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Ref. No.: -BV(DU)/MC/ASLP/512/2021-22

Date-28/09/2021

To,
Mr. Subodh Kumar
Member Secretary
Rehabilitation Council of India,
B-22, Qutab Institutional Area,
New Delhi-110016.

Sub: Report of National level RCI CRE webinar : Practical Approach to Assessment and Management of Vestibular Disorders

Ref: Your letter No. F.No.7-16 (275)/2021-RCI.

Sir,

Thank you for approval of National level RCI CRE webinar on 'Practical Approach to Assessment and Management of Vestibular Disorders'. As per approved proposal, the webinar was conducted on 3 days from 16th to 18th August 2021 (4 hours daily). The webinar was conducted as per guidelines recommended by RCI and MCQ based tests were administered through google form after each session. Mrs. Raksha Deshpande, zonal co-ordinator of RCI attended and monitored the program. 105 participants across India and abroad attended the sessions.

Please find attached a report including the details of the program, registration list of participants, feedback from participants and attendance sheet of participants.

Thanking you

Yours Sincerely,

Dr. C. S. Vanaja
Principal
Bharati Vidyapeeth
(Deemed to be University)
School of Audiology &
Speech Language Pathology
Pune-Satara Road, Pune-43,
RCI No.- A05461

Practical Approach to Assessment and Management of Vestibular Disorders

Day 1

Multidisciplinary Approach to Assessment and Management of Vestibular disorders

Secretary ISHA

Vanaja C. S.

Anuj Kumar

Audiologist

Neurologist

Otolaryngologist

Psychologist

Assessment & Management of persons with vertigo

Webcam

Audio

Dashboard

Attendees: 154 of 501 (max)

Staff (6)

NAMES

- Anuj Kumar (Organizer, Me)
- Deepa Valame (Panelist)
- Secretary ISHA (Organizer)
- Secretary ISHA (Organizer)
- Srinivas Dorasala (Panelist)
- Vanaja C. S. (Organizer, Presenter)

All

Polls (0/0)

Questions

Handouts: 1

Chat

BVDU CRE Webinar, Practical Approach

Webinar ID: 523-481-003

This session is being recorded.

GoToWebinar

Dr. C. S. Vanaja welcomed all the participants for the webinar and gave an introductory session on how multidisciplinary approach is important towards assessment and management of vestibular disorders. She also talked about team members involved and the role of each professional for the assessment and management of different vestibular disorders.

Core concepts and laws in vestibular physiology

Click to save a picture to your desktop.

Srinivas Dorasala

A

B

C

Pinna

Ear canal

Tympanic membrane

Malleus

Incus

Stapes

Eustachian tube

Cochlea

Vestibular system

Hair cells

Supporting cells

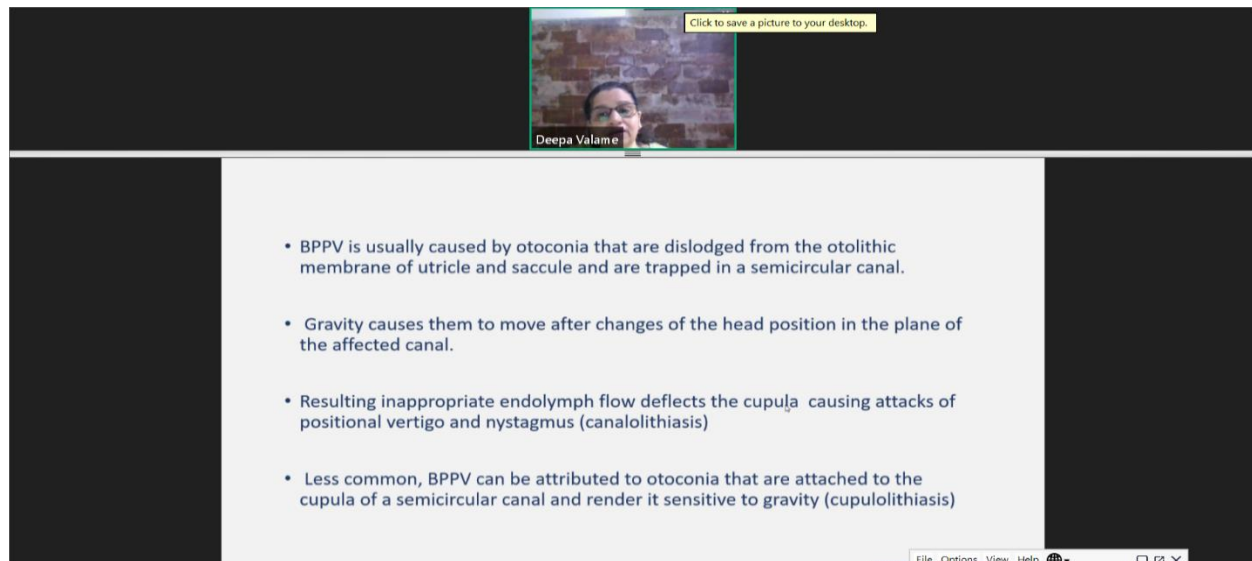
Nerve fibers

Organ of Corti

GoToWebinar

Dr. Srinivas Dorasala explained the different functions of vestibular system. He highlighted on the coordination of vestibular, visual and proprioceptive system to achieve stable vision as well as postural stability.

