BPPV
Beyond posterior canal

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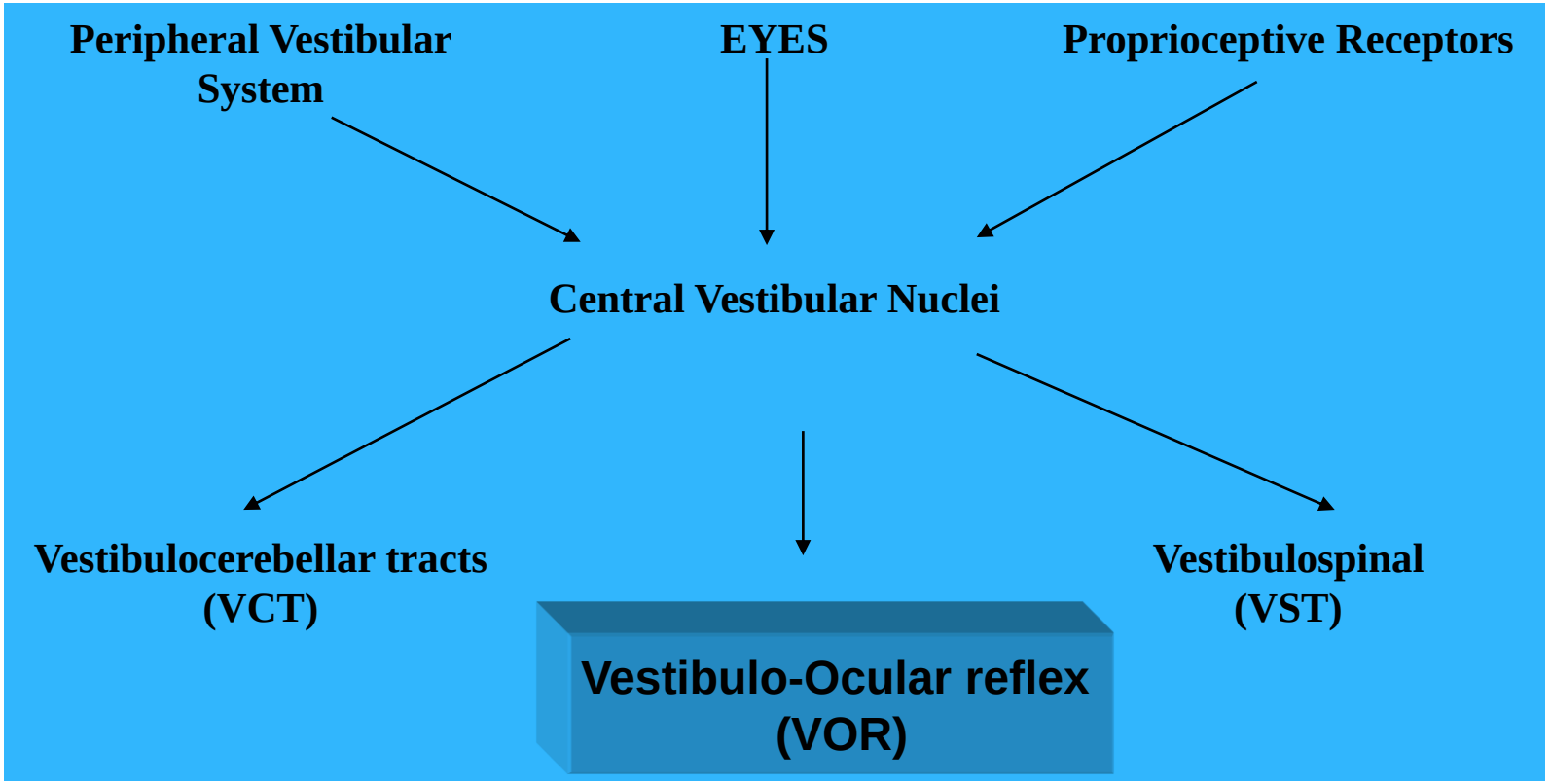
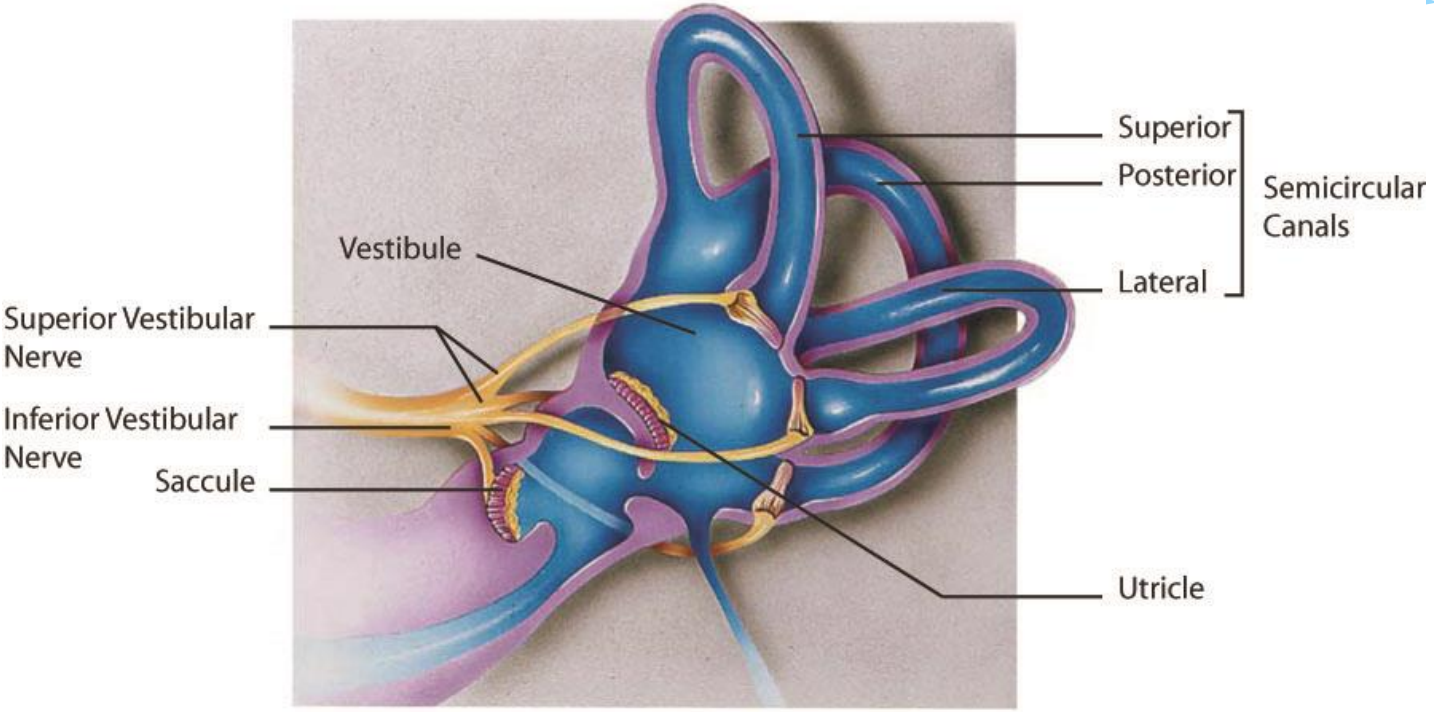
Vestibular Physiology

