REGULATIONS AND CURRICULUM GOVERNING

FELLOWSHIP IN VESTIBULAR MEDICINE PROGRAM

(2025-26)

Name of the Constituent Unit/Centre: Yenepoya Medical College



YENEPOYA
Deemed to be University

Deralakatte, Mangalore, Karnataka.

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NOTIFICATION FROM THE UNIVERSITY

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OFFICE OF THE REGISTRAR
No.: 64-ACM/06/2025 Date: 25.09.2025

NOTIFICATION

Sub: Starting of Fellowship program in Vestibular Medicine - reg.:-

Ref: 1. Resolution of the Academic Council at its 64th meeting held on 14.08.2025 vide agenda-06.
2. Resolution of the Executive Council at its 9th meeting held on 11.09.2025 vide agenda - 3

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Pursuant to the resolutions cited in the above references, Yenepoya (Deemed to be University) hereby notifies starting of a Fellowship program in Vestibular Medicine in the department of Otorhinolaryngology under the Faculty of Medicine with effect from the academic year 2025-2026, along with the curriculum and regulations for the same with an intake of one seat per year.

REGISTRAR
mj

To:
PA to Vice Chancellor
Dean of Academics, Yenepoya (Deemed to be University)
Controller of Examinations
Dean, Faculty of Medicine
File Copy

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FELLOWSHIP IN VESTIBULAR MEDICINE

Preamble

Vestibular disorders represent one of the most common yet challenging medical conditions affecting millions of people worldwide. The global prevalence of vertigo and dizziness disorders ranges from 15-35% in the general population, with vertigo alone affecting approximately 5-10% of adults annually. Studies indicate that up to 35% of people aged 40 years and above experience some form of vestibular dysfunction during their lifetime. Balance disorders show an even higher prevalence, particularly in the elderly population where it affects up to 85% of individuals above 65 years of age. These conditions significantly impact quality of life, leading to increased fall risk, reduced mobility, psychological distress, and substantial healthcare costs. In India and other developing countries, the burden of vestibular disorders is compounded by late diagnosis, lack of specialized services, and limited awareness among healthcare professionals. Common conditions like Benign Paroxysmal Positional Vertigo (BPPV), vestibular migraine, vestibular neuritis and Meniere's disease are frequently misdiagnosed or managed sub-optimally, leading to chronicity, psychiatric comorbidities, and poor quality of life.

The complexity of vestibular disorders stems from the intricate nature of the balance system, which involves peripheral vestibular organs, central nervous system pathways, visual input, and proprioceptive mechanisms. Diagnosis and management of these disorders requires specialized knowledge and skills spanning both otolaryngology and neurology domains.

Despite the high prevalence and significant disability associated with these disorders, there is a dearth of structured training programs in vestibular medicine. Traditional medical education provides limited exposure to vestibular medicine, resulting in misdiagnosis of these cases. This leads to unnecessary investigations, inappropriate treatments, prolonged patient suffering, and increased healthcare expenditure. The management of vertigo and balance disorders constitutes the cornerstone of both neurotology and otology practice, requiring practitioners to be equipped with solid knowledge spanning not just otolaryngology but also neurology, ophthalmology, and rehabilitation medicine. The rapidly evolving field of vestibular medicine demands expertise in advanced diagnostic techniques including Craniooculography (COG) or Videonystagmography (VNG), Video Head Impulse Testing (vHIT), Functional Head Impulse Testing (fHIT), Vestibular Evoked Myogenic Potentials (VEMP), Stabilometry, and Craniocorpography. Furthermore, the therapeutic landscape has expanded to include sophisticated surgical interventions, targeted pharmacotherapy,

and evidence-based vestibular rehabilitation protocols. Given the multisystem nature of vestibular disorders, which intersect with neurology, otolaryngology, audiology, physiotherapy, and rehabilitation medicine, a multidisciplinary and skill-intensive approach is critical. This Fellowship in Vestibular Medicine addresses the critical need for specialized training to develop competent professionals with the knowledge, skills, and professional attitudes required to provide comprehensive comprehensive, evidence-based care for patients with vertigo and balance disorders- from diagnosis to advanced medical, surgical, and rehabilitative interventions.