Need of detailed case history and diagnostic criteria for vestibular disorders



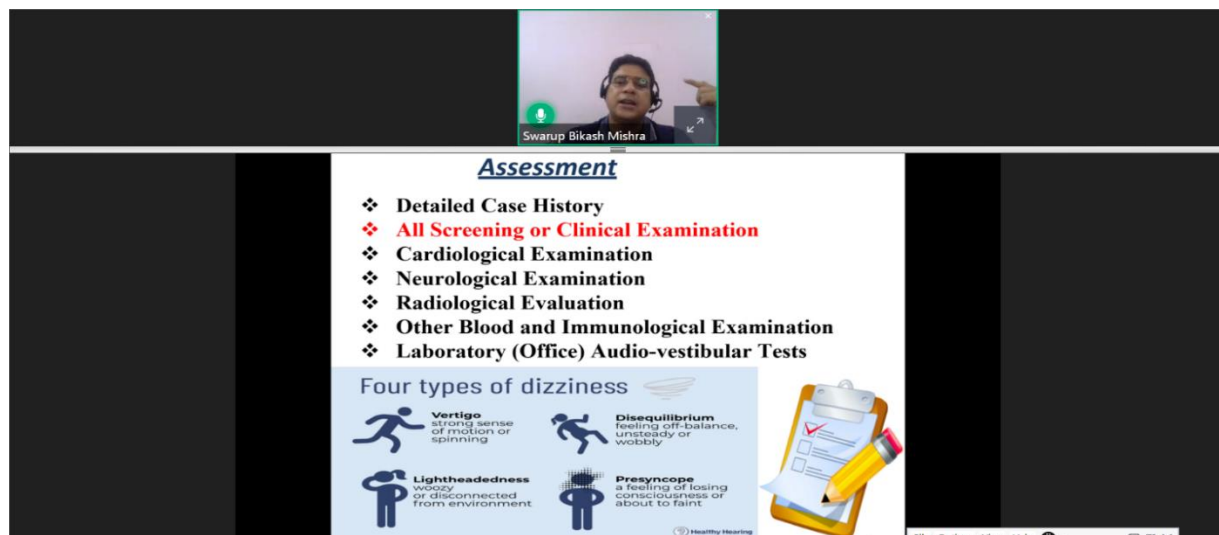
The screenshot shows a video lecture interface. At the top, there is a small video window of Dr. Deepa Valame with a yellow tooltip that says "Click to save a picture to your desktop." Below the video window, the main content area displays a list of bullet points about BPPV (Benign Paroxysmal Positional Vertigo).

- BPPV is usually caused by otoconia that are dislodged from the otolithic membrane of utricle and saccule and are trapped in a semicircular canal.
- Gravity causes them to move after changes of the head position in the plane of the affected canal.
- Resulting inappropriate endolymph flow deflects the cupula causing attacks of positional vertigo and nystagmus (canalolithiasis)
- Less common, BPPV can be attributed to otoconia that are attached to the cupula of a semicircular canal and render it sensitive to gravity (cupulolithiasis)

At the bottom of the slide, there is a menu bar with "File", "Options", "View", and "Help" buttons.

Dr. Deepa Valame addressed the participants about importance of taking detailed case history and how it helps to differentially diagnose vestibular disorders. She also highlighted importance of correlating case-history and clinical examination findings using diagnostic criteria while formulating provisional diagnosis and appropriate referrals.

Screening tools used in clinical practice



The screenshot shows a video lecture interface. At the top, there is a small video window of Dr. Swarup Bikash Mishra. Below the video window, the main content area displays a slide titled "Assessment".

Assessment

- ❖ Detailed Case History
- ❖ **All Screening or Clinical Examination**
- ❖ Cardiological Examination
- ❖ Neurological Examination
- ❖ Radiological Evaluation
- ❖ Other Blood and Immunological Examination
- ❖ Laboratory (Office) Audio-vestibular Tests

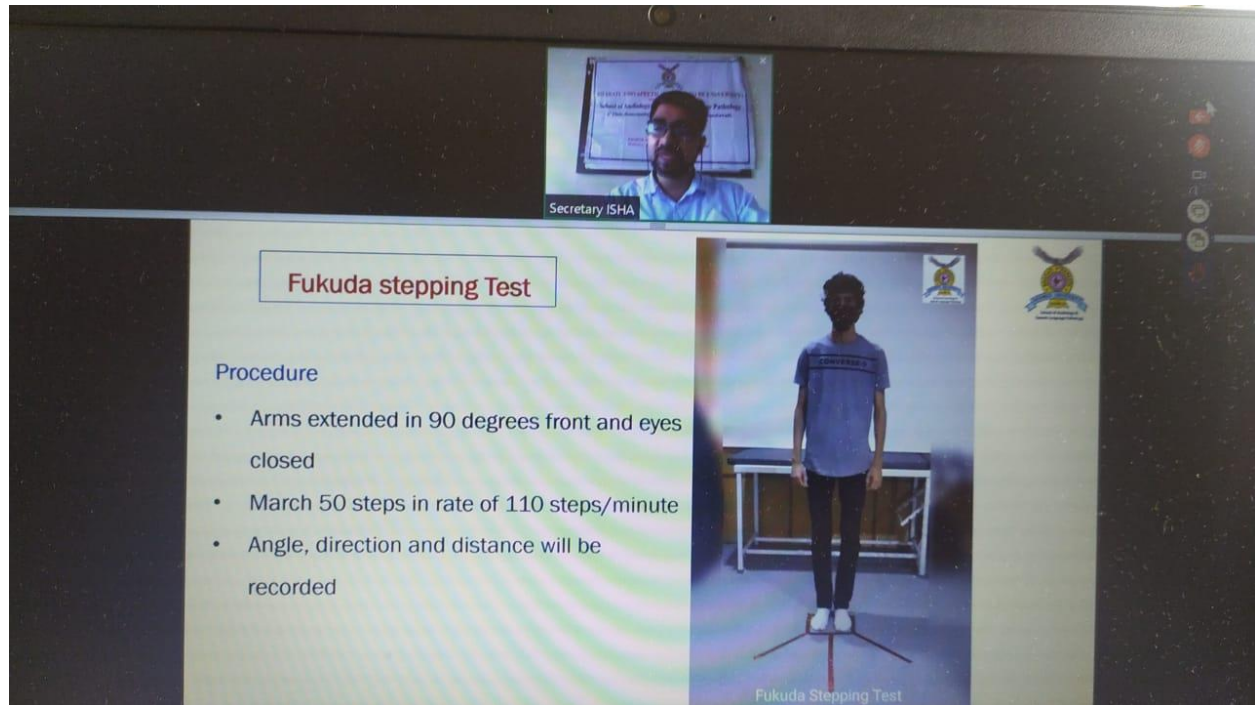
Below the list, there is a section titled "Four types of dizziness" with four icons and descriptions:

