



4° CONGRESSO NAZIONALE



Responsabili scientifici

Pasquale Alfieri

Sabato Leo

Salvatore Putignano

03 · 04 · 05
APRILE 2025

LA RIABILITAZIONE VESTIBOLARE: FONDAMENTO DEL RECUPERO

REBECCHI E

Gruppo Otologico and Mario Sanna Foundation

Casa Di Cura "Piacenza" S.P.A., Piacenza

Review > Otolaryngol Clin North Am 1997;40(6):1145-58.

Vestibular rehabilitation strategies in Meniere's disease

R A Clandaniel¹, D L Tucci

Affiliations + expand
PMID: 9386249



Abstract

Since the episodic spells of vertigo associated with Meniere's disease have abated, vestibular rehabilitation exercises play an important role in promoting adaptation to the decreased vestibular input. Outlines of different treatment approaches for three types of patients with Meniere's disease are presented. The exercise approaches advocated here consist of exercises to foster adaptation of the vestibular system in cases of unilateral loss or hypofunction and exercises to promote the substitution of alternative strategies and to enhance remaining function in cases of bilateral vestibular hypofunction. The selection of the appropriate exercises is based on the nature of the vestibular loss, the patient's symptoms, and the functional capabilities of the patient. Based on an understanding of the vestibular system, the balance system, and normal functional capabilities, appropriate rehabilitative exercises can be designed for this group of patients.

Otolaryngology-Head and Neck Surgery (2005) 113, 326-328



The Role of Vestibular Rehabilitation in the Treatment of Meniere's Disease

Kim R. Gottshall, PhD, Michael E. Hoffer, MD, Robert J. Moore, PhD, and Ben J. Balough, MD, San Diego, California

OBJECTIVE: To study the role of vestibular rehabilitation in treating patients with Meniere's disease.

METHODS: We examined all Meniere's patients presenting to our tertiary care specialized vestibular clinic during a 1-year period. All patients underwent a standardized history and physical examination, a complete auditory-vestibular test battery, and a set of physical therapy tools to measure balance function.

RESULTS: A subset of patients suffered from disequilibrium or unsteadiness between attacks. Once the acute fluctuating symptoms of Meniere's were controlled in this group of individuals, all of them underwent vestibular physical therapy and demonstrated significant improvement in balance function on both objective and self-report tests.

CONCLUSIONS: Due to the fluctuating nature of the disorder, vestibular physical therapy has had a limited role in the treatment of Meniere's disease. In general, rehabilitation has been used only as a postoperative treatment for the acute vertigo seen after vestibular neurectomy or labyrinthectomy. This is the first report advocating the role of vestibular physical therapy in a group of patients receiving medical therapy of intrasea medicines (other than gentamicin).

Systematic Review

The Effect of Vestibular Rehabilitation in Patients with Meniere's Disease: A Systematic Review

Babette F. van Esch, MD¹, Ellis S. van der Scheen-Horst, MSc¹, Hester J. van der Zaag-Loonen, MD, PhD¹, Tjasse D. Bruinjes, MD, PhD¹, and Peter Paul G. van Benthem, MD, PhD²



work has been done documenting the use of physical therapy in Meniere's disease except for its use after nerve section, labyrinthectomy, or gentamicin.^{3,5} Recent trends in Meniere's treatment have been directed at minimally invasive techniques to control the fluctuating vertigo. It is important to reevaluate the role of rehabilitation in the context of these new treatment paradigms and in the context of medical therapy alone. The purpose of this study is to investigate the effect of physical therapy intervention on the symptoms of unsteadiness and disequilibrium associated with Meniere's disease in which the episodic vertigo has been controlled.

MATERIALS AND METHODS

Patients presenting to our tertiary care center with symptoms of Meniere's disease were eligible to enroll in an institutional review board-approved study. Subjects underwent a history and standardized physical examination, as



Review > Otolaryngol Clin North Am. 2010 Oct;43(5):1113-9. doi: 10.1016/j.otc.2010.05.006.

Early vestibular physical therapy rehabilitation for Meniere's disease

Kim R Gottshall¹, Shelby G Topp, Michael E Hoffer

International consensus

International consensus (ICON) on treatment of Ménière's disease

J. Nevoux^{a,b,c}, M. Barbara^c, J. Dornhoffer^d, W. Gibson^e, T. Kitahara^f, V. Darrouzet^g

^a Department of otology and neurotology, CHU de Bicêtre, AP-HP, 94270 Le Kremlin-Bicêtre, France

^b Saclay university, Paris Sud Medical School, 94270 Le Kremlin-Bicêtre, France

^c Department of otology and neurotology, Sapienza university, Rome, Italy

^d Department of otolaryngology, head and neck surgery, university of Arkansas for medical sciences and Arkansas Children's Hospital, Little Rock, Arkansas, USA

^e Department of otolaryngology, head and neck surgery, university of Sidney, Australia

^f Department of otolaryngology, Nara medical university, Japan

^g Department of otolaryngology, Skull Base Surgery, CHU de Bordeaux, université de Bordeaux, 33000 Bordeaux, France



Braz J Otorhinolaryngol.
2013;79(3):366-74.

DOI: 10.5935/1908-8694.20130064

ORIGINAL ARTICLE

BJORL

Vestibular rehabilitation with virtual reality in Ménière's disease

Adriana Pontón García^a, Maurício Malavasi Ganança^a, Flávia Salvaterra Cusin^a, Andreza Tomaz^a,
Fernando Freitas Ganança^a, Heloísa Helena Cavilla^a



ARTICLE INFO

Keywords:
International consensus
Ménière's disease
Treatment

ABSTRACT

Objective: To present the international consensus for recommendations for Ménière's disease (MD) treatment.

Methods: Based on a literature review and report of 4 experts from 4 continents, the recommendations have been presented during the 21st IFON congress in Paris, in June 2017 and are presented in this work.

Results: The recommendation is to change the lifestyle, to use the vestibular rehabilitation in the inter-ictic period and to propose psychological therapy. As a conservative medical treatment of first line, the authors recommend to use diuretics and betahistine or local pressure therapy. When medical treatment fails, the recommendation is to use a second line treatment, which consists in the intratympanic injection of steroids. Then as a third line treatment, depending on the hearing function, could be either the endolymphatic sac surgery (when hearing is worth being preserved) or the intratympanic injection of gentamicin (with higher risks of hearing loss). The very last option is the destructive surgical treatment labyrinthectomy, associated or not to cochlear implantation or vestibular nerve section (when hearing is worth being preserved), which is the most frequent option.

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Randomized Controlled Trial > Disabil Rehabil. 2017 Aug;39(16):1601-1606.

doi: 10.1080/09638288.2016.1202027. Epub 2016 Jul 15.

Three-dimensional, virtual reality vestibular rehabilitation for chronic imbalance problem caused by Ménière's disease: a pilot study

Su-Yi Hsu^{a,*,2}, Te-Yung Fang^{a,2}, Shih-Ching Yeh^a, Mu-Chun Su^a, Pa-Chun Wang^{a,2},
Ming-Lin N. Hsiao^a

Clinical Rehabilitation 2006; 22: 696-712

The effect of early customized vestibular rehabilitation on balance after acoustic neuroma resection

Luc Verweck Division of Neuro- and Psychomotor Physical Therapy, Department of Health Sciences, University College of Antwerp, Middelheim, AUREA (Antwerp University Research Centre for Equilibrium and Acoustics), Department of Otorhinolaryngology, Antwerp University Hospital, Edegem Faculty of Medicine, University of Antwerp, Antwerpen, Floris L. Wuyts AUREA, Department of Otorhinolaryngology, Antwerp University Hospital, Edegem and Faculty of Science, Department of Biomedical Physics, University of Antwerp, Antwerpen, Steven Truijten Division of Neuro- and Psychomotor Physical Therapy, Department of Health Sciences, University College of Antwerp, Middelheim, Claudia De Vauck and Paul H. Van de Heyning AUREA, Department of Otorhinolaryngology, Antwerp University Hospital, Edegem and Faculty of Medicine, University of Antwerp, Antwerpen, Belgium

Received 4th July 2007; manuscript accepted 3rd January 2008

Lesion Patterns and Possible Implications for Recovery in Acute Unilateral Vestibulopathy

Elena Navari and Augusto Pietro Casani

Department of Surgical Pathology, Medical, Molecular and Critical Area, ENT Section, University of Pisa, Pisa, Italy

European Archives of Oto-Rhino-Laryngology (2020) 277:103-113
<https://doi.org/10.1007/s00405-019-05690-4>

OTOLOGY

Rehabilitation of dynamic visual acuity in patients with unilateral vestibular hypofunction: earlier is better

Lacour Michel^{1,4} · Tardivet Laurent² · Thiry Alain³

Acta Otorhinolaryngol Ital. 2020 Feb;40(1):72-78. doi: 10.14639/0392-100X-2189. Epub 2019 Jul 31.

