, is an important aid in diminishing its congestion.**

# Conclusions

**2.** We should carefully watch all cases of hypermetropia where the **ophthalmoscope shows a decided difference of level between the disc and the macula.**

They are usually cases of slow distension of the eyeball and diminishing hypermetropia. **The same rule holds good in cases of increasing myopia.**

# Discussion

## DR. THEOBALD

It strikes me that there must have been in many of these cases not **only a change in the absolute refraction,** but an **increase of the astigmatism.** A change in the strength of the cylinders was required. It will be remembered that last year I reported three cases of what I regarded as progressive astigmatism. In two of these, during a series of years, **the astigmatism had apparently doubled in amount**

# DR. THEOBALD

Prior to the commencement of that work I suspected, and during its progress was convinced, that the **myopic eyes were not recruited from the emmetropic** eyes, but from those presenting hypermetropia. In the report of that work, published in 1881., was based upon, first, a group of cases in which hypermetropic refraction had been seen to pass into myopic refraction, And second, upon the fact that the **eyes with hypermetropic astigmatism** presented a greater percentage of the same pathological appearances, **which in their later stages were confessedly characteristic of progressive myopia, viz., choroiditis and posterior staphylomata**

# Dr. RISLEY

I have been more and more thoroughly convinced of the correctness of the views which Dr. Norris has expressed in his paper,

**that disturbance of the nutrition of the eye-ball, consequent upon the eye strain in hypermetropic refraction, leads to its softening,**

and thus permits its distension under the strain of protracted near work.

# Dr. Risley

**I was much impressed by his remark referring to the anterior distension, making conical cornea and posterior staphyloma dependent upon the same condition, an opinion which I have long entertained.**

# Dr. RANDALL

I would ask what ground is there for an assumption like that made by Dor,' when he states that we can recognize in the cradle the eye which is physiologically myopic, although the false science of modern times would call it emmetropic or hypermetropic, because at present rays of light are not focused in front of the retina?

**Ja būs labi ar acīm, tad būs labi arī galvai. Un, ja labi būs galvai, tad visam ķermenim būs labi, bet ķermeni nevar ārstēt vienu pašu, neārstējot dvēseli.**

**Platons** (sengrieķu: *Πλάτων, Plátōn*; dzimis ap 427. gadu p.m.ē., miris ap 348. gadu p.m.ē.) bija klasiskās Senās Grieķijas filozofs un matemātiķis, Sokrata mācekļis, Aristoteļa skolotājs, rakstnieks un Platona akadēmijas dibinātājs. Viņš tiek uzskatīts par vienu no visietekmīgākajiem domātājiem, kurš licis pamatus Rietumu filozofijai un zinātnei.

**Mūsu zināšanas ir līdzīgas lodei.**

**Jo vairāk lode izplešas un pieaug, jo vairāk saskares punktu ar nezināmo**

**Blēzs Paskāls** (*Blaise Pascal*, dzimis 1623. gada 19. jūnijā, miris 1662. gada 19. augustā) bija franču rakstnieks, matemātiķis, fiziķis un reliģijas filozofs. Viņš bija brīnumbērns, kuru izglītoja viņa paša tēvs, kurš strādāja par ierēdņi. Paskāls sākotnēji pievērsās dabas un praktiskajām zinātnēm. Viņš izveidoja primitīvus mehāniskos kalkulatorus, pētīja dažādus šķidrumus un precizēja spiediena un vakuuma jēdzienus.

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*Paldies par uzmanību un jauku šo dienu!*