This curriculum is designed for advanced fellows seeking comprehensive expertise in vestibular medicine, with a strong emphasis on neuro-otology, neurology and neuro-ophthalmology. It aligns with the latest international guidelines and incorporates interdisciplinary training, advanced diagnostics, clinical management, and research skills.

Eligibility for admission

- **Essential Qualifications:** MS/DNB in Otorhinolaryngology (ENT) from an institution recognized by NMC
- **Desirable Qualifications:**
  - Minimum 2 years of post-qualification clinical experience
  - Basic training or certification in vestibular science
  - Research publications in otolaryngology or related fields
- **Selection Criteria:**
  - Written examination (50%)
  - Interview/Viva voce (30%)
  - Academic record and research experience (20%)

Aim of the Program/Course

To train medical professionals to be proficient in the comprehensive management of vertigo and balance disorders using advanced diagnostics, medical and surgical therapies, and rehabilitation.

Objectives/Outcomes of the program

(Knowledge/Skill/Attitude/Communication)

- **Program Outcomes**

The program outcomes are structured to ensure the holistic development of the fellow under the following domains:

A. Knowledge Domain

Upon completion of the fellowship, the trainee will be able to:

i. Explain the anatomy, neurophysiology, and pathophysiology of the vestibular system and its connections.
ii. Acquire in-depth knowledge of clinical presentation, diagnostic criteria, differential diagnosis, and management guidelines of common and complex vestibular disorders.
iii. Describe the principles, indications, and interpretations of advanced vestibular diagnostics, including Cranioculography, VNG, vHIT, fHIT, Stabilometry, Craniocorpography, and VEMP.
iv. Appraise evidence-based pharmacological, surgical, and rehabilitative interventions for vertigo and imbalance.
v. Understand the interface between vestibular disorders and psychiatric, visual, musculoskeletal, and cognitive systems.

B. Skill Domain

At the end of the program, the fellow will be able to:

i. Conduct a focused vestibular history and perform a comprehensive clinical vestibular examination.
ii. Execute and interpret advanced vestibular diagnostic procedures with competence.
iii. Manage acute vestibular emergencies
iv. Formulate differential diagnoses and individualized management plans for patients with dizziness and balance disorders.
v. Perform specific repositioning maneuvers for BPPV with precision.
vi. Plan and implement vestibular rehabilitation strategies based on patient profiles.
vii. Assist and perform selected surgical procedures such as:
- Endolymphatic sac decompression
- Labyrinthectomy
- Vestibular neurectomy
- Intratympanic therapies
- Surgery for superior canal dehiscence

viii. Maintain accurate records, including digital and written documentation, in a clinical logbook/portfolio.

C. Attitude and Communication Domain

Fellows will demonstrate the ability to:

i. Communicate clearly and empathetically with patients suffering from vestibular disorders, addressing their physical, psychological, and social concerns.
ii. Work effectively as part of a multidisciplinary team, coordinating with neurologists, audiologists, physiotherapists, psychologists, and geriatricians.

iii. Exhibit professionalism, ethical responsibility, and cultural sensitivity in all clinical encounters.
iv. Educate patients and caregivers about the nature of vestibular disorders and the rationale for therapeutic interventions.
v. Engage in lifelong learning and actively contribute to research and teaching in vestibular medicine.

