

**COMPREHENSIVE NEURODIAGNOSTIC
ASSESSMENT & MANAGEMENT
OF VESTIBULAR AND BALANCE SYSTEM
EXPERT LEVEL CERTIFICATION**

HYBRID



**INDO-AMERICAN INSTITUTE
OF HEARING & BALANCE**

IN ASSOCIATION WITH



www.rasya.org

9493 102 202

institute@rasya.org

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ABOUT US

Indo-American Institute of Hearing & Balance (IHB) is established by **Dr. Yugandhar Ramakrishna, AuD, PhD, CCC-A**, an Associate Professor, Vestibular Neuroscientist and Doctor of Audiology at California State University, Northridge and **Dr. Tejaswini Boreddy, AuD** with a vision to offer highest standard vestibular services to the patients and vestibular training to Audiologists in India.

IHB is a specialized institute offering post-graduation specialized training in Vestibular Sciences and Hearing. IHB is one of its own kind and first in India with state-of-the-art facilities established to provide specialized Vestibular training for practicing Audiologists, and graduating master students.

With an aim of producing more Audio-Vestibular Specialists and to increase the Audiologist's scope of practice we are introducing practicum rich vestibular training with most current, research and evidence based clinical American standard protocols. Respecting our Audiology colleagues feedback, we offer a hybrid method yet, practicum rich program with an honest intention to train every candidate to be competent and confident post training to practice independently.

IHB is proud to offer these services with the highest preference to Audiologists and help introducing vestibular services in your own clinic or hospital and serve your clients better. Our vestibular courses are specifically designed for Audiologists, and we look forward to working with you in the future!



Dr. Yugandhar Ramakrishna, AuD, PhD, CCC-A
Vestibular Neuroscientist, Professor & Doctor of
Audiology - California State University, Northridge

Founder, Director
Indo-American Institute of Hearing & Balance
RASYA Indo-American Clinic



Dr. Tejaswini Boreddy, AuD
Co-Founder,
Director of Clinical Services,
Doctor of Audiology

Indo-American Institute of Hearing & Balance
RASYA Indo-American Clinic



COURSE DESCRIPTION

Comprehensive Neurodiagnostic Assessment & Management of Vestibular and Balance System is a course that provides participants with an in-depth understanding of balance and vestibular assessment, and management of vestibular disorders. This course is designed to provide participants with evidence-based treatment strategies to manage patients with balance disorders more efficiently and productively.

HYBRID MODE

This course is designed in HYBRID method with a combination of online and on-site sessions to accommodate all practicing Audiologists and students to learn at home self paced and to reduce the burden of higher expenses without compromising the quality of education.

Part I - Online session

- This session covers the theoretical aspect of the course.
- Self-paced online and no weekly deadlines to truly learn at your own pace.
- All sessions must be completed prior to hands-on session.

Part II - onsite hands-on session

- This on-site session is live hands-on.
- Total of 7 days with true hands-on experience with one session dedicated for individual practice and the possibility of observing patients.*

ELIGIBILITY / WHO IS THIS COURSE FOR?

- **Students** - M. Sc. Audiology or M. Sc. ASLP.
- **Practicing Audiologists** with a minimum of bachelor's degree in Audiology looking to specialize in vestibular sciences.
- Private practice audiology owners looking to introduce vestibular services in their clinics or hospitals.



LEARNING OBJECTIVES

- Gain a comprehensive understanding of the core anatomy and physiology of the human balance system, including the peripheral and central vestibular systems, and their coordination with the oculomotor system.
- Learn evidence-based protocols and strategies for the evaluation of patients with balance disorders, including case history, subjective and objective evaluation methods.
- Understand the clinical evaluation of balance from a vestibular audiologist perspective and develop proficiency in performing and interpreting diagnostic tests such as Videonystagmography (VNG), Caloric Testing, Video-Head Impulse Test (vHIT), and Vestibular Evoked Myogenic Potentials (VEMP), Electrocochleography (ECochG), Rotary Chair Test, Dynamic Visual Acuity (DVA) and other balance assessments.
- Demonstrate the most effective & sensitive clinical evaluation protocols that can identify candidates for treatment and enable proper assessment and management.
- Identify and differentiate between common disorders affecting vestibular and balance function.
- Develop skills in differential diagnosis and interpretation of vestibular test results, with a focus on documentation and report writing.
- Apply hands-on training and case presentation discussions to reinforce theoretical knowledge and practical skills.
- Demonstration and training of Canalith Repositioning Treatment for all forms of BPPV.
- Use diagnosis-based strategies for designing and implementing a comprehensive vestibular rehabilitation program.
- Describe the basic concepts behind VRT and explain the central vestibular compensation.

