

Pranayama

Teachers Training
Level 1 2023

Tratak Kriya - The Eyes



ॐ ॐ ॐ

श्री गुरुभ्यो नमः हरिः ॐ

Om Om Om

Sri Gurubhyo Namah Harih Om

Salutations to the Gurus!

ॐ सह नाववतु ।
सह नौ भुनक्तु ।
सह वीर्यं करवावहै ।
तेजस्वि नावधीतमस्तु मा विद्विषावहै ।
ॐ शान्तिः शान्तिः शान्तिः ॥

om saha nāvavatu saha nau bhunaktu
saha vīryaṃ karavāvahai
tejasvi nāvadhītam astu mā vidviṣāvahai
om śāntiḥ śāntiḥ śāntiḥ

May that Truth protect us together. May it nourish us together.
May we both gain great vitality. May our learning be brilliant.
May we never argue. Om peace, peace, peace.

atha trāṭakam

nirīkṣhenniśchala-dṛśā sūkṣhma-lakṣhyam samāhitah |
aśru-sampāta-paryantamāchāryaistrāṭakam smṛtam || 31 ||

Being calm, one should gaze steadily at a small mark, till eyes are filled with tears. This is called Trātaka by āchāryas.

mochanam netra-roghāṇām tandādrīṇām kapāṭakam |
yatnatastrāṭakam ghopyam yathā hāṭaka-peṭakam || 32 ||

Trātaka destroys the eye diseases and removes sloth, etc. It should be kept secret very carefully, like a box of jewelry.

Some studies on Tratak

Effect of *Trataka* (Yogic Visual Concentration) on the Performance in the Corsi-Block Tapping Task: A Repeated Measures Study

<https://pubmed.ncbi.nlm.nih.gov/34975664/>

“The result suggests that *Trataka* session improves working memory, spatial memory, and spatial attention.”



Studies on Tratak

Immediate effect of yogic visual concentration on cognitive performance

<https://pubmed.ncbi.nlm.nih.gov/26870677/>

“Trataka technique increased the selective attention, cognitive flexibility, and response inhibition.”

<https://pubmed.ncbi.nlm.nih.gov/34506951/>

“Our ability to see flicker has an upper frequency limit above which flicker is invisible, known as the "critical flicker frequency" (CFF), that typically grows with light intensity”



Studies on Tratak

The effect of trataka, a yogic visual concentration practice, on critical flicker fusion

<https://pubmed.ncbi.nlm.nih.gov/21091294/>

“An increase in the CFF is seen immediately after the yogic concentration practice called trataka.”

Progressive increase in critical flicker fusion frequency following yoga training

<https://pubmed.ncbi.nlm.nih.gov/10225037/>

“Yoga practices included asanas, pranayamas, kriyas, meditation, devotional sessions and lectures on the theory of yoga. After 10 days neither group showed a change in CFF. However, at 20 and at 30 days the yoga group showed significant increases in CFF by 11.1% and 14.9%, respectively (two factor ANOVA, Tukey multiple comparison test). The control group showed no change at the day 20 and day 30 follow up.”



Studies on Tratak

New Beginnings: Evidence That the Meditational Regimen Can Lead to Optimization of Perception, Attention, Cognition, and Other Functions William C. Bushell

“One of the major goals of Indo-Tibetan Buddhism is to come to know, to understand, on a deep level— actually to directly perceive— “the nature and limits of phenomena,” to use the term of the leading scholar-practitioner of the central school (Gelugpa) of Tibetan Buddhism, Geshe Gedun Lodro. The nature and limits of phenomena are understood to include, among other epistemological concerns, the irreducible constituents, the “minute particles” or “partless particles of matter, energy, space, and time,” of which the macroscopic “objects” and processes of the phenomenal world are “composed,” aggregated. This understanding, this direct perception, is actually one of the ultimate goals of Indo-Tibetan Buddhism, and practitioners are, therefore, highly motivated to be able to detect light and other phenomena at the most irreducible limits of their existence.”