Vestibular pathology and spatial working memory

Giorgio Guidetti¹, Riccardo Guidetti¹, Maurizio Manfredi¹, Marco Manfredi¹

Affiliations: + expand

PMID: 31388191 PMCID: PMC7147543 DOI: 10.14639/0392-100X-2189

Indian J Otolaryngol Head Neck Surg
ISSN- Day 2020; 73(4):474-477. <https://doi.org/10.1007/s12070-020-01920-y>

ORIGINAL ARTICLE

Efficacy and Comparison of Vestibular Rehabilitation Exercises on Quality of Life in Patients with Vestibular Disorders

Kumar Gourav Sharma¹ · Ashok Kumar Gupta¹

**frontiers in
NEUROLOGY**

REVIEW ARTICLE
published: 06 January 2015
doi: 10.3389/fneur.2014.00285

Interaction between vestibular compensation mechanisms and vestibular rehabilitation therapy: 10 recommendations for optimal functional recovery

Michel Lacour^{1 *} and Laurence Bernard-Demanze^{1,2}

¹ Laboratoire de Neurobiologie Intégrative et Adaptative, UMR 7280 CNRS/Université Aix-Marseille, Fédération de Recherche 3C, Centre de St Charles, Marseille, France

² Service d'oto-rhino-laryngologie et d'otoneurologie, CHU Nord, Assistance Publique-Hôpitaux de Marseille, Marseille, France

REVIEW
J Clin Neuro 2011;7:184-196

Print ISSN 1738-0206 / On-line ISSN 2005-0013
<http://dx.doi.org/10.3988/jcn.2011.7.4.184>

Open Access

Vestibular Rehabilitation Therapy: Review of Indications, Mechanisms, and Key Exercises

Byung In Han,^a Hyun Seok Song,^b Ji Soo Kim^c

^aDo Neurology Clinic, Daegu, Korea

^bDepartment of Neurology, School of Medicine, Kyungpook National University, Daegu, Korea

^cDepartment of Neurology, School of Medicine, Seoul National University, Seoul, Korea

Review > Curr Opin Neurol. 2013 Feb;26(1):96-101. doi: 10.1097/WCO.0b013e32835c5ec4.

Vestibular rehabilitation

Susan J Herdman¹

The Journal of Laryngology & Otology

cambridge.org/jlo

Main Article

Dr J Liu takes responsibility for the integrity of the content of the paper

Cite this article: Liu JL, Liu JG, Chen XB, Liu YH. The benefits of betahistine or vestibular rehabilitation (Tetrax biofeedback) on the quality of life and fall risk in patients with Ménière's disease. *J Laryngol Otol* 2020;134:1013–1016. <https://doi.org/10.1017/S0022215120002909>

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Key words:
Ménière's Disease; Betahistine; Rehabilitation

Author for correspondence:

The benefits of betahistine or vestibular rehabilitation (Tetrax biofeedback) on the quality of life and fall risk in patients with Ménière's disease

J L Liu, J G Liu, X B Chen and Y H Liu

Department of Otolaryngology, Head and Neck Surgery, the Second Affiliated Hospital of Nanchang University, China

Abstract

Objective. This study aimed to evaluate the benefits of betahistine or vestibular rehabilitation (Tetrax biofeedback) on the quality of life and fall risk in patients with Ménière's disease.

Methods. Sixty-six patients with Ménière's disease were randomly divided into three groups: betahistine, Tetrax and control groups. Patients' Dizziness Handicap Index and Tetrax fall index scores were obtained before and after treatment.

Results. Patients in the betahistine and Tetrax groups showed significant improvements in Dizziness Handicap Index and fall index scores after treatment versus before treatment ($p < 0.05$). The improvements in the Tetrax group were significantly greater than those in the betahistine group ($p < 0.05$).

Conclusions. Betahistine and vestibular rehabilitation (Tetrax biofeedback) improve the quality of life and reduce the risk of falling in patients with Ménière's disease. Vestibular rehabilitation (Tetrax biofeedback) is an effective management method for Ménière's disease.

The Journal of Laryngology & Otology

1075

Table 3. Dizziness Handicap Index and fall index scores

Group	Dizziness Handicap Index			Fall index		
	Pre-intervention	Post-intervention	P-value	Pre-intervention	Post-intervention	P-value
Betahistine ^a	39.05 ± 13.43	32.19 ± 11.21	<0.001	38.48 ± 15.24	25.05 ± 7.42	<0.001
Tetrax ^b	46.40 ± 13.70	22.00 ± 10.08	<0.001	37.70 ± 15.19	20.00 ± 6.26	<0.001
Control ^c	41.30 ± 13.66	40.50 ± 11.73	0.176	35.30 ± 15.79	33.10 ± 9.28	0.180

^an = 22; ^bn = 20; ^cn = 24. Values presented as mean ± standard deviation, unless indicated otherwise

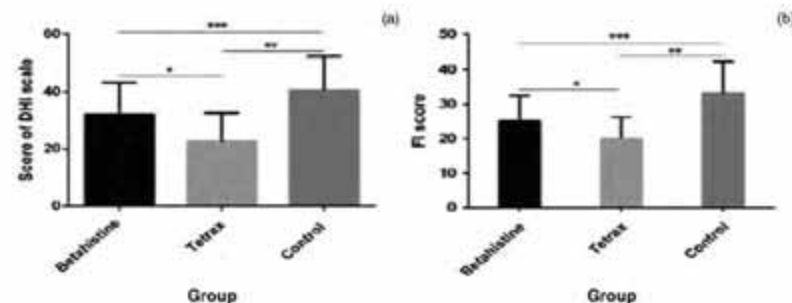


Fig. 1. Graphs showing: (a) the Dizziness Handicap Index (DHI) scores in the three groups after treatment, * $p < 0.007$, ** $p < 0.001$, *** $p < 0.01$; and (b) the fall index (FI) scores in the three groups after treatment, * $p = 0.041$, ** $p < 0.001$, *** $p < 0.002$. Values presented as mean ± standard deviation. Analysis of covariance was used to compare the improvements of Dizziness Handicap Index and fall index scores among the three groups, and the Bonferroni method was performed for comparison between groups.

Indian J Otolaryngol Head Neck Surg
(Oct–Dec 2020) 74(4):474–479, <https://doi.org/10.1007/s12076-020-01920-y>



ORIGINAL ARTICLE

Efficacy and Comparison of Vestibular Rehabilitation Exercises on Quality of Life in Patients with Vestibular Disorders

Kumar Gaurav Sharma¹ • Ashok Kumar Gupta²

1. Adaptation exercises:

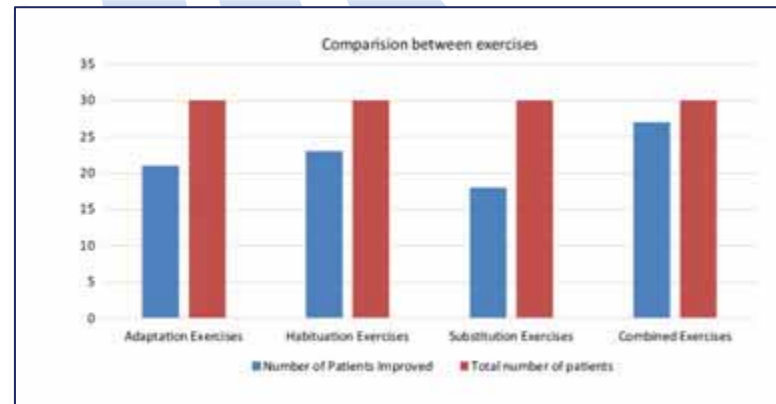
- Gaze stability
- Ocular control exercises
 - Eye movements—at first slow, then quickly
 - (a) Up and down
 - (b) From side to side
 - (c) Focusing on finger moving from 3 feet to 1 foot away from face
- Horizontal and diagonal head movements
 - Head movements at first slow, then quick; later with eyes closed
 - (a) Bending forwards and backwards
 - (b) Turning from side to side