PART 1

ONLINE SESSION



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PART 1 - ONLINE SESSION



Basic Science/Anatomy and Physiology of the Human Balance System

MODULE 1

Anatomy and physiology of Vestibular System.

- Peripheral Vestibular System
- Central Vestibular System

Anatomy and physiology of oculomotor system.

Reflex systems and its coordination with balance.

- Vestibulo-Ocular Reflex (VOR)
- Vestibulo-Collic Reflex (VCR)
- Vestibulo-Spinal Reflex (VSR)



Clinical Evaluation of Vestibular Function & Assessment Protocols

MODULE 2

Case History & relevant questionnaires.

Bedside / Subjective Evaluation.

Diagnostic clinical evaluation:

Overview and Principle

Clinical Considerations

Test Protocols

Analyses

Interpretations

Clinical Application

- Videonystagmography (VNG)
- Caloric Testing
- Video-Head Impulse Test (vHIT)
- Vestibular Evoked Myogenic Potentials (VEMP)
- Electrocochleography (ECochG)
- Rotational Chair Testing
- Dynamic Visual Acuity (DVA)
- Subjective Visual Vertical (SVV)

PART 1 - ONLINE SESSION



Common Vestibular & Balance Disorders: Differential Diagnosis

MODULE 3

BPPV
Vestibular Neuritis
Labyrinthitis
Vestibular Migraine/ Migraine Associated Vertigo
Meniere's Disease / Endolymphatic Hydrops
Perilymphatic Fistulas
Superior Semi-circular Canal Dehiscence
Acoustic Neuroma/ Vestibular Schwannoma
Vestibular Paroxysmia
Age-Related Vestibular Disorders
PPPD
Others



BPPV management & Patient Resources

MODULE 4

Canalith Repositioning Procedure/ Treatment.

Posterior Canal
Horizontal Canal
Anterior Canal

Vestibular Rehabilitation Therapy for Audiologist.

Building VRT protocol based on diagnosis

Adaptation
Habituation
Substitution

Patient Resources & Referral.

PART 2

ON-SITE HANDS-ON



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PART 2 - ON-SITE HANDS-ON TRAINING

DAY 1

10:00 am - 6:00 pm

AM session
10AM - 1PM

Sign-up & Introduction

Functional review & practical applications of

- *Peripheral*
- *Central*
- *VOR*
- *VCR*
- *VSR*

TEA BREAK

Overview - VNG Assessment

- *Practical VNG protocol*

VNG PROTOCOL - OCULOMOTOR

- *Smooth Pursuit*
- *Saccades*
- *Optokinetic*

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

Hands-on : VNG - Oculomotor subtests

- *Hands-on - Independently*
- *Test administration*
- *Result Analysis*
- *Interpretation*

TEA BREAK

VNG PROTOCOL - GAZE & HEAD SHAKE

- *Eccentric gaze nystagmus*
- *High frequency Head shake*

Hands-on: VNG - Gaze & Head shake

- *Hands-on - Independently*
- *Test administration*
- *Result Analysis*
- *Interpretation*



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PART 2 - ON-SITE HANDS-ON TRAINING

DAY 2

10:00 am - 6:00 pm

AM session
10AM - 1PM

VNG PROTOCOL - CERVICAL & VBI

- Cervical screening - Sitting
- Vertebrobasilar insufficiency screening

VNG PROTOCOL - POSITIONAL TESTS

- Head positions - Supine
- Body positions vs Head positions
- Headshake - Body lateral supine position