* Orientation of our body in space is the primary function of the vestibular system. This is achieved by integration of signals from vestibular, visual and proprioceptive receptors at the level of brain stem.
* Information regarding the movement of the head relative to the body is largely provided by paired vestibular sensory endorgans

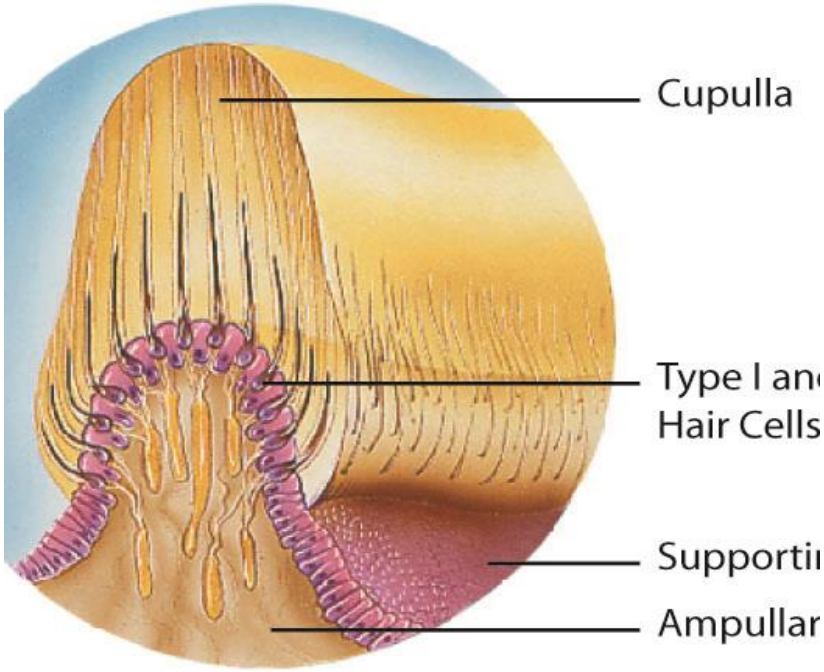
Information Relay

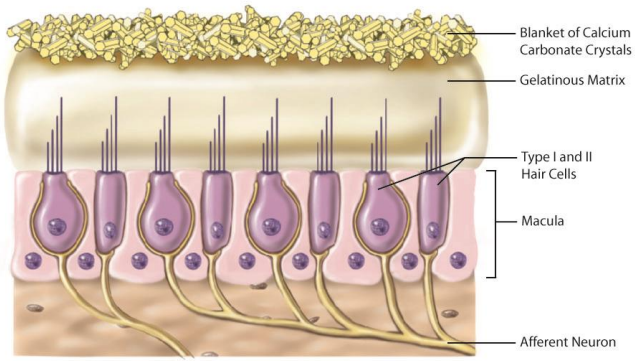


Vestibular Sensory Endorgans



Cristae & Otolithic organ





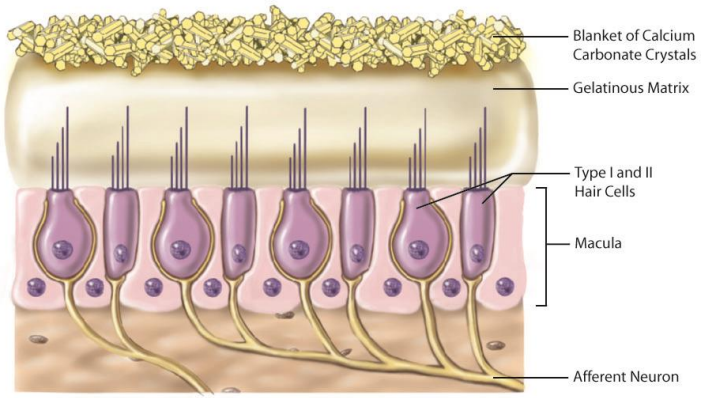
At Rest

BPPV

* Commonest vestibular disorder
* Incident 64: 100000
* Lifetime incidence 2.4%
* Coexist with other vestibular disorders