- Vertigo**: strong sense of motion or spinning
- Disequilibrium**: feeling off-balance, unsteady or wobbly
- Lightheadedness**: woozy or disconnected from environment
- Presyncope**: a feeling of losing consciousness or about to faint

At the bottom right of the slide, there is an illustration of a clipboard with a checklist and a yellow pencil. The text "Healthy Hearing" is visible at the bottom left of the slide. At the bottom of the slide, there is a menu bar with "File", "Options", "View", and "Help" buttons.

Mr. Swaroop Bikash Mishra discussed the different screening tools which can be used to check presence or absence of any vestibular pathology and further he spoke about how it can guide audiologists in selecting appropriate diagnostic test battery.

Video demonstration of subjective vestibular assessment procedures



The screenshot shows a video player interface. At the top, there is a small video window showing a man with glasses and a beard, identified as 'Secretary ISHA'. Below this, the main video area displays a presentation slide for the 'Fukuda stepping Test'. The slide has a green background with a wavy pattern. On the left side of the slide, the title 'Fukuda stepping Test' is in a red-bordered box. Below it, the word 'Procedure' is followed by a bulleted list: 'Arms extended in 90 degrees front and eyes closed', 'March 50 steps in rate of 110 steps/minute', and 'Angle, direction and distance will be recorded'. On the right side of the slide, there is a video of a person standing on a red line on the floor, performing the test. The person is wearing a blue t-shirt and black pants. The video is labeled 'Fukuda Stepping Test' at the bottom.

Fukuda stepping Test

Procedure

- Arms extended in 90 degrees front and eyes closed
- March 50 steps in rate of 110 steps/minute
- Angle, direction and distance will be recorded

Fukuda Stepping Test

Mr Anuj Kumar Neupane demonstrated the different subjective vestibular tests with the help of videos and he also discussed rationale, procedure and interpretation of each test. Tests discussed included spontaneous nystagmus test, head impulse test, head shake nystagmus test, hyperventilation induced nystagmus test, valsalva induced nystagmus test.

Day 2

Tools used for Diagnosis in Clinical Practice: VNG

sharda sarda

Click to save a picture to your desktop.

Interpretation

- Bilateral weakness - responses from both right and left ear $< 12^\circ/\text{sec}$ (Total RE $< 12^\circ/\text{sec}$ and Total LE $< 12^\circ/\text{sec}$)
- $|UW\%| > 25\%$ (alternative values 20% - 30%)
- $|DP\%| > 30\%$ (alternative values 25% - 50%)
- $FI\% > 60\%$ (alternative values 50% - 60%)
- Hyperactive – Total RE $> 140^\circ/\text{sec}$ or Total LE $> 140^\circ/\text{sec}$ (McCaslin & Jacobson, 2008)

8/17/2021 VNG 53

Dr. Sharda Sarda discussed about importance and advantages of videonystagmography for assessment of vestibular disorders. She explained in detail about subtests of VNG with clinical implication. She highlighted about how VNG test battery helps to differentiate between peripheral vs central pathology.

Tools used for Diagnosis in Clinical Practice: vHIT and VEMP

Measurements

- Latency of P1
- Latency of N1
- Amplitude of PIN1
- Amplitude asymmetry ratio
$$\frac{BA-PA}{BA+PA} \times 100$$

$< 30\%$ normal
- Frequency Tuning

Click to save a picture to your desktop.

Right ear

Left ear

Time (msec)

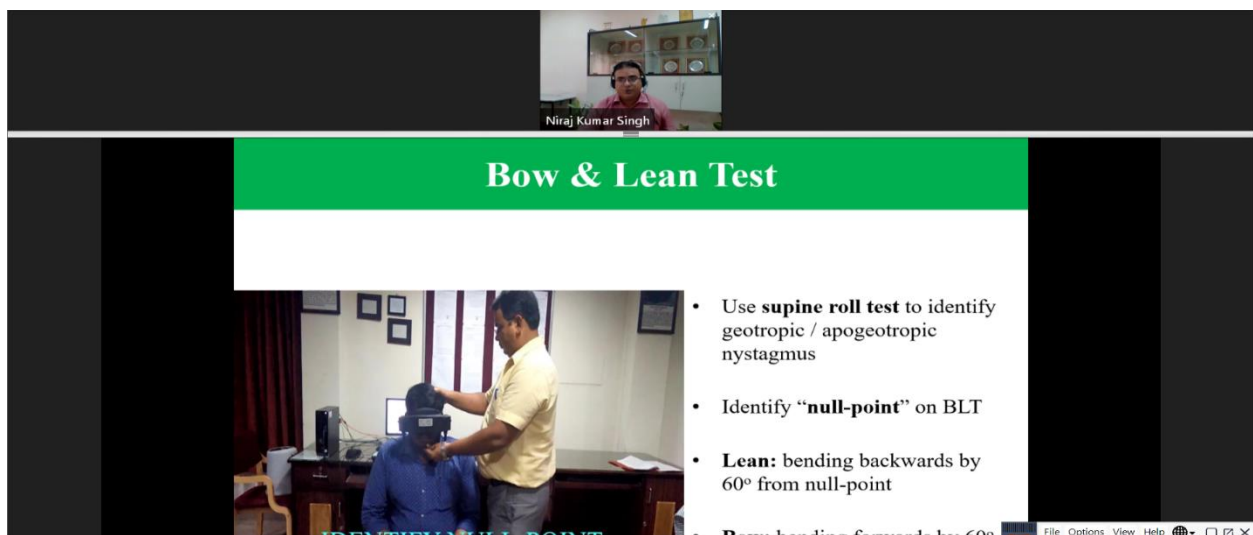
Dr. Sujeet Kumar Sinha explained in detail about rationale, procedure and interpretation of c-VEMP, o-VEMP and v-HIT test. He is also discussed pros- cons and clinical implementation of each test procedure.