TEA BREAK

Hands-on: VNG - Gaze, Head shake & Positional

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

VNG PROTOCOL - (BPPV) POSITIONING TESTS

Overview & Demonstration

- Posterior Canal BPPV
- Lateral Canal BPPV
- Anterior Canal BPPV

TEA BREAK

Hands-on: VNG - (BPPV) Positioning tests

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

PART 2 - ON-SITE HANDS-ON TRAINING

DAY 3

10:00 am - 6:00 pm

AM session
10AM - 1PM

VHIT - PROTOCOL & ASSESSMENT

Overview & Demonstration

- Lateral Canals
- RALP
- LARP

TEA BREAK

Hands-on: vHIT

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

CALORIC TEST - PROTOCOL

Overview & Demonstration

- Bithermal vs Monothermal
- Considerations

TEA BREAK

Hands-on: Caloric tests

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

Cross check principles (Caloric vs vHIT)

PART 2 - ON-SITE HANDS-ON TRAINING

DAY 4

10:00 am - 6:00 pm

AM session
10AM - 1PM

VEMP - PROTOCOL & ASSESSMENT

Overview & Demonstration

- cVEMP
- oVEMP
- Clinical applications

TEA BREAK

Hands-on: VEMP

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

BEDSIDE / FUNCTIONAL ASSESSMENT

Overview, Demonstration & Practice

- Bedside gaze assessment
- SOP
- Head thrust test
- Post-Headshake
- Cervicogenic
- Optokinetic
- others

TEA BREAK

TEST RESULTS - DIAGNOSIS & INTERPRETATION

Putting all pieces together

Documentation & Report writing

Dinner with IHB Team (7-9 pm)

PART 2 - ON-SITE HANDS-ON TRAINING

DAY 5

10:00 am - 6:00 pm

AM session
10AM - 1PM

ROTARY CHAIR - PROTOCOL & ASSESSMENT

Overview & Demonstration

- Sinusoidal Harmonic Acceleration (SHA)
- Step Velocity
- Visual fixation

TEA BREAK

Hands-on: Rotary Chair

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

ECOCHG - PROTOCOL & ASSESSMENT

Overview & Demonstration

- Principle
- Clinical application
- Considerations

TEA BREAK

Hands-on: ECoChG

- Hands-on - Independently
- Test administration
- Result Analysis
- Interpretation

Review & Case studies

PART 2 - ON-SITE HANDS-ON TRAINING

DAY 6

10:00 am - 6:00 pm

AM session
10AM - 1PM

DVA & SVV - PROTOCOL & ASSESSMENT

Overview & Demonstration

- *Dynamic Visual Acuity (DVA)*
- *Subjective Visual Vertical (SVV)*

Clinical applications

TEA BREAK

Hands-on: DVA & SVV

- *Hands-on - Independently*
- *Test administration*
- *Result Analysis*
- *Interpretation*

Review & Case studies

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

BALANCE - PROTOCOL & ASSESSMENT

Overview & Demonstration

- *mCTSIB (Sensory Integration of Balance)*
- *Limits of Stability (LOS)*
- *Cervicogenic*
- *Others*

TEA BREAK

Hands-on: Advanced Balance & Cervicogenic

- *Hands-on - Independently*
- *Test administration*
- *Result Analysis*
- *Interpretation*

Review & Case studies



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PART 2 - ON-SITE HANDS-ON TRAINING

☾ **DAY 7** ☽

10:00 am - 6:00 pm

AM session
10AM - 1PM

BPPV MANAGEMENT - CRT

Posterior Canal BPPV - Management

Demonstration & Practice

- Epley Maneuver
- Semont Liberatory Maneuver
- Gans Repositioning Maneuver

TEA BREAK

Lateral Canal BPPV - Management

Demonstration & Practice

- Barbeque Roll
- Forced Prolonged Positioning
- Gufoni/Appiani Liberatory Maneuver

Anterior Canal BPPV - Management

Demonstration & Practice

- Deep Head Hanging Maneuver

LUNCH BREAK - 1 PM to 2 PM

PM session
2PM - 6PM

VESTIBULAR REHABILITATION THERAPY

Overview, Principle & Demonstration

- Adaptation
- Habituation
- Substitution

TEA BREAK

PRACTICE: VRT

- Hands-on - Independently
- Practice with group
- VRT Administration

Summary & Conclusion



*There is a need now
more than ever
to produce more
AudioVestibular
Specialists*



Dr. Yugandhar Ramakrishna

Let's build a better future for Audiologists



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🌐 www.rasyainstitutes.com

✉ Institute@rasya.org

☎ 9493 102 202

701, Malik Solitaire, 1st Floor,

Road No. 36, Jubilee Hills,

Hyderabad, Telangana - 500033