“At other times advanced meditators’ phenomenological accounts of movements in and of the visual field suggest the possibility that the increased rate of perception may have ushered them to the beginnings of awareness of the “stroboscopic”²⁶ or “frameby-frame”¹ nature of consciousness that has recently been uncovered by new research in contemporary neuroscience...”

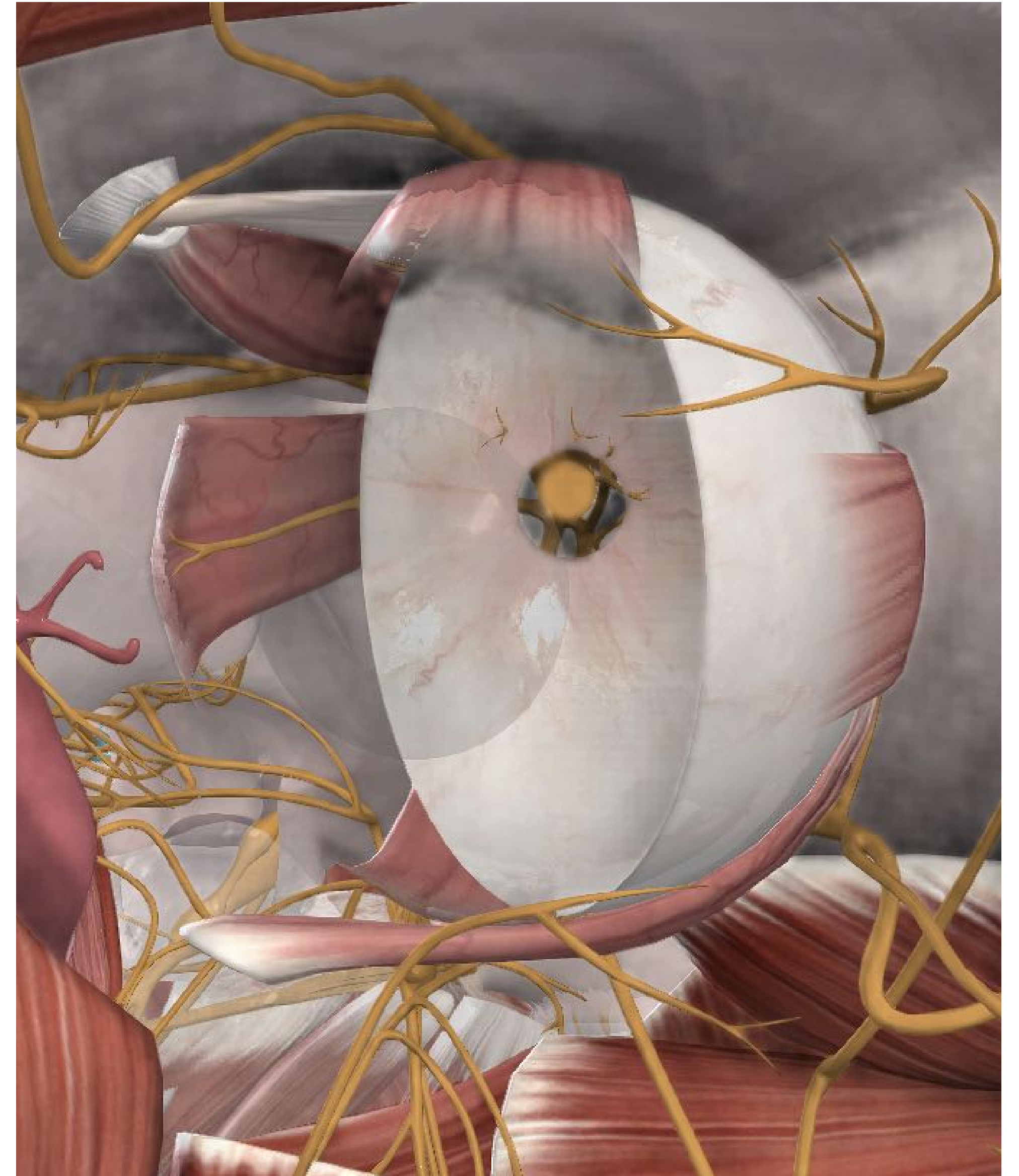
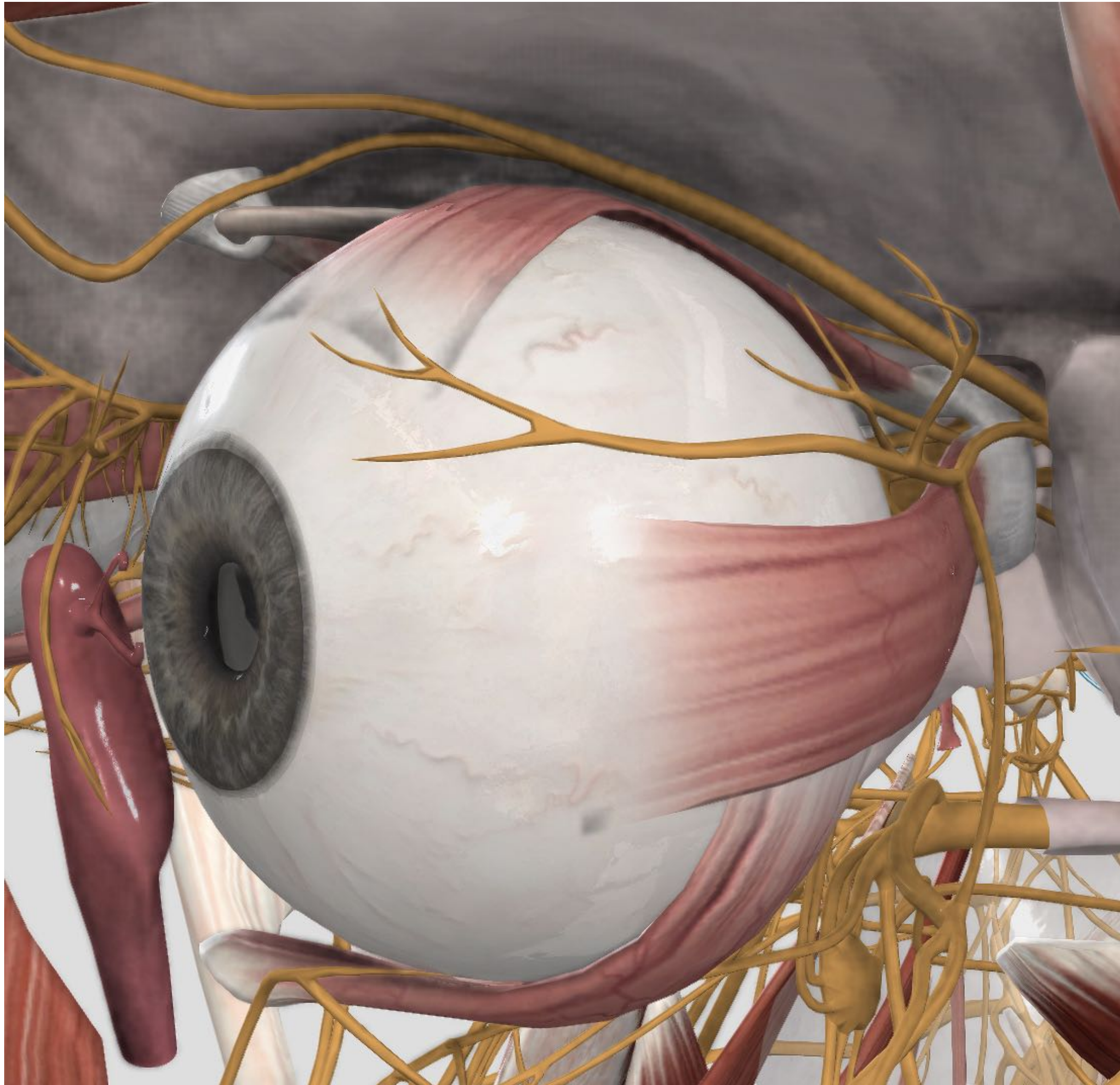
“Where then does this attentional training lead the meditator? It can, as we have seen, lead the meditator’s attention or awareness into the “microscopic” realm of a fraction of the diameter of a retinal photoreceptor cell, within the millionths of a meter range. Moreover, repeatedly applied, disciplined attention (“practice” or “training”) can drive neuroplastic changes... this accelerated perception, moreover, may actually usher meditators to the threshold of awareness of their own awareness— ‘awareness turned back on itself ‘ ”