Diagnosis and management of Meniere's disease and Superior semicircular canal dehiscence



Dr. Gauri Belsare spoke about pathophysiology and clinical features of Meniere's disease and Superior semicircular canal dehiscence. She explained in detail about test battery involved for the assessment of these disorders. She also elaborated on management from medical point of view for these disorders.

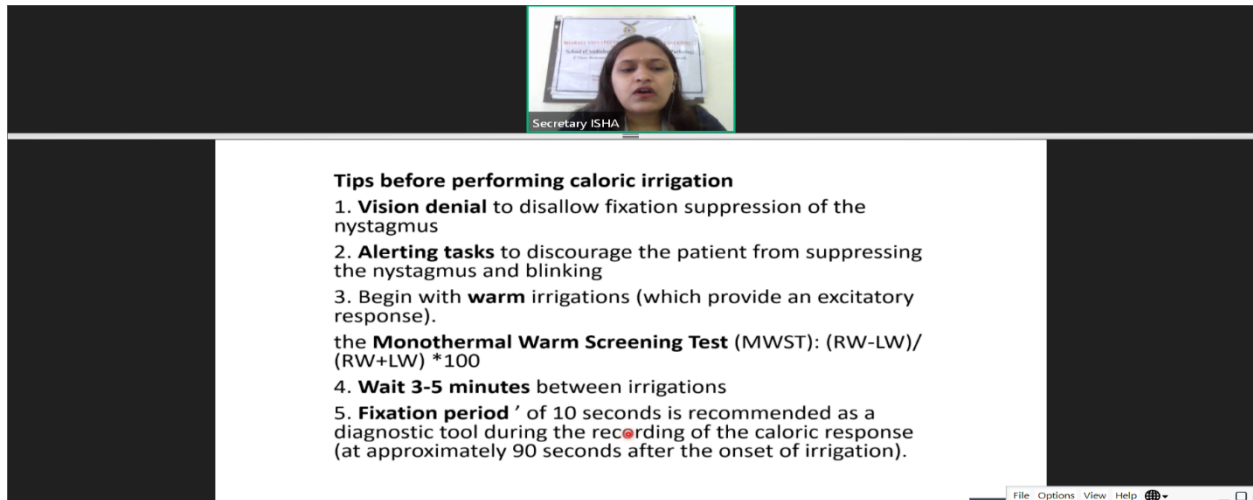
Diagnosis and management of Benign paroxysmal positional vertigo



Dr. Niraj Kumar Singh elaborated on pathophysiology, sign and symptoms of Benign paroxysmal positional vertigo. He further discussed and described tests involved for diagnosis of BPPV and interpretation of each. He also demonstrated various maneuvers given as a part of management for BPPV.

Day 3

Video demonstration of objective vestibular assessment procedures



Secretary ISHA

Tips before performing caloric irrigation

1. **Vision denial** to disallow fixation suppression of the nystagmus
2. **Alerting tasks** to discourage the patient from suppressing the nystagmus and blinking
3. Begin with **warm** irrigations (which provide an excitatory response).

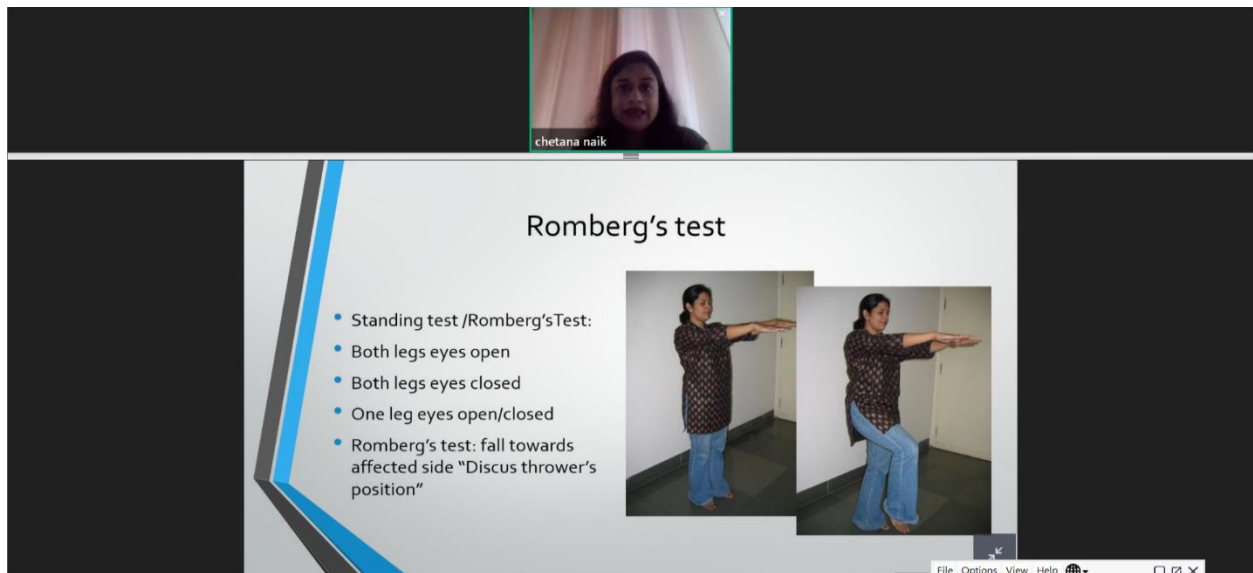
the **Monothermal Warm Screening Test (MWST)**: $(RW-LW)/(RW+LW) \times 100$