2. Habituation exercises:

- Balance exercises
 - Touching front wall
 - Ankle sways
 - Circle with a ball
 - Ball Diagonals
- Gait exercises
 - Walking exercise
 - Sit to stand
 - Gait with a Focal Point
 - (a) Repetitive exposure to the specific movement that provokes dizziness
 - (b) Exercises to be done when moving about
 - Circle round centre person who will throw a large ball and to whom it will be returned
 - Walk across room with eyes open and then closed
 - Walk up and down slope with eyes and then closed
 - Walk up and down steps with eyes open and then closed
 - Any game involving stooping or stretching and timing e.g. basketball

3. Substitution exercises

- Sitting
 - Shoulder shrugging and circling
 - Bending forwards and picking up objects from the ground Standing
 - Changing from sitting to standing position with eyes open and shut
 - Throwing a small ball from hand to hand (above eye level)
 - Throwing ball from hand to hand under knee
 - Change from sitting to standing and turning around in between



- Neurinoma vestibolare: dopo chirurgia o in follow up
- Malattia di Menière: in stadio avanzato con instabilità cronica o dopo trattamenti (IT gentamicina, neurectomia vestibolare)
- Sindrome di Minor , Sindrome della terza finestra
- Emicrania, emicrania vestibolare
- Deficit vestibolare acuto (neurite) sia mono che bilaterale
- Fratture dell'osso temporale specialmente se coinvolgono l'orecchio interno
- Vertigini psicogene, persistent postural-perceptual dizziness (PPPD)
- Vertigini idiopatiche
- Motion sickness, Mal de débarquement
- Instabilità cronica nell'anziano, Presbiastasia
- Trauma cranici, lesioni del sistema nervoso centrale, sclerosi multipla



Il Compenso Vestibolare



Compenso spontaneo ???

SI

50%

NO

Clinical Rehabilitation 2008; 22: 496-713

The effect of early customized vestibular rehabilitation on balance after acoustic neuroma resection

Lois Wessels, Division of Neuro- and Psychomotor Physical Therapy, Department of Health Sciences, University College of Antwerp, Middelheim, AUREA (Antwerp University Research Centre for Equilibrium and Acoustics), Department of Otolaryngology, Antwerp University Hospital, Edgem, Faculty of Medicine, University of Antwerp, Antwerpen, Rens & Willems AUREA, Department of Otolaryngology, Antwerp University Hospital, Edgem and Faculty of Science, Department of Biomedical Physics, University of Antwerp, Antwerpen, Steven Tiedt, Division of Neuro- and Psychomotor Physical Therapy, Department of Health Sciences, University College of Antwerp, Middelheim, Claude De Vocht and Paul H Van de Nieuwen, AUREA, Department of Otolaryngology, Antwerp University Hospital, Edgem and Faculty of Medicine, University of Antwerp, Antwerpen, Belgium

Received 6th July 2007; manuscript accepted 3rd January 2008

PRIME ORE: Strategie sensitivo motorie alternative → *strategie maladattative*

RIEDUCAZIONE PRECOCE

«recupero in finestra temporale di plasticità cerebrale»

European Archives of Oto-Rhino-Laryngology (2020) 277:103–113
<https://doi.org/10.1007/s00405-019-05690-4>

OTOLOGY

Rehabilitation of dynamic visual acuity in patients with unilateral vestibular hypofunction: earlier is better

Lacour Michel^{1,4} · Tardivet Laurent² · Thiry Alain³

Lesion Patterns and Possible Implications for Recovery in Acute Unilateral Vestibulopathy

Elena Navari and Augusto Pietro Casani

Department of Surgical Pathology, Medical, Molecular and Critical Area, ENT Section, University of Pisa, Pisa, Italy

Frontiers in
NEUROLOGY

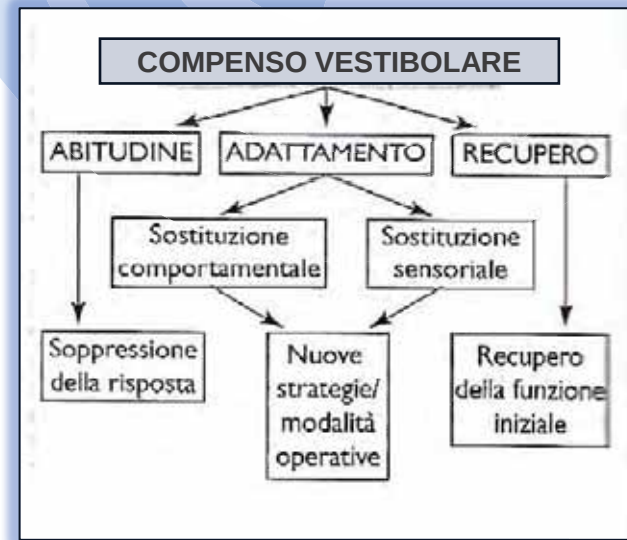
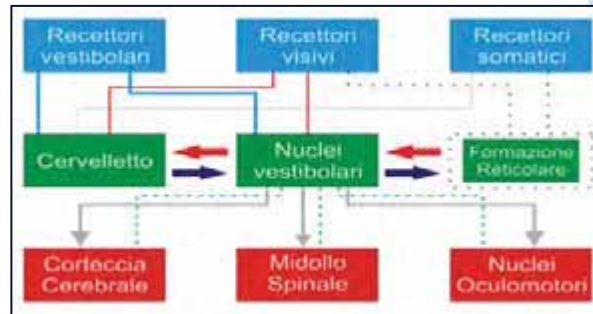
REVIEW ARTICLE
published: 05 January 2020
doi: 10.3389/fnol.2019.00095

Interaction between vestibular compensation mechanisms and vestibular rehabilitation therapy: 10 recommendations for optimal functional recovery

Michel Lacour^{1*} and Laurence Bernard-Demanze^{1,2}

¹ Laboratoire de Neurobiologie Intégrative et Adaptative, UMR 7287 CNRS/Université Aix-Marseille, Fédération de Recherche 3C, Centre de St Charles, Marseille, France

² Service d'otolaryngologie et d'otoneurologie, CHU Nord, Assistance Publique-Hôpitaux de Marseille, Marseille, France



VESTIBOLOGIA CLINICA. Casani AP. EUREKA 2021

- *SCOPO*: favorire il compenso con meccanismi statici e dinamici

M. STATICI

- ~~Recupero cerebrale~~
- ~~Recupero spontaneo~~

M. DINAMICI

- Abitudine
- Adattamento
- Sostituzione

Precoce, Incrementale, Personalizzata

Meccanismi per il Compenso Vestibolare

I meccanismi che permettono il recupero delle funzioni vestibolari sono:

Adaptation

(migliorare il guadagno del riflesso vestibolo-oculare (VOR) o del riflesso vestibolo-spinale)

Substitution

(favorire l'impiego di strategie alternative per sostituire la funzione vestibolare persa)

Habituation

(assuefazione della grandezza della risposta alla stimolazione sensoriale ripetitiva)



Gli obiettivi sono

- 1) migliorare la stabilità dello sguardo
- 2) migliorare la stabilità posturale
- 3) migliorare le vertigini
- 4) migliorare le attività della vita quotidiana



J Neurol (2016) 263 (Suppl 1):S54-S64
DOI 10.1007/s00415-015-7903-4

REVIEW

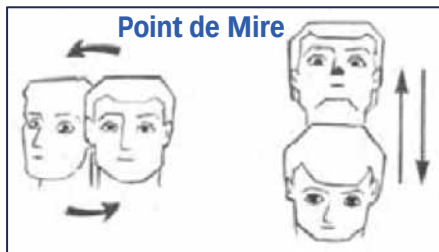
Vestibular compensation: the neuro-otologist's best friend

Michel Lacour^{1,4} · Christoph Helmchen¹ · Pierre-Paul Vidal⁵

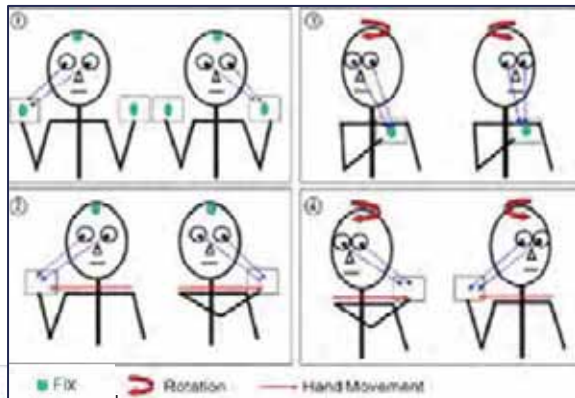
The spontaneous recovery can be improved and/or accelerated, and it is not always optimal because patients can replace some lost vestibular functions (the VOR) by new maladaptive strategies (limitations of head movements).