“The meditative program of attentional training leads present-centered conscious awareness both to millisecond durations of perception—in which the light flash is further perceptually subdivided into three parts—in the visual field, as well as of the visual field, as it moves discontinuously through the stream of consciousness.” – *This could be a visual practice of seeing the distinction between the seer, the seen, and the processing of seeing* (my note)

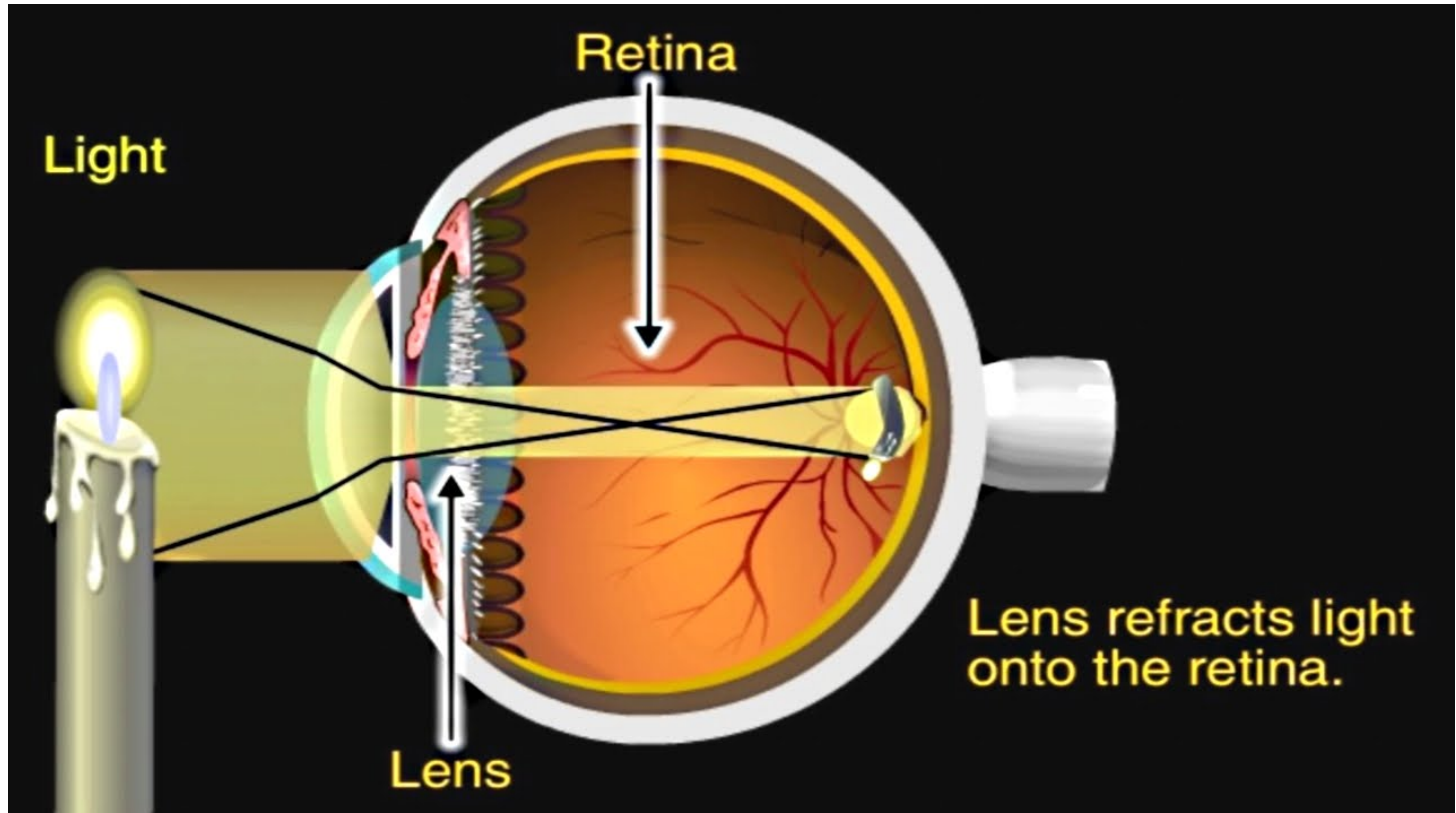
“Seitz et al. have shown that the increased rate of perception of light, which enables one to “decompose” a beam of light into the more accurate perception of it as in fact composed of discontinuous flickering, is tied to the “flooding” of the brain by neuromodulators like dopamine, which are associated with euphoric affect. The Dalai Lama has described how one means of attaining to the level of the yogic direct perception of “emptiness” is through the virtual conditioning of this perception together with the bliss experience.”