4. **Wait 3-5 minutes** between irrigations
5. **Fixation period** of 10 seconds is recommended as a diagnostic tool during the recording of the caloric response (at approximately 90 seconds after the onset of irrigation).

File Options View Help

Mrs. Shweta Mundada demonstrated different objective vestibular tests with the help of videos and she also discussed rationale, procedure and interpretation of each test. Tests discussed included were c-VEMP, o-VEMP, caloric test, gaze test, optokinetic test, smooth pursuit test, dix-hallpike test.


Diagnosis and management of Labyrinthitis, vestibular neuritis and vascular loops



chetana naik

Romberg's test

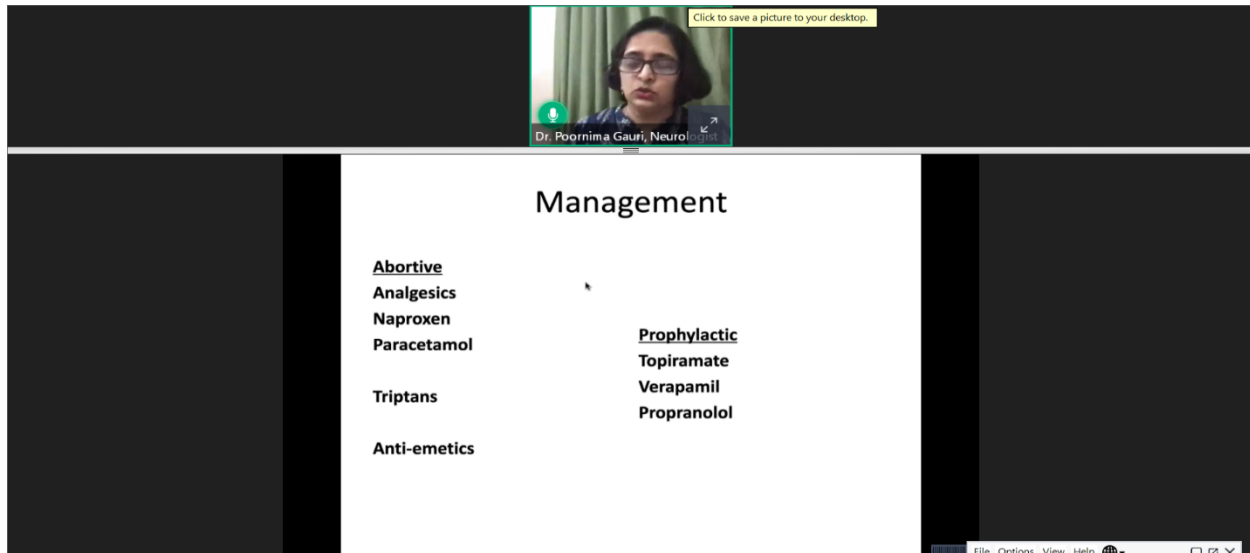
- Standing test /Romberg's Test:
- Both legs eyes open
- Both legs eyes closed
- One leg eyes open/closed
- Romberg's test: fall towards affected side "Discus thrower's position"



File Options View Help

Dr. Chetana Naik spoke about pathophysiology and clinical features of labyrinthitis, vestibular neuritis and vascular loops. She explained in detail about test battery involved for the assessment of these disorders. She also elaborated on management from medical point of view for these disorders.

Diagnosis and management of Vestibular Migraine and Persistent postural- perceptual dizziness



Click to save a picture to your desktop.

Dr. Poornima Gauri, Neurologist


Management

<u>Abortive</u>	
Analgesics	
Naproxen	
Paracetamol	
	<u>Prophylactic</u>
	Topiramate
	Verapamil
	Propranolol
Triptans	
Anti-emetics	

File Options View Help

Dr. Poornima Gauri explained about terminology, pathophysiology, sign and symptoms of Vestibular Migraine and Persistent postural- perceptual dizziness. She also discussed about diagnosis and management of Vestibular Migraine and Persistent postural- perceptual dizziness.

Comprehensive Diagnosis and rehabilitation of vestibular disorders



Click to save a picture to your desktop.

Niraj Kumar Singh

Enhancing gaze stability

Vestibular adaptation

VOR X1

- Start in sitting position always- move to standing later & use compliant surfaces even later
- A cross on a paper at eye level at one arm's distance
- Fix the eyes on the cross & move head **slowly** from side to side keeping the cross in clear focus
- Challenge yourself to go faster as long as target can stay in focus
- Repeated with up & down movement of head
- Three times a day; 1 minute each time

Diagram illustrating the VOR X1 exercise: A cross is shown above a grid of numbers 1 to 20. Below the grid, a person is shown holding a card with a cross, with arrows indicating head movement.