The VR therapy must be performed early and actively, during the time window that coincides with all the plastic reorganizations occurring in the VN and associated neuronal networks [13]. This opportunity window can be

Migliorare la Stabilità dello Sguardo



Per migliorare il fattore di magnificazione e la durata di esposizione del trascinamento retinico, il paziente deve visualizzare un bersaglio che si muove nella direzione opposta al movimento della testa orizzontalmente o verticalmente



Migliorare la Stabilità Posturale

- Il recupero della stabilità posturale è più lento del recupero della stabilità dello sguardo
- I meccanismi principali di recupero posturale sono l'aumento dell'affidamento sui segnali visivi e somatosensoriali (sostituzione) e il miglioramento delle risposte vestibolari (adattamento)

Esercizi contro la dipendenza visiva

a mantenere l'equilibrio durante l'esposizione a stimoli otticocinetici (spostamento tende a strisce, dischi con cerchi multicolori e di diverse dimensioni, intere stanze in movimento)

A domicilio può essere realizzato avendo video con scene visive contrastanti, come inseguimenti in auto ad alta velocità, o lo spostamento di grandi poster con linee verticali



Esercizi contro la dipendenza somatosensoriale

esercizi in posizione seduta o in piedi su superfici con spunti somatosensoriali perturbato per l'orientamento, come tappeti, materassini, tavole inclinate



Adaptation: migliorare la funzione vestibolare residua

I pazienti devono abituarsi a mantenere una posizione verticale in assenza di segnali visivi o somatosensoriali con gli occhi aperti e chiusi e su entrambe le superfici dure e morbide. I pazienti hanno bisogno di abituarsi a camminare in diversi ambienti, come ad esempio su erba, in centri commerciali

Habituation: riduzione della grandezza della risposta alla stimolazione sensoriale ripetitiva, ed è indotta da esposizioni ripetute ad un movimento che provoca vertigini

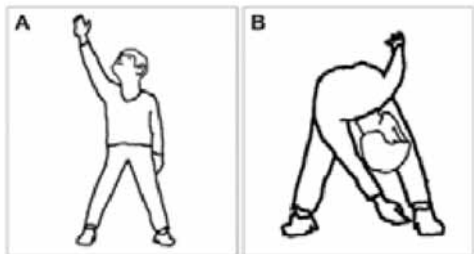


Fig. 4. Exercises for improving vertigo. A: Stand with one arm elevated over the head, with the eyes looking at the elevated hand. B: Bend over and lower the arm diagonally with the eyes continuously looking at the hand until the hand arrives at the opposite foot. Repeat with the other arm.



Jogging, camminare su un tapis roulant, eseguire esercizi aerobici.

Può essere opportuno consigliare attività che coinvolgono la coordinazione degli occhi, testa, e movimenti del corpo come il golf, il bowling, comunque sport con la palla o sport con racchetta.

Sport basati sul controllo dei muscoli e della propriocezione come **Tai chi, pilates**

Front. Neurol., 2019 Apr 30;10:387. doi: 10.3389/fneur.2019.00387. eCollection 2019.

Functional Head Impulse Test in Professional Athletes: Sport-Specific Normative Values and Implication for Sport-Related Concussion.

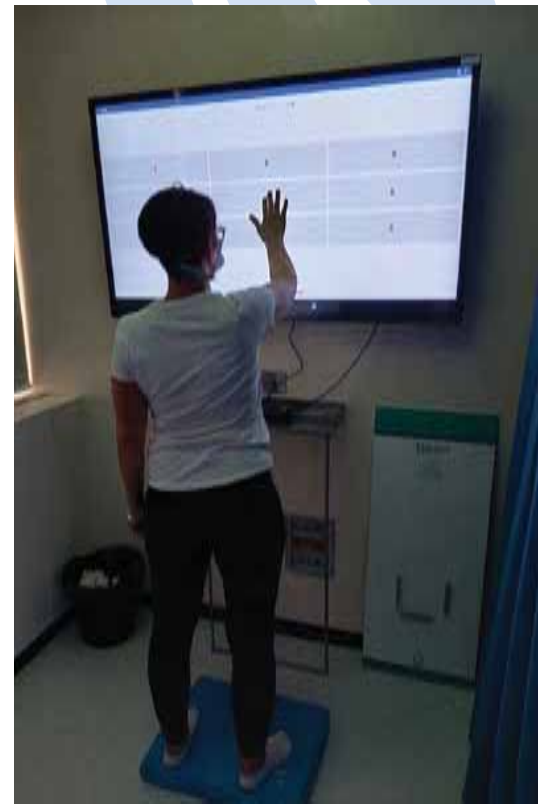
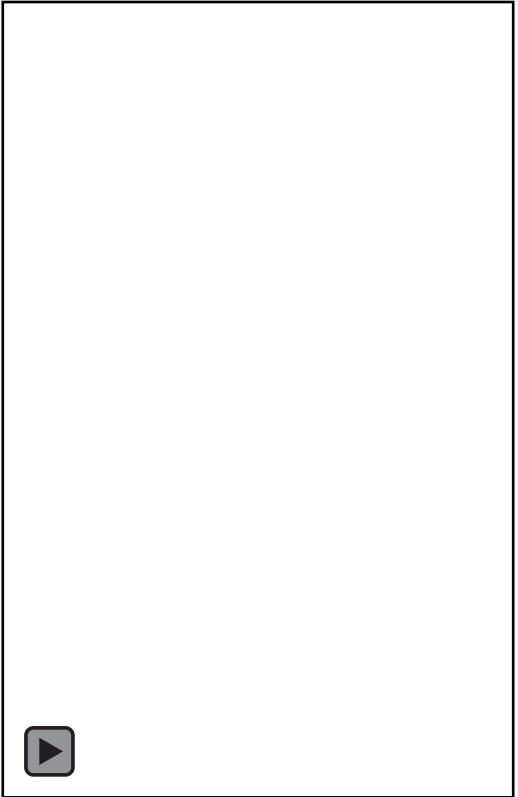
Romano E^{1,2,3}, Bertolini G^{1,2,3}, Agostino D³, Straumann D^{1,2,3}, Ramat S⁴, Feddermann-Demont N^{1,2,3}

Rieducazione Vestibolare + Posturale

- fHIT R 2 (V-Gym, U-Read, U-Touch, Corsi)
- Functional Balance Advantage
- Blaze Pod
- Pad at home