Pathophysiology

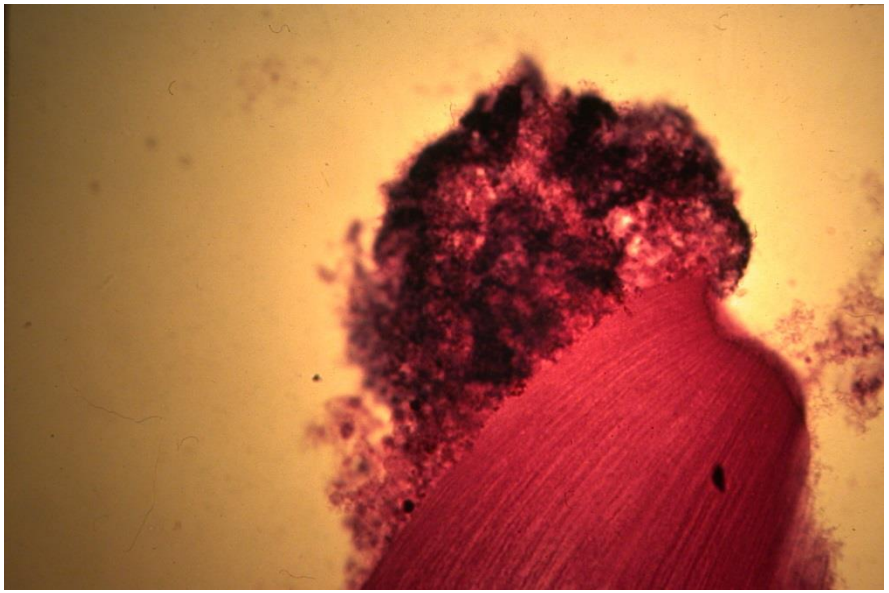
* Floating particles originating from the otoliths in the utricle.



At Rest

Pathophysiology

* original theory of cupulolithiasis (i.e. particles attached to cupula)



Etiology

* Spontaneous
* Viral
* Traumatic
* Meniere's disease
* Post surgery
* Migraine?

The Problem

It takes 62 otoconia of 10micrometers to give typical symptoms of BPPV

Theoretical models for the mechanisms of benign paroxysmal positional vertigo.

House MG[1], Honrubia V.

Audiol Neurootol. 2003 Sep-Oct;8(5):303

So what about 1 to 62 particles?

What about particles less than 10 micrometers ?

The Problem

New mechanical model
It takes more than 30 minutes for a free particle of 5 micrometer to go from cupula to the exit of 20mm long canal
0.7mm/minute

- 70 minutes for 3.5 micrometer
- 6 minutes for 10 micrometers
- 30 seconds for 30 micrometers

Tip of the ICEBERG

- 35% of all vertigo is due to BPPV and from that 90% PC-BPPV, 9% LC-BPPV, 1% SC-BPPV (TIP OF THE ICEBERG)

- 50% of all balance disorders represents Unsteadiness and abnormal motion sickness from which more than 90% linked to LC- mild BPPV due to few particles

Unsteadiness and **drunkenness** sensations as a new sub-type of BPPV.
Richard-Vitton T, Viirre E.
Rev Laryngol Otol Rhinol (Bord). 2011;132(2):75-80

Canaliths disorders

* Can be divided in two groups
  * Positional group (BPPV group)
  * Abnormal perception of motion and position (APMP group)

Second group represents most atypical presentations

* Post BPPV otolithic syndrome
* Motion sickness
* Trouble vision
* Unsteadiness and drunkness sensations
* PPPD
* Psychogenic vertigo
* Some of migrainous vertigo

Case 1

* video

Case 2

* Video

Case 3

* Video

Management

* Particle Repositioning Manoeuvre (PRM)
* Barrel roll for lateral canal BPPV
* Brandt-Daroff exercises for cupulolithiasis
* **TRV chair**

Hope to See You in

DUBAI OTOLOGY CONFERENCE

6-8 Nov 2019

www.dubaioto.com

Thank You