



Research Making You Dizzy? How to Translate the Vestibular Clinical Practice Guidelines into Practice. CSM 2020. Denver, CO.



Research Making You Dizzy? How to Translate the Vestibular Clinical Practice Guidelines into Practice

APTA Combined Sections Meeting
February 14, 2020
Denver, CO



Our Team



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Disclosures

Disclaimer: The views and opinions expressed in this presentation are those of the authors and do not necessarily reflect the official policy or position of any agency of the U.S government.




Learning Objectives

1. Understand the process used to develop the vestibular CPG and how it contributed to providing the best available evidence toward the making CPG recommendations.
2. Explain how the 10 vestibular CPG action statements can be applied to various clinical practice settings by utilizing the knowledge translation research.
3. Consider through case examples how vestibular CPG implementation strategies can affect physical therapist behavior (the good the bad and the ugly).
4. Utilize CPG resources and guidance developed from the results of the Vestibular CPG taskforce's knowledge translation.




An Evidence Translation Primer:

- Evidence based practice
- Knowledge translation
- Implementation science




Evidence Translation Primer: Definitions

- Evidence based practice
- Knowledge translation
- Implementation science



Highland Bridge, Denver, CO
From: www.kingfab.com




Evidence Translation Primer: State of the Evidence

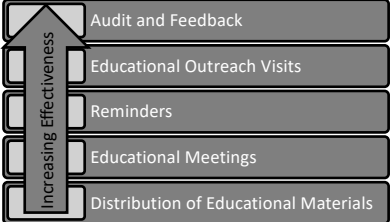
- Active, multifaceted
 - Menon et al. J Rehabil Med. 2009
 - Al Zoubi et al. BMC Health Serv Res. 2018
- Stakeholder informed
 - Munce et al. BMC Health Serv Res. 2017
- Systems focus, framework-informed
 - Gaskins et al. Disabil Rehabil. 2019
 - Geerlings et al. Implement Sci. 2018
 - Hudon et al. Phys Ther. 2015
 - Johnson and May. BMJ Open. 2015
 - Fritz et al. Impl Sci. 2019

"Behavior change among individuals and health care delivery systems is inherent in the translation of evidence into practice"

Gonzales et al. Acad Med. 2012




Evidence Translation Primer: State of the Evidence



"A cyclical, rather than linear, approach is necessary because translating evidence into practice requires attention to real-world settings..."

Gonzales et al. Acad Med. 2012

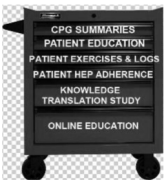

Johnson and May. BMJ Open. 2015




Clinician Toolbox

REFERENCE FOR REHABILITATION PROFESSIONALS
CLINICAL PRACTICE GUIDELINES FOR PERIPHERAL VESTIBULAR HYPOFUNCTION

Web Address/QR Code

Development of the Peripheral Vestibular Hypofunction CPG



Peripheral Vestibular Hypofunction CPG Clinical Practice Guidelines Development


APTA

CLINICAL PRACTICE GUIDELINES

Vestibular Rehabilitation for Peripheral Vestibular Hypofunction: An Evidence-Based Clinical Practice Guideline

CPG published in April 2016's JNPT


Hall CD, et al. Vestibular Rehabilitation for Peripheral Vestibular Hypofunction: An Evidence-Based Clinical Practice Guidelines. JNPT, 2016; 40:124-156.




Peripheral Vestibular Hypofunction CPG Clinical Practice Guidelines Development

PURPOSE: Optimize rehabilitation outcomes for people with peripheral vestibular hypofunction


- Providing best evidence and practice recommendations to clinicians
- Reducing unwarranted variation in care
- Encouraging collaborative relationships between health care providers
- Identifying areas of research needed to improve evidence-based clinical management




Peripheral Vestibular Hypofunction CPG Clinical Practice Guidelines Development




Courtney D. Hall, PT, PhD




Susan J. Herdman, PT, PhD, FAPTA



Susan L. Whitney, PT, PhD, NCS, ATC, FAPTA



Multidisciplinary Advisory Board



Critical Appraisal Team

Peripheral Vestibular Hypofunction CPG Clinical Practice Guidelines Development

LITERATURE CRITICAL APPRAISAL

1985 to 2015

Meta-analyses, Systematic Reviews, RCTs, Cohort Studies, Case Control Studies, Case Series & Case Studies

Inclusion: Peripheral Vestibular Hypofunction


Excluded: Central Vestibular Disorders; migraine, M.S., P.D., Superior Canal Dehiscence, Primary BPPV

Σ 135 articles included

Peripheral Vestibular Hypofunction CPG Clinical Practice Guidelines Development

10 Action Statements

- Resulted from the critical appraisal
- Summary of the CPG recommendations
- Intent of recommendations is for therapists to know:
 - WHO** to treat
 - HOW** to treat
 - WHEN** to treat



Peripheral Vestibular Hypofunction CPG Highlights of the 10 Action Statements

WHO to treat

- Strong recommendation**
 - People with acute, subacute, and chronic unilateral and bilateral vestibular hypofunction with symptoms benefit from vestibular rehabilitation

Action Statements 1 – 3 and 10

Peripheral Vestibular Hypofunction CPG Highlights of the 10 Action Statements

HOW to treat

- Moderate recommendation**
 - Offer targeted exercise strategies to specifically address
 - dizziness/vertigo,
 - gaze instability due to head movements, and
 - imbalance/falls.
- Strong recommendation**
 - NOT** prescribe saccadic or pursuit exercises as gaze stabilization exercises.