- V-Gym

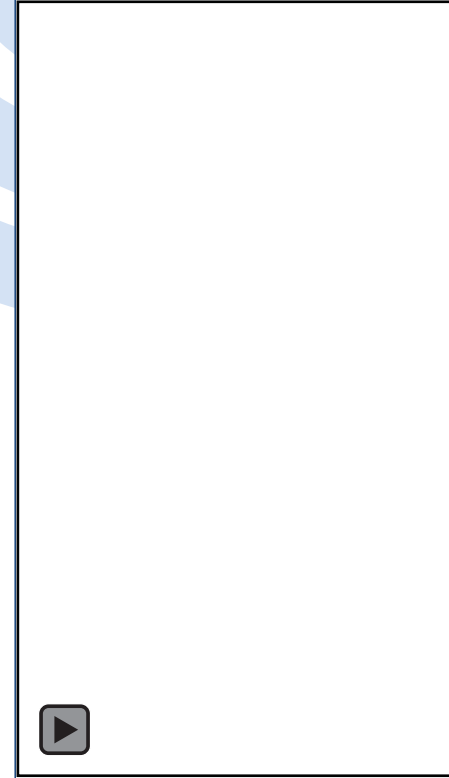
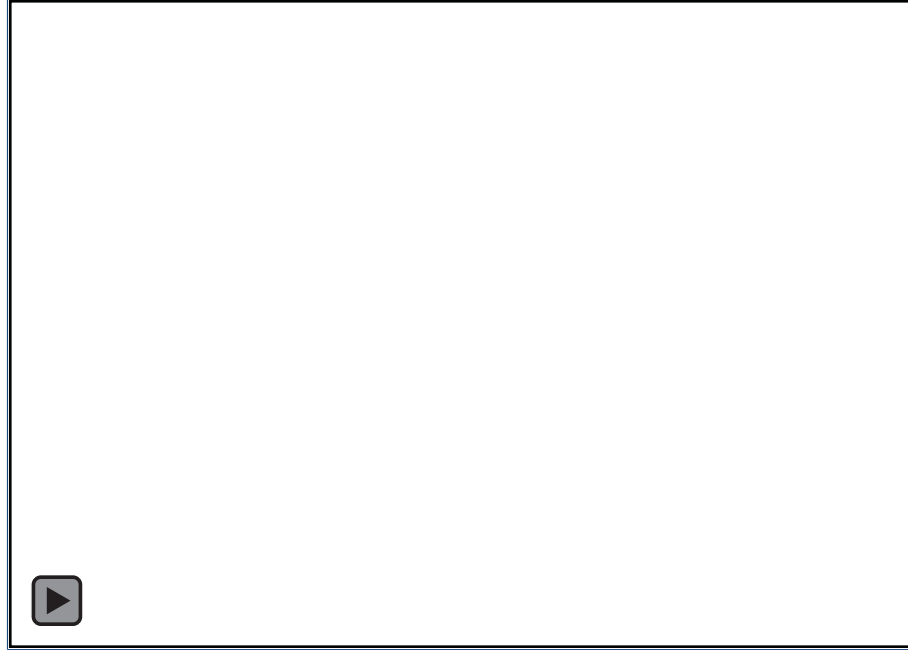
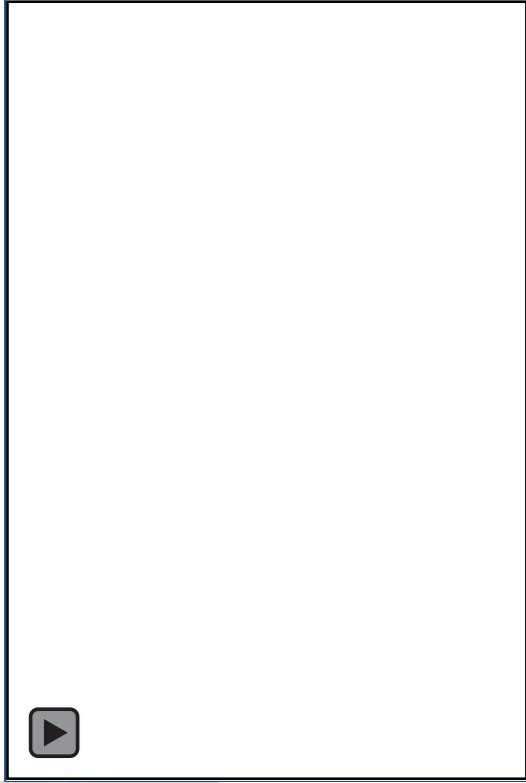




**BASE
AMPIA**

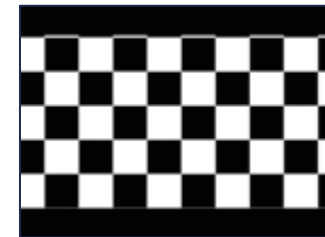
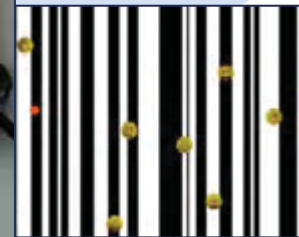
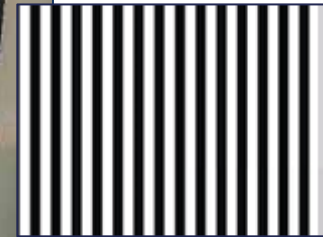


