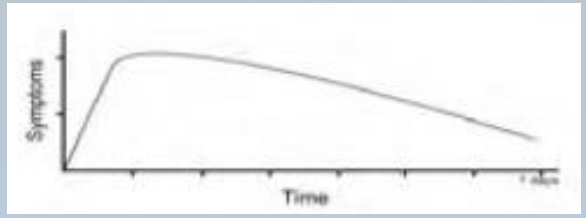
Vestibulärer Schwindel – neue Klassifikation

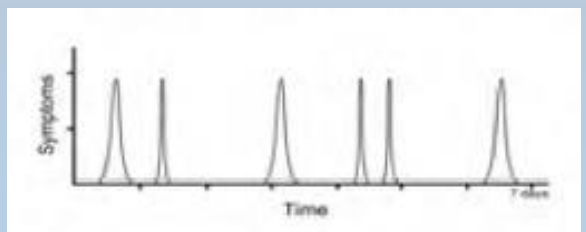
Die 3 vestibulären Hauptsyndrome

(Schwindel, Nystagmus, Gangunsicherheit, Nausea / Erbrechen)



1) Akutes vestibuläres Syndrom (AVS)

neu / akut, permanenter Schwindel, >24h (Tage bis Wochen)

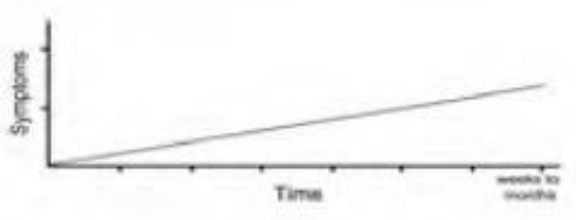


2) Episodisches vestibuläres Syndrom (EVS)

transient, <24h (Sekunden bis Stunden), evtl. repetitiv, KEINE TR

- Positions-abhängiges vestibuläres Syndrom (PVS)

wie EVS, Trigger vorhanden (Bsp Kopfbewegung, Lage)



3) Chronisches vestibuläres Syndrom (CVS)

permanenter Schwindel, Monate bis Jahre

Vestibular Syndrome Definitions for the International Classification of Vestibular Disorders David E. Newman-Toker et al., Barany Society Meeting, Buenos Aires 2014 ICD-11 draft

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NIHMSID: NIHMS705071
PMID: 26231273

TiTrATE: A Novel Approach to Diagnosing Acute Dizziness and Vertigo

David E. Newman-Toker and Jonathan A. Edlow

Timing Trigger And Target Exams

TiTrATE: A Novel Approach to Diagnosing Acute Dizziness and Vertigo

«Timing»

- **Auftreten**
  - **(neu /akut?)**
- **Verlauf**
  - **(permanent , intermittierend?)**
- **Dauer**
  - **(Sek, Min, Std, Tage, Wochen)?**

«Trigger»

- **Ereignisse**
  - **Trauma,**
- **Bewegungen /Positionen**
  - **Kopfbewegungen, Lagewechsel**
- **Situationen**
  - **Dunkelheit, Menschenmenge, Lärm**

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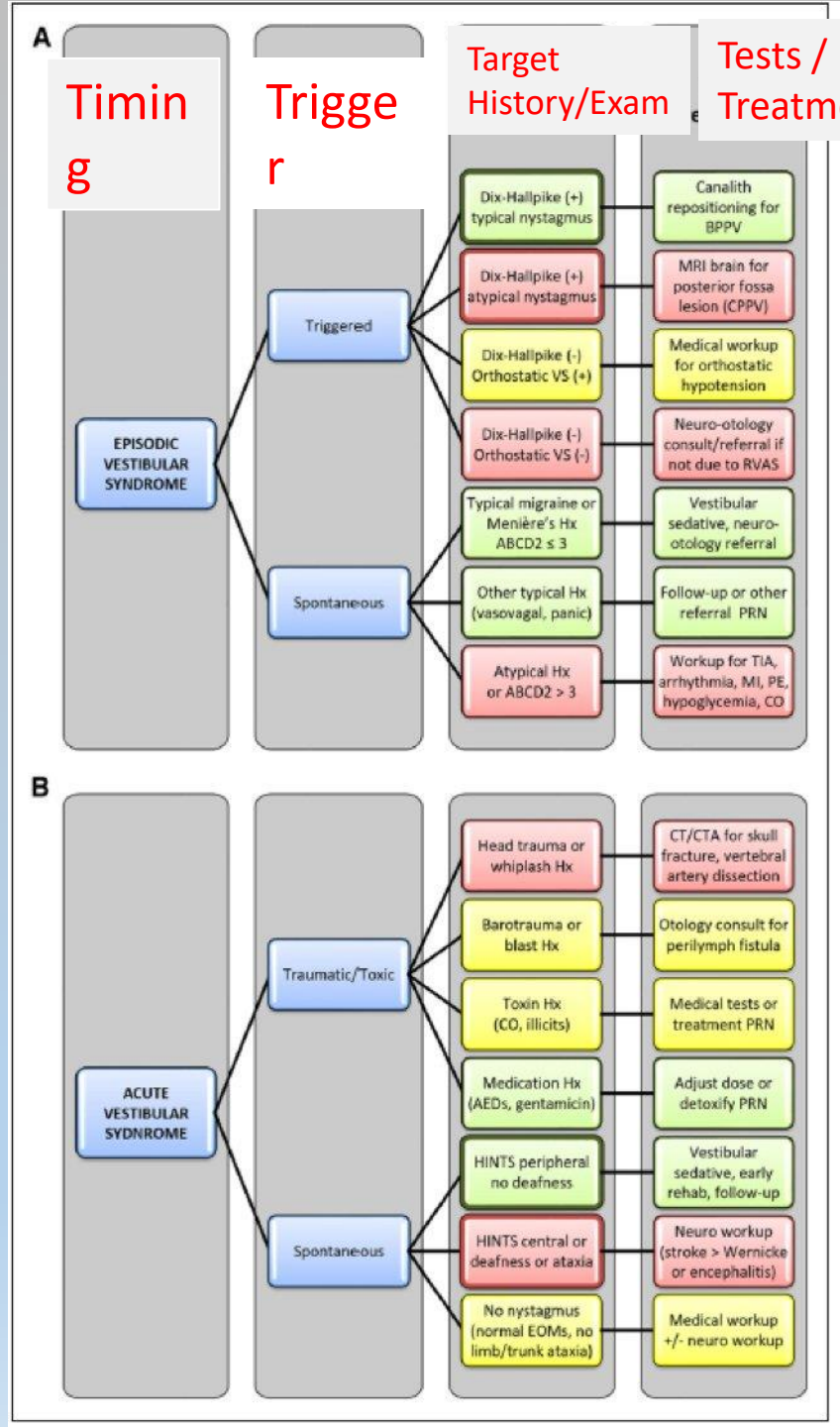