Program Specific Outcomes

i. Demonstrate advanced knowledge of the anatomy, neurophysiology, and pathophysiology of the vestibular system, with integrated understanding of neurological and neuro-ophthalmological principles.
ii. Diagnose and treat common and complex causes of vertigo and imbalance including those with neurological and neuro-ophthalmic manifestations.
iii. Perform and interpret advanced vestibular, neuro-ophthalmic, and neuroimaging assessments, including Craniooculography (COG)/Videonystagmography (VNG), Functional Head Impulse Test (fHIT), Video Head Impulse Test (vHIT), Stabilometry, Craniocorpography (CCG), VEMP, ECoG, and advanced imaging modalities.
iv. Perform vestibular procedures such as caloric tests, positional and repositioning maneuvers
v. Customize vestibular rehabilitation plans.
vi. Assist and perform surgeries for vestibular disorders including labyrinthectomy, endolymphatic sac decompression, and vestibular neurectomy.
vii. Formulate and implement evidence-based, multidisciplinary management plans for patients with vestibular disorders, incorporating medical, surgical, rehabilitative, and psychosocial strategies.
viii. Collaborate effectively with neurology, otology, ophthalmology, audiology, and rehabilitation teams in the care of patients with vestibular and related disorders.
ix. Critically appraise and contribute to research in vestibular medicine, including the design, conduct, and interpretation of clinical studies.
x. Demonstrate professionalism, ethical practice, and leadership in clinical, academic, and research environments, and effectively educate peers and trainees in vestibular sciences

Program structure

	Broad category of course	Hours/Credits	Course (Title + Course Code)
1.	**Discipline-Specific Courses**		
a)	Theory	200 hours	
b)	Practical (SEC)*		
c)	Clinical (SEC)*	1800 hours	
d)	Simulation-based (SEC)*		
2.	**Curriculum Enrichment Courses**		
a)	Field Visit		
b)	Community Posting		
c)	Industry / Clinical Internship		
d)	Research Project	8 months @1500 hours	
3.	**Electives**		
a)	Discipline-Specific Electives		
b)	Interdisciplinary Courses (*See Notes1*)		
c)	Ability Enhancement Courses • *Soft skills development* • *Language and communication skill development* • *Analytical skill development* • *Personality and professional development* • *Employability skill development*		
d)	Value Added Courses		
	Total	**3500 hours**	

SEC: Skill Enhancement Course

Note 1: Courses from other disciplines

1. Attendance

Minimum of 80% attendance in theory and 90% in clinical postings is mandatory to appear for the university examination.

Syllabus / Course contents

Module	Title	Core Topics	Learning Objectives
1.	Advanced Neuroanatomy & Neurophysiology	Central and peripheral vestibular pathways, brainstem and cerebellar circuits, ocular motor control, multisensory integration	○ Describe the detailed anatomy and neurophysiology of the vestibular and ocular motor systems, including central and peripheral pathways. ○ Correlate anatomical and neurophysiological knowledge with clinical and surgical decision-making.
2.	Neuro-ophthalmology in Vestibular Disorders	Visual pathways, ocular motility, nystagmus, supranuclear/infranuclear gaze disorders, optic neuropathies	○ Perform comprehensive neuro-ophthalmic examinations and interpret findings in vestibular patients. ○ Differentiate central from peripheral causes of nystagmus and diplopia.
3.	Clinical Neurovestibular Assessment	Advanced history, neurological and neuro-ophthalmic examination, cognitive and higher visual function testing	○ Conduct and interpret advanced bedside neurovestibular and neuro-ophthalmic assessments. ○ Identify red flags for central nervous system involvement.
4.	Diagnostic Techniques & Neuroimaging	COG/VNG, fHIT, vHIT,Stabilometry, CCG, VEMPs, ECoG, MRI/MRA,CT, fMRI, PET,neurophysiological tests	○ Select, perform, and interpret advanced vestibular, neuro-ophthalmic, and neuroimaging tests, including Craniooculography (COG)/Videonystagmography (VNG), Functional Head Impulse Test (fHIT), Video