- U-Read

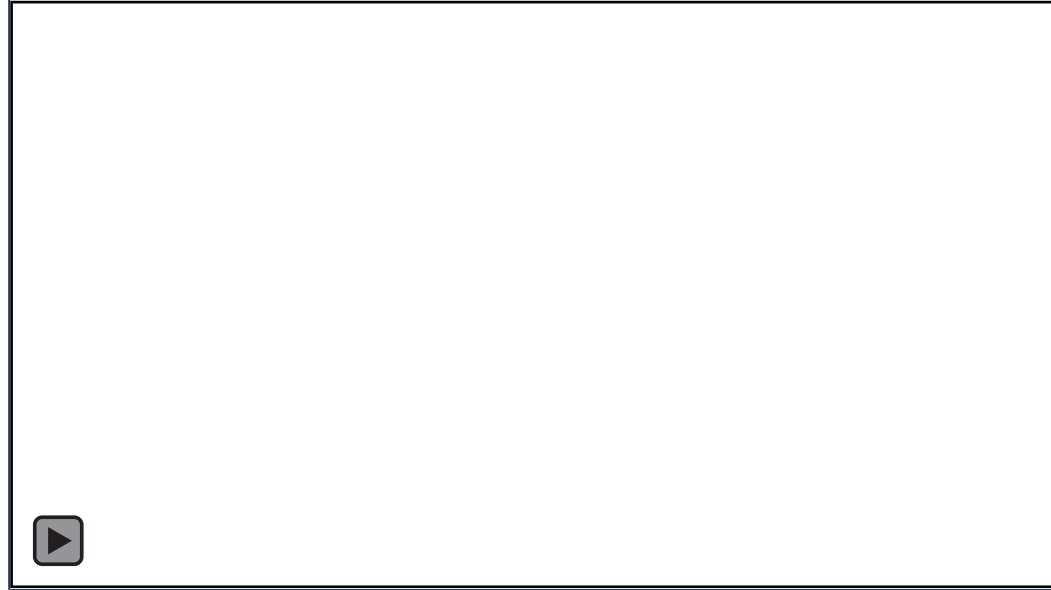


Setting differenti

Sfondi confondenti e ottococinetico

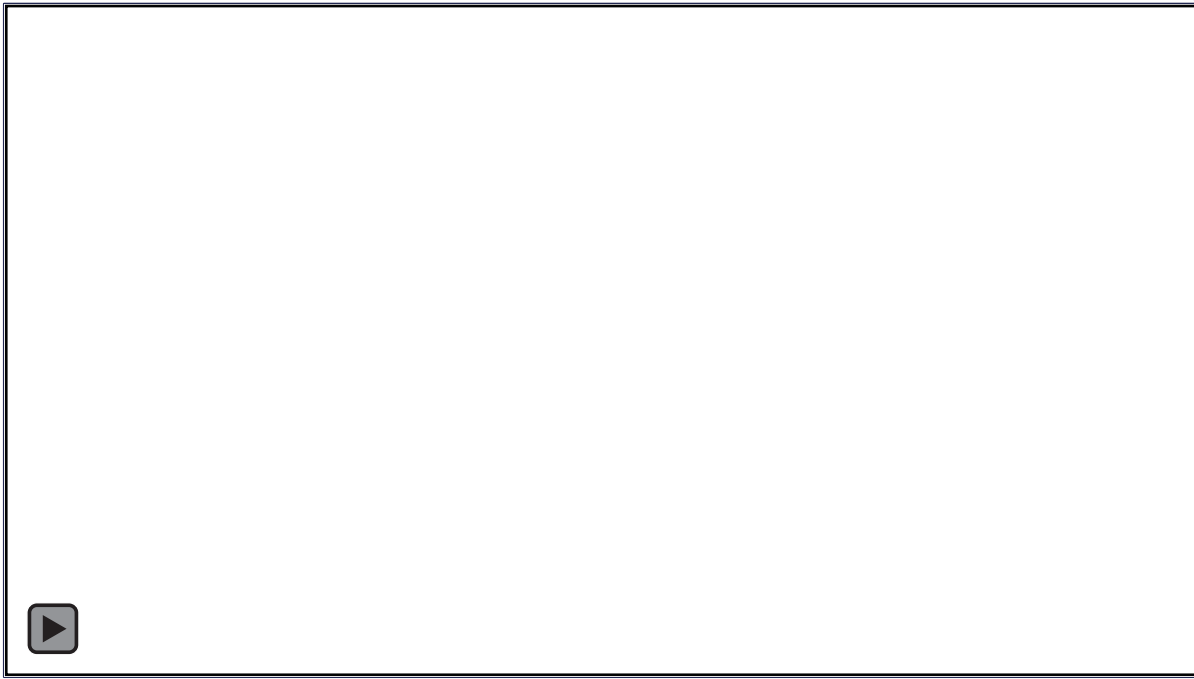


- U-Touch





- Test di Corsi



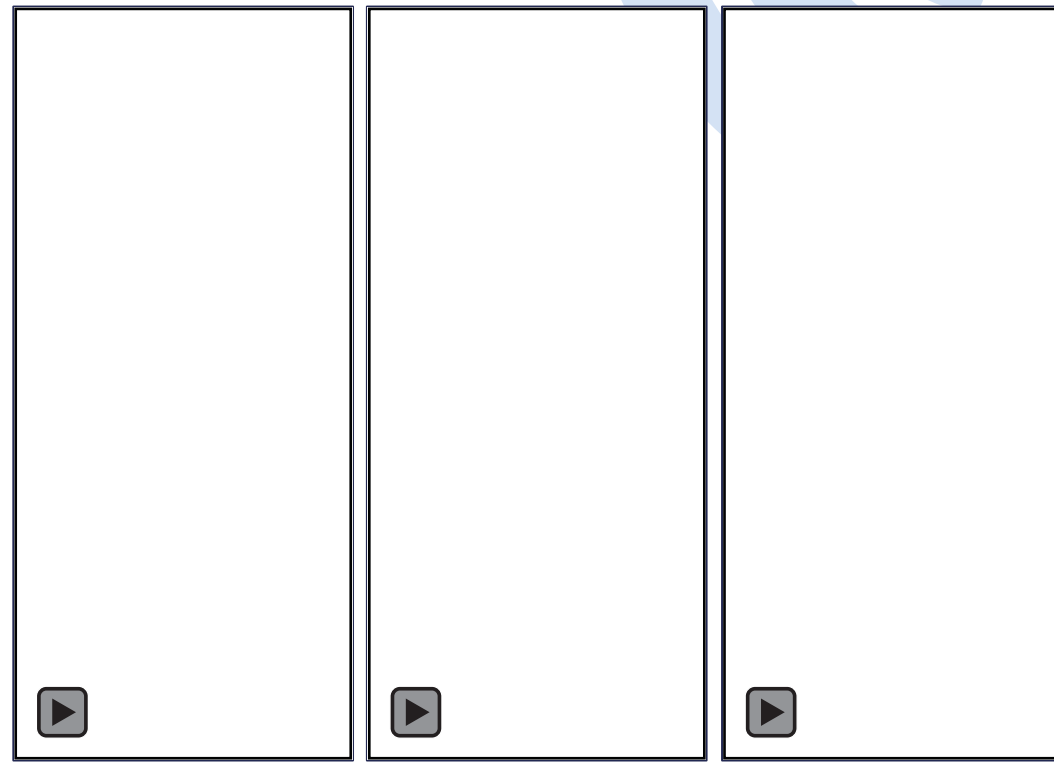
Functional Balance Advantage

WEIGHT BEARING
SQUAT

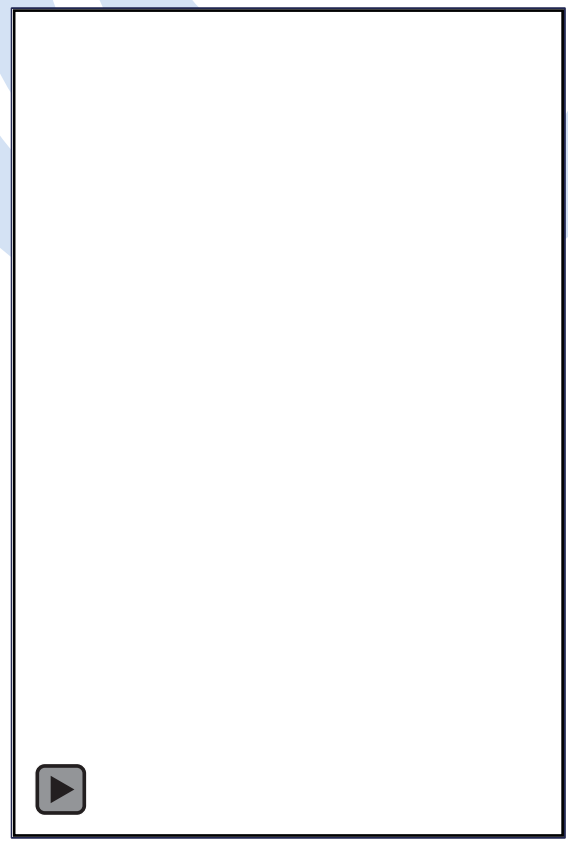
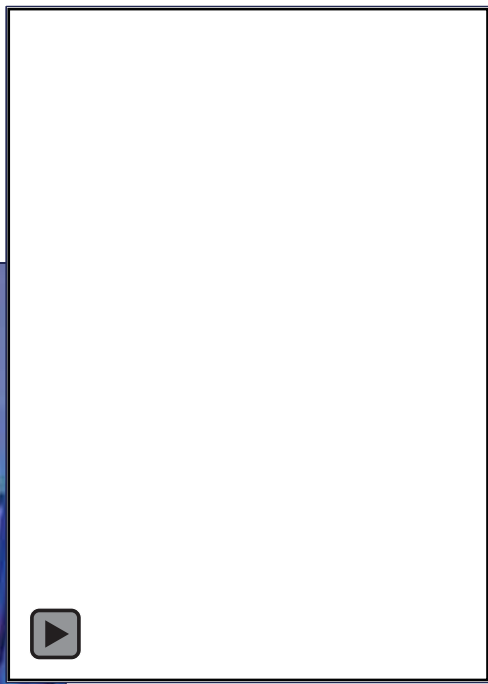
STABILITY REPORT