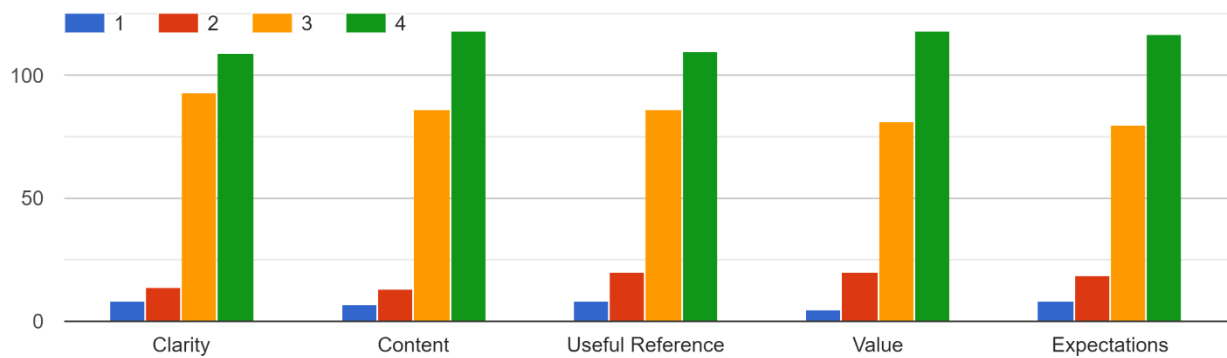
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Dr. Niraj Kumar Singh enlightened about how to differentially diagnosis between different vestibular disorders using a test battery approach to arrive at a diagnosis for patients with complaint of vertigo/ dizziness. He also described and demonstrated various maneuvers for rehabilitation of vestibular disorders.

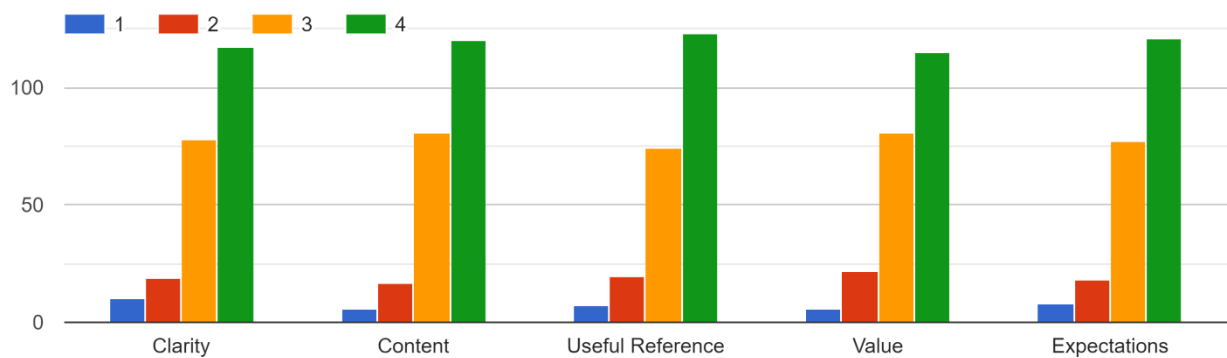
Practical Approach to Assessment and Management of Vestibular Disorders

Evaluation of feedback

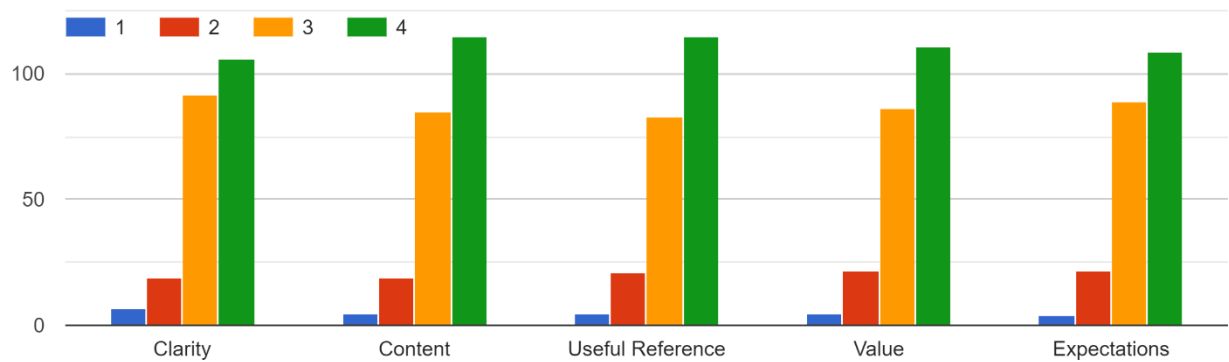
Core concepts and laws in vestibular physiology



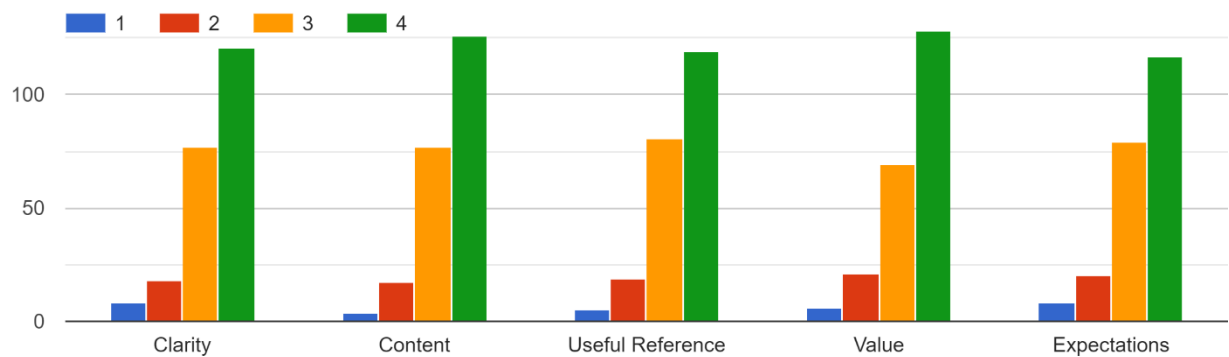
Need of detailed case history and diagnostic criteria for vestibular disorders