Module	Title	Core Topics	Learning Objectives
			Head Impulse Test (vHIT), Stabilometry, Craniocorpography (CCG), VEMP, ECoG, and advanced imaging modalities. ○ Integrate multimodal diagnostic data for complex cases.
5.	Central Vestibular Disorders	Brainstem, cerebellar, cortical vestibular syndromes, demyelinating, vascular, neoplastic, degenerative diseases	○ Recognize and manage central vestibular disorders, integrating neuroimaging and neurophysiological findings. ○ Distinguish central from peripheral vestibular pathology with confidence.
6.	Peripheral Vestibular Disorders with Neurological Overlap	Meniere's, BPPV, vestibular neuritis, bilateral vestibulopathy, migraine, autoimmune and paraneoplastic syndromes	○ Diagnose and manage the full spectrum of peripheral vestibular disorders, including those with neurological overlap. ○ Develop individualized management plans for special populations.
7.	Multisensory Integration & Higher Functions	Vestibulo-visual, vestibulo-somatosensory integration, spatial orientation, cognition, emotion, perception	○ Assess and manage disorders of multisensory integration, perception, and cognition related to vestibular dysfunction. ○ Apply knowledge of neuroplasticity and compensation in clinical care.
8.	Pediatric Vestibular Disorders	Developmental neuroanatomy, congenital vestibular disorders, pediatric assessment, management strategies	○ Distinguish developmental and congenital vestibular disorders in children and apply age-appropriate assessment techniques. ○ Formulate individualized

Module	Title	Core Topics	Learning Objectives
			management and rehabilitation plans for pediatric vestibular patients. ○ Counsel families regarding prognosis and long-term care needs.
9.	Vestibular Disorders in the Elderly	Presbyvestibulopathy, falls, comorbidities, cognitive-vestibular interactions, geriatric rehabilitation	○ Identify and manage age-related vestibular dysfunction, including presbyvestibulopathy and fall risk. ○ Integrate cognitive, comorbid, and functional considerations into the care of elderly patients with vestibular disorders. ○ Conduct fall risk assessments and develop and implement fall prevention strategies. ○ Integrate geriatric specific rehabilitation including vestibular rehabilitation therapy, strength and balance training, and yoga-based protocols customized for vestibular patients.
10.	Neurogenetics and Molecular Mechanisms	Genetic vestibular syndromes, molecular diagnostics, emerging therapies	○ Explain the genetic and molecular basis of vestibular syndromes. ○ Interpret relevant genetic testing and integrate findings into patient management. ○ Discuss emerging molecular diagnostics and targeted therapies.
11.	Functional and Psychogenic Vestibular Disorders	Persistent postural-perceptual dizziness (PPPD), somatoform disorders, psychiatric comorbidities, multidisciplinary	○ Diagnose functional and psychogenic vestibular syndromes, such as PPPD and somatoform dizziness. ○ Collaborate with mental health professionals for

Module	Title	Core Topics	Learning Objectives
		management	multidisciplinary management. o Apply evidence-based interventions for functional dizziness
12.	Advanced Vestibular Therapeutics	Novel pharmacotherapies, surgical interventions, vestibular implants	o Evaluate and select advanced pharmacological and surgical, therapies for vestibular disorders. o Monitor outcomes and complications of advanced interventions.
13.	Neuro-rehabilitation & Interdisciplinary Management	Vestibular, neurological, and visual rehabilitation, neuroplasticity, prosthetics, multidisciplinary teamwork	o Design and implement advanced rehabilitation protocols for complex vestibular disorders. o Collaborate effectively in multidisciplinary teams.
14.	Research, Evidence-based Practice & Leadership	Clinical research, advanced statistics, translational neuroscience, ethics, teaching, and leadership skills	o Critically evaluate and conduct research in vestibular medicine. o Demonstrate leadership in clinical, academic, and research environments.
15.	Interdisciplinary Case Conferences	Complex case discussions involving neurology, ENT, ophthalmology, geriatrics, psychiatry, and rehabilitation	o Present and discuss complex vestibular cases in a multidisciplinary forum. o Integrate insights from neurology, ENT, ophthalmology, psychiatry, geriatrics, and rehabilitation into patient care. o Demonstrate advanced clinical reasoning and collaborative decision-making.