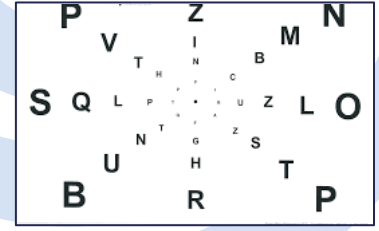
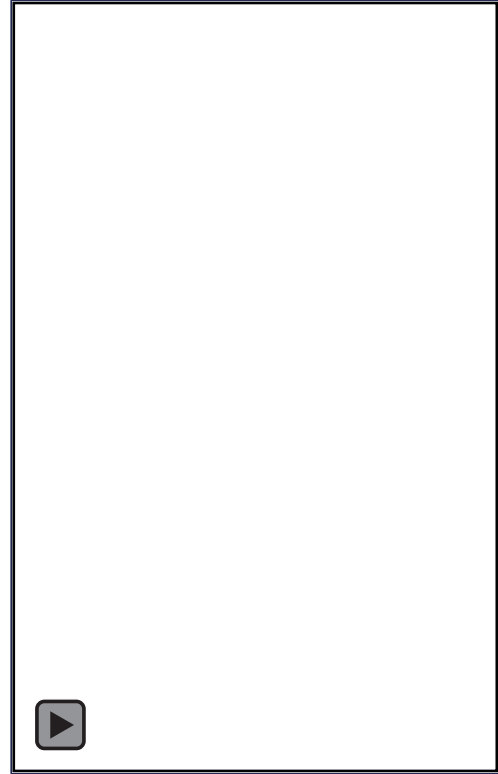
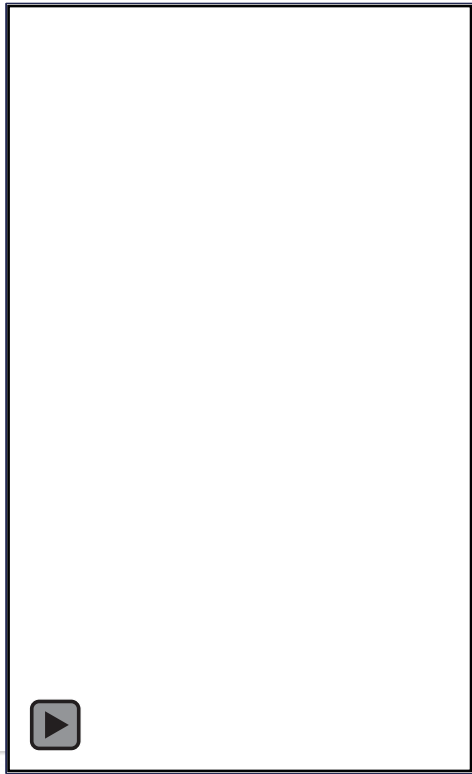
LIMITS OF STABILITY



Blaze Pod



- Apporto dei Fisioterapisti e del Visual training



Esercizi domiciliari dopo la dimissione

Vestibolar
riabilitazione vestibolare



Camminare per 40-45' consecutivi, se possibile anche su diverse superfici (terreno sconnesso, ghiaia, sabbia, ecc).



**Mantenendo gli occhi fissi su un punto di riferimento vicino a noi, ruotare la testa verso destra e sinistra come per dire "NO" per 10 volte.
Senza perdere mai il contatto visivo con il punto.**



**Mantenendo gli occhi fissi su un punto di riferimento vicino a noi, muovere la testa verso l'alto e il basso come per dire "SI" per 10 volte.
Senza perdere mai il contatto visivo con il punto.**



Trovare un punto di riferimento lontano da noi. Chiudere gli occhi e scostare velocemente la testa 10 volte in senso orizzontale come per dire "NO" con la testa. Riaprendo gli occhi, trovare il punto di riferimento precedentemente selezionato il più velocemente possibile. Ripetere lo stesso procedimento sul piano verticale come per dire "SI" con la testa.

Vestibolar
riabilitazione vestibolare



Fissare un oggetto all'interno delle proprie mani e muovere le braccia in modo sincrono con il corpo in senso orizzontale verso destra e sinistra; e in senso verticale (verso l'alto e il basso). Ripetere 10 volte per ogni verso.

MARCIA SUL POSTO



Marcciare sul posto ad OCCHI CHIUSI a una distanza costante dal muro per 40 passi, cercando di mantenere invariata tale distanza.

È possibile aumentare la difficoltà degli esercizi effettuandoli su tappetini/tavollette piropricettive di diverso genere.




Vestibolar
riabilitazione vestibolare

equivalente di UN ORE, allegato a questo email dopo aver prodotto il testo SCBI vicino al programma di lavoro

1. V Day 1' SUCCESSI	Alterare una rotazione della testa verso destra a una verso sinistra mantenendo gli occhi fissi sul pallino bianco. Ad ogni movimento contare compiendo un numero.	
2. V Day 2' SUCCESSI	Mantenendo gli occhi fissi sul pallino bianco, contare la testa costantemente verso destra e sinistra come per dire "NO". Su ogni movimento contare compiendo un numero.	
3. V Day 3' SUCCESSI	Alterare un movimento della testa verso l'alto a uno verso il basso mantenendo gli occhi fissi sul pallino bianco. Ad ogni movimento contare compiendo un numero.	
4. V Day 4' SUCCESSI	Mantenendo gli occhi fissi sul pallino bianco, muovere la testa costantemente verso l'alto e il basso come per dire "SI". Su ogni movimento contare compiendo un numero.	
5. CIRCHI 5' Max level 8	Esercizio di memoria	
6. Balance 7' RECUPERO, VERTICALE	Con il braccio posizionato dietro la schiena con la testa verso il basso, spostare il peso del corpo verso la punta dei piedi e verso il tallone cercando di puntare la linea verde verso il marcatore superiore nel silenzio del metronomo quieto.	
7. Balance 7' RECUPERO, ORIZZONTALE	Con il braccio posizionato dietro la schiena con la testa verso il basso, spostare il peso del corpo verso destra e sinistra cercando di puntare la linea verde verso i marcatore laterali del metronomo quieto.	

> J Clin Med. 2024 Jul 17;13(14):4183. doi: 10.3390/jcm13144183.

Customized Vestibular Rehabilitation for Vestibular Schwannoma Excision via Translabrynthine Approach: A Single-Center Experience

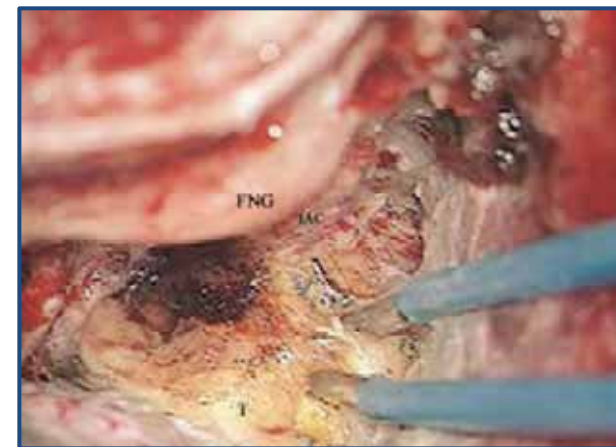
Virginia Fancello ^{1,2}, Elisabetta Rebecchi ¹, Anna Lisa Giannuzzi ¹, Giuseppe Fancello ¹, Simone Faroldi ¹, Luca Rosani ¹, Mario Sanna ¹

52 pazienti

EXERESI di
SCHWANNOMA
VESTIBOLARE
per VIA TLA

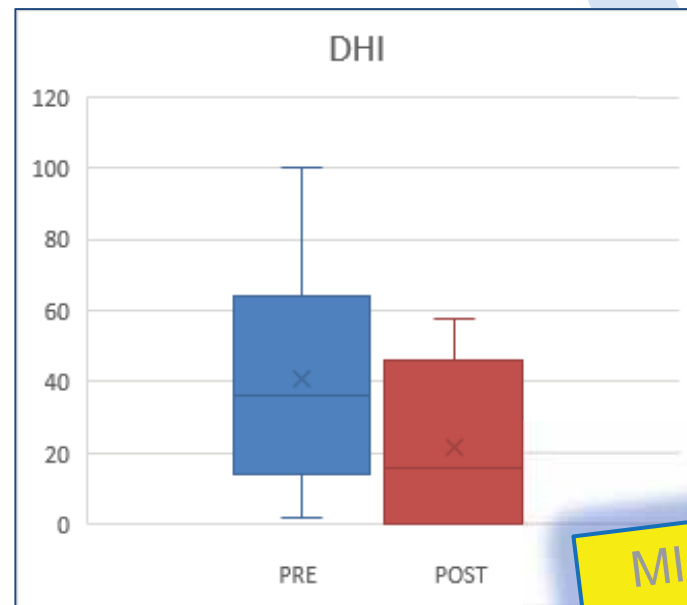
10 sedute

- SESSO: 18M e 34F
- ETA': 59 aa (36-83 aa)
- LATO: 30 sn e 22 dx
- TIMING: 24 mesi
- DIMENSIONI: 1,5-3 cm