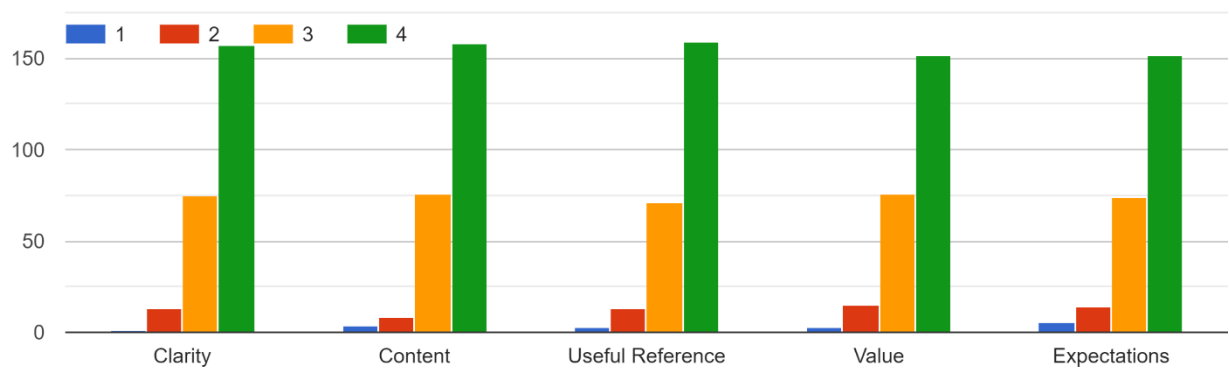
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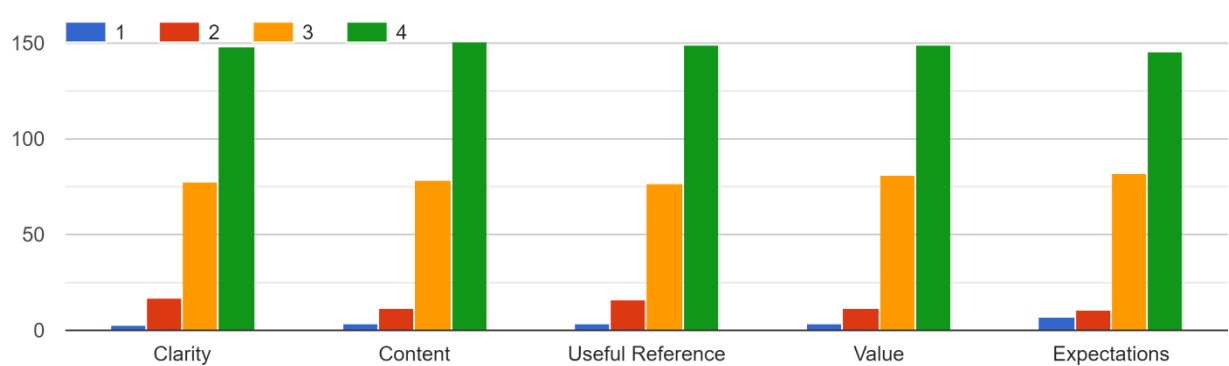
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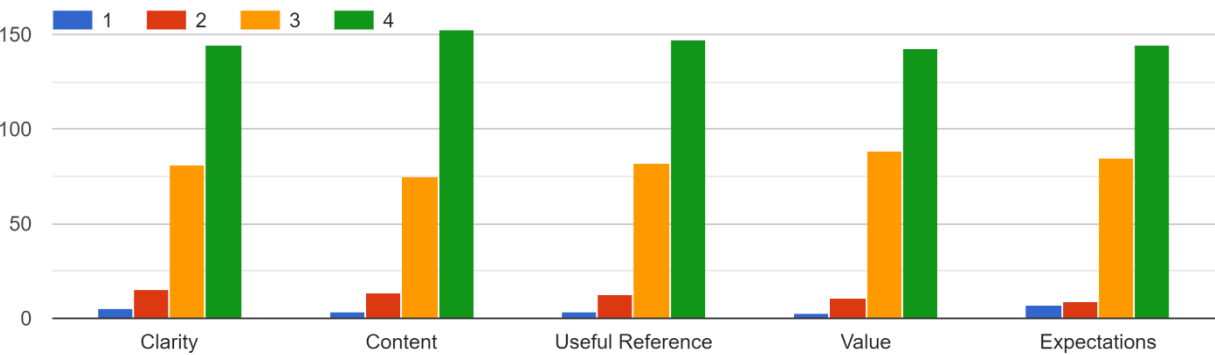
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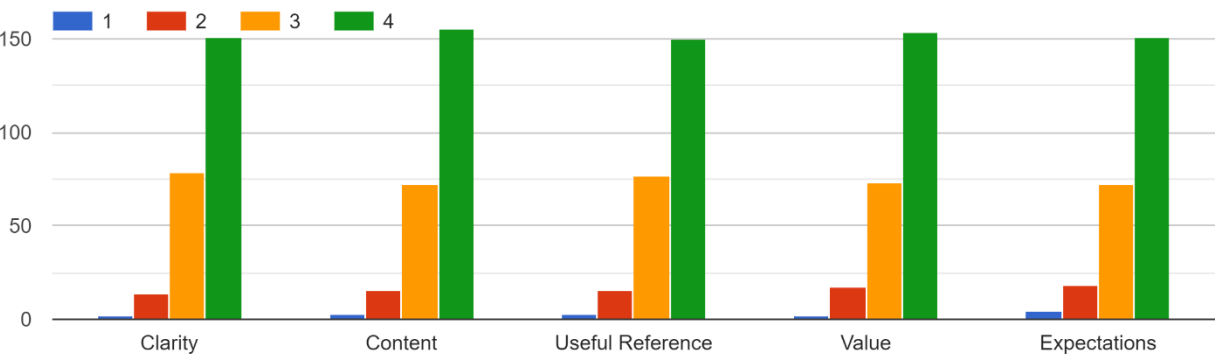
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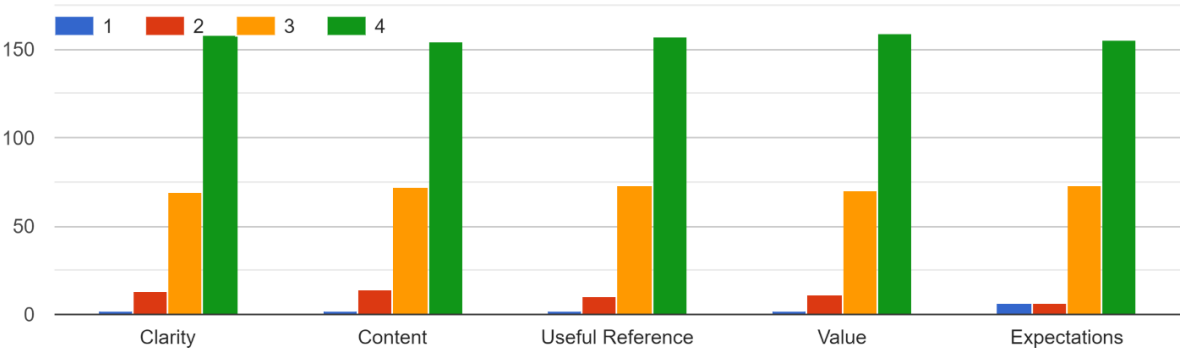
