

Establish what you know and what you need to do:

K	W	H
What do you know ?	What do you want to know?	How will you find out?
<ul style="list-style-type: none"> • Vestibular systems are mirror-symmetric structures within the inner ear • Linear accelerations are detected by the utricle and saccule • Angular accelerations are measured by the semicircular canals • Utricle and saccule are the simplest vestibular organs, each of which consists of an ovoidal sac about 3mm in the longest dimension • Human utricle contains around 30,000 hair cells while the saccule contains around 16,000 • Pilots all need extended periods of training to get used to the new vestibular stimulation pattern in flying 	<p>How does the transduction of linear accelerations occur?</p> <ul style="list-style-type: none"> - Role of hair cells in mechanical to chemical transduction - Role of auditory organs in transduction of linear accelerations <p>Vertigo</p> <ul style="list-style-type: none"> - Role of labyrinths in developing problems in audition - Role of higher order CNS processing in vertigo - Implications of vertigo 	<p>Lectures 19-20</p> <ul style="list-style-type: none"> - Podcast - Notes from lecturers - Powerpoint from lecturer <p>Textbook chapters 14 and 15</p> <p>External independent research</p> <p>Journal articles on transduction processes and vestibular problems</p>

Identify what you have learnt and further actions:

L	A	Q
What have you learnt?	What action will you take to apply what you have learnt?	What further questions do you have?
<p>How does the transduction of linear accelerations occur?</p> <ul style="list-style-type: none"> • Movements deflects the hair bundles elicits an electrical response in the hair cells • Macula of each utricle is oriented to lie in the horizontal plane • Any substantial acceleration within the horizontal plane deflects the utricle hair cells • Hair cells are organized so all directional axes have the greatest mechanosensitivity possible. <p>Vertigo</p> <ul style="list-style-type: none"> • We have two vestibular labyrinths so damage to either one can cause disorientation and vertigo • CNS associates a specific pattern of vestibular activity within our behavioural repertoire • Abnormal activation leads to inappropriate reflexes 	<p>Attempt past paper 2017 question 15 on linear acceleration transduction</p> <p>Teach my friend how this process works</p> <p>Draw hair cells response to linear accelerations</p> <p>Write a paragraph on vertigo causes, side-effects, and implications</p> <p>Attempt past paper 2019 question 14 on vertigo</p> <p>Draw cortical structures that are implicated in vertigo</p>	<p>How does the transduction of angular accelerations occur?</p> <p>What factors affect linear acceleration transduction?</p> <p>How do other vestibular system dysfunctions affect vertigo?</p> <p>How can vertigo be reduced or evaluated?</p>