Action Statements 4 - 7

Peripheral Vestibular Hypofunction CPG Highlights of the 10 Action Statements

HOW to treat

- Moderate recommendation**
 - Provide customized, supervised exercise program as compared to generic &/or solely home-based exercises
- Expert opinion recommendation**
 - Gaze stability dosage:
 - Minimum of three times/day
 - Acute and Subacute - At least 12 minutes/day
 - Chronic and Bilateral - At least 20 minutes/day

Action Statements 4 - 7


Peripheral Vestibular Hypofunction CPG

Highlights of the 10 Action Statements

WHEN to treat

- Based on weak to strong evidence:
 - Age and gender **do not** affect outcomes
 - Anxiety, migraine, peripheral neuropathy or vestibular suppressants **may negatively affect outcomes**
- Evidence supports **early initiation of rehab**, however those with **chronic symptoms may benefit from care**

Action Statements 8 and 9




Peripheral Vestibular Hypofunction CPG

Highlights of the 10 Action Statements

WHEN to treat

- Expert opinion recommendation
 - Treating one time/week
 - Number for sessions:
 - **Acute and Subacute Unilateral:** 2 - 3 sessions
 - **Chronic Unilateral:** 4 – 6 sessions
 - **Bilateral:** 8 – 12 sessions

Action Statements 8 and 9




Peripheral Vestibular Hypofunction CPG

Highlights of the 10 Action Statements

WHEN to treat

- Expert opinion recommendation
 - Stop Care When:
 - Goals met
 - Symptoms resolved
 - Plateau reached
 - Patient's choice
 - Non-adherence
 - Status deteriorates
 - Prolonged symptom increase
 - Co-morbidities affect ability to participate

Action Statements 8 and 9





Peripheral Vestibular Hypofunction CPG


Online Education Course

“Peripheral Vestibular Hypofunction CPG Set into Action”

- Developed by the CPG taskforce to disseminate CPG and promote implementation
- Sponsored by ANPT Online Education Committee
- Narrated, game-based, interactive online course
- Cost and Credit
 - No charge
 - Earn 0.1 CEUs




Vestibular CPG Knowledge Translation Study



Multi-Center Case Series Implementation of “Vestibular Rehabilitation for Peripheral Vestibular Hypofunction: An Evidence-Based Clinical Practice Guideline”

Specific Aim: Implement stakeholder-selected action statements from the Vestibular Hypofunction CPG in five distinct sites using the Knowledge to Action cycle

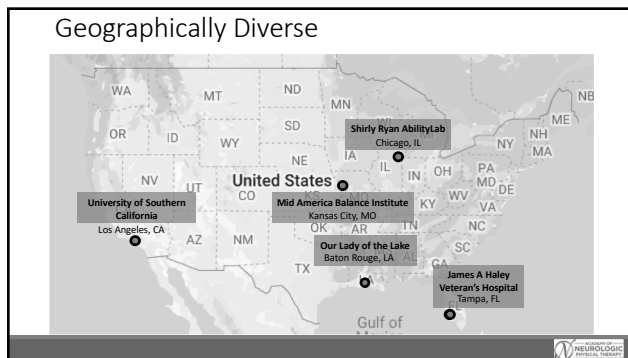
Funding: \$20,000 ANPT Knowledge Translation Grant



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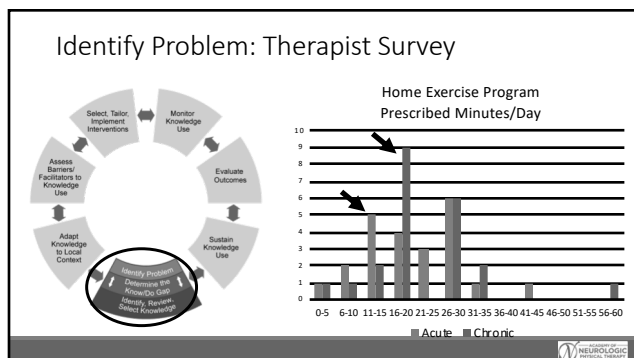
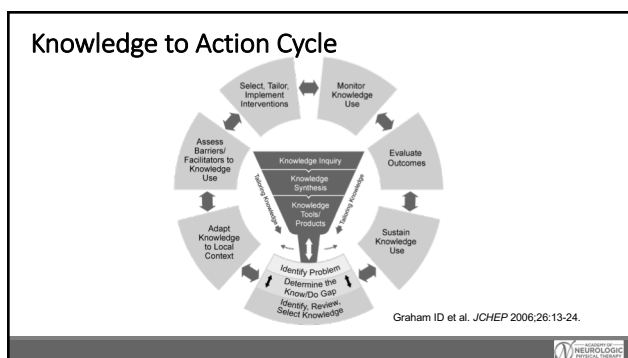
Site	Location	# PTs	Site Leader
James A. Haley Veteran's Hospital	Tampa, FL	22	Karen M Skop, PT, DPT, MS
Our Lady of the Lake	Baton Rouge, LA	2	Sara MacDowell, PT, DPT
Mid-America Balance Institute	Kansas City, MO	4	Linda D'Silva, PT, PhD, NCS
Shirley Ryan AbilityLab	Chicago, IL	11	Heidi Roth, PT, DHS, NCS
USC Physical Therapy	Los Angeles, CA	4	Robbin Howard, DPT, NCS

Principal Investigator: Julie K. Tilson, PT, DPT, MS, NCS
 Statistics and Data Management: Clarisa Martinez, PT, DPT, MS
 Collaborators: Elizabeth Dannenbaum, BScPT, MScPT; Lisa Farrell, PT, PhD, ATC



Structurally Diverse

#	Organizational Structure	Internal Site Lead	Locations	# PTs
1	Small independent practice	✓	1	2
2	Research hospital	✓	1	11
3	Medium independent practice		3	4
4	Large academic institution	✓	1	4
5	Large US government institution	✓	9	22



Adapt Knowledge: Therapist-generated goals

Therapist Generated Goal:
Facilitate patient adherence to prescribed exercise program