The Eye muscles

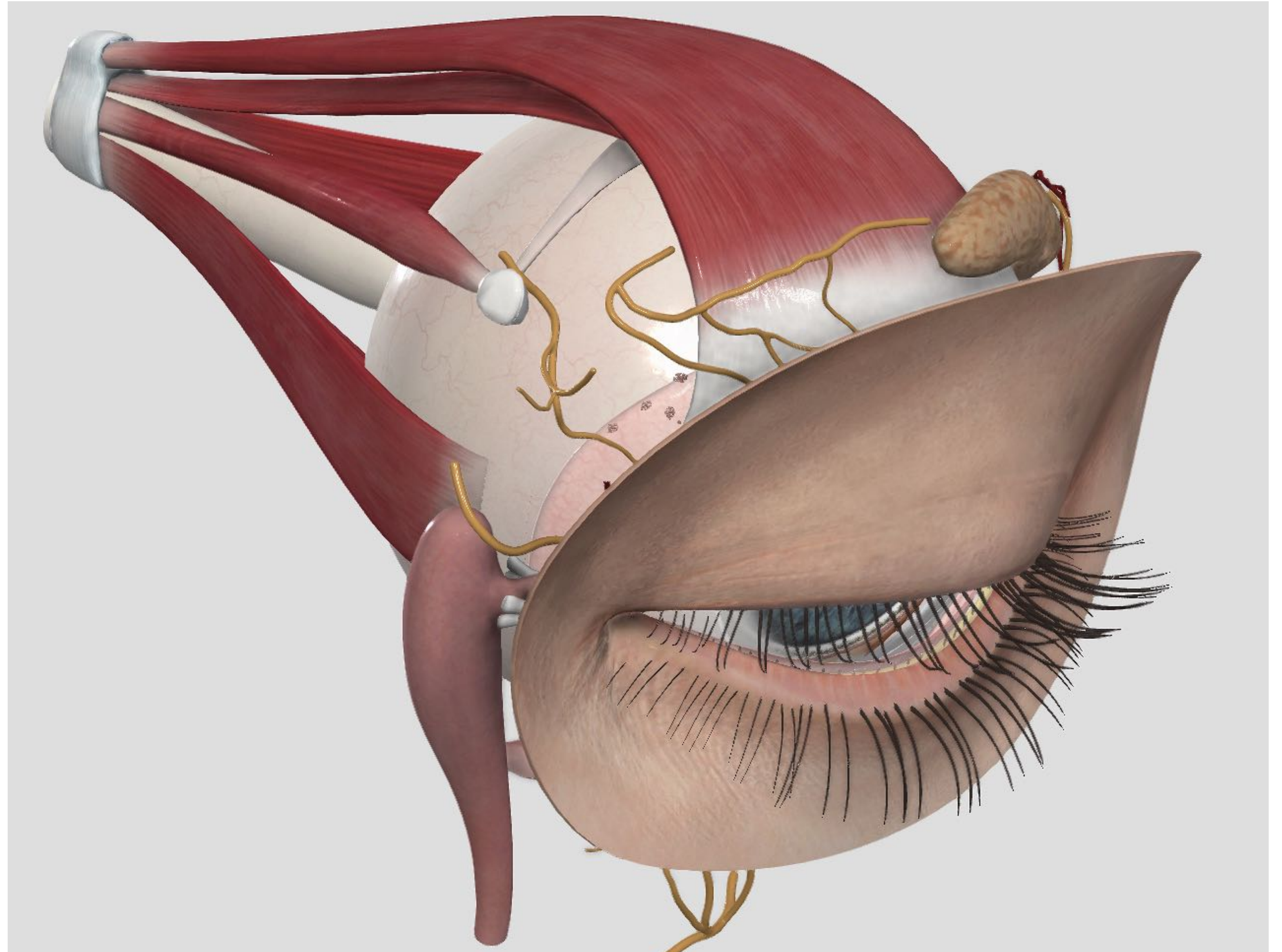


How The Eye Works



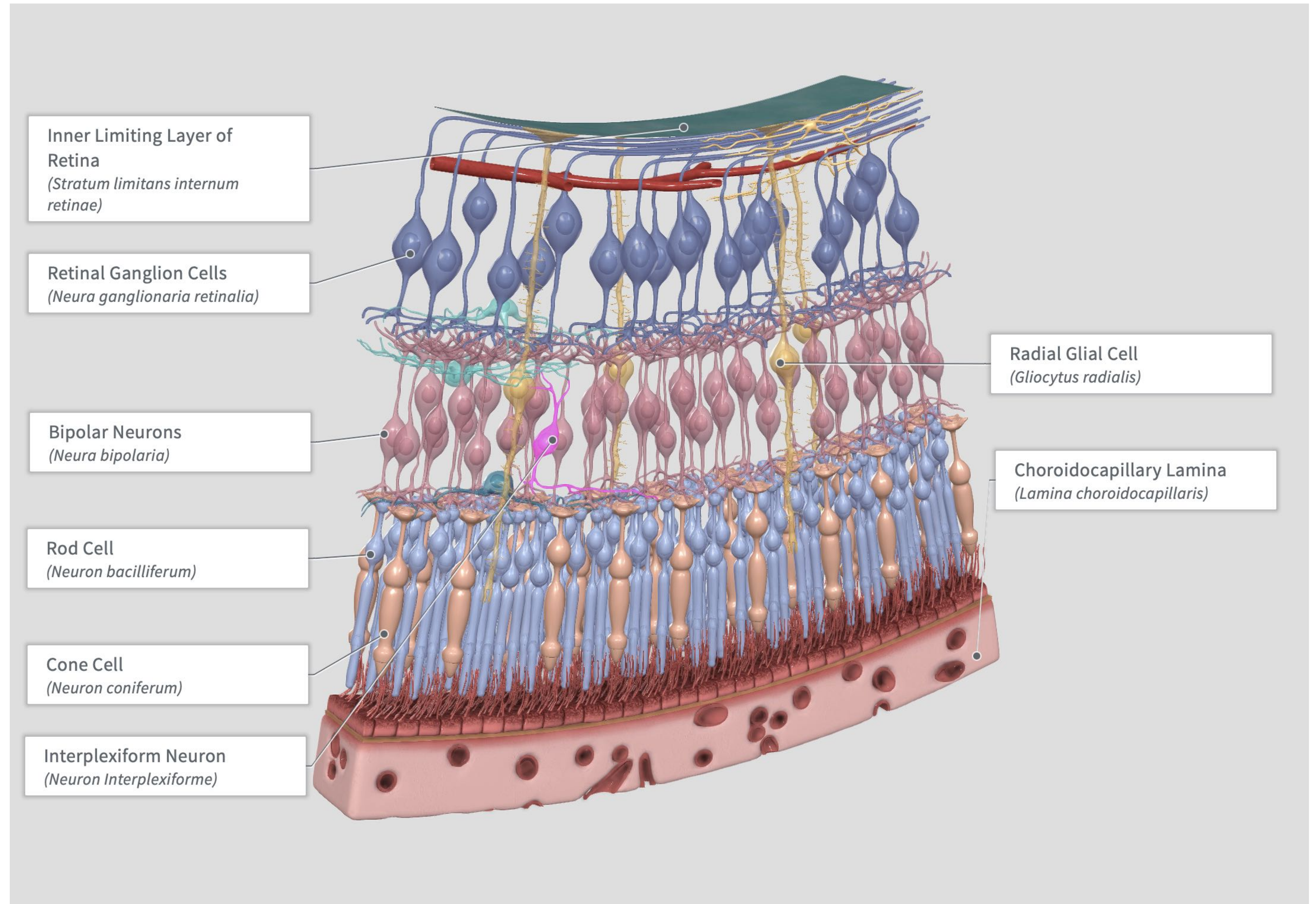
The Eye Muscles

COMPLETE ANATOMY APP



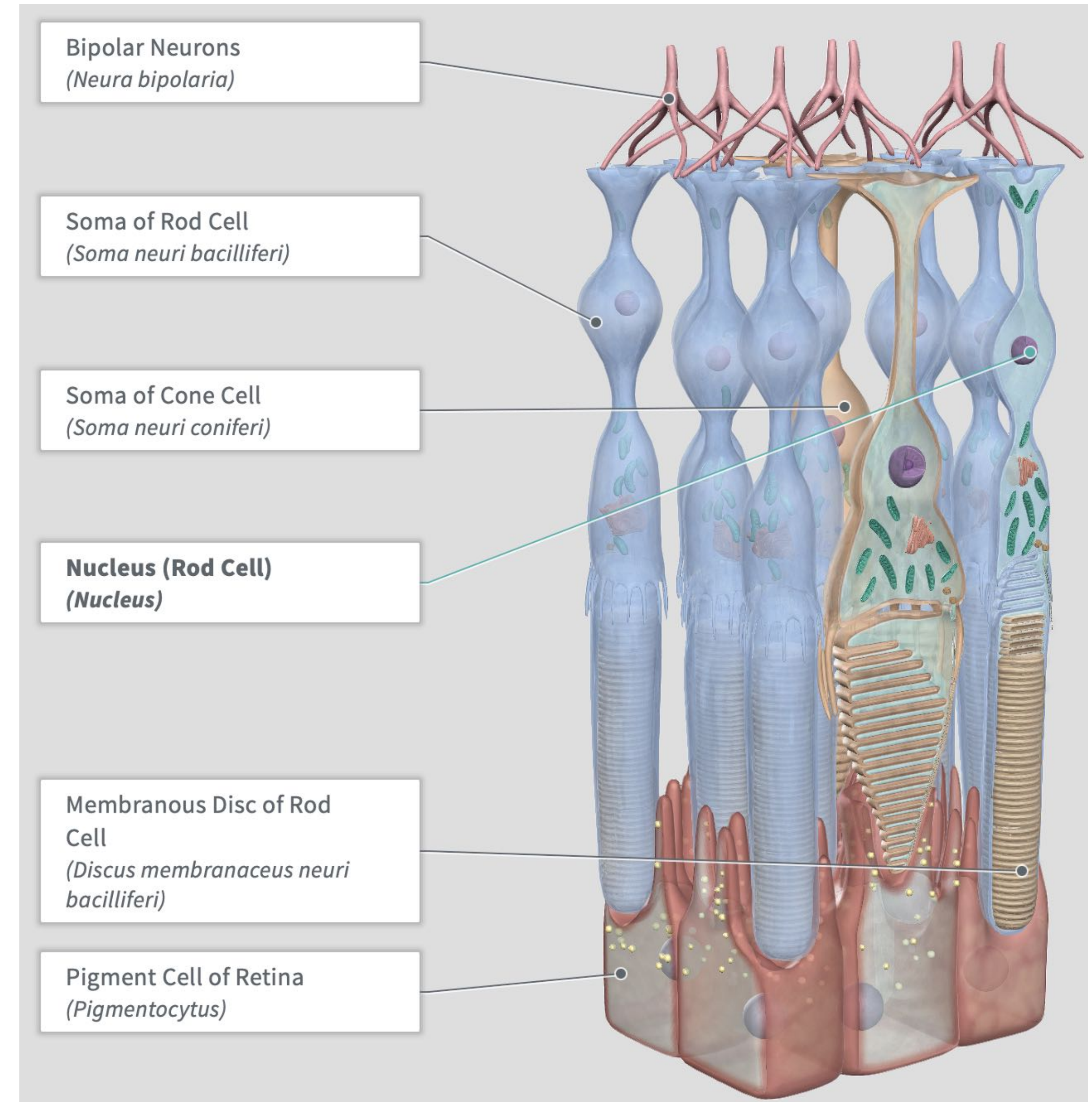
Retinal layers

COMPLETE ANATOMY APP



Photoreceptor cells

COMPLETE ANATOMY APP



Moham p



ॐ सर्वे भवन्तु सुखिनः
सर्वे सन्तु निरामयाः ।
सर्वे भद्राणि पश्यन्तु
मा कश्चिद्दुःखभाग्भवेत् ।
ॐ शान्तिः शान्तिः शान्तिः ॥

oṃ sarve bhavantu sukhinaḥ
sarve santu nirāmayāḥ
sarve bhadraṇi paśyantu
mā kaścid duḥkha bhāgbhavet
oṃ śāntiḥ śāntiḥ śāntiḥ

May all be happy, may all be free from disease,
may all see goodness, may none suffer from sorrow.

ॐ असतो मा सद्गमय ।
तमसो मा ज्योतिर्गमय ।
मृत्योर्मा अमृतं गमय ।
ॐ शान्तिः शान्तिः शान्तिः ॥ हरिः ॐ तत्सत् ॥

asato mā sadgamaya
tamasomā jyotir gamaya
mrityormāamritam gamaya
Om śhānti śhānti śhāntiḥ harih om tat sat

Lead me from changing existence to unchanging being,
lead me from the darkness of tamas to the light of knowledge,