Teaching - Learning methods

- Lectures and case-based discussions
- Seminars and journal clubs
- Hands-on workshops on testing and maneuvers
- Patient-based clinical training
- Surgical observation and assistance
- Interdepartmental collaborative learning (Neurology, Physiotherapy)
- Simulation-based training
- Logbook maintenance and reflective writing

Teaching - Learning method	**Academic Activities**
Experiential learning	Case discussions
Integrated/Inter-disciplinary learning	Interdisciplinary Case Conferences
Participatory learning	Seminar, Journal Clubs
Problem-solving methodologies	Clinical case discussion and interpretation of reports
Self-directed learning	Research project
Patient-centric and Evidence-based learning	Case discussions
The Humanities	-
Project-based learning	Research project
Role play	-
Team work	-
Reflective writing	Portfolio
Any other	Externship postings to Centers for Excellence in Vertigo and Balance Disorders,

Scheme of Examination

a. Internal Assessment (Frequency, Pattern-Theory, and Practical)

- 2 Theory Tests (50 marks each)
- 2 Clinical Exams (50 marks each)
- Assessment of seminars and journal clubs

b. University Examination (Pattern-Theory, and Practical)

- **Theory**: One paper (100 marks, 3 hours)
  - Section A: 2 Long essays (2 × 20 = 40 marks)
  - Section B: 5 Short notes (5 × 12 = 60 marks)
- **Practical/Clinical**: 100 marks
  - Case presentation- 50 marks
  - OSCE– 20 marks
  - Viva voce – 10 marks (Discussion of complex case scenarios and concept clarity)
  - Research project (viva) – 10 marks
  - Portfolio- 10 marks

c. Departmental examination if any (Ability Enhancement Courses/ Value Added Courses) -NIL

Eligibility to appear for University Examination

- Minimum 80% attendance in theory and 90% in clinical
- One research project to be completed
- One paper/poster presentation in National/International Conference
- Satisfactory internal assessments and logbook completion

Criteria for pass

- Minimum 50% in theory and 50% in practical, separately
- All logbook entries must be completed and signed

Declaration of Class

50–59%: Pass Class
60– 69%: Second Class
70- 74%: First Class
≥75%: First Class with Distinction

Recommended books

i. Baloh RW, Halmagyi GM. Disorders of the Vestibular System. Oxford University Press, 1996.
ii. Leigh RJ, Zee DS. The Neurology of Eye Movements, 5th Edition. Oxford University Press, 2015.
iii. Shepard NT, Telian SA. Practical Management of the Balance Disorder Patient. Singular Publishing Group, 1996.
iv. Baloh RW, Honrubia V. Clinical neurophysiology of the vestibular system. Conte mp Neural Ser. 1.979;18:1-21
v. Jacobson GP, Shepard NT. Balance Function Assessment and Management, 2nd Edition. Plural Publishing, 2014.
vi. Zee DS. Vestibular Testing and Rehabilitation. In: Neurologic Clinics, 2005;23(3):675–692.
vii. Fife TD. Clinical Applications of Vestibular Testing. Futura Publishing, 2000.
viii. Practical Management of the Dizzy Patient, Joel A. Goebel, MD, Second Edition, Lippincott Williams & Wilkins, Published April 15, 2008
ix. Swartz JD, Loevner LA. Imaging of the Temporal Bone, 5th Edition. Thieme, 2009.
x. Yousem DM, Grossman RI. Neuroradiology: The Requisites, 3rd Edition. Elsevier, 2010.
xi. Joseph Furman, Stephen Cass, and Susan Whitney Vestibular Disorders: A Case Study Approach to Diagnosis and Treatment Third Edition. Oxford University Press, 2010

2. Journals

i. Journal of Vestibular Research
ii. Otology & Neurotology
iii. Audiology and Neurotology
iv. Indian Journal of Otolaryngology and Head & Neck Surgery