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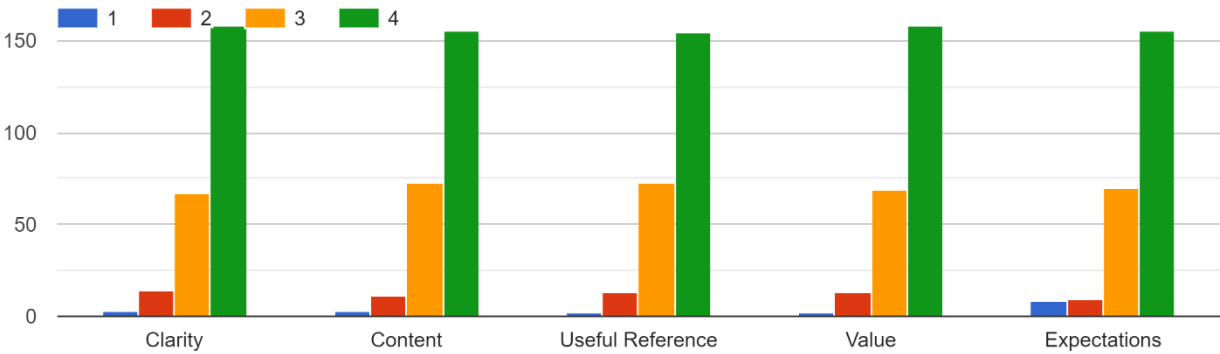
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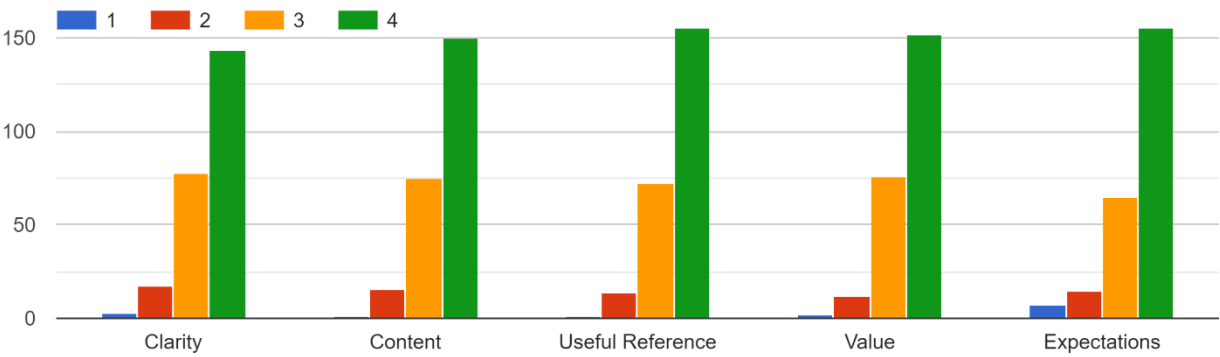
Video demonstration of objective vestibular assessment procedures



Diagnosis and management of Labyrinthitis, vestibular neuritis and vascular loops



Diagnosis and management of Vestibular Migraine and Persistent postural perceptual dizziness



Comprehensive Diagnosis and rehabilitation of vestibular disorders