lead me from death to immortality. Harih om that is truth.

New Beginnings: Evidence That the Meditational Regimen Can Lead to Optimization of Perception, Attention, Cognition, and Other Functions William C. Bushell

One of the major goals of Indo-Tibetan Buddhism is to come to know, to understand, on a deep level— actually to directly perceive— “the nature and limits of phenomena,” to use the term of the leading scholar-practitioner of the central school (Gelugpa) of Tibetan Buddhism, Geshe Gedun Lodro. The nature and limits of phenomena are understood to include, among other epistemological concerns, the irreducible constituents, the “minute particles” or “partless particles of matter, energy, space, and time,” of which the macroscopic “objects” and processes of the phenomenal world are “composed,” aggregated. This understanding, this direct perception, is actually one of the ultimate goals of Indo-Tibetan Buddhism, and practitioners are, therefore, highly motivated to be able to detect light and other phenomena at the most irreducible limits of their existence.

At other times advanced meditators’ phenomenological accounts of movements in and of the visual field suggest the possibility that the increased rate of perception may have ushered them to the beginnings of awareness of the “stroboscopic”²⁶ or “frameby-frame”¹ nature of consciousness that has recently been uncovered by new research in contemporary neuroscience...

Where then does this attentional training lead the meditator? It can, as we have seen, lead the meditator’s attention or awareness into the “microscopic” realm of a fraction of the diameter of a retinal photoreceptor cell, within the millionths of a meter range. Moreover, repeatedly applied, disciplined attention (“practice” or “training”) can drive neuroplastic changes... this accelerated perception, moreover, may actually usher meditators to the threshold of awareness of their own awareness— ‘awareness turned back on itself ‘

The meditative program of attentional training leads present-centered conscious awareness both to millisecond durations of perception—in which the light flash is further perceptually subdivided into three parts—in the visual field, as well as of the visual field, as it moves discontinuously through the stream of consciousness.” – *This could be a visual practice of seeing the distinction between the seer, the seen, and the processing of seeing* (my note)

Seitz et al. have shown that the increased rate of perception of light, which enables one to “decompose” a beam of light into the more accurate perception of it as in fact composed of discontinuous flickering, is tied to the “flooding” of the brain by neuromodulators like dopamine, which are associated with euphoric affect. The Dalai Lama has described how one means of attaining to the level of the yogic direct perception of “emptiness” is through the virtual conditioning of this perception together with the bliss experience.