ANNEXURE

Blueprint for Theory and Practical Examination

Theory

- Vestibular anatomy/physiology: 20%
- Diagnostics: 25%
- Management (medical & surgical): 30%
- Rehabilitation: 15%
- Recent advances/case-based: 10%

Practical

- History & exam: 20%
- Test interpretation: 20%
- Case discussion: 20%
- Surgical skill/viva: 20%
- Communication & professionalism: 20%

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Model Question Paper

Fellowship in Vestibular Medicine

University Theory Examination
Maximum Marks: 100
Time: 3 Hours

Instructions:
- Answer all questions.
- Draw diagrams wherever applicable.
- Write answers clearly and legibly.
- Use separate sections for Part A and Part B.

Section A – Long Answer Questions (2 × 20 = 40 marks)

1. Describe the anatomy and physiology of the vestibular system. Add a note on the central processing of vestibular inputs and compensation mechanisms. *(20 marks)*
2. A 55-year-old male presents with episodic vertigo, aural fullness, and fluctuating hearing loss. Discuss the differential diagnosis, investigations, and step-wise management. *(20 marks)*

Section B – Short Answer Questions (5 × 12 = 60 marks)

1. Write a short note on Craniocorpography and its clinical applications. *(12 marks)*
2. Outline the indications, procedure, and complications of labyrinthectomy. *(12 marks)*
3. Compare and contrast vHIT and fHIT with regard to principles, interpretation, and limitations.
   (12 marks)
4. Discuss the various repositioning maneuvers used in the management of BPPV. *(12 marks)*
5. Enumerate the diagnostic criteria and management strategies for vestibular migraine. *(12 marks)*

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Portfolio template

FELLOWSHIP IN VESTIBULAR MEDICINE

DEPARTMENT OF OTORHINOLARYNGOLOGY

YENEPOYA MEDICAL COLLEGE

A unit of Yenepoya (Deemed to be University)

University Road, Deralakatte, Mangaluru – 575018

Portfolio

Name of the Fellow :

Department :

University Registration No :

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STUDENT

PROFILE

PHOTO

Name of the Department	
Name of the Student	
University Registration Number	
Batch	
Contact No	
Email I D	
Guardian/ Parent	
Name of the Guide	
Name of the Head of the Department	

Record of Daily Activities:

Date	Patient (Name/ID)	Diagnosis	Tests Performed/Interpreted	Procedures (Observed/Assisted/Performed)	Supervisor"s Signature

Seminars/Journal Club/Case Presentation

Sl. No	Topics	Date	Signature of the Faculty
1.			
2.			
3.			
4.			
5.			
6.			

EVALUATION OF PRESENTATIONS

Sl. No	Criteria for marks	Max. Marks 10
1	**Topic discussion with the concerned staff before presentation**	1
2	**Gives adequate introduction**	2
3	**Quality of content**	3
5	**Quality of Presentation**	2
6	**Topic discussion (Q/A)**	2

Grade	Marks
A	8-10
B	5-7
C	1-4

Date	SURGERIES Observed (O), Assisted (A), Performed (P)	Supervisor"s Signature

Externship Postings:

Name of the Centre/Institution:

Postings from: **to :**

Date	ACTIVITIES DONE FOR THE DAY – Observed (O), Assisted (A), Performed (P)	Signature of the health facility in charge

Reflections

Date	
What Did I Learn?	
What Went Well?	
What Could Be Improved?	
Plan for Improvement	
Signature (Trainee/Supervisor)	

Details of Research Project

Title of Project:

Name of Guide:

Duration:

Ethical Clearance : Protocol Number and Date

Periodic Progress Review

Date	Details of progress made	Remarks of Guide	Signature of Guide

CME/Conferences attended and Presentations

S. No.	Date	Type of activity	Venue & Event
1.			
2.			
3.			

Signature of Faculty