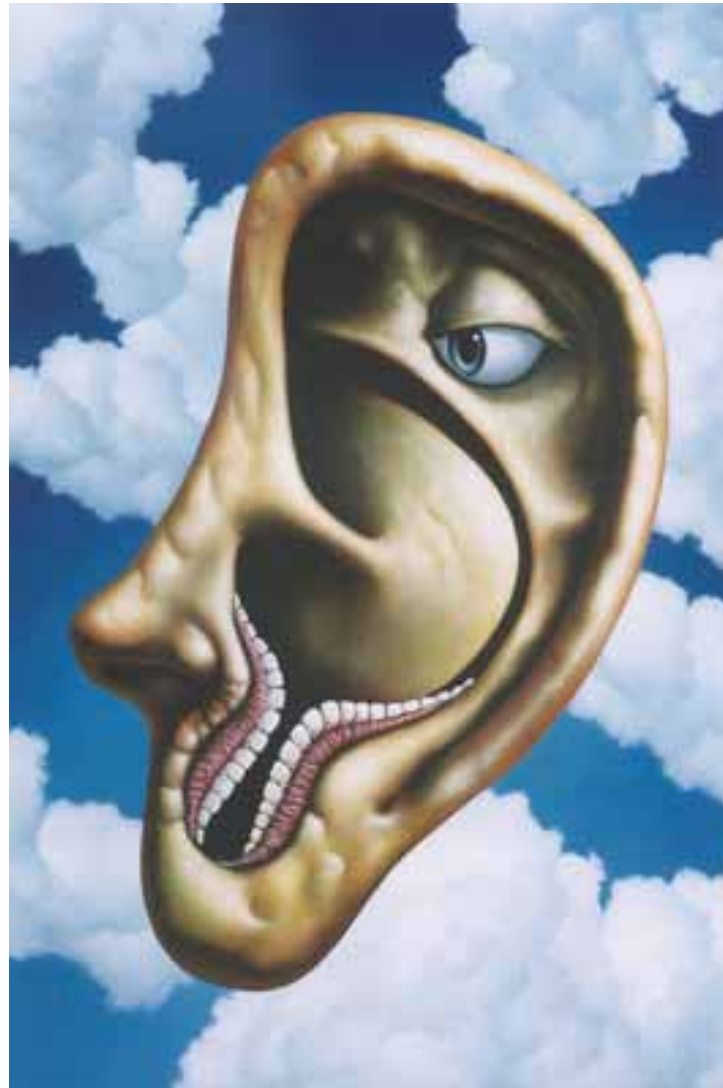




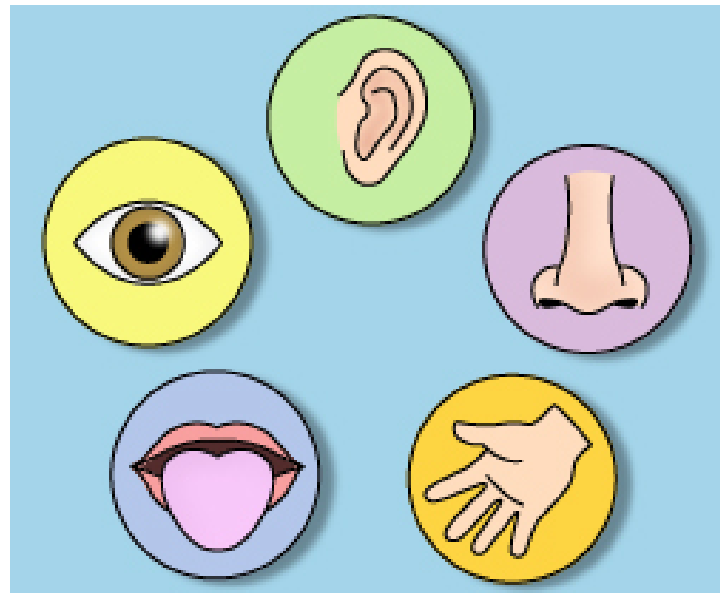
# Senses - חושים





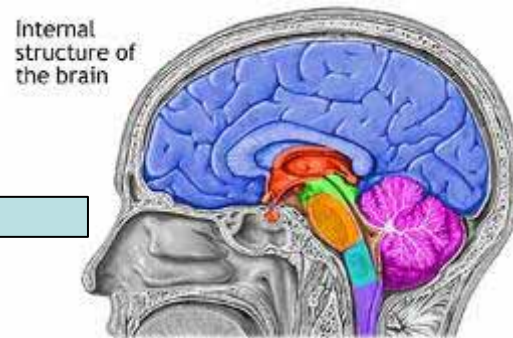
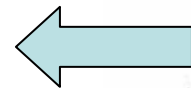
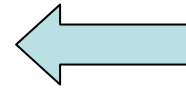
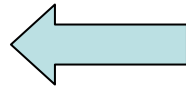
# מערכת החושים

- מערכת שכוללת תאי חישה המגיבים לגירויים ספציפיים ומעבירים מידע זה לאזורים שונים במוח, שם האותות נקלטים ומעובדים.



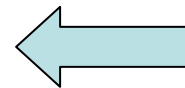


# קלט, עיבוד, פלט



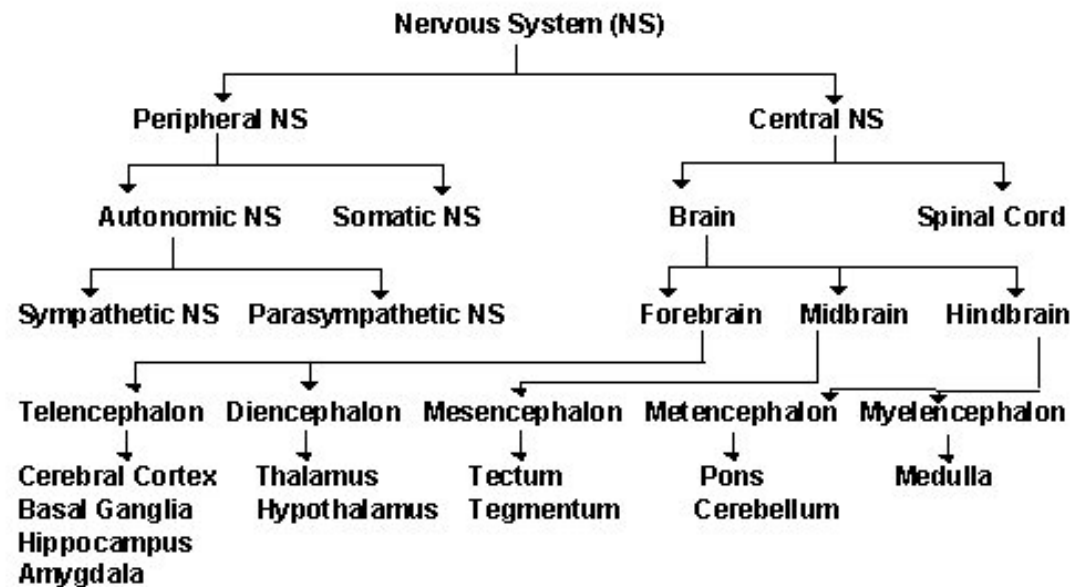
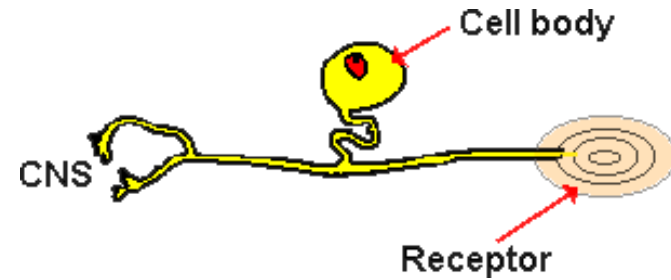
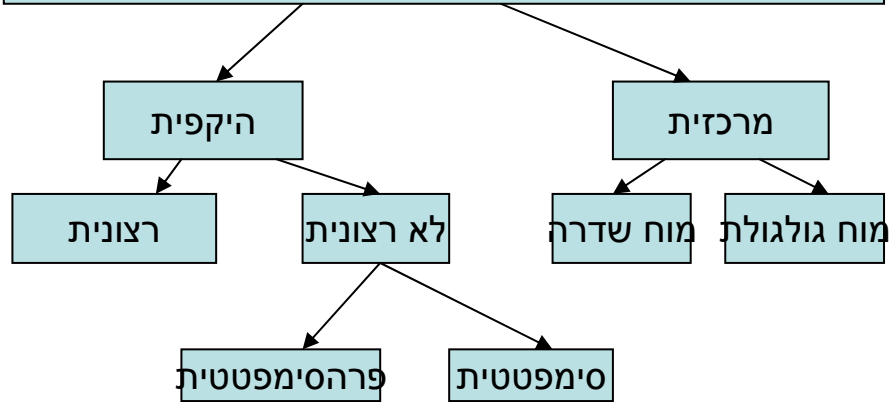
- Spinal cord
- Cerebellum
- Diencephalon
- Pons
- Medulla Obongata
- Midbrain
- Cerebral hemisphere

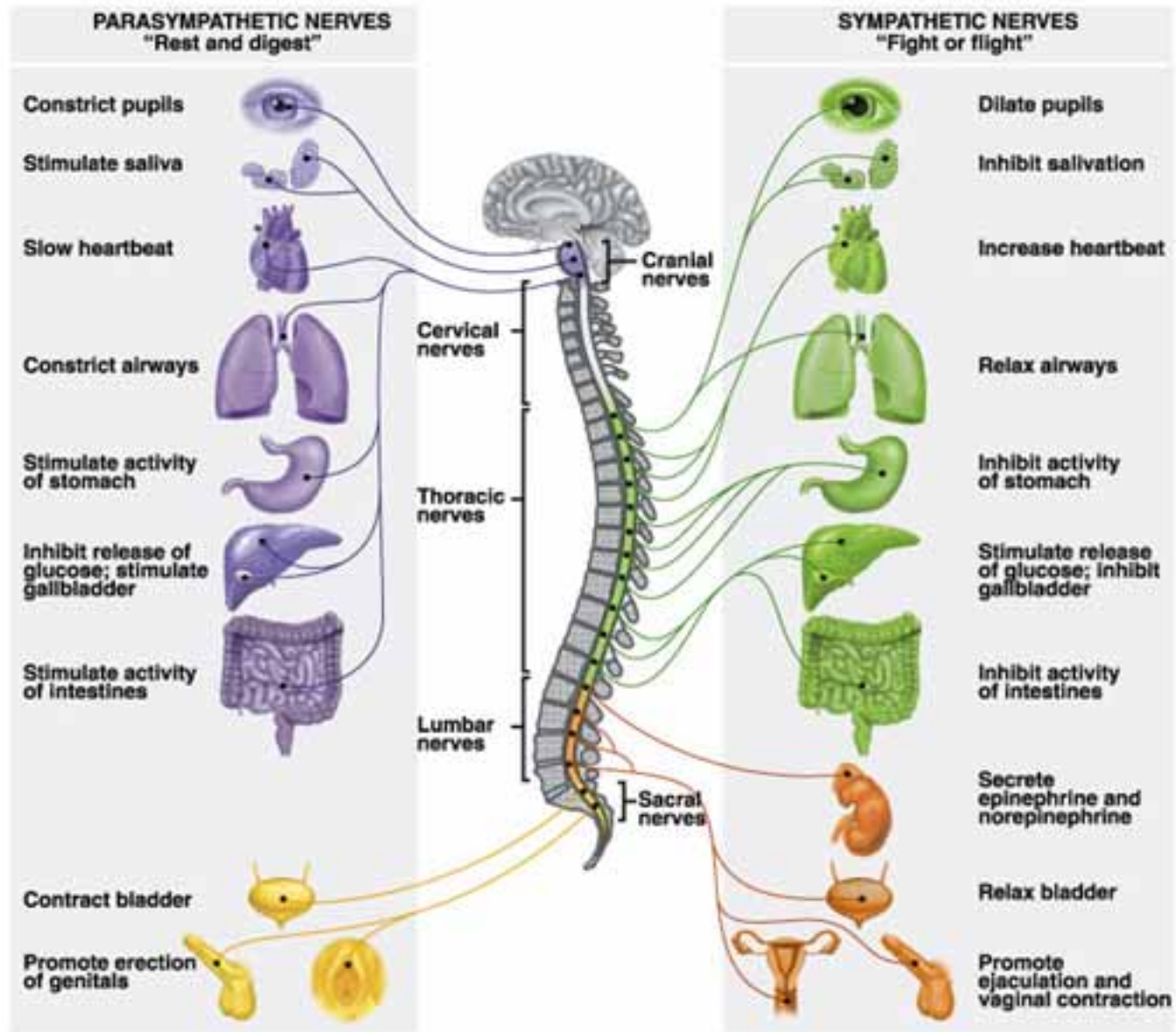
ADAM





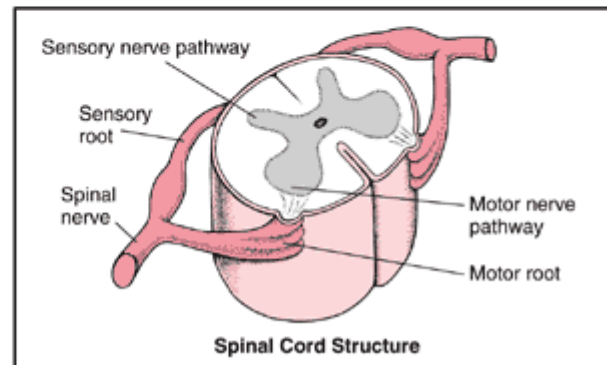
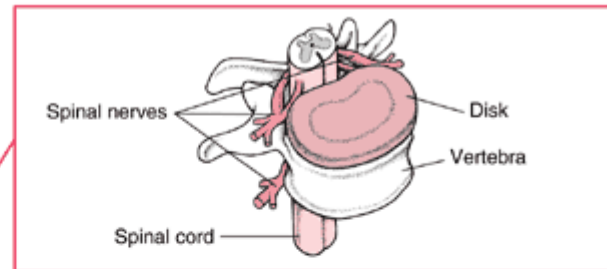
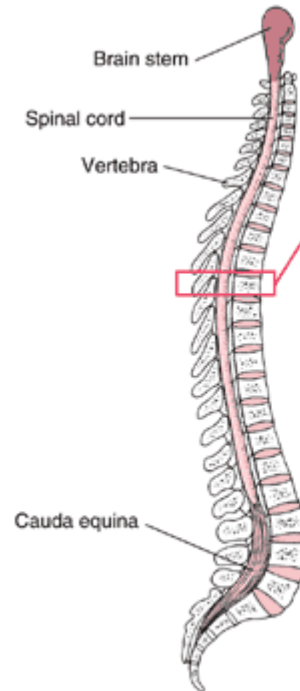
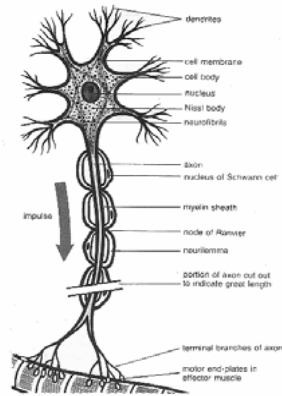
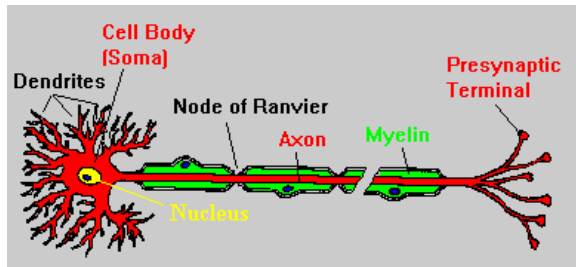
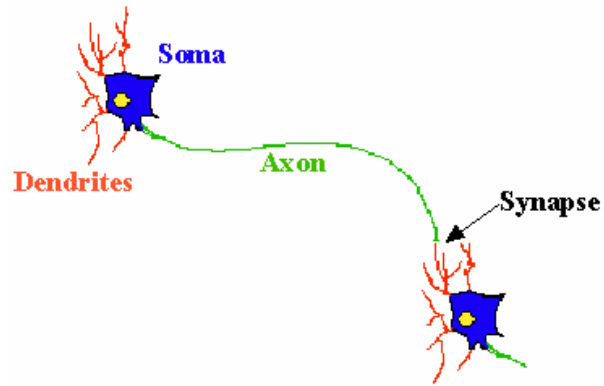
# מערכת העצבים







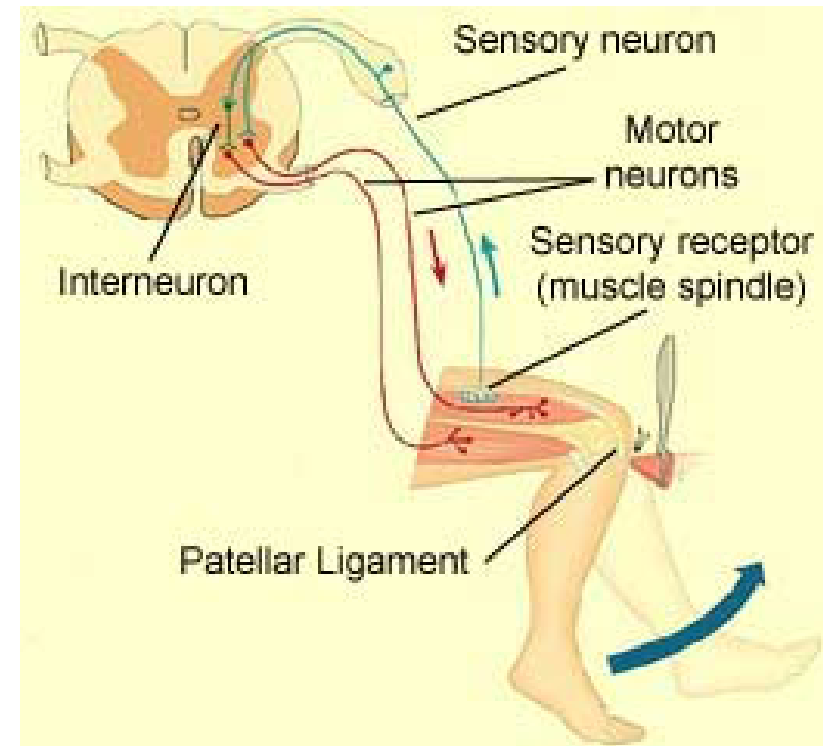
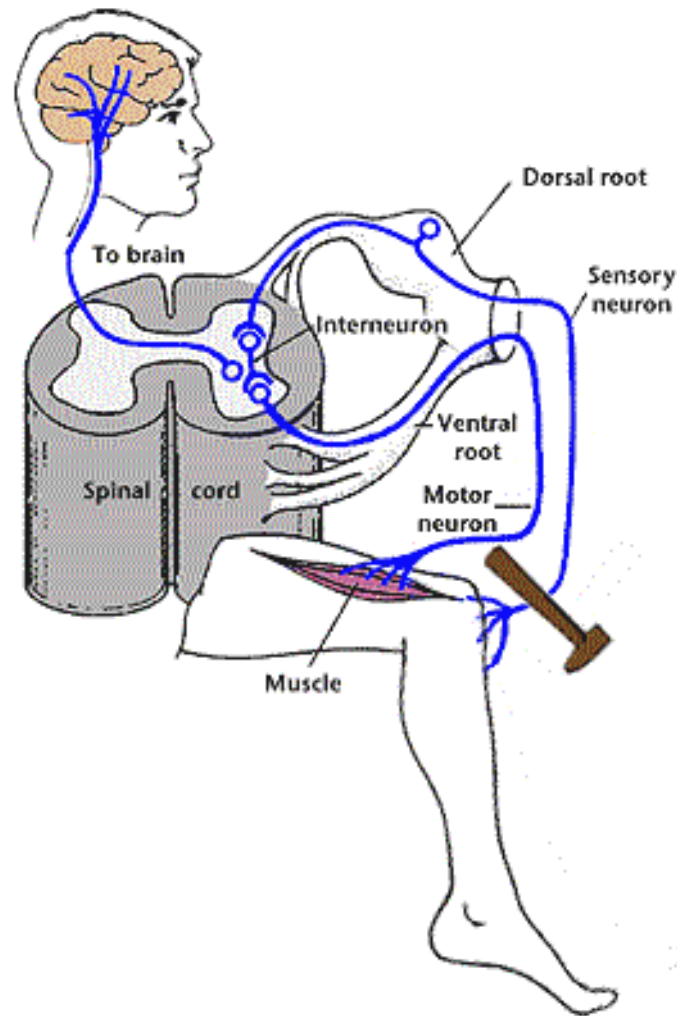
# השחקנים



Spinal Cord Structure

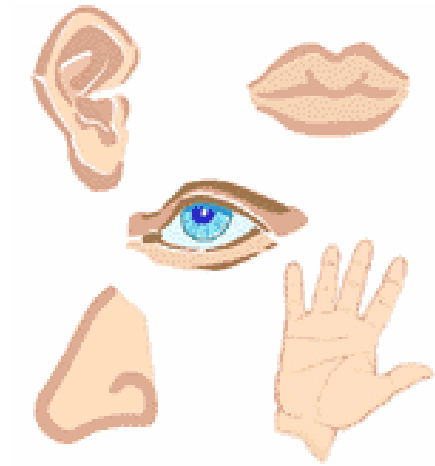


# איך זה עובד?





# כמה חושים יש?



1. ראייה (sight, Vision)
2. שמיעה (Hearing \ Auditory)
3. טעם (Taste \ gustatory)
4. ריח (smell \ olfaction)
5. מישוש (Touch \ tactition)

- ועוד.... (מגנטי, ש"מ, שדות חשמלים, החזר קולות, פרופריוספציה....)





# חשיבות החושים



**אדם**



ריח

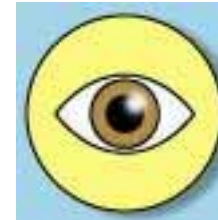
**כלב**



שמיעה



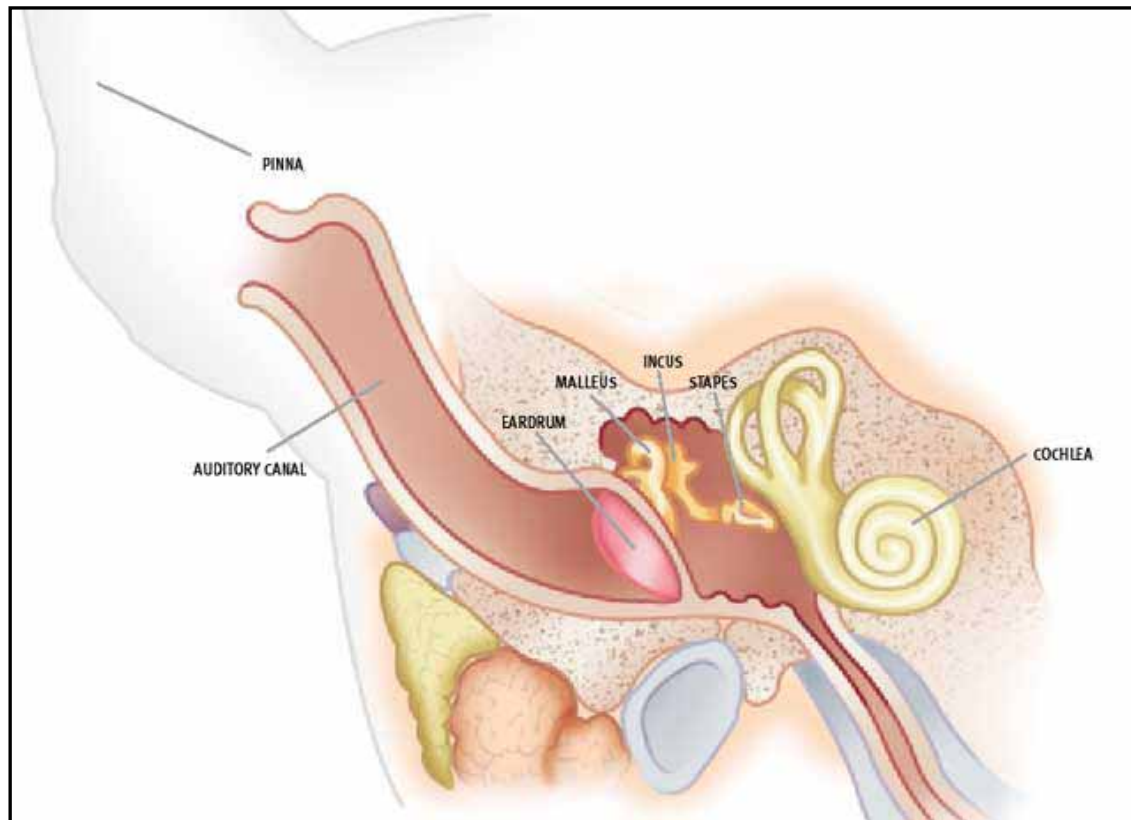
ראיה





# חוש השמיעה ושיווי המשקל

## • מבנה האוזן



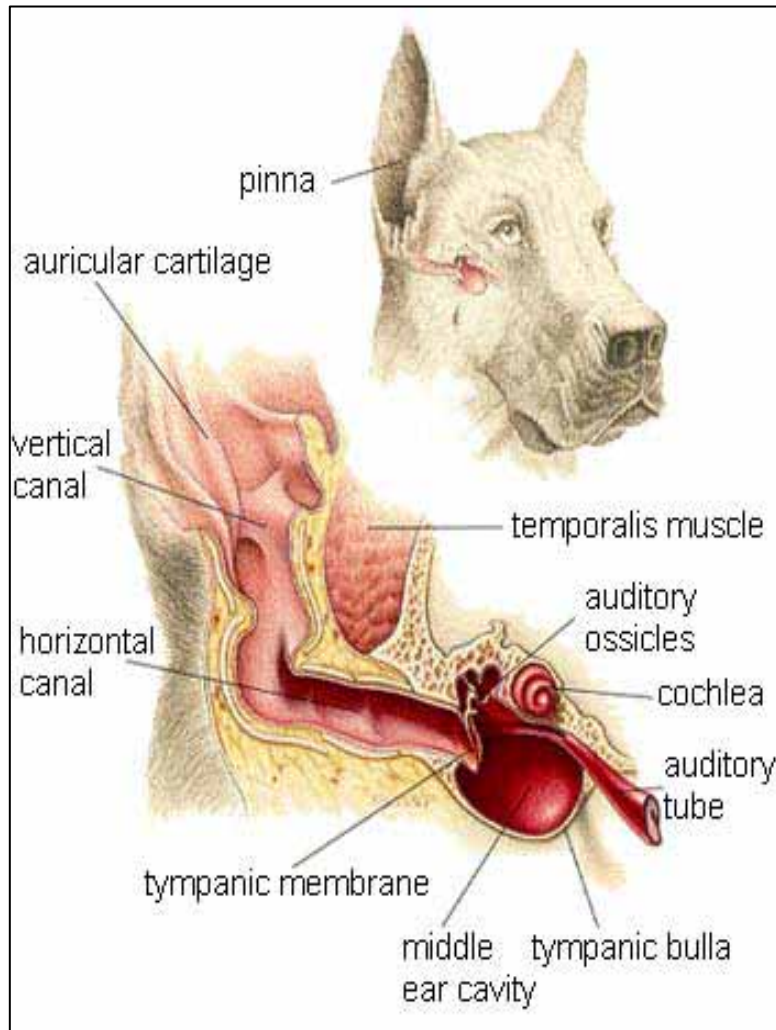
אוזן חיצונית- External Ear

אוזן תיכונה- Middle Ear

אוזן פנימית- Inner Ear



# מבנה האוזן



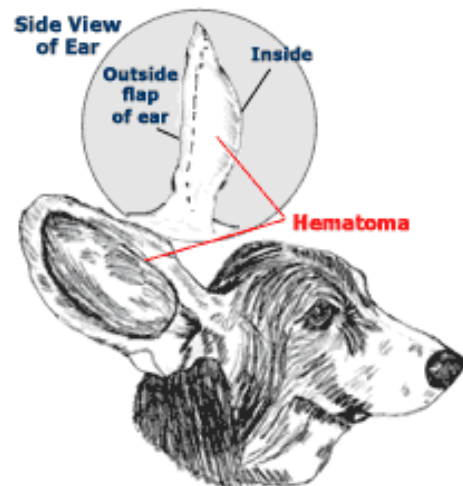
• אוזן חיצונית

▪ אפרכסת

▪ תעלת השמע



# Aural-Hematoma



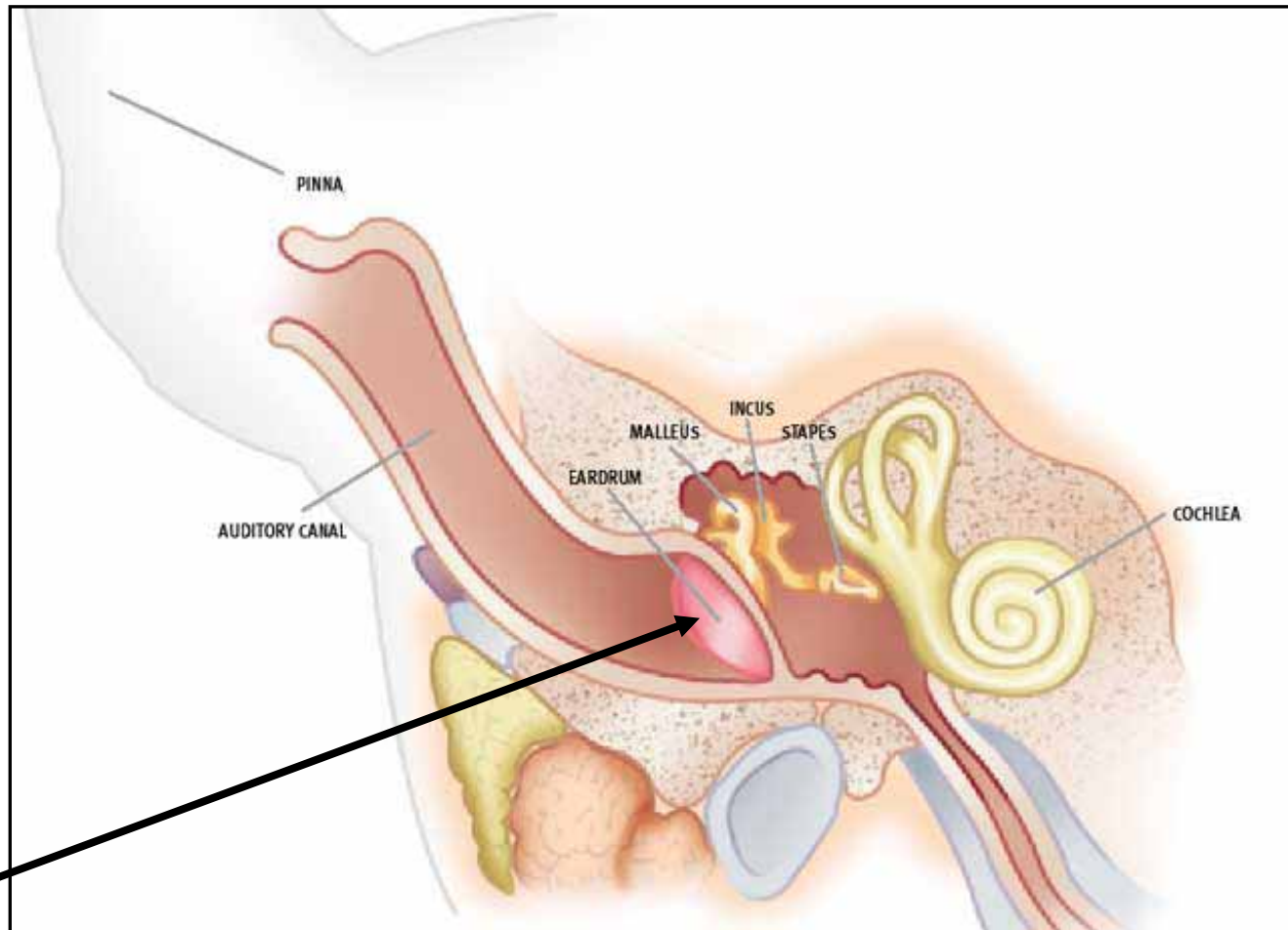


# Aural-Hematoma



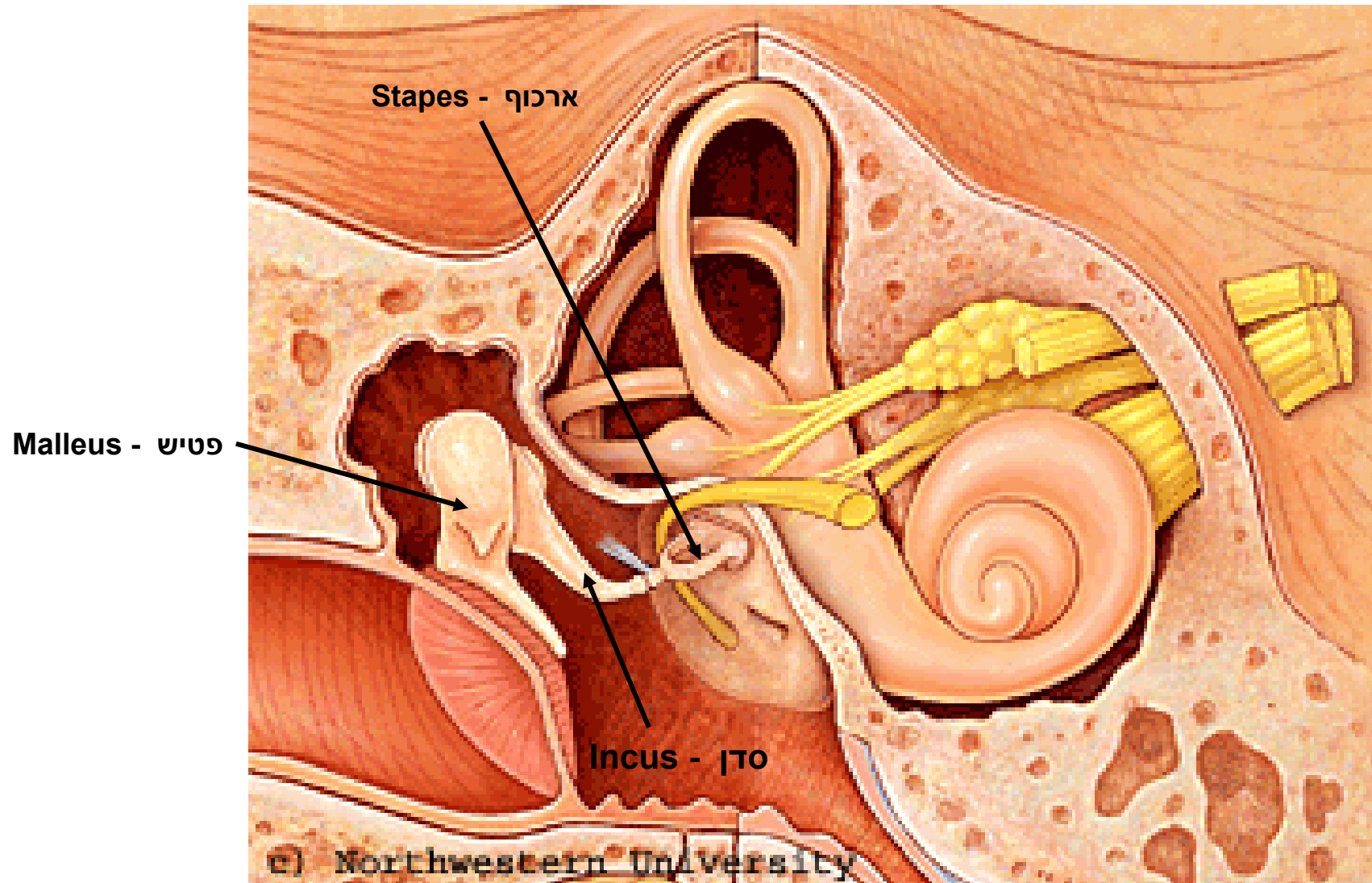


# עור התוף – Tympanic membrane





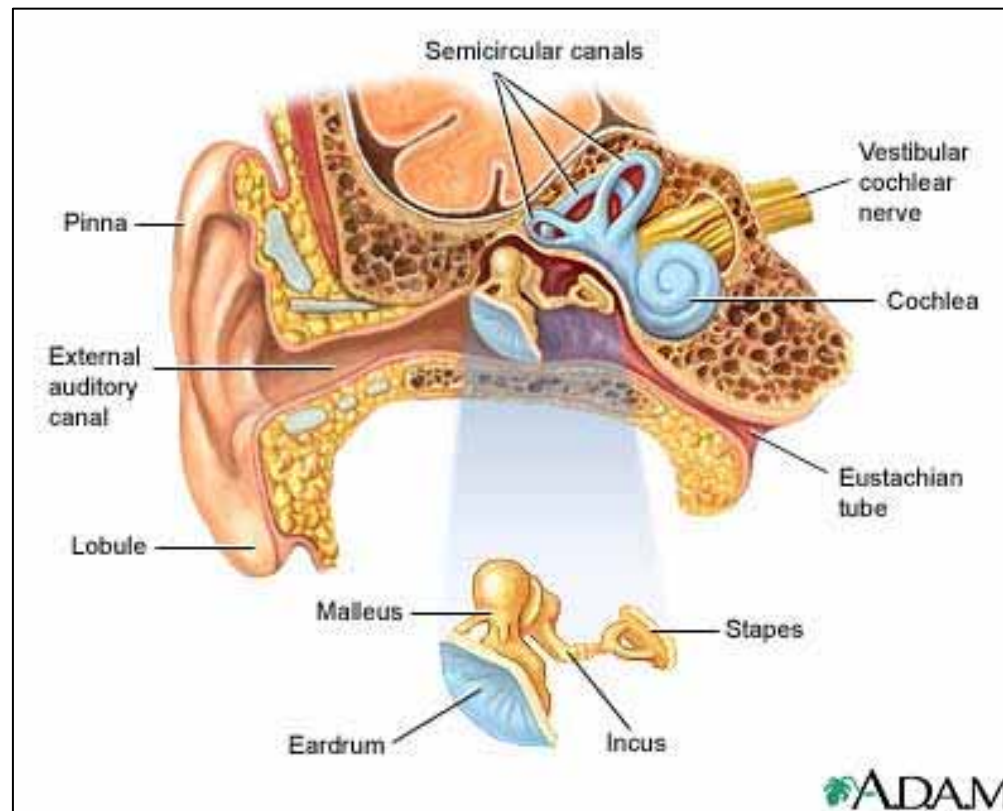
# האוזן התיכונה





# האוזן הפנימית

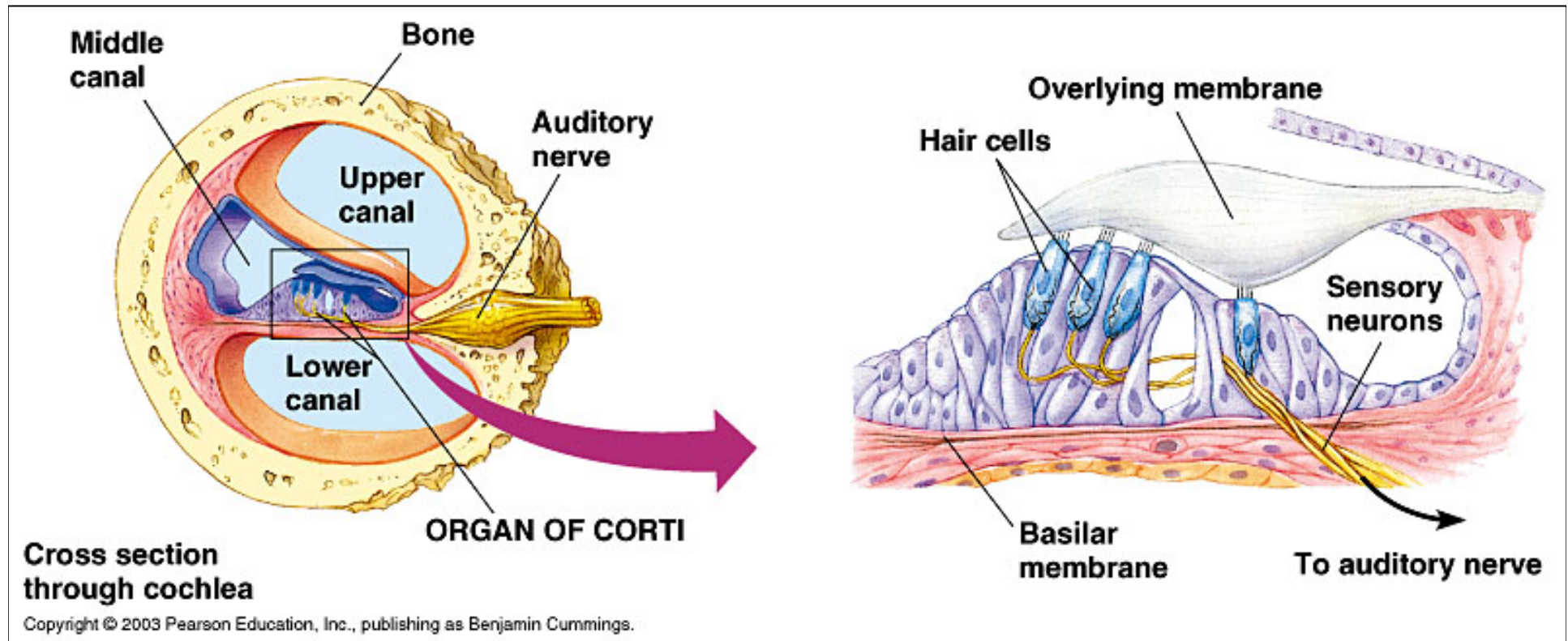
- Cochlea שבלול – איבר שמיעה
- Semicircular canals - שיווי משקל תוך כדי תנועה
- Vestibule – אוריינטציה של הגוף במרחב





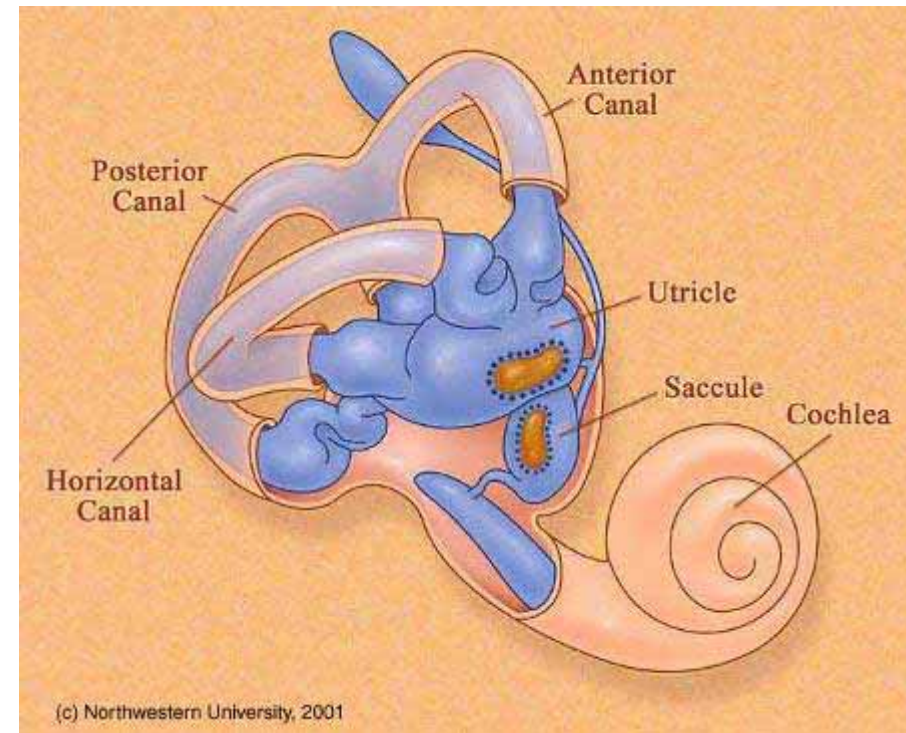
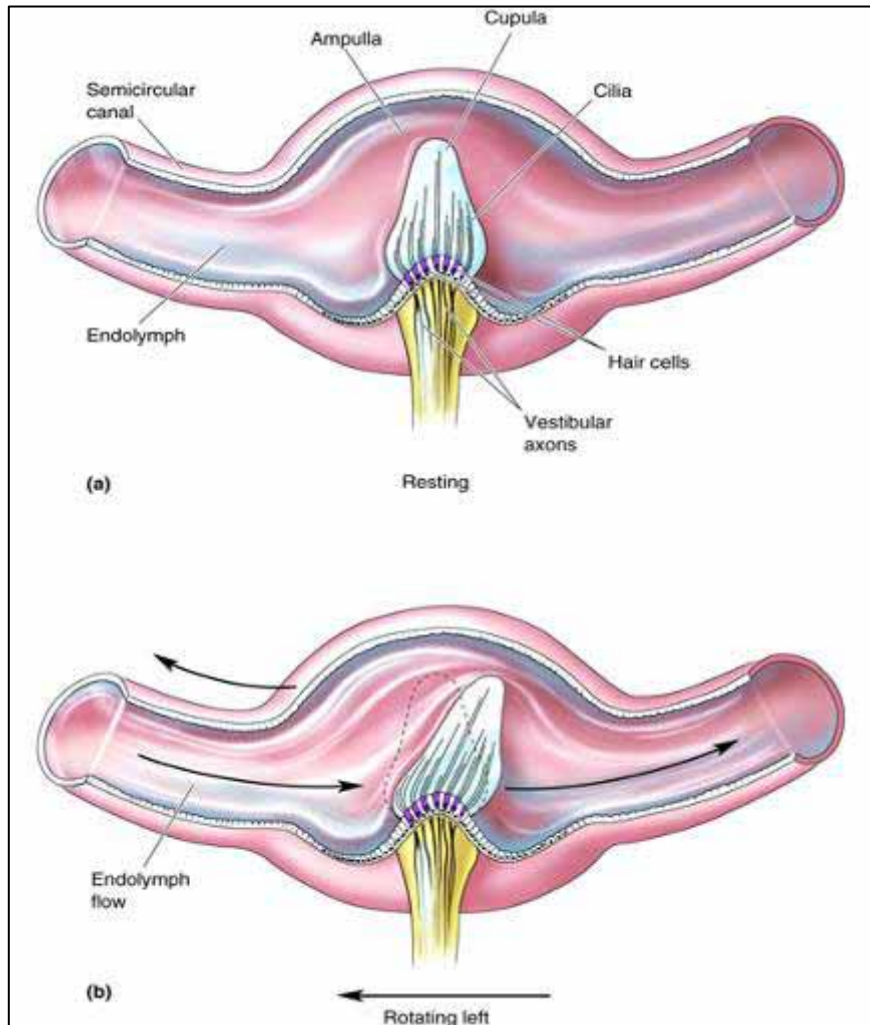


# איבר קורטי - שמיעה



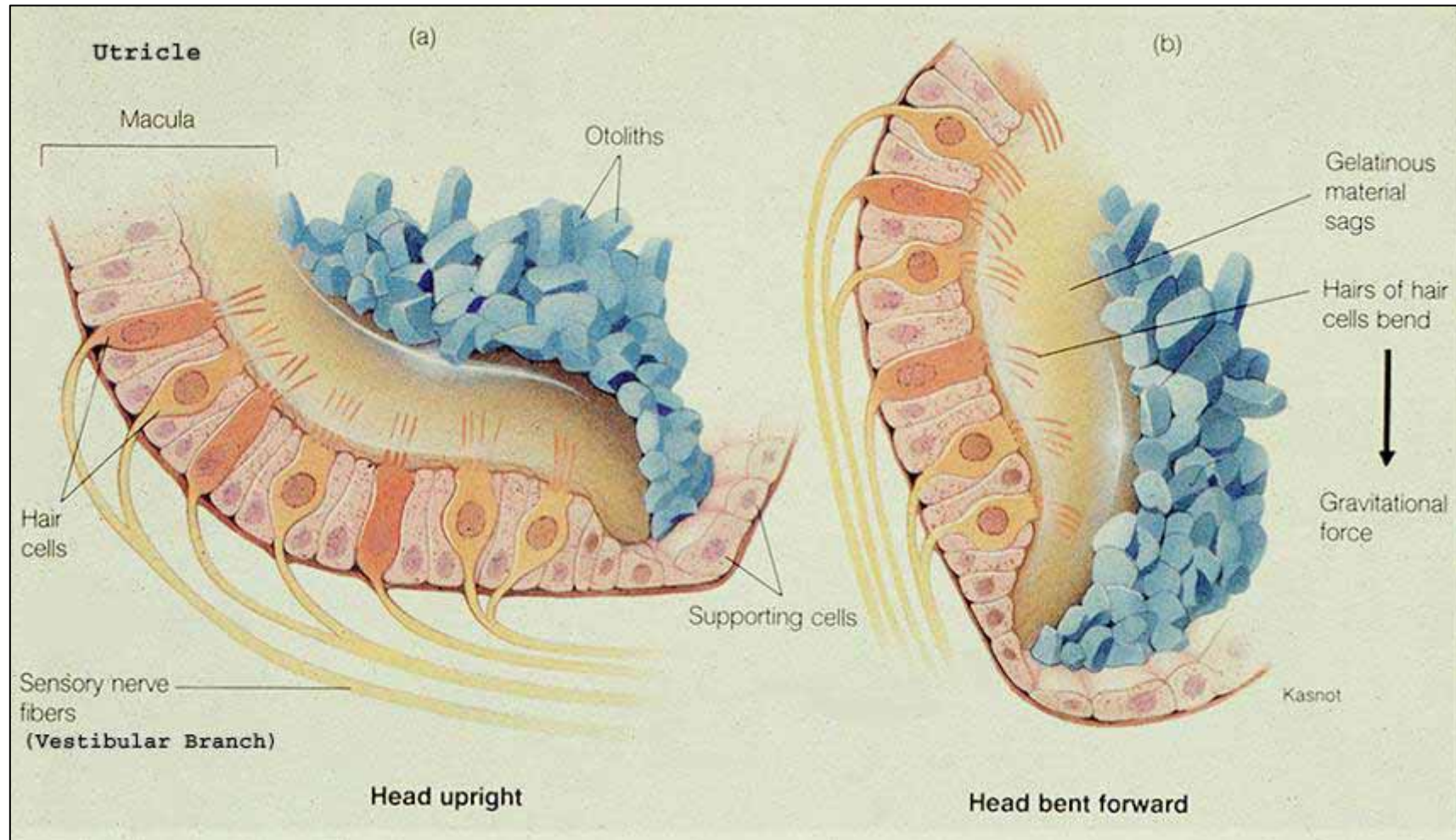


# שיווי המשקל



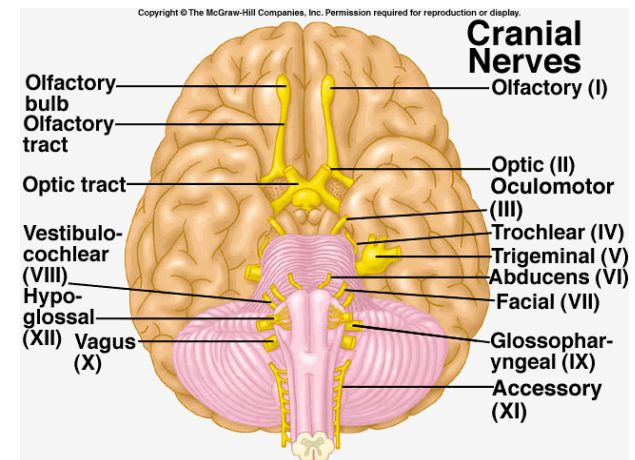
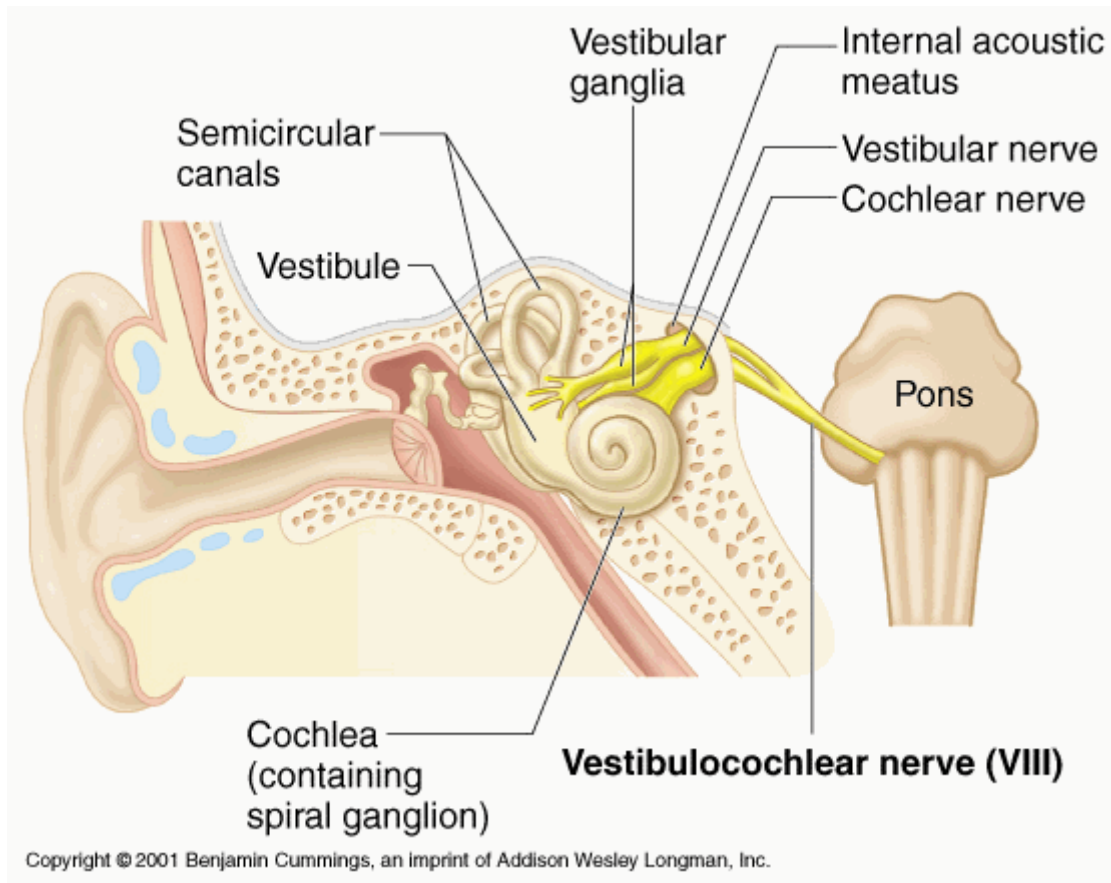


# שיווי המשקל





# עצב השמע ושיווי המשקל



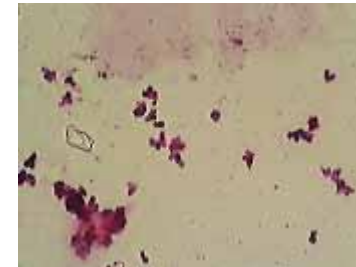


# בעיות אזניים

## • דלקת באוזן החיצונית – Otitis Externa



Otodectes



malassezia





# Head tilt

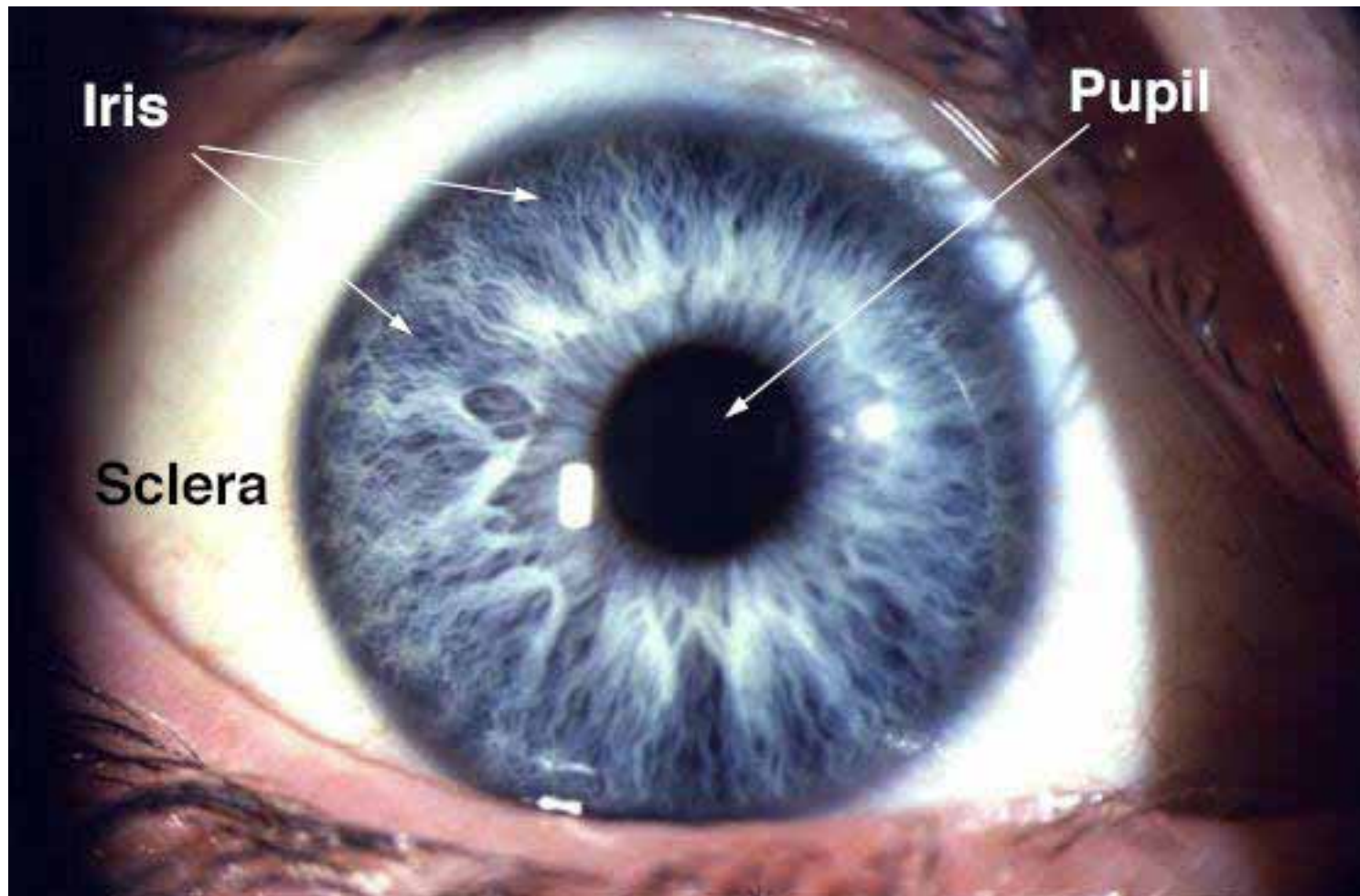


• בעיות שיווי משקל



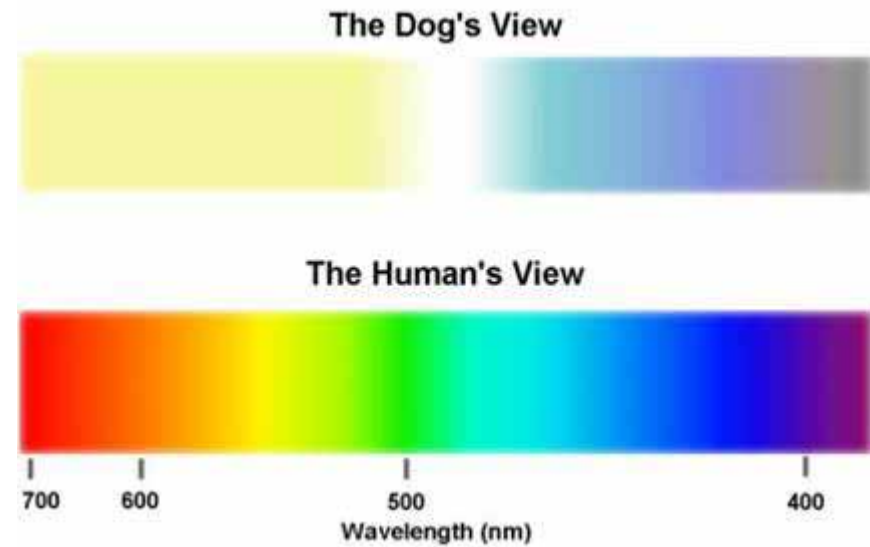


# ראייה - Vision





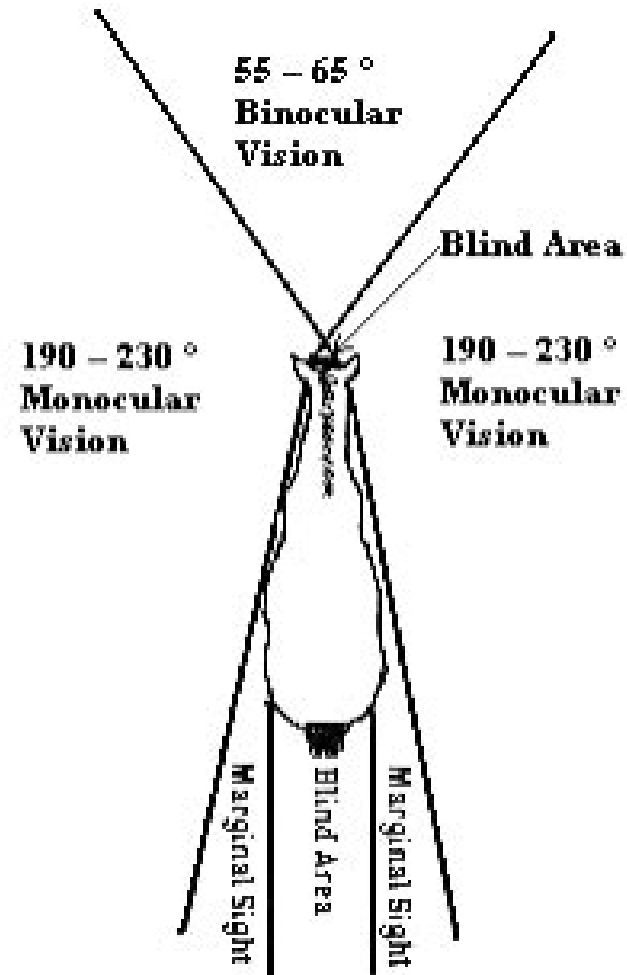
# ראייה - Vision





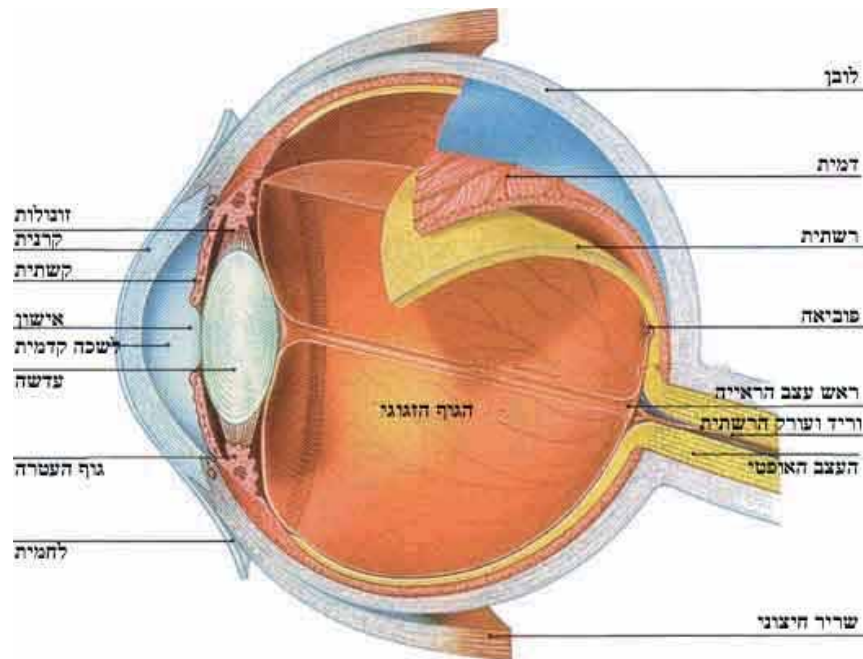


# שדה ראייה

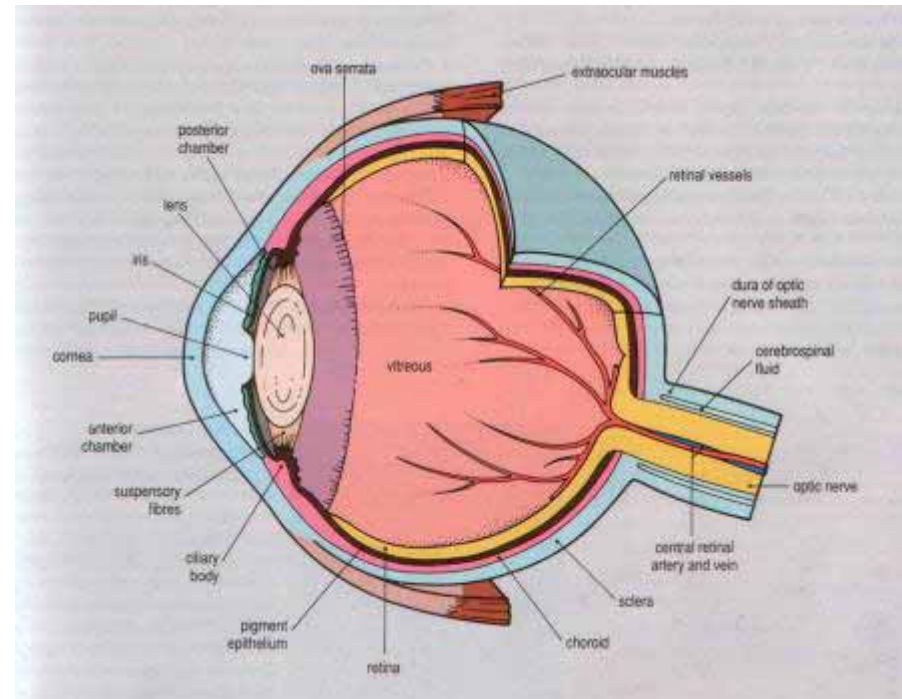


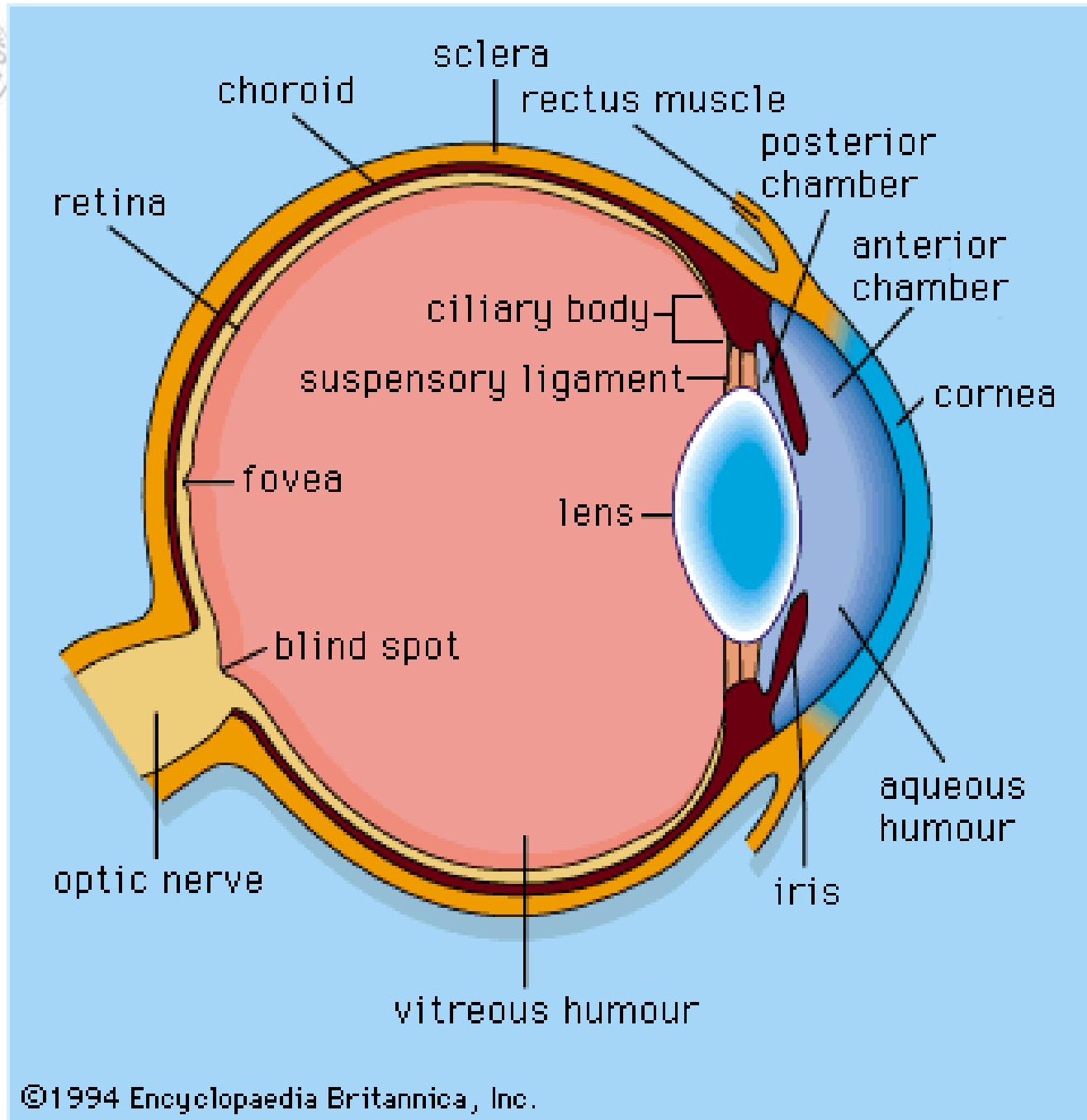


# אנטומיה של העין



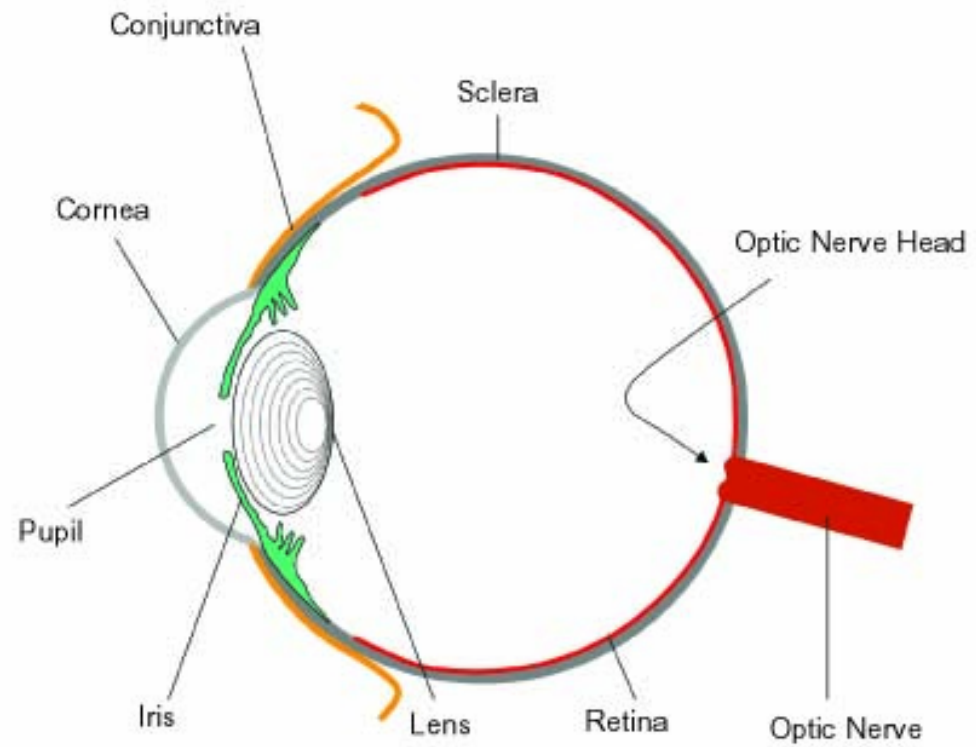
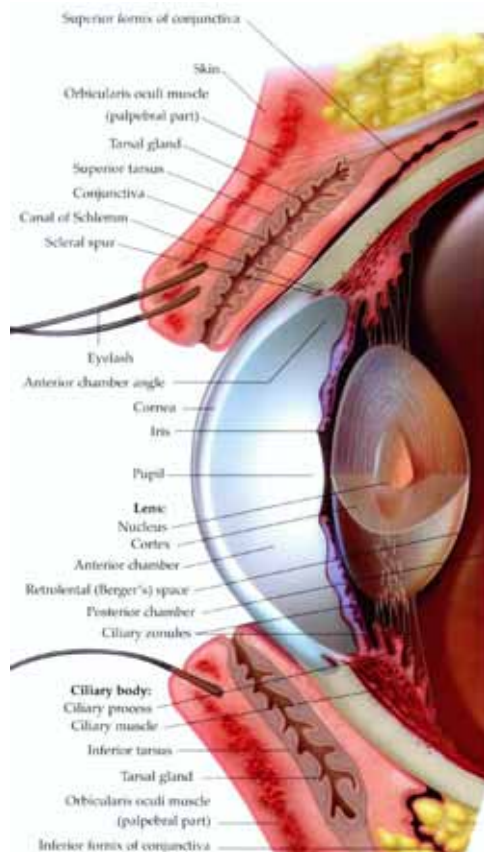
- Retina – רשתית
- Choroid – דמית
- Sclera - לובן







# הקרנית - Cornea



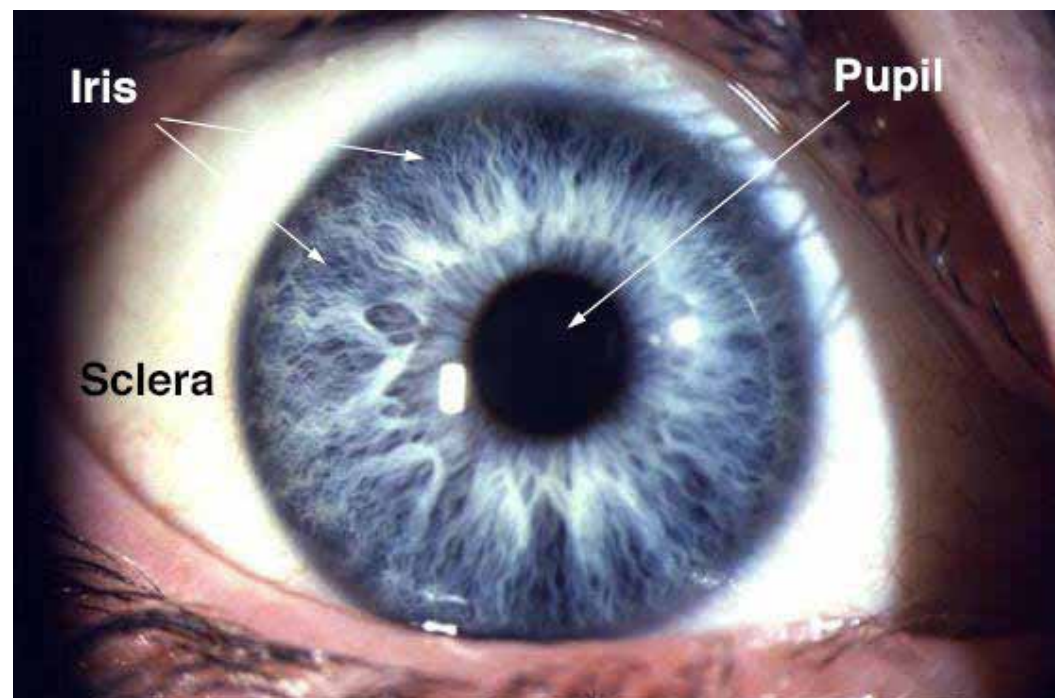
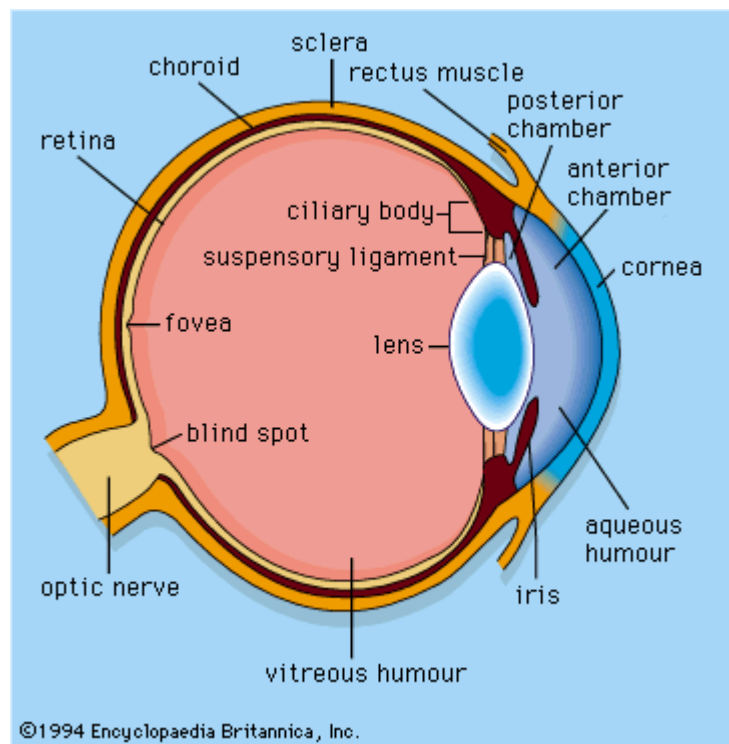


# כיב קרנית





# הקשתית (Iris) והאישון





# תגובת אישון PLR

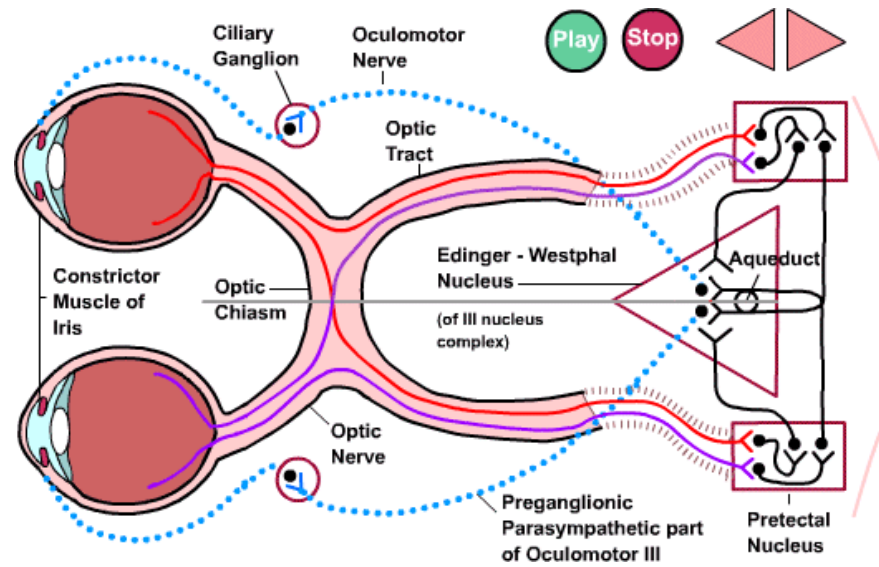
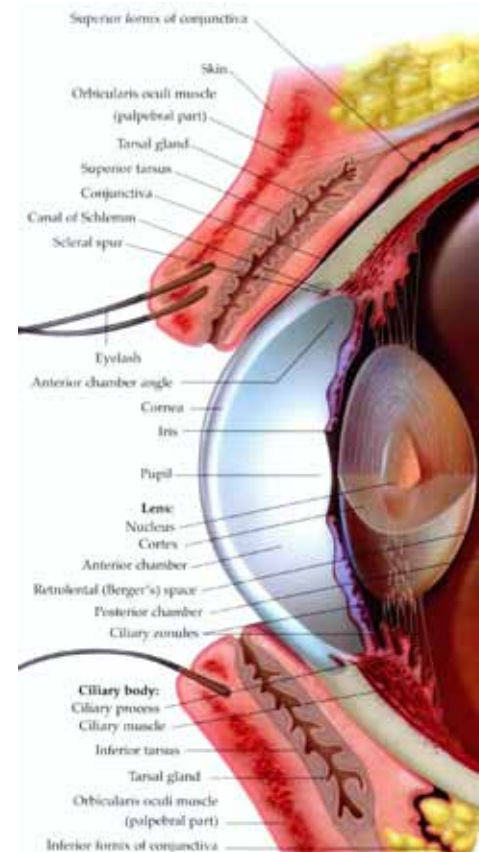
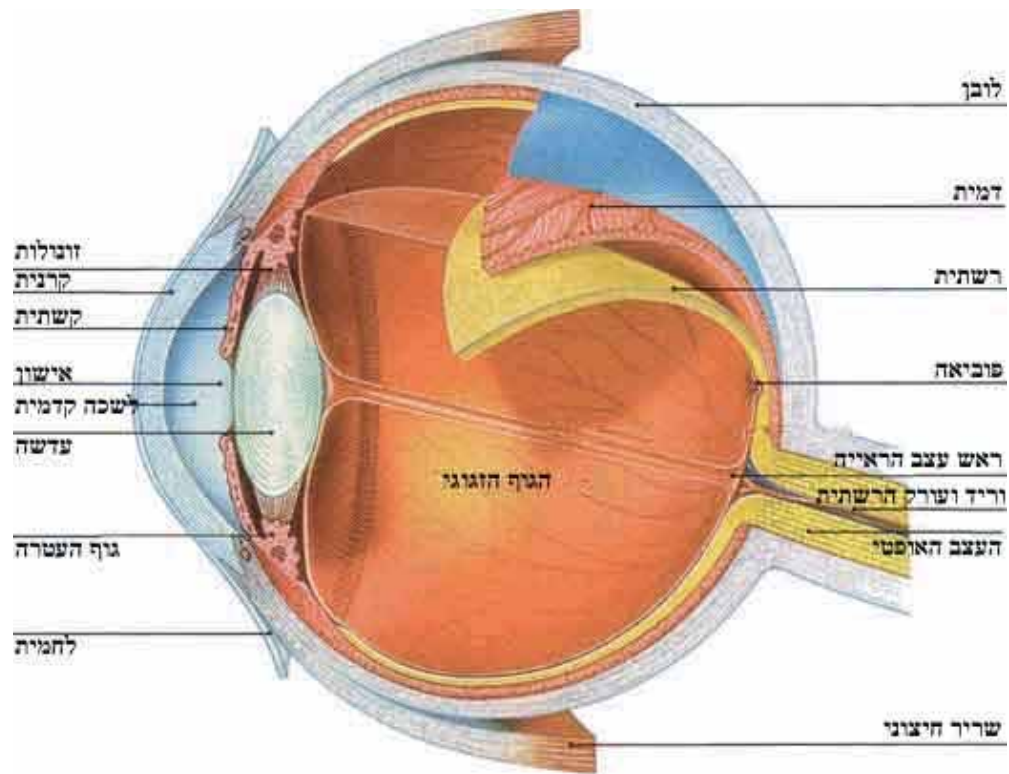


Figure 3: The pupillary light reflex





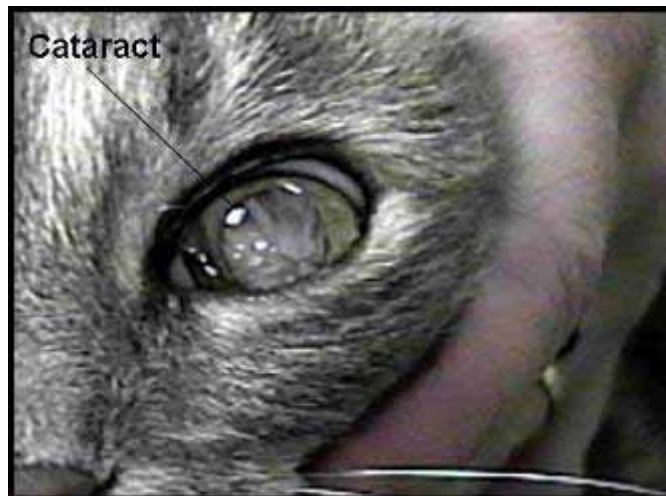
# עדשה - Lens







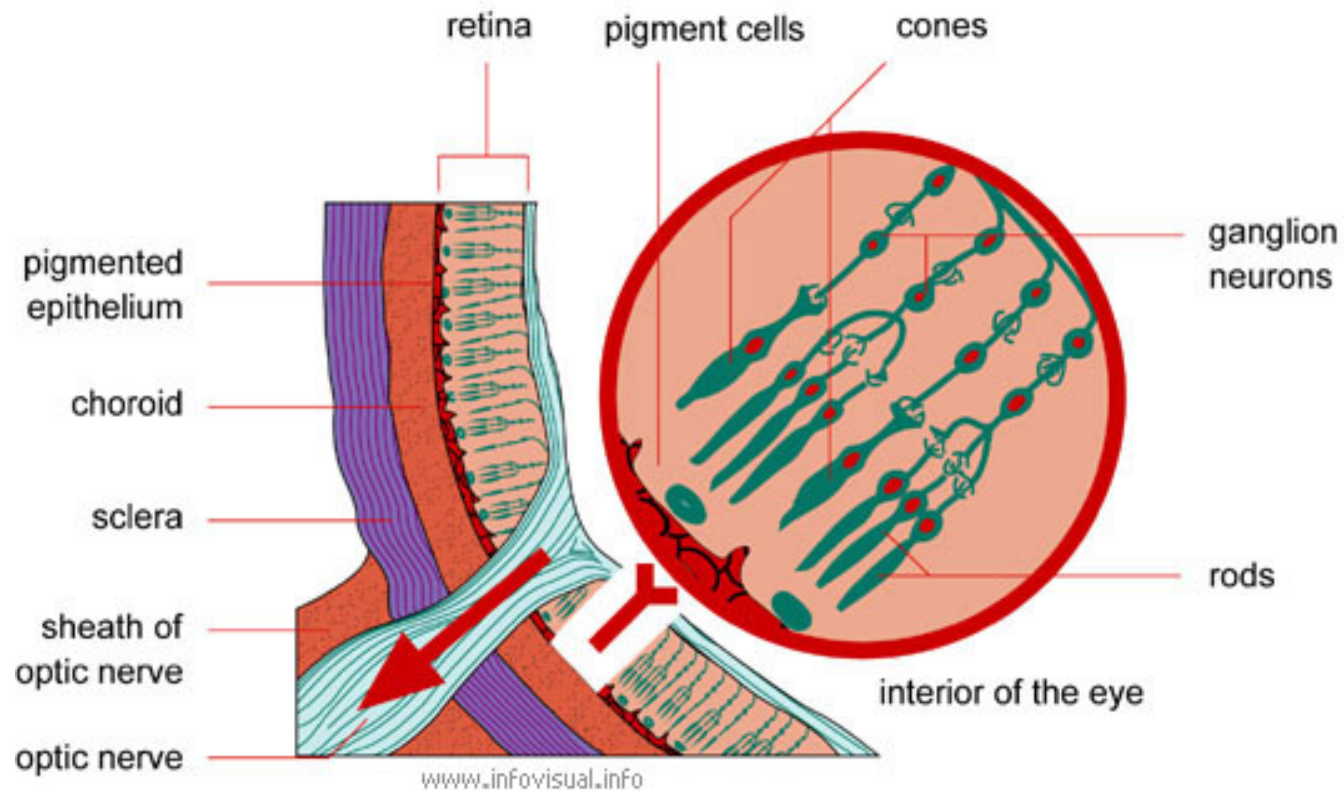
# קטרקט – עכירות העדשה





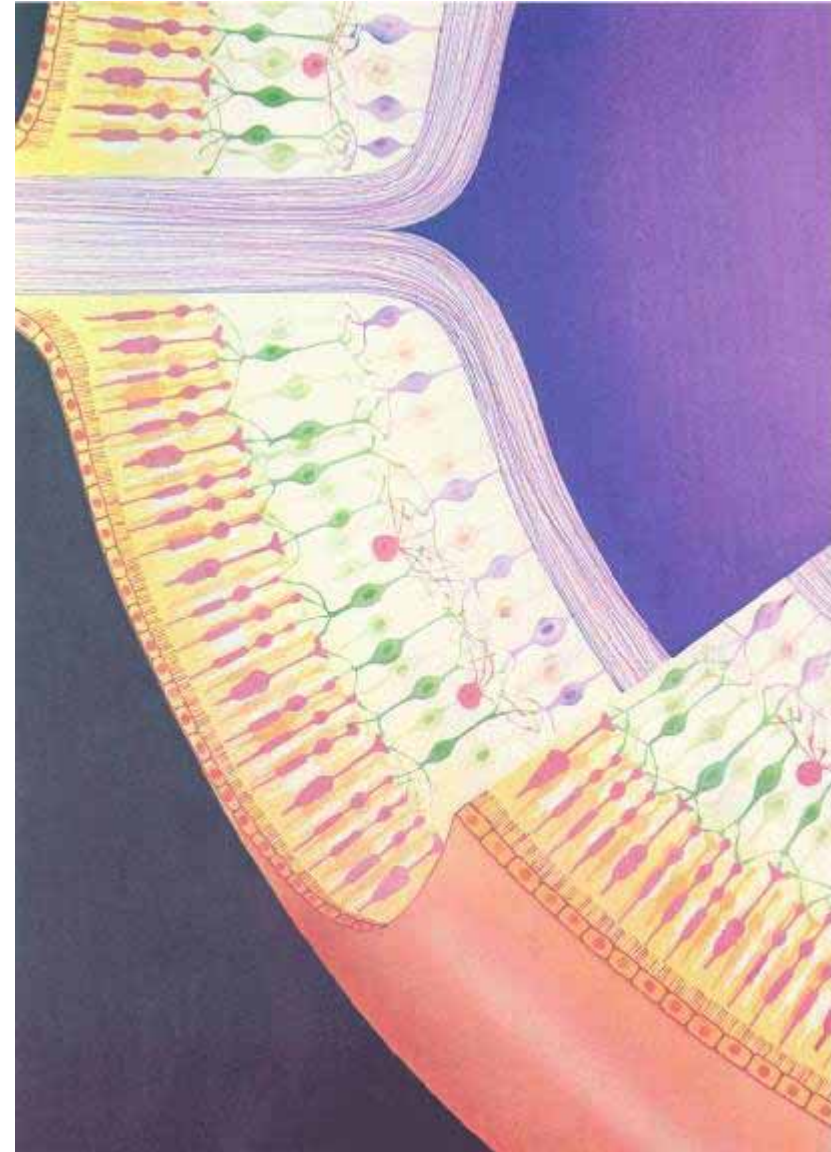
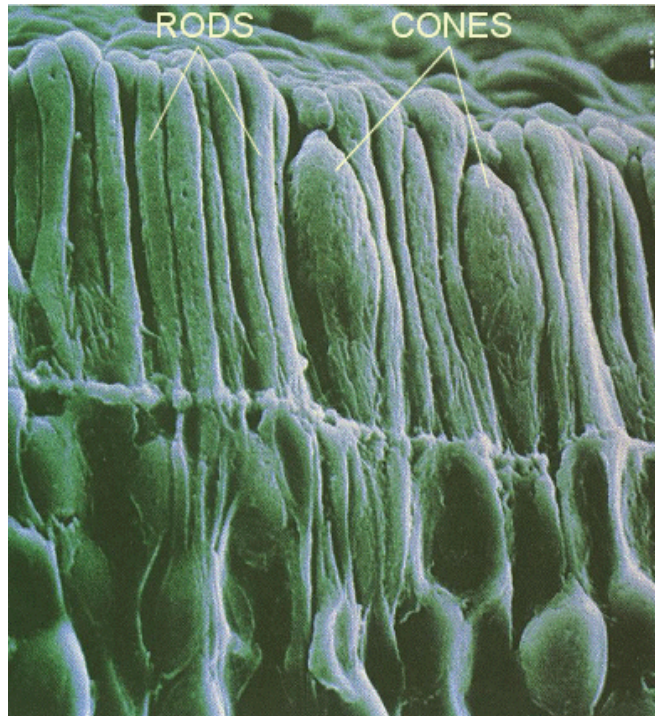
# רשתית ועצב הראיה

## STRUCTURE OF THE POSTERIOR PART OF THE EYE



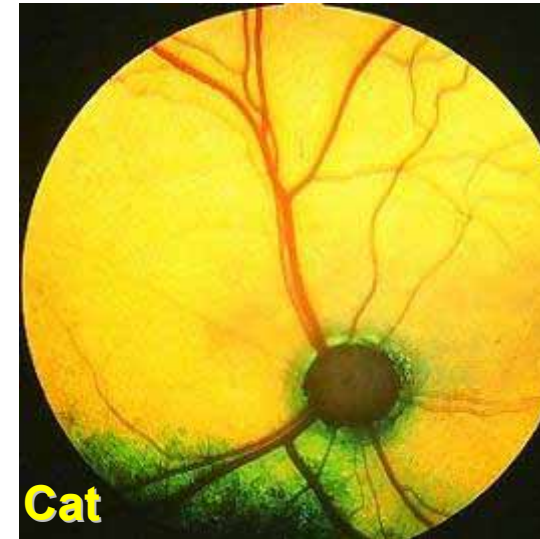
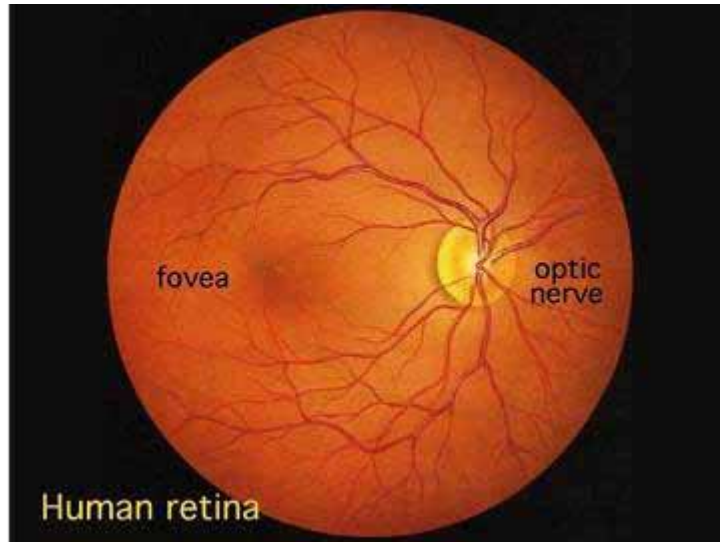


# הרשתית





# הרשתית

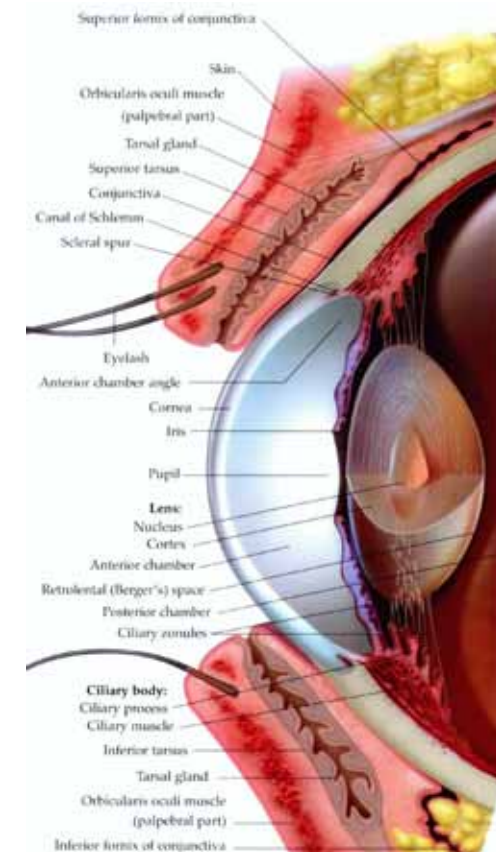
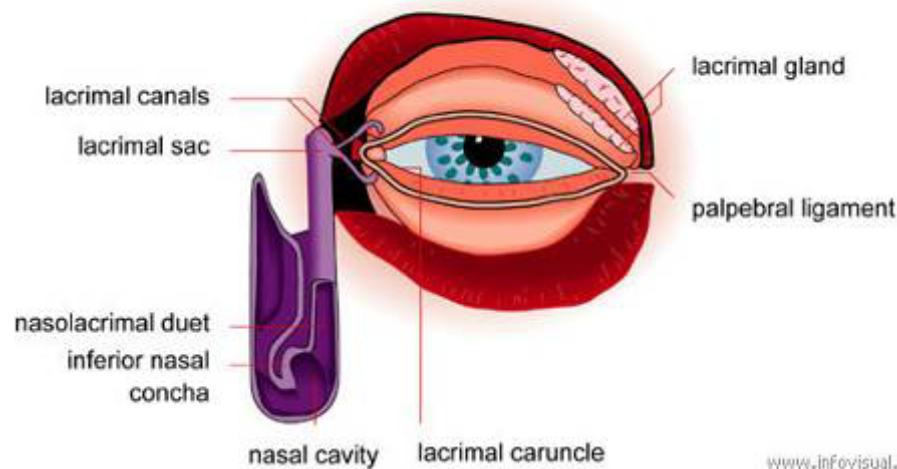




# לחמית, דמעות ועפעפיים



## LACRIMAL APPARATUS





# Cherry eye

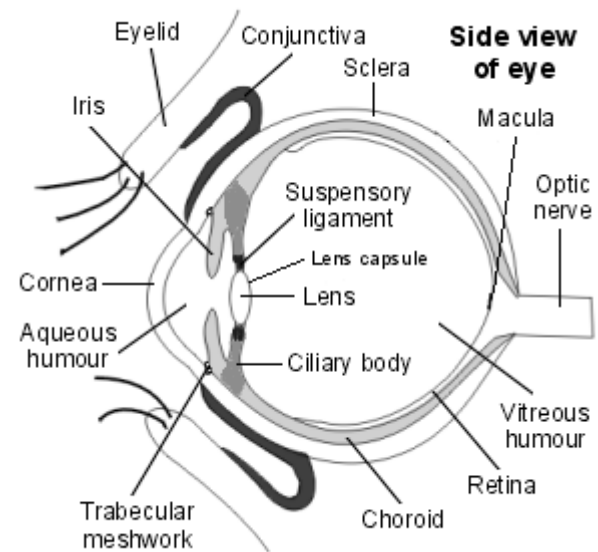
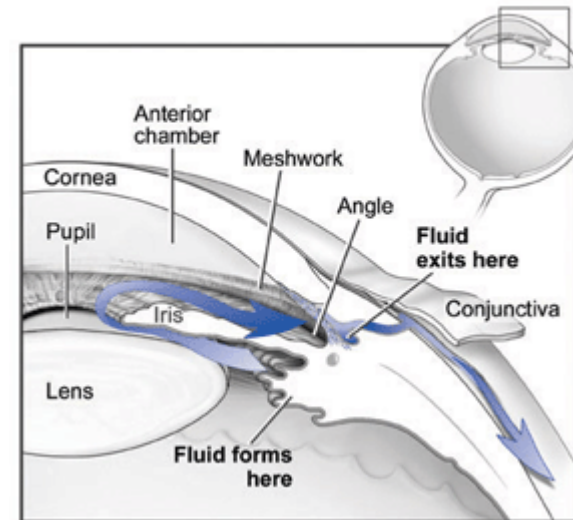




# גלאוקומה

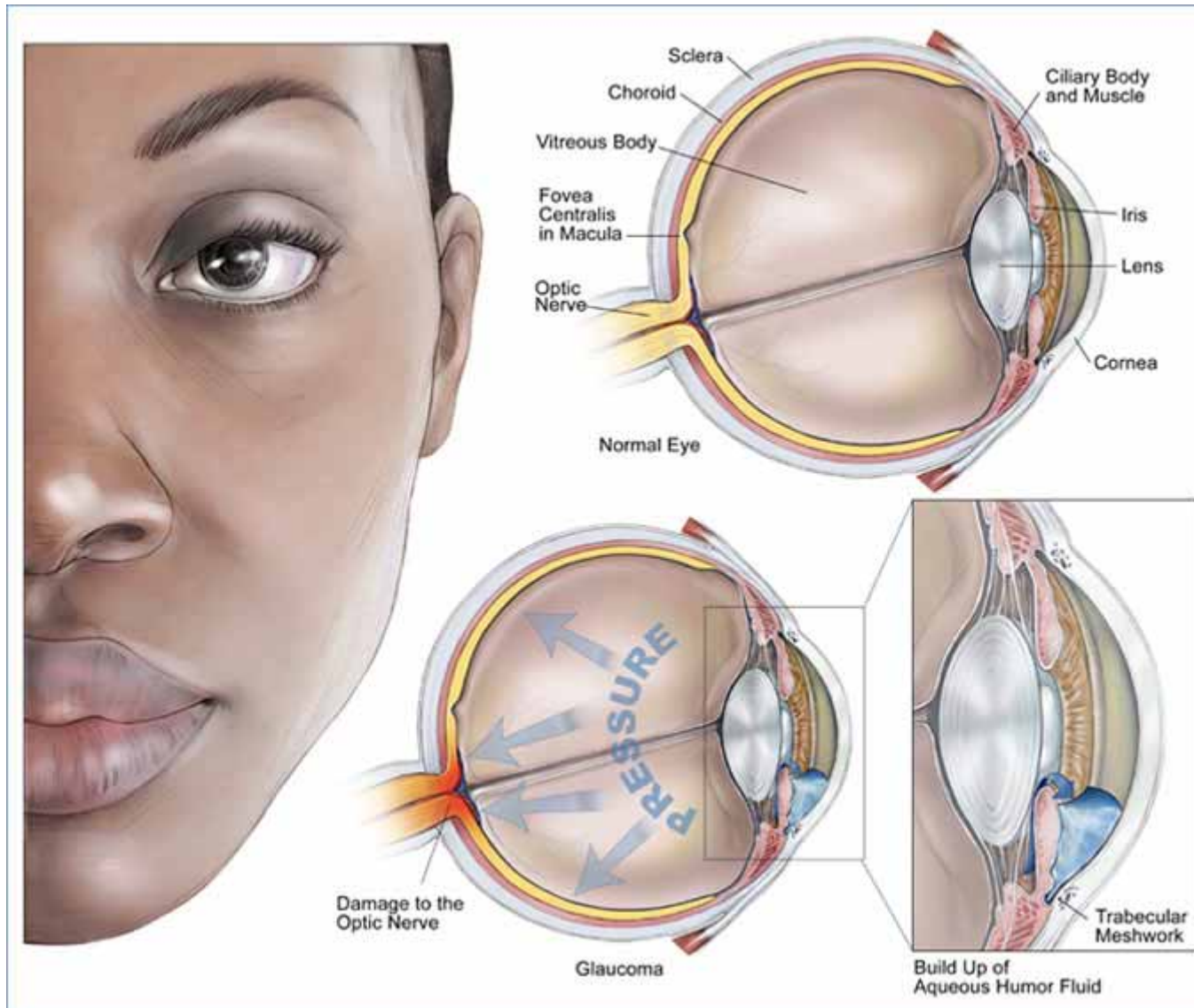


**Primary glaucoma with corneal edema, scleral injection, a mid-size and fixed pupil.**





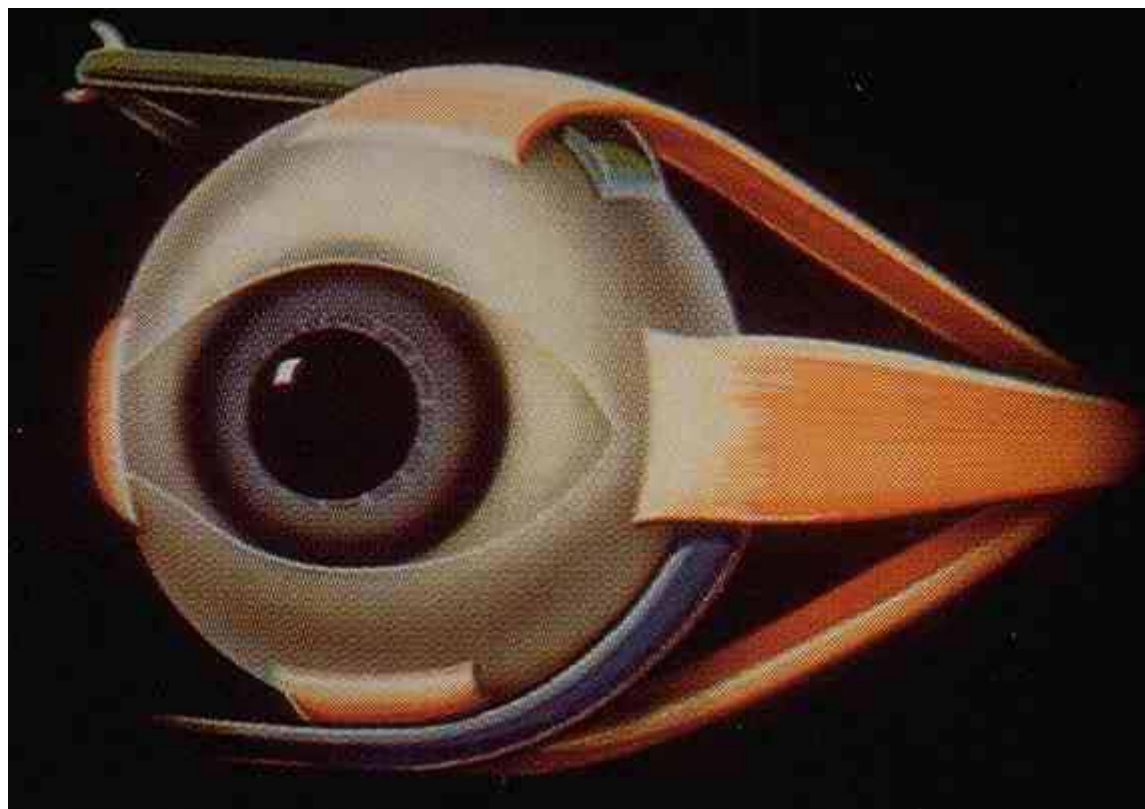
# גלאוקומה





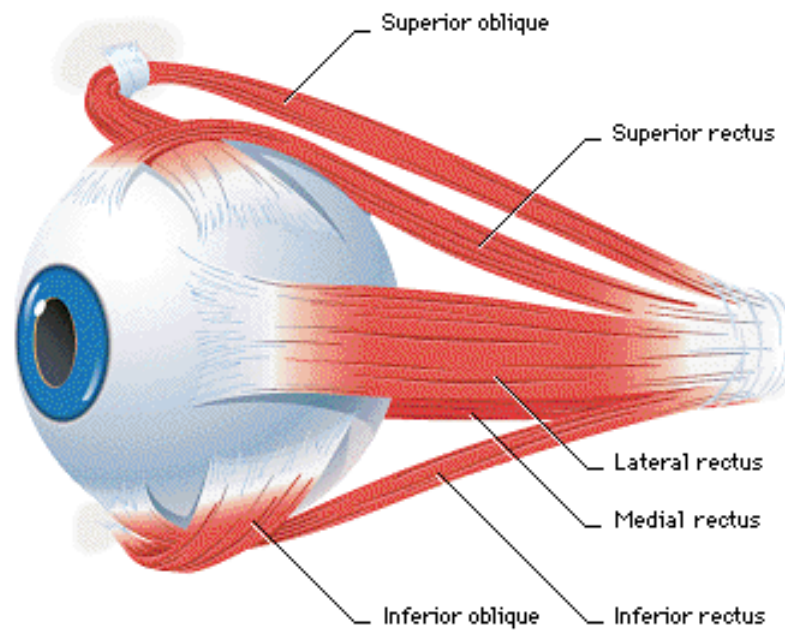


# שרירי העין

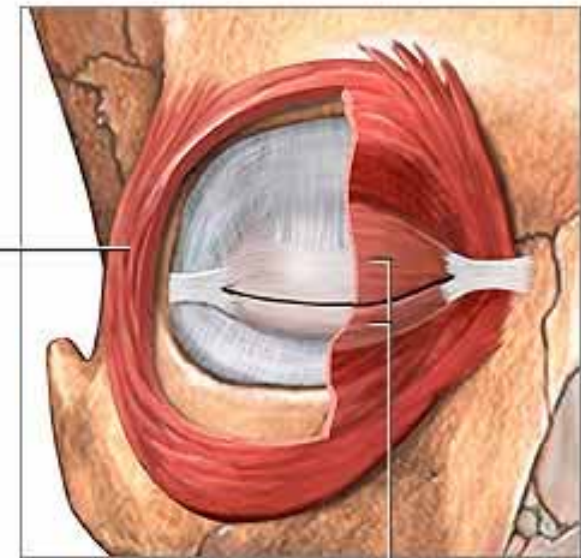




# שרירי העין



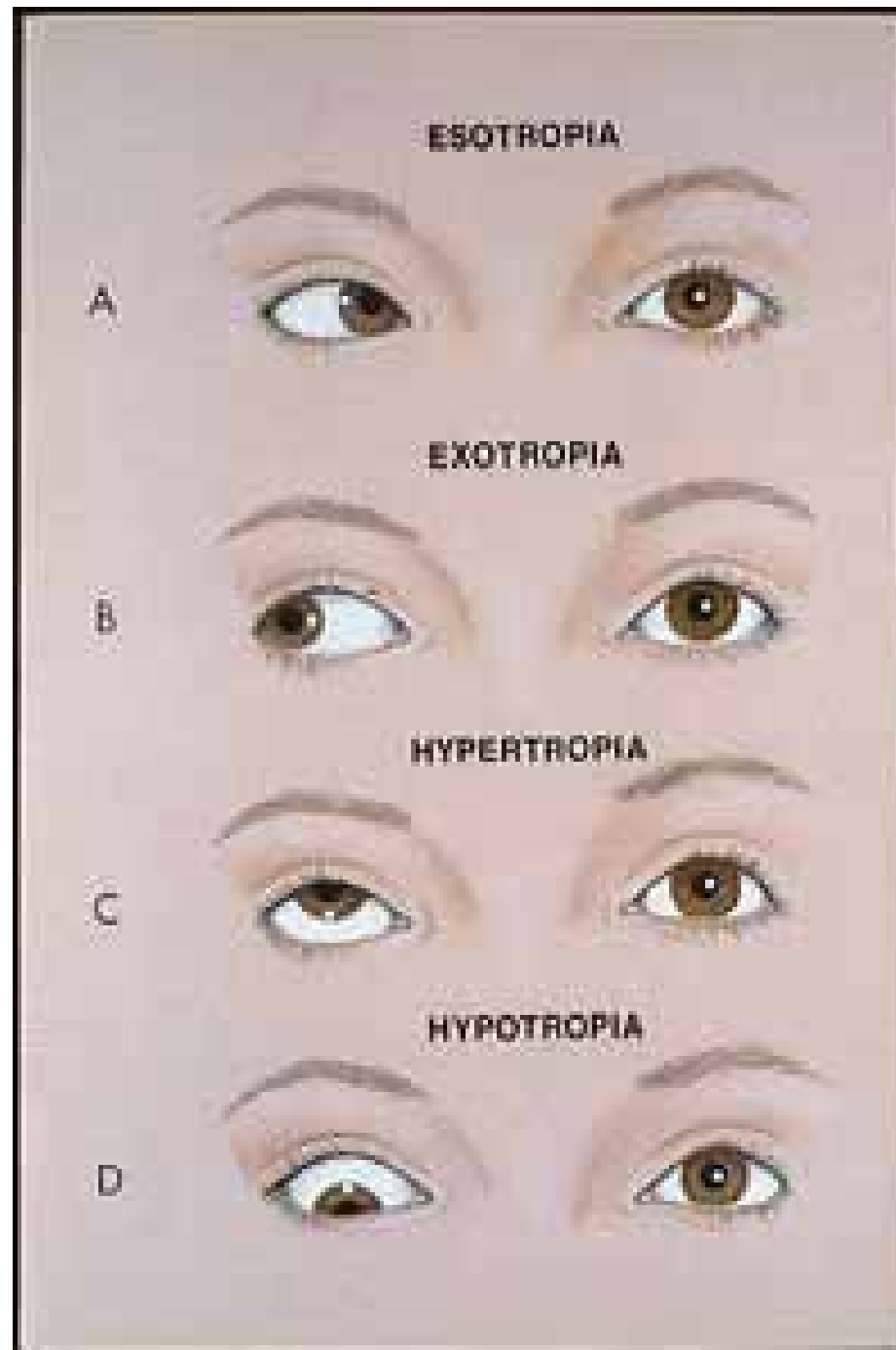
Orbicularis oculi  
(Orbital part)



Orbicularis oculi  
(Palpebral part)

Do you know what  
**strabismus**  
is?







# חוש הטעם





# חוש הטעם

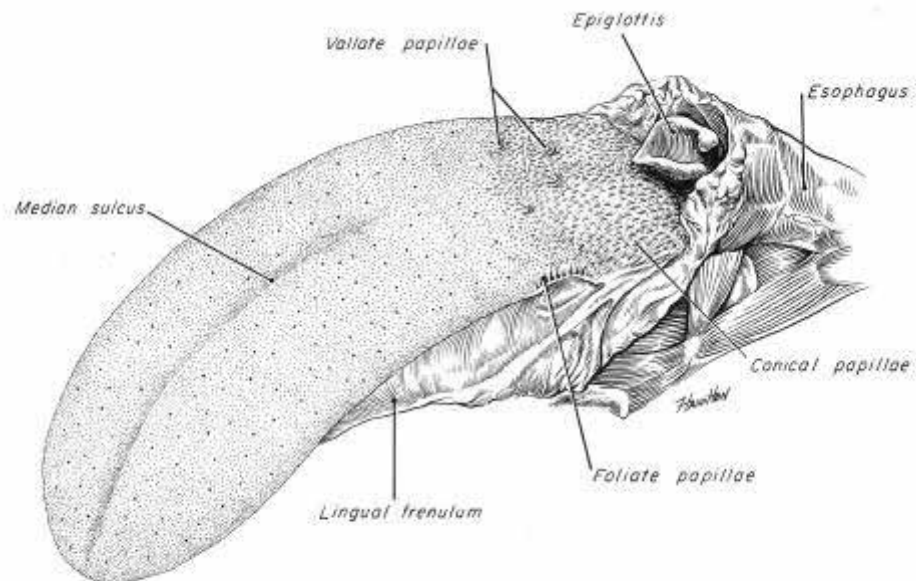
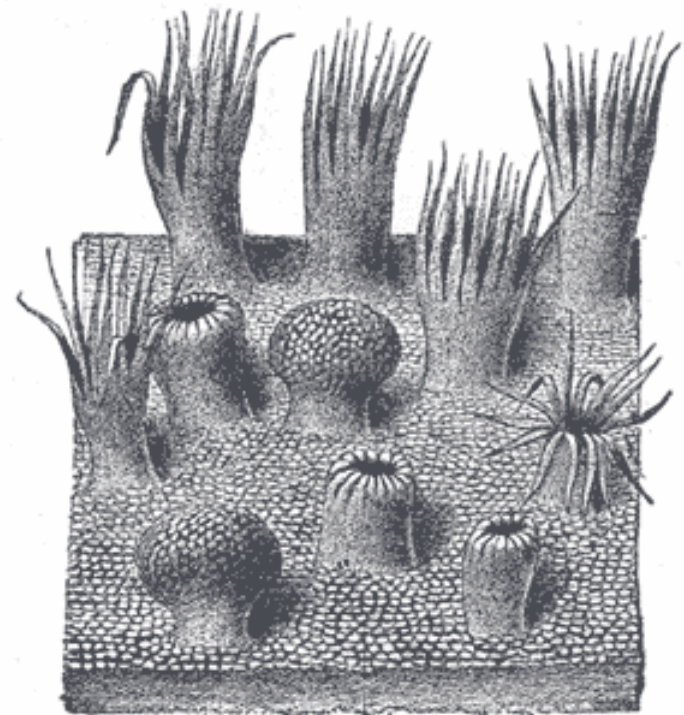


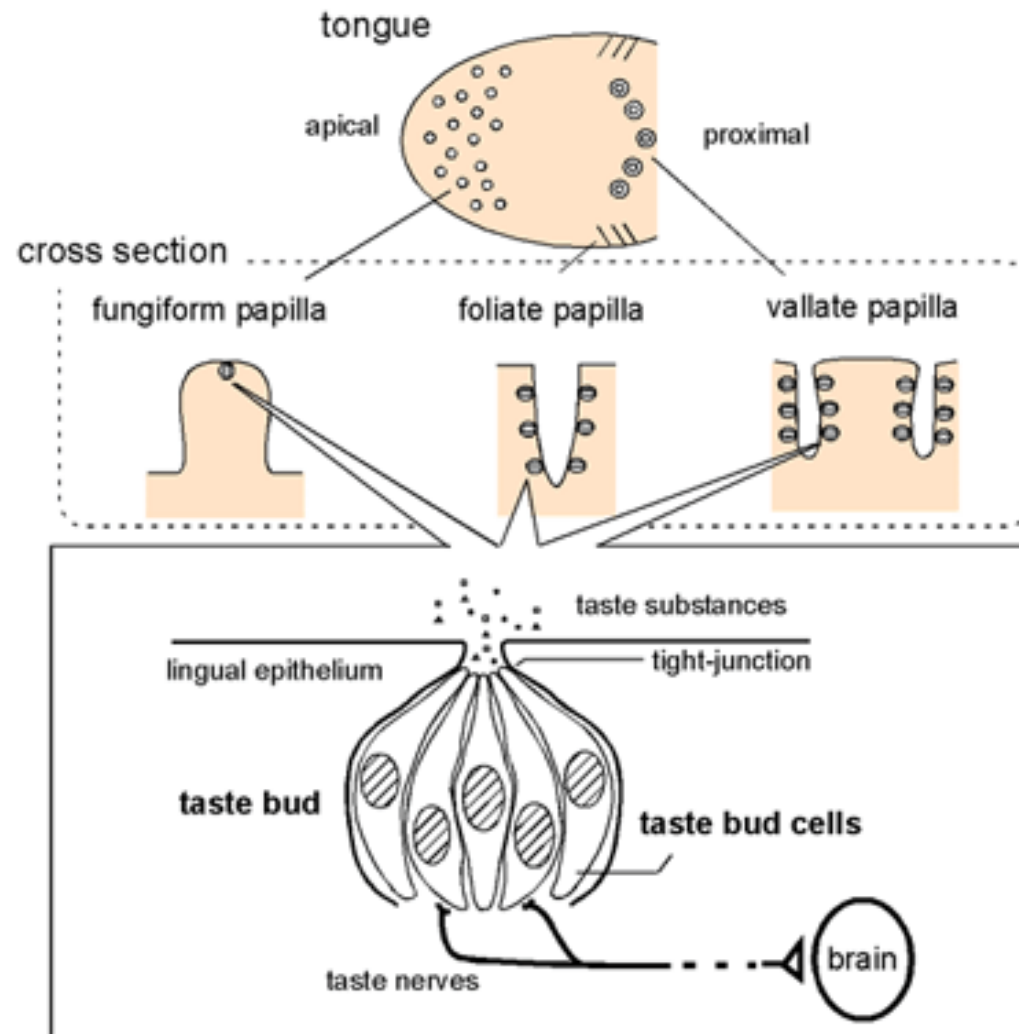
FIGURE 7-9. The tongue, dorsal aspect: large black dots represent fungiform papillae; finer dots represent filiform papillae.



פטמיות טעם על הלשון

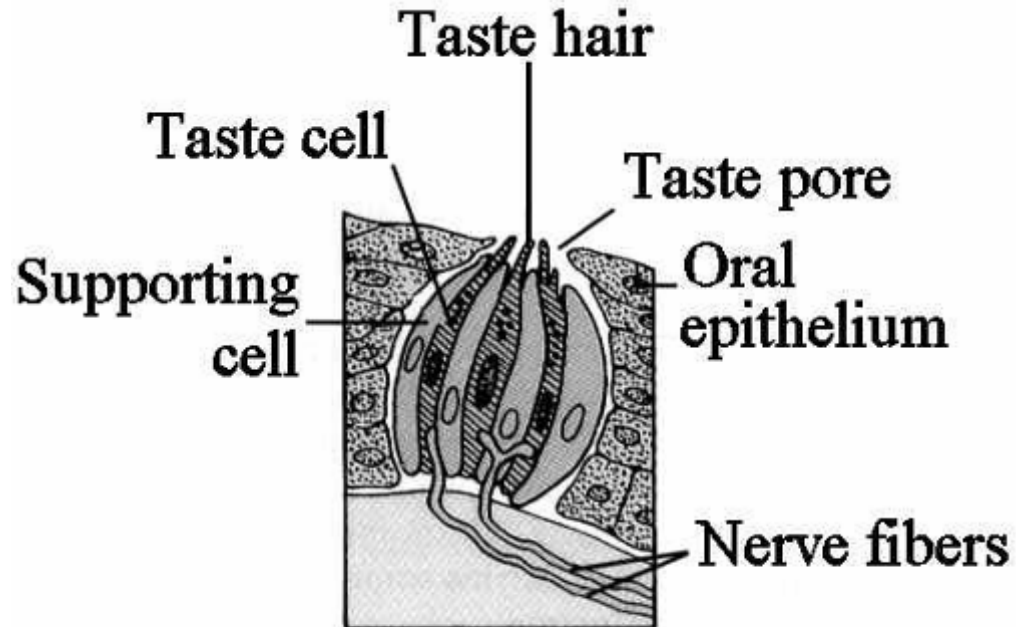


# חוש הטעם





# חוש הטעם



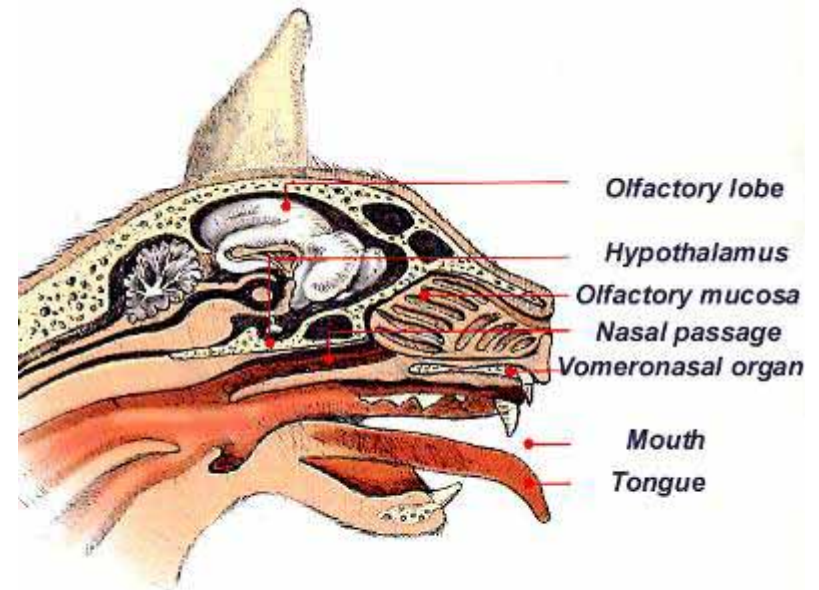
Seeley, Rod R.; T.D. Stephens, and P. Tate. (1996).  
Essentials of Anatomy & Physiology, 2nd ed. Mosby, NY. pg.240.

- Sweetness מתוק
- Sourness חמוץ
- Bitterness מר
- Saltiness מלוח
- Savouriness - Umami טעם חלבון
- בשר/גבינה



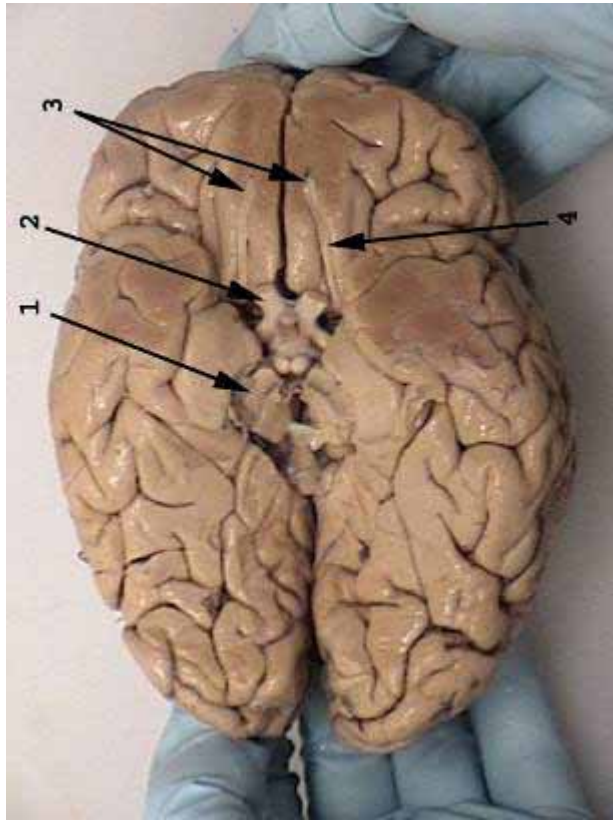


# חוש הריח

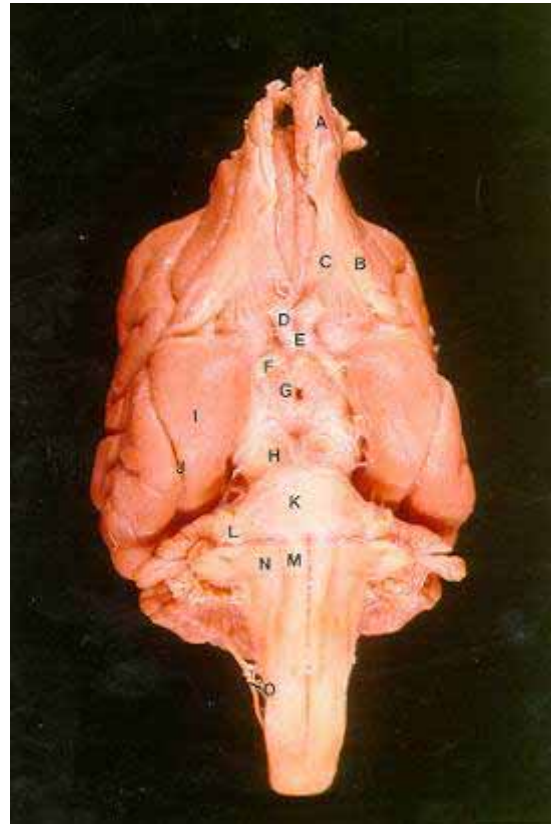




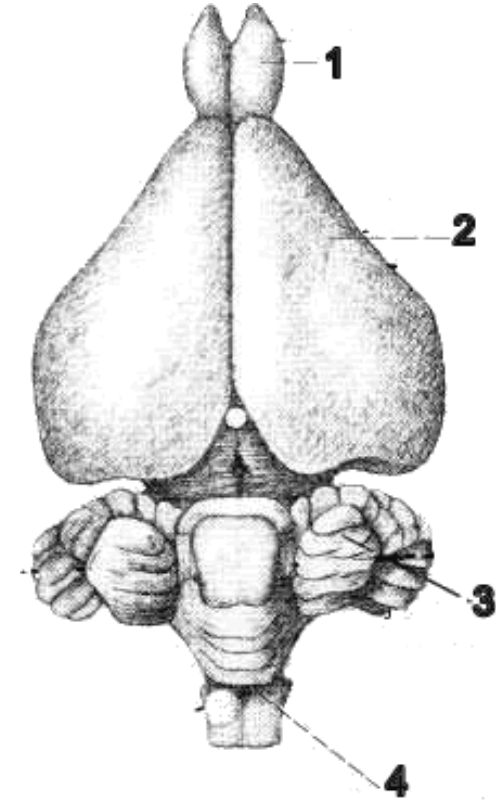
# חוש הריח – מוח ההרחה



אדם



כלב



שפן

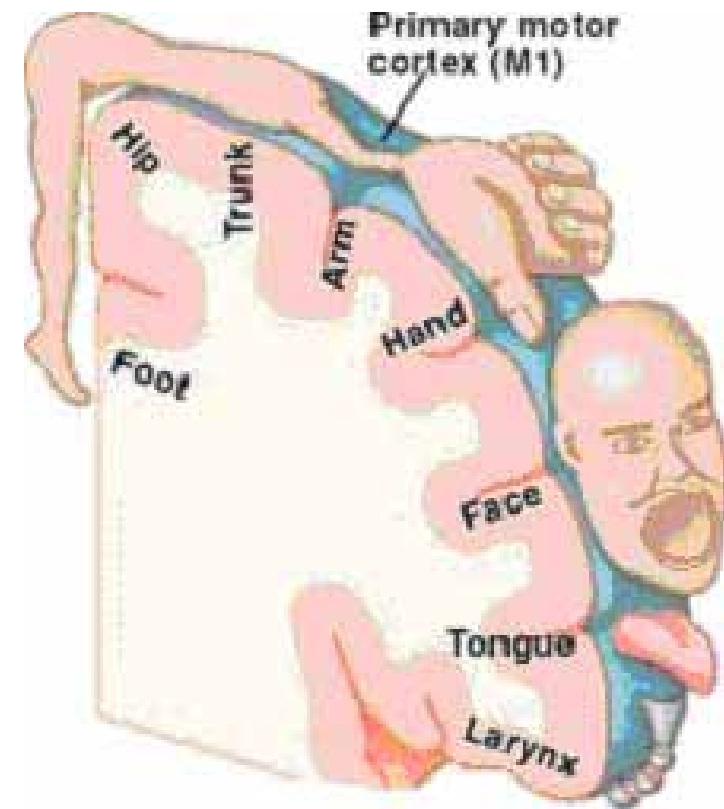
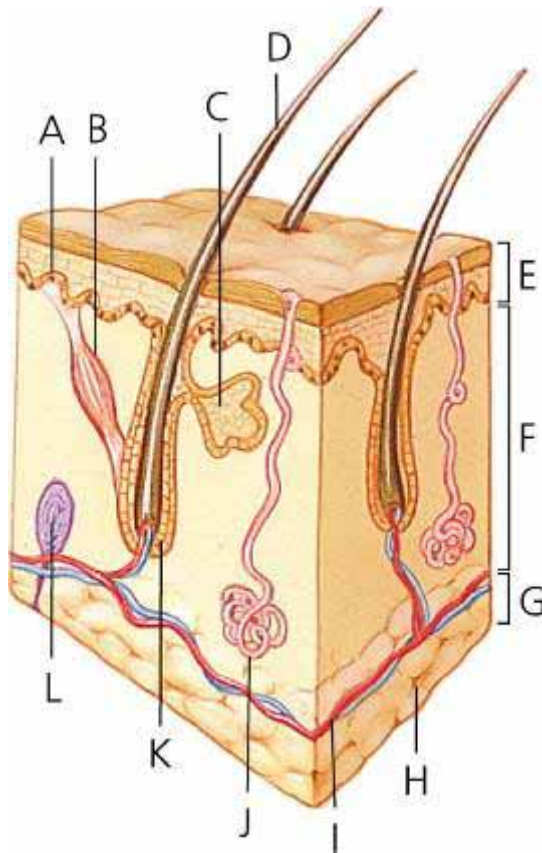


# חוש מגע / מישוש



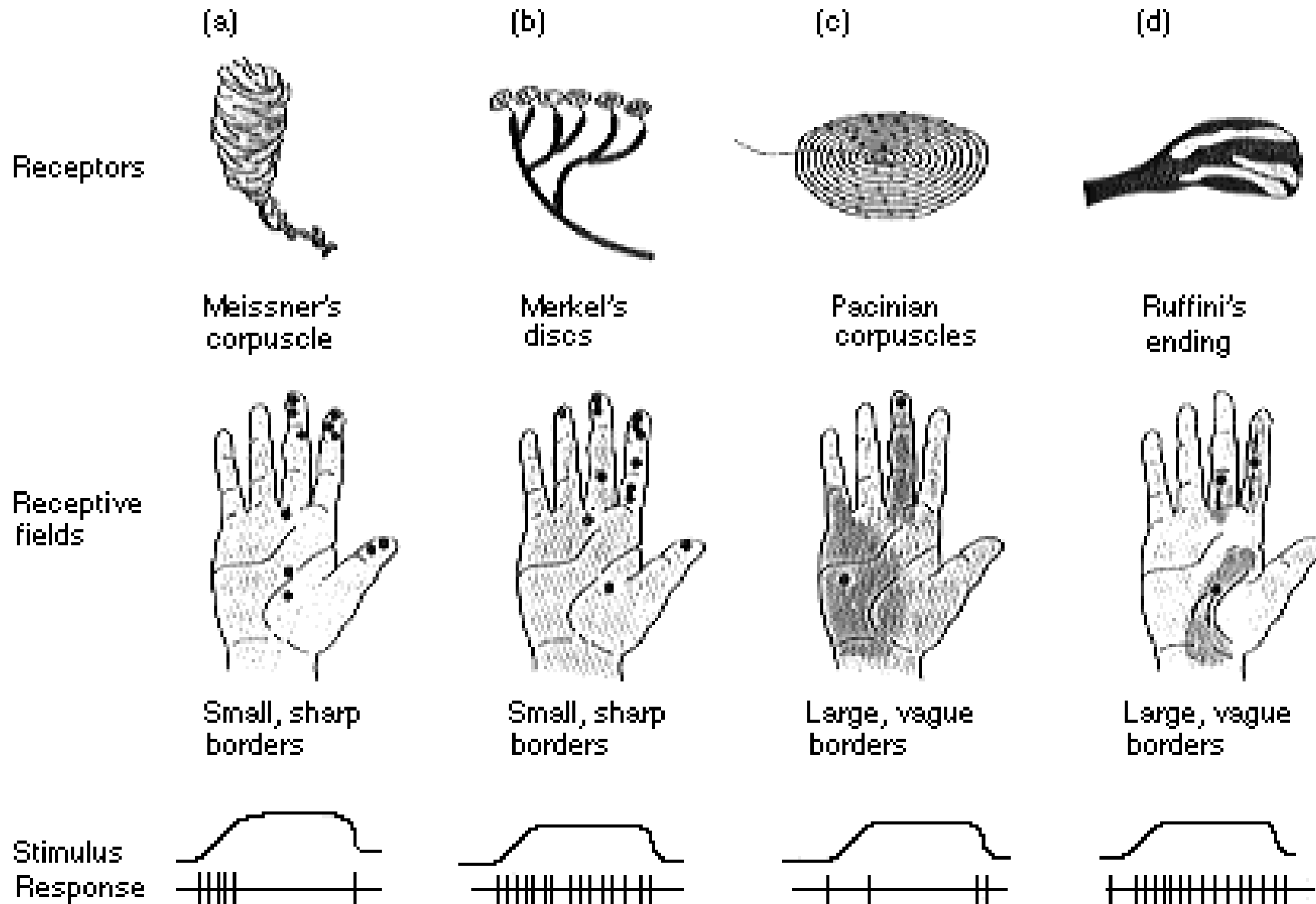


# חוש מגע \ מישוש



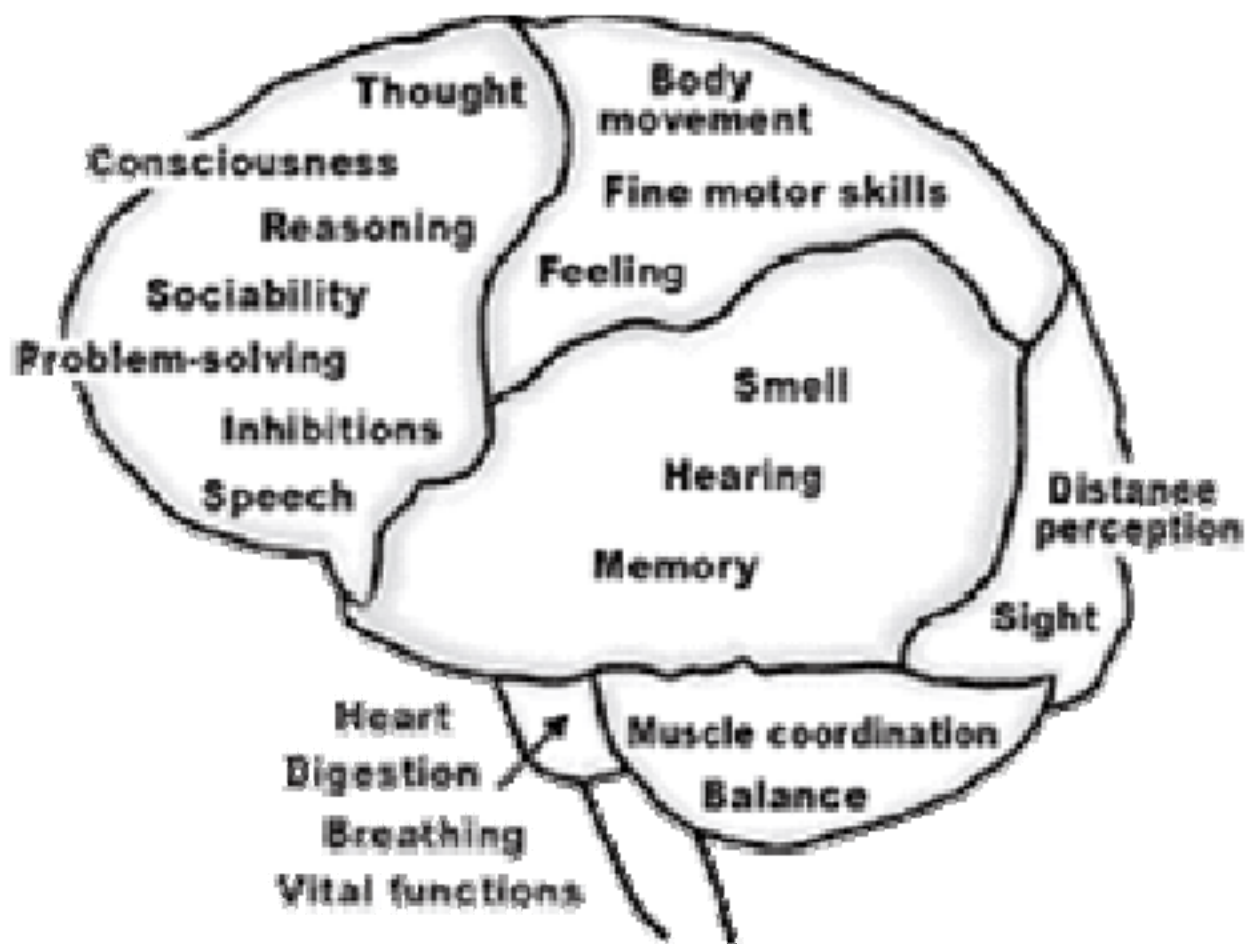


# קולטנים בעור





# מיפוי המוח





# מיפוי המוח

## Functional MRI