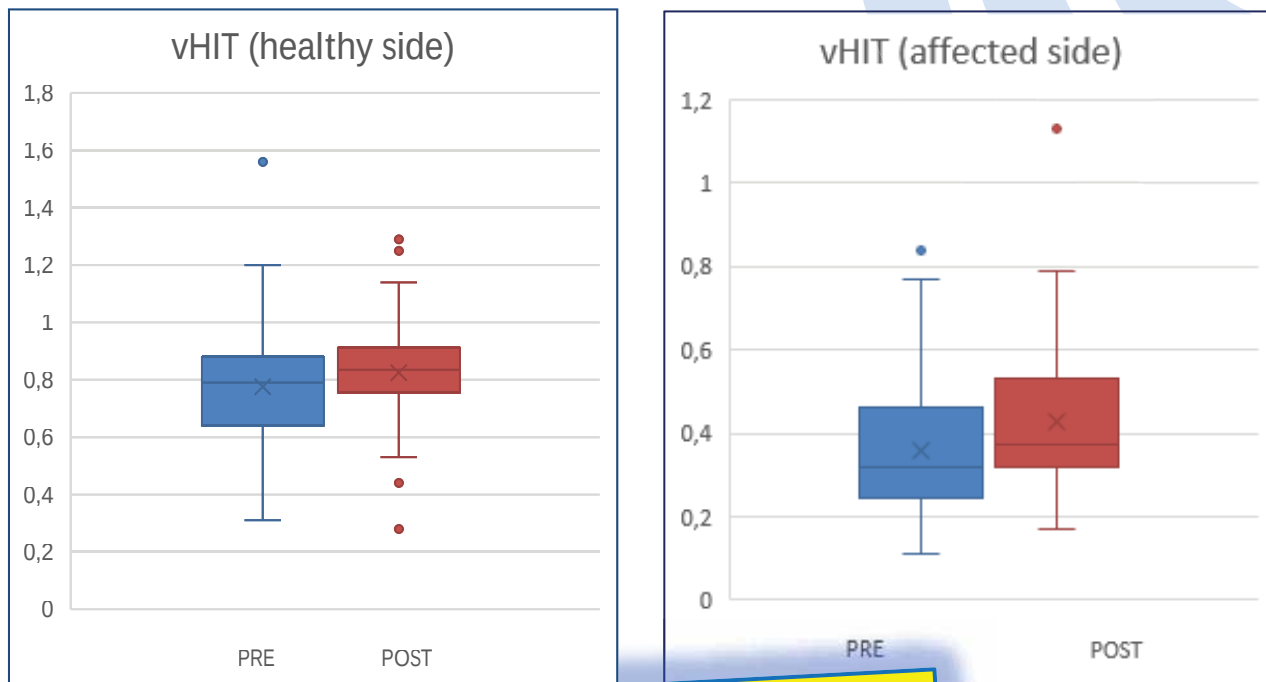
Rebecchi **E**

Risultati



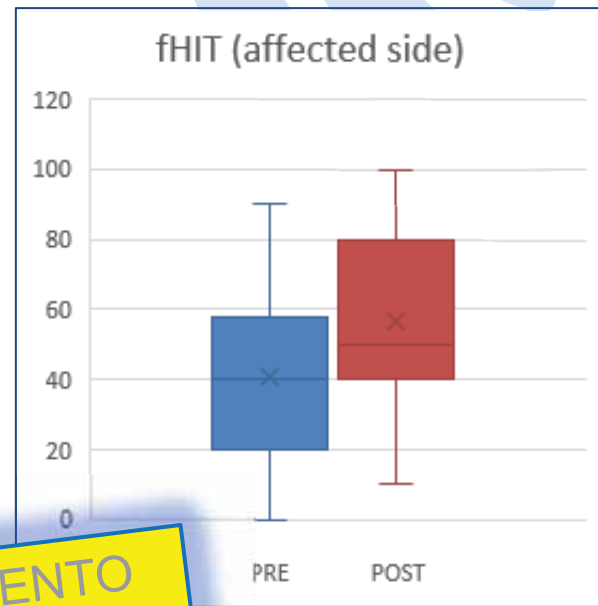
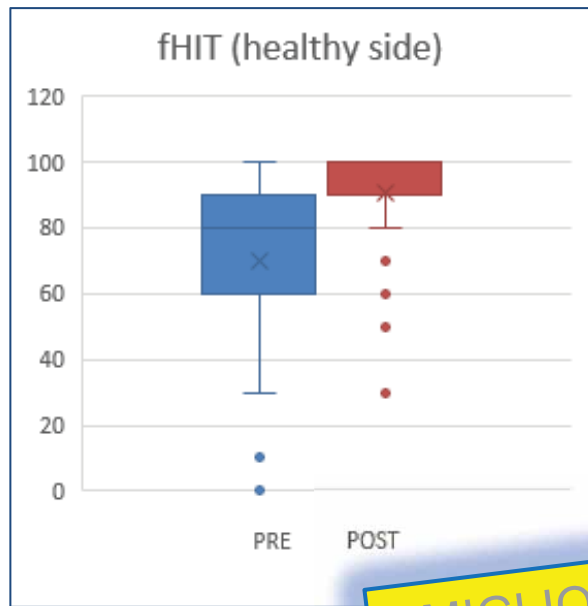
MIGLIORAMENTO
STATISTICAMENTE
SIGNIFICATIVO

Risultati



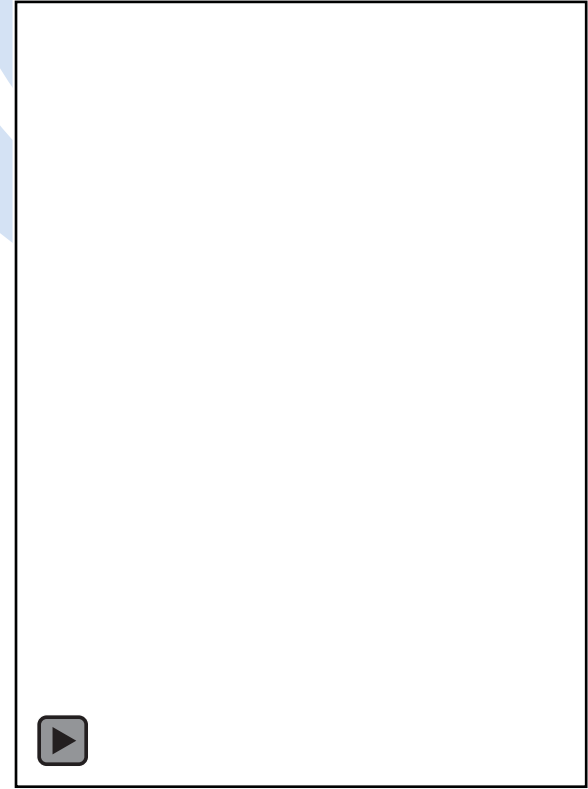
MIGLIORAMENTO
NON STATISTICAMENTE
SIGNIFICATIVO

Risultati



MIGLIORAMENTO
STATISTICAMENTE
SIGNIFICATIVO

Risultati



Più ti muovi meglio è

EDUCARE



MOTIVARE

PRO

- ✓ Migliora i sintomi statici e dinamici
- ✓ Favorisce il recupero delle attività di vita quotidiane
- ✓ Riduce il rischio di caduta
- ✓ Migliora qualità di vita
- ✓ Riduce l'oscillopsia
- ✓ Miglioramento della instabilità
- ✓ Miglioramento della coordinazione
- ✓ Aumenta la velocità del passo (camminata)

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

FROM THE AMERICAN PHYSICAL THERAPY ASSOCIATION
NEUROLOGY SECTION ©2016 Neurology Section, APTA

CONTRO

- ✓ Lesioni vestibolari "attive"
- ✓ Condizioni fisiche che non permettono l'esecuzione degli esercizi
- ✓ Deficit cognitivi
- ✓ Patologie psichiatriche

RebecchiE

TAKE HOME MESSAGES

Rieducazione Vestibolare

Qualità di vita



- ✓ Possiamo inviare alla rieducazione vestibolare molte patologie labirintiche e non solo
- ✓ Non ha effetti collaterali
- ✓ Precoce, personalizzata, incrementale
- ✓ Strumentale e non
- ✓ *Migliora la qualità di vita dei pazienti e le loro performance cognitive*

Trattate le vertigini con gli esercizi e non con i farmaci

CORSO DI RIABILITAZIONE VESTIBOLARE DALLA TEORIA ALLA PRATICA

Iscrizioni
e-mail: corsi.vestibolare@gruppootologico.com



*Grazie
per
l'attenzione*