



University of the Philippines Manila  
The Health Sciences Center  
COLLEGE OF NURSING  
WHO Collaborating Center for Leadership in Nursing Development

**N4: Basic Pathophysiology**  
Second Semester, Academic Year 2020-2021



***STUDY GUIDE***

**Alterations in Visual – Auditory Perception**

Our special sensory system helps us perceive and react according to the perceived stimuli, helps us to function and adapt to our environments. Images captured by our eyes, or the sounds that reach the nerve fibers in the inner ears are transmitted as stimuli in order for our brain to process accordingly. But what if these images and sounds were distorted because of the damage borne out of the disorders of our visual and auditory organs?

Alterations in the sensory functions may be the result of many factors such as genetics, environmental harmful substances such as trauma, infection, toxins, and the normal aging of our body. This study guide will be useful in finding out those sensory alterations.

**Learning Outcomes**

1. Identifies etiologic and predisposing/risk factors related to the common alterations in vision and auditory perception
2. Derives sequence of pathophysiologic events
3. Describes common manifestations as they relate to specific alterations.
4. Recognizes the universality of the pathophysiologic mechanisms of specific altered regulatory functions

## Learning Activities

Topic/Content	Methodology	Assessment
Review of the Sensory-Perception System	Lecture Video	Pre-Topic Quiz
Alterations in Visual Perception Eyelids: Blepharitis Lens: Astigmatism, Cataracts, Cornea: Keratitis, Conjunctivitis Optic Nerve: Glaucoma Retinal Detachment, Retinoblastoma Eye muscles: Strabismus Errors Of Refraction Optic nerve and meshwork system: Glaucoma	Lecture Video  Activity for Vision	Self-Check Form
Alterations in Auditory Perception External Ear: Chondritis, Perichondritis Middle Ear: Myringitis Otitis media	Lecture slides	
Inner Ear: Meniere's disease dizziness (vertigo), ringing / muffling (tinnitus),		
		Post-Topic Quiz

### Activities:

Do you still remember your Visual Acuity Test table in N3 Anatomy and Physiology? You did the **Distance Visual Acuity** in your N3 lab where you read the letters on the Snellen Chart at 20 feet without glasses and without glasses. You will have to fill another table of your visual acuity but this time, with additional cells for the Near Visual Acuity and Near Point of Vision. Again, you have to have another person with you when you do these activities. Here are the table and the instructions:

**Near Visual Acuity is measured using a Snellen Acuity Card**

- Have the subject hold the Snellen acuity card 14 inches from his or her face. The card should be illuminated with the light source either behind or above the subject. Instruct the subject to cover the left eye with his or her hand.
- Repeat the steps used to measure distance visual acuity, with the hand covering the right eye this time.
- Record the values in the Table below:

Tests	Results		Remarks
	Left	Right	
Near visual acuity			
Near Point of Vision			
Astigmatism			

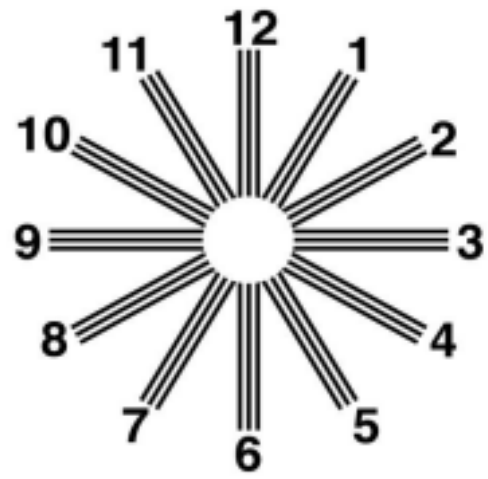
**Near Point of Vision:**

- Have the subject hold the Snellen visual acuity card 14 inches from his or her face.
- Have the subject cover the left eye and read letters from a line above his or her near visual acuity.
- Instruct the subject to slowly move the chart closer to his or her face until the letters are blurry.
- Measure the distance from the card to the subject’s eye in centimeters.

**Do you have astigmatism?**

- Remove corrective lenses.
- Cover the right eye and look at the center of the astigmatism chart below.
- If all the radiating lines are equally sharp and dark, you do not have astigmatism. If some lines are lighter or less distinct than others, you have astigmatism.
- Cover the left eye and repeat the procedure

• Write YES or NO for each eye on the Astigmatism row



Astigmatism chart courtesy of Pintrest.ca



Self-Check: Alterations in Visual – Auditory Perception

Fill out this form as or immediately after you view the lecture videos.

New/useful concepts I	Description
learned: 1. 2. 3.	

4

Least useful concepts: 1. 2. 3.	
What have you learned about your learning strategies?	1. 2.
Insights: <i>I used to think _____ but after reading articles and watching videos, I _____</i>	

**Resource Person**

Asst. Professor Mary Joan Therese Valera-Kourdache, RN, MPH

**Supplemental materials**

The Sensory Systems: <https://youtu.be/fVqKJSZQQT0?t=56>

Disorders of the Eyes and Ears: <https://youtu.be/vsGbtftzOm4?t=343>