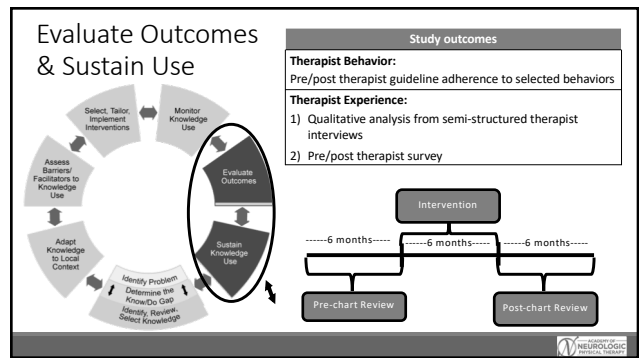
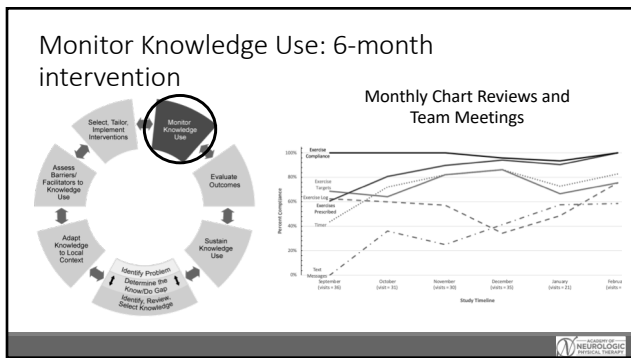
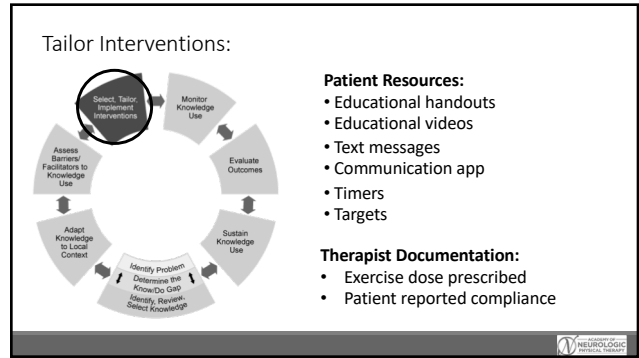
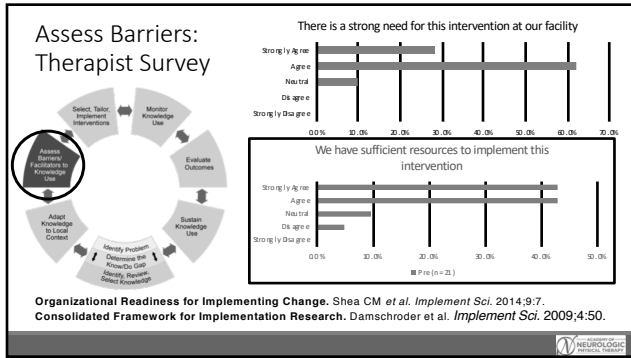
Effectiveness of Vestibular Rehabilitation

- Strong recommendation (Level I*) that vestibular rehabilitation should be offered to patients with symptoms due to:
 - Acute, Subacute, & Chronic Unilateral Hypofunction
 - Bilateral Hypofunction, including Pediatrics

Effectiveness of Different Exercise Types for Unilateral Peripheral Vestibular Hypofunction

- Moderate recommendation (Level II*) for use of targeted exercise techniques for acute and chronic hypofunction

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Our Lady of the Lake Regional Medical Center

Hearing and Balance Center
Baton Rouge, LA

Who we are

- Hospital based outpatient facility
 - Neurotology clinic
- 1 full time PT, 1 part time PT
- Vestibular nerve and facial nerve disorders
 - 100 patient visits per month

What we wanted to change

- Optimal dosage of home exercise program
- Emphases:
 - Patient education/instruction
 - Patient compliance

Why we wanted to change

Inspired by CPG Action Statements 5 and 7

Effectiveness of Different Exercise Types for Unilateral Peripheral Vestibular Hypofunction

- Moderate recommendation (Level II*) for use of targeted exercise techniques for acute and chronic hypofunction

Optimal Exercise Dose

- Expert opinion recommendation (Level V*) for gaze stabilization exercise for unilateral & bilateral hypofunction consists of:
 - Acute/Subacute - Three times/day minimum (At least 12 minutes/day)
 - Chronic - Three times/day minimum (At least 20 minutes/day)

Why we wanted to change

We lacked:

- Formal system for patient exercise instruction
- Capacities to track compliance
- Consistency for patient instruction and compliance

What we *thought* would work

- **Exercise Instruction:**
 - New software
- **Exercise Compliance:**
 - Exercise supplies to send home
 - Text message reminders
 - Exercise log
- **Documentation:**
 - Smart phrases to track exercise compliance



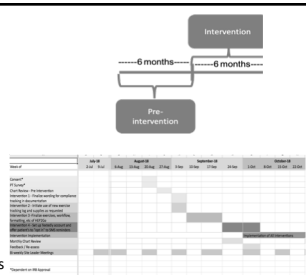
What we did

Pre-intervention phase:

- 7 meetings
- Identified opportunities and barriers
- Developed chart audit form
- Developed new resources
 - HEP software, supplies, smart phrases
 - Developed implementation timeline

Implementation phase:

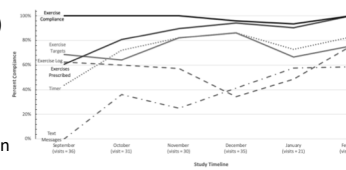
- Monthly meetings for 6 months
- Rolled out all interventions over 2 months
- Reviewed monthly chart review data and discussed successes and barriers with implementation



The Details

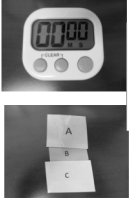
Monthly Meetings (6 months)

- Discussed data from chart audits
- Discussed action items to improve
- Adjusted EMR documentation phrases




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The Details



Exercise Supplies



Exercise Log



Exercise Program

The Details

Exercise Compliance
How often did you do your prescribed exercises since your last PT session?

ALWAYS
USUALLY
ABOUT HALF THE TIME
SELDOM
NEVER

Exercise compliance via Smart Phrases in EMR:

- **Beginning of documentation**
 - Gaze stability tracking:
 - Number of seconds/minutes per day
 - How many times per day on average
 - Frequency
 - Barriers
- **Other Exercise tracking:**
 - Frequency and barriers
- **Any resources used**

Patient reported exercise compliance:

- Gaze stability exercises were performed on average for 30 seconds, 5 times per day
- Gaze stability exercises were performed: Always. Barriers to gaze stability exercises: none
- Other vestibular exercises were performed: Always. Barriers to other vestibular exercises: none
- Compliance tools used by patient: exercise supplies (targets), patient made her own log

The Details

- **Exercise compliance via Smart Phrases in EMR:**
 - **End of documentation**
 - Tracked if exercises were advanced
 - Exercise instruction methods
 - Any new resources provided

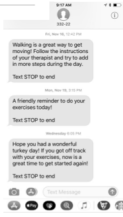
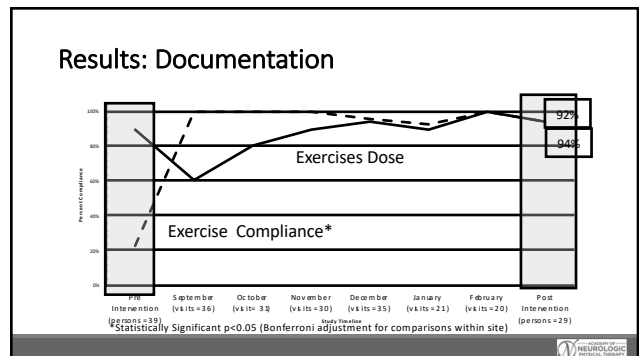
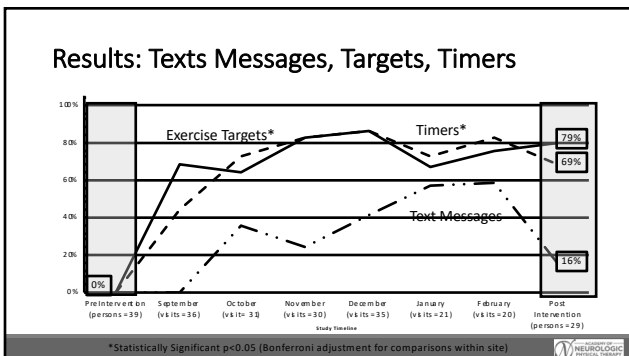
Gaze stability advanced or prescribed: yes
Other Vestibular exercises advanced or prescribed: yes
Compliance tools provided/offered to patient: text messaging reminders, exercise supplies (targets), patient to use cell phone timer and metronome
If patient refused compliance tool(s), please explain: n/a
Educational methods used:

- Written
- Demonstration
- Verbal
- Videos for use at home

The Details

Want a little help remembering to do your exercises? Text the word "exercise" to 33222. You will get 3-4 short text message reminders per week. Cancel at any time by replying with the word "stop."
Standard text messaging rates apply.

- **Text Messaging Reminders:**
 - Subscribed to Textedly (\$25/month)
 - 21 sample text messages
 - Invitations to participate
 - Laminated sign in clinic
 - Paper in patient folders

What we are doing now

Continued:

- Online exercise software
- Timers, targets, and backgrounds to patients
- Home exercise log
- Smart phrases

Discontinued:

- Text message reminders



Pearls

- Communication is important, especially with a small staff
- If something that you try is not working, then it is ok to move on
- Use your documentation system to help you
 - Value in simply consistently asking patients about their compliance
- Sometimes simple solutions are helpful
 - Timers and targets were well received



Shirley Ryan AbilityLab



Who we are

- Outpatient clinic in a rehabilitation hospital setting
- 7 – 9 physical therapists specializing in vestibular rehabilitation



What we wanted to change

- Optimal Dosage Recommendations (Gaze Stabilization):
 - Therapist Home Program Prescription
 - Patient adherence
- Documentation:
 - Systematic / consistent documentation



Why we wanted to change

- Improve consistency of dosage recommendations amongst clinicians
- Patients adherence to gaze stabilization dosage recommendations
- Due to current documentation, at times unclear:
 - Patient reported adherence of HEP
 - Recommended dosage
- Improve written communication between therapists sharing patients



Why We Wanted to Change:

Effectiveness of Different Exercise Types for Unilateral Peripheral Vestibular Hypofunction

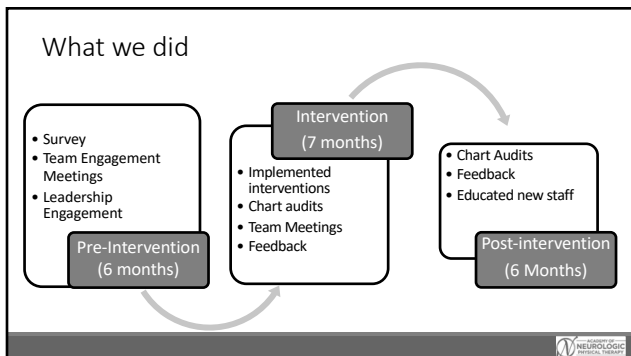
- Moderate recommendation (Level II*) for use of targeted exercise techniques for acute and chronic hypofunction

Optimal Exercise Dose

- Expert opinion recommendation (Level V*) for gaze stabilization exercise for unilateral & bilateral hypofunction consists of:
 - Acute/Subacute - Three times/day minimum (At least 12 minutes/day)
 - Chronic - Three times/day minimum (At least 20 minutes/day)

What we thought would work

- Patient Adherence:
 - Updated educational forms
 - Exercise Videos
 - Text Message Reminders
- Documentation Standardization



Interventions: The Details

GAZE STABILIZATION X 1 VIEWING
<https://youtu.be/58X-096cG>

- Stand a few feet from target on wall. Focus eyes on target.
- Turn head a small amount to the right and then to the left (or up / down)
- Move your head as fast as you can, while keeping the target in focus.
- Continue for _____ seconds. Repeat horizontally and vertically, each for _____ repetitions. Repeat _____ times per day.

Note: You might feel an increase in symptoms which is normal. If this lasts > 20 minutes please contact your physical therapist or follow their directions.

What is Unilateral Vestibular Hypofunction (UVH)?

A diagnosis of unilateral vestibular hypofunction is made when the balance system in your inner ear, the peripheral vestibular system, is not working properly. There is a vestibular system in both inner ears, an unilateral means that only one side is impaired, while the other side is working normally. This can help greatly in the recovery process! Our inner ear and eyes work together through the vestibulo-ocular reflex (VOR), which is a very fast reflex that keeps our vision clear with head movement. This reflex can become less effective when there is a problem with the inner ear. Though a process called VOR adaptation, we can make changes to the way our ear and eye work together and compensate for this problem.

How can physical therapy help me?

A physical therapist (PT) will do an examination, including tests of your vestibular and visual systems, balance, walking, and activities at home or work that you are having trouble with. Using this information, the PT will provide an individualized exercise program, including exercises to increase VOR adaptation and improve your dizziness.

How does VOR Adaptation work?

The physical therapist will provide you with "gaze stabilization" exercises to help the inner ear regain its function (a form of VOR adaptation). By moving your head quickly while keeping your vision focused on a target, the brain is able to adapt or "reset" the way the eyes move with the head. This will help improve your ability to move your head without blurred vision and decrease your dizziness.

What else do I need to know about VOR Adaptation?

It is important to note that at first the exercises may temporarily increase your symptoms or dizziness, but this is normal and a necessary part of the recovery process. Based on the research, your PT will prescribe the right amount of exercises to do each day. If this is a new problem, the goal is to perform at least 12 minutes of gaze stabilization exercises total throughout the day, or if you have been experiencing this for a while, then the goal is 20 minutes total throughout the day. Your PT will instruct you that it is enough to make improvements, but also manageable for you in your daily life. Stick with it, and ask your therapist if you have any questions. Having some symptoms helps us know that we are heading in the right direction with your recovery process!

Interventions: The Details

Youtube Video

- Website listed on handout
- Created VOR x 1 video

Interventions: The Details

Text Message Reminders

- Contract \$780 / year
- Consent Form
- 3 x day text message reminders
- Manually entered phone numbers

Interventions: The Details

Standardized Documentation:

- Subjective: Reported compliance for HEP (# min / day, # days per week)
- Intervention Performed in Session:
 - What was performed in the clinic (gaze stabilization, balance, etc.)
 - Specific dosage
- Education:
 - HEP Prescription (specific dosage) / Update
 - Specific Resources used (Education forms, compliance log, video, text message, etc.)



Intervention Phase: Details

- Monthly chart audits
- Meetings with vestibular therapists every 1-2 months
 - Education on intervention roll outs
 - Team Feedback
 - Discussion of barriers and goals



Session Information

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Session Date: 10-17-2018 [calendar icon] [today icon] [help icon]

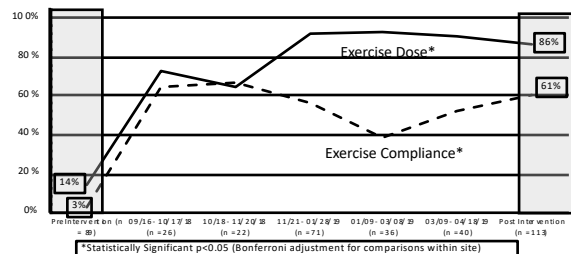
Gaze Stability Exercise Prescription and Education

Gaze stability exercises prescribed or advanced: Yes No Not applicable

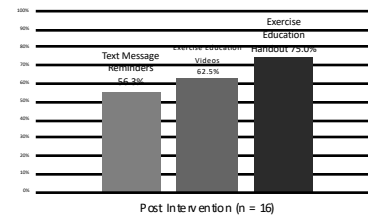
Gaze stability exercise instruction provided: Yes No



Documentation



Patient Resource Tools



What we are doing now

- Sustainability:
 - Training new therapists (interventions and documentation recommendations)
 - Utilizing updated educational forms
 - Contract with text message company will not be renewed
 - Intervention successful but contract was not a good organizational fit
- Plan: Translate the education handouts to additional languages




Pearls

- Identify team barriers by asking, don't make assumptions!
- Choose interventions / processes with easy implementation
- Keep it simple
- Chart audits are time consuming
 - Feedback was well received and reported to be helpful
 - Consider automated ways to generate data for feedback




Mid-America Balance Institute and Blue Ridge Physical Therapy

Kansas City, MO



Who We are

- Private, for-profit outpatient clinic with 3 sites in the Kansas City metro area.
- MABI South is primarily focused on evaluation and management of patients with vestibular dysfunction. Testing is done by audiology and physical therapy professionals
- MABI South and Blue Ridge Physical Therapy are outpatient clinics that see patients with varied diagnoses



Why we wanted to change


Effectiveness of Different Exercise Types for Unilateral Peripheral Vestibular Hypofunction

- Moderate recommendation (Level II*) for use of targeted exercise techniques for acute and chronic hypofunction

Optimal Exercise Dose

- Expert opinion recommendation (Level V*) for gaze stabilization exercise for unilateral & bilateral hypofunction consists of:
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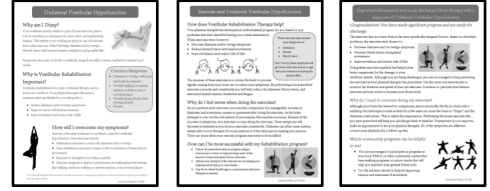

**We wanted new ideas to increase patient compliance
Not all therapists were asking about anxiety. If patients were anxious, we did not have a next step**



What we thought would work

Education handouts at 3 time points of care

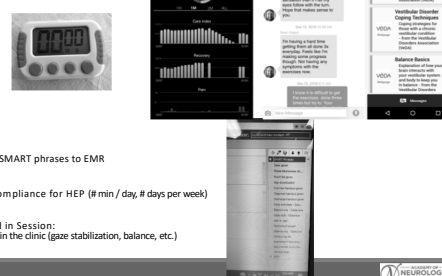
- Evaluation
- Mid-point
- Discharge

What we thought would work


Resources for patients

- Timers
- Metronomes
- In Hand Health app



Resources for therapists

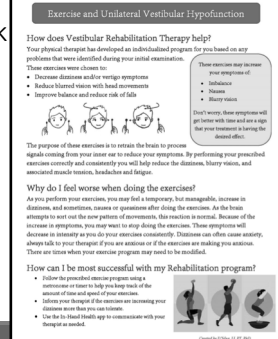

- Documentation - added SMART phrases to EMR
- Subjective: Reported compliance for HEP (# min / day, # days per week)
- Intervention Performed in Session:
 - What was performed in the clinic (gaze stabilization, balance, etc.)
 - Specific dosage

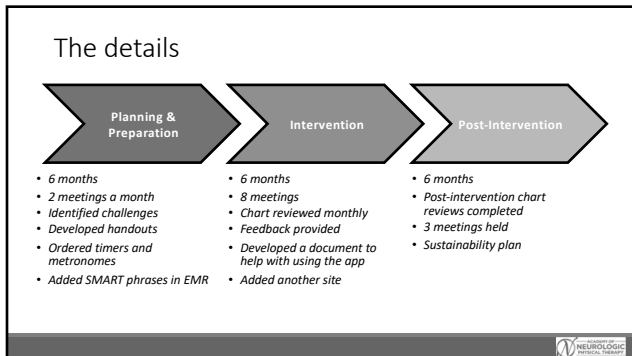


What we thought would work

To discuss the relationship between dizziness and anxiety

- Mid-therapy handout
- List of psychologists in the area



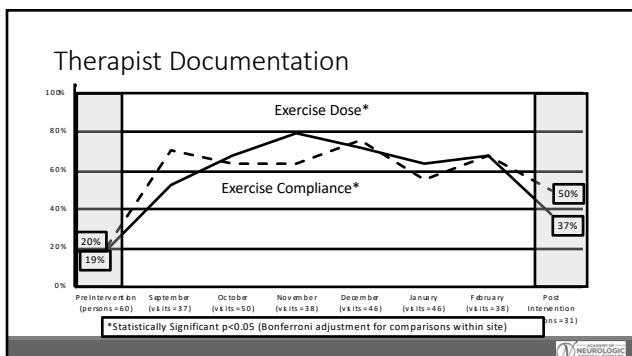
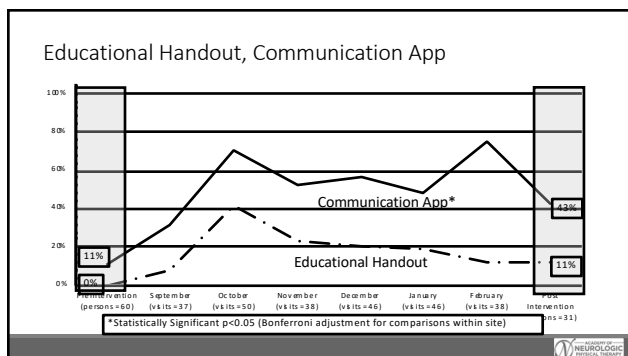
The Details

- Created a list of psychologists in the area
- Created a document to show the steps to download the app to patient's phones

The Details

Changes during the 6 months:

- 3 therapists from one site left the organization
- Another site opened up - 2 new therapists were added to the study
- Discontinued the app as part of the study



What we are doing now

- We have notes put up at the therapist's desks to remind them to give out the handouts
- We have placed timers and metronomes in strategic places in the clinic to hand out to people who do not have smart phones

Pearls

- With therapist turnover, assess and re-assess if the goals are common to all
- Keep it simple
- Identify a point person in the clinic who can update the goals as needed



University of Southern California

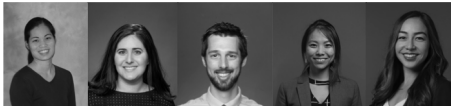
Los Angeles, CA



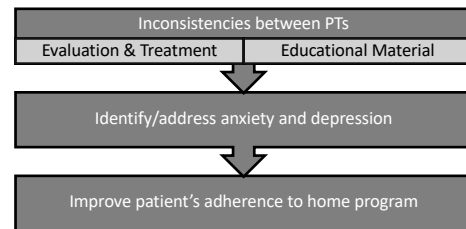
Who we are

- Outpatient setting – academic medical center
- 2 PTs – full study, plus 2 PTs added during post-intervention portion
- 45-60 visits/month (all vestibular disorders)

USC Division of Biokinesiology and Physical Therapy
USC Physical Therapy



What we wanted to change



Why we wanted to change

- Originally inspired by CPG Action Statements 5 and 7

Effectiveness of Different Exercise Types for Unilateral Peripheral Vestibular Hypofunction

- Moderate recommendation (Level II*) for use of targeted exercise techniques for acute and chronic hypofunction

Optimal Exercise Dose

- Expert opinion recommendation (Level V*) for gaze stabilization exercise for unilateral & bilateral hypofunction consists of:
 - Acute/Subacute – Three times/day minimum (At least 12 minutes/day)
 - Chronic – Three times/day minimum (At least 20 minutes/day)

- In retrospect, also inspired by CPG Action Statements 9 and 10

Factors that Modify Vestibular Rehabilitation Outcomes

- Weak to strong recommendation (Level I-III*):
 - Age, gender, and symptom onset time does not affect outcomes
 - Potential harm if rehabilitation delayed
 - May have negative impact on recovery
 - Co-morbidities (anxiety, migraine, & peripheral neuropathy)
 - Vestibular suppressants

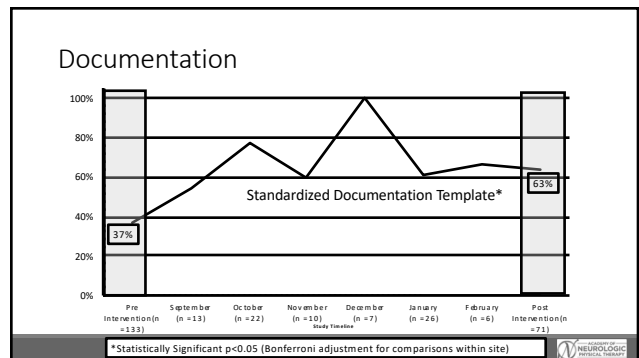
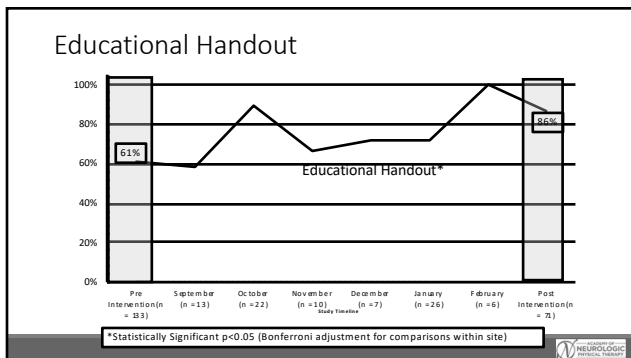
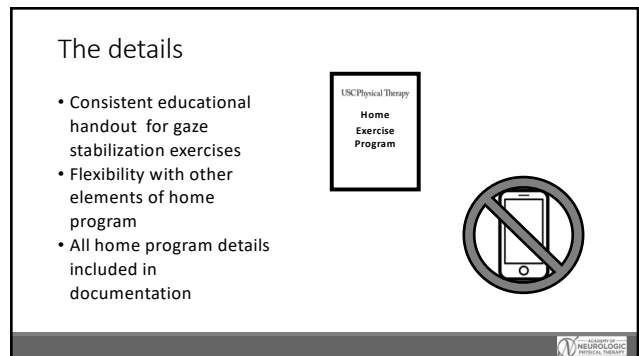
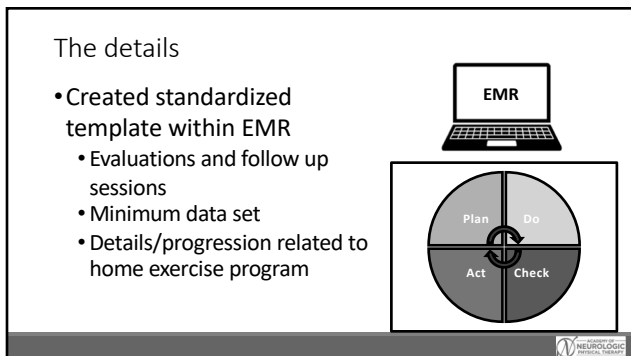
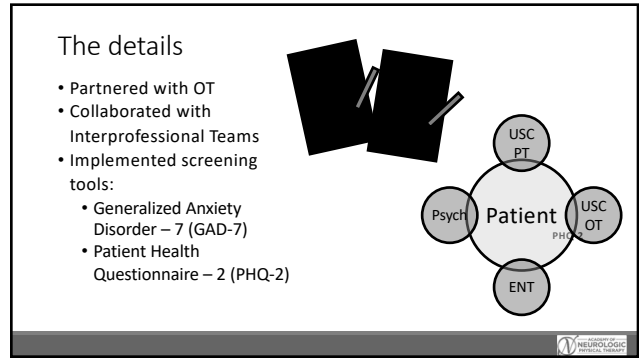
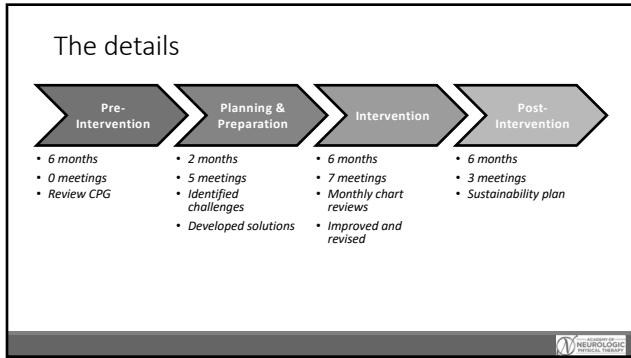
Vestibular Rehabilitation Harm/Benefit Ratio

- Strong recommendation (Level I-III*) that quality of life improves and psychological distress reduces with rehabilitation
 - Improvements in perceived disability and anxiety scores



What we thought would work



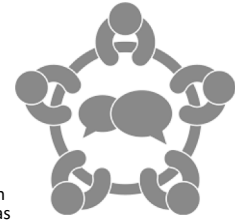


Anxiety Screening

	Initial evaluations	Screen: Anxiety	Screen: Depression
Pre-Intervention	20	0	17
September	1	0	1
October	3	0	2
November	1	0	1
December	2	0	2
January	3	0	3
February	0	0	0
Post-Intervention	13	0	13

What we are doing now

- Utilizing standardized documentation template for all patients with vestibular dysfunction
- Using a consistent handout for gaze stabilization exercises
- Consistently reviewing PHQ-2 and Inconsistently obtaining GAD-7 screening tool at initial evaluation
- Referring patients with anxiety/depression to OT or another mental health provider, as indicated



Pearls

- Fun to embrace the iterative process and improve the care we are providing
- Monthly meeting to sharing and discussion of data with PTs helps create engagement
- Standardized documentation improves consistently between therapists and simplifies training of new therapists
- More successful when focusing on fewer goals ... more is *NOT* better
- Completing chart reviews for all visits are time consuming



Tampa Veterans Hospital & Polytrauma Center



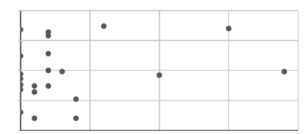
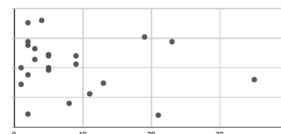
Who we are

- One of the largest & busiest VA's in the country
- Located in Tampa, FL, one of the top 10 ranked cities for veterans
- Physical Therapy Department – 12+ clinics
 - 63 PT/PTA's (22 participating)
 - 8-10 students (typically)
 - 4 Orthopedic residents
 - 5 Neurological residents

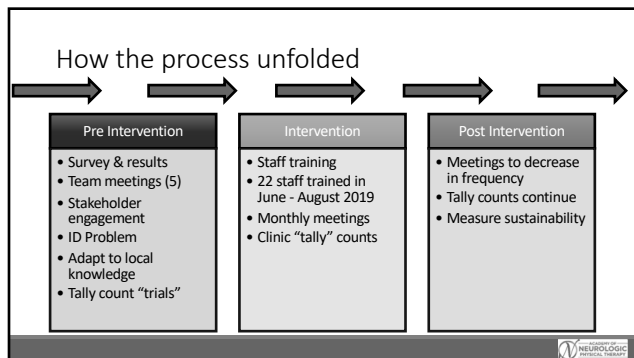


Mixed Staff & Clinical Experiences

Years since graduation



Vestibular disorders seen per month



What we wanted to change

Pre Intervention

Effectiveness of Vestibular Rehabilitation

- Strong recommendation (Level 1*) that vestibular rehabilitation should be offered to patients with symptoms due to:
 - Acute, Subacute, & Chronic Unilateral Hypofunction
 - Bilateral Hypofunction, including Pediatrics
- **Benefits:**
 - Reduces dizziness/vertigo, improves gaze stability and reduces imbalance and falls
 - Improves activities of daily living and quality of life
- **Risks:**
 - Potential increase in cost & time for patient to travel
 - May increase symptom intensity at treatment onset
- **Studies show there is a preponderance of benefit compared to harm**
- **Exclusions:**
 - Compensated vestibular loss; cognitive or mobility deficit that impedes effective application; or active Meniere's disease

Why we wanted to change

Pre Intervention

We knew....

- Vestibular rehabilitation is **EFFECTIVE**
- Vestibular rehabilitation should be **OFFERED**
- But...How **TO IDENTIFY** a peripheral vestibular impairment?

What we thought would work

Pre Intervention

Staff trainings...

Videos...

Reminders...

Case 1

Objective: Demonstrate appropriate case management. Give feedback and self-evaluate on your work. Demonstrate strong communication skills.

Analysis: What do you need to get your truly role out? What's the most likely diagnosis? What's the most likely therapy?

VESTIBULAR DIFFERENTIAL DIAGNOSIS IN ACUTE CARE

Objectives:

- 1. Identify the most common causes of acute vestibular syndrome.
- 2. Identify the most common causes of acute vestibular syndrome.
- 3. Identify the most common causes of acute vestibular syndrome.
- 4. Identify the most common causes of acute vestibular syndrome.
- 5. Identify the most common causes of acute vestibular syndrome.

Potential Etiologies of Dizziness

Peripheral Vestibular Anatomy

Pre Intervention

	Very little confidence	-----	A lot of confidence			
1	I feel adequately prepared to undertake a vestibular case load.	1	2	3	4	5
2	I feel that I am able to verbally communicate effectively and appropriately for a vestibular case load.	1	2	3	4	5
3	I feel that I am able to communicate in writing effectively and appropriately for a vestibular case load.	1	2	3	4	5
4	I feel that I am able to perform subjective assessments for a vestibular case load.	1	2	3	4	5
5	I feel that I am able to perform objective assessment for a vestibular case load.	1	2	3	4	5
6	I feel that I am able to interpret assessment findings appropriate for a vestibular case load.	1	2	3	4	5
7	I feel that I am able to identify and prioritize patient's problems for a vestibular case load.	1	2	3	4	5
8	I feel that I am able to select appropriate short and long-term goals for a vestibular case load.	1	2	3	4	5
9	I feel that I am able to appropriately perform treatments for a vestibular case load.	1	2	3	4	5
10	I feel that I am able to perform discharge planning for a vestibular case load.	1	2	3	4	5
11	I feel that I am able to evaluate my treatments for a vestibular case load.	1	2	3	4	5
12	I feel that I am able to reassess my treatments for a vestibular case load.	1	2	3	4	5

What we thought would work

Intervention

- In-person and/or Self-guided training
 - Full day
 - Enticed with providing lunch
- Accessible training videos
 - Evaluation techniques
 - "How-to" exercise

Knowledge translation:

Identifying a Peripheral Vestibular Hypofunction

Kevin Steig, PT, DPT, MS - Clinical Specialist, Vestibular Rehabilitation & Concussion Management
 Sarah Wray, PT, DPT, MEd
 Katherine McKeown, PT, DPT

Research Making You Dizzy? How to Translate the Vestibular Clinical Practice Guidelines into Practice. CSM 2020. Denver, CO.

Intervention

Intervention.....details

- Exercise handouts and tables
- Add vestibular screening to examination



If someone is “dizzy” ask more questions

- Easy to use “tally” count

# Therapist reporting suspected a vestibular dysfunction identified a VESTIBULAR HYPOFUNCTION I treated for a VESTIBULAR HYPOFUNCTION	MARCH	APRIL	MAY

I DID NOT offer to treat:



- I found another cause
- There was interruption of

Intervention

Intervention.....details




- Monthly *clinically relevant* meetings
- Keep it simple silly (KISS)
 - Used algorithm to help guide
- Food always helps

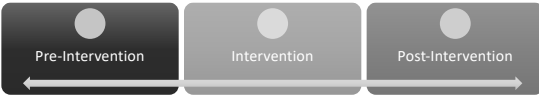
Intervention

Make tools easily accessible

- Videos
- Shared drive – videos
 - Closed caption for patient care
- Video VA Pulse (Network)*
- Exercises packets to issue
- Clinic iPad's
 - Uploaded with videos
 - Clinically relevant apps
 - Metronome
 - Balance tests

Tally Counts & Staff confidence (Julie and Clarisa will provide),




Post Intervention

What we are doing now

- Monthly meetings reduced to 1X every 8 weeks
- Keep the “tally” counts
- Monitoring how knowledge proliferates through the clinics
 - 22 therapists trained
 - 3 were residents who have since graduation
 - In clinics with a participating therapist, staff is more aware of why someone might be dizzy
 - Clinician try to figure it out and treat BEFORE calling the vestibular specialty clini/service
 - Veterans are getting care earlier

Pearls

- Follow-up – be consistent
- Keep staff ENGAGED!
- Therapists benefitted from open clinical discussion & case studies
- CPG can be *overwhelming* to implement (or even read)
 - Break them up into small digestible parts
 - Understand what parts the therapists WANT to learn and apply
 - Therapists must be INVESTED in the project
- Knowledge SPREAD, not just peripheral vestibular disorders have been found, but BPPV, cardiac, cervicogenic, polypharmacy & NPH have been identified



FOOD HELPS!

Early Qualitative Findings

Early Qualitative Results

Monthly meetings with audit feedback were important.

"There was frequent feedback, where if we had just met once ...I think that would have been easy to fall off." (ID#24)

"I thought [the meetings] were useful ... just giving people a chance to kind of talk through....What issues have come up? Have you been using this? Have you had patients that liked it?" (ID#25)

Early Qualitative Analysis

Documentation goals promoted accountability:

"I found myself, because of the project, getting each patient into more specifics of exactly what they're doing at home for their home program, and I saw that to be helpful." (ID# 21)

"Certainly with the dosing, [I've] definitely been more on top of that with myself and with patients." (ID# 43)

Early Qualitative Analysis

Simple tools that patients embraced were most successful.

"So I think the **timers** have been hugely beneficial. And patients love it. [I ask] are you using your timer? Yes, I'm using it. I'm like, okay, then I know you're doing the minutes." (ID# 11)

"I guess I don't know for sure that my patients were using the YouTube **videos** as a resource, part of the challenge with the YouTube video, they would have had to type in this long address from the printed handout."

Summary and Discussion

Toolbox Resources – From Study

For Therapists

- Documentation Suggestions

For Patients

- Patient Handouts
 - Education
 - Exercise Logs
- Patient Tools
 - Timers
 - Metronomes
 - Targets
- Apps
- Text Messages
- YouTube Videos

Toolbox Resources From Study and Task Force

For Therapists

- Documentation Suggestions
- **Summary Handouts**
- **Algorithm Summaries**
- **Info Graphic**
- **Online Education Course**
- **Therapist Education Videos**

For Patients

- Patient Handouts
 - Education
 - Exercise Logs
- Patient Tools
 - Timers
 - Metronomes
 - Targets
 - Backgrounds



Summary Thoughts and Recommendations



Questions and Discussion



International Conference for Vestibular Rehabilitation: Translating Research to Advance Practice

- “Vestibular Rehab Spanning the Globe”
- **SAVE THE DATE! → August 14-16, 2021**
- **Hyatt Regency, Minneapolis, Minnesota**
- Sponsored by the Academy of Neurologic Physical Therapy
- Registration opens early 2021
- bit.ly/ICVR2021



INTERNATIONAL CONFERENCE FOR
VESTIBULAR REHABILITATION
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TRANSLATING RESEARCH TO ADVANCE PRACTICE



Thank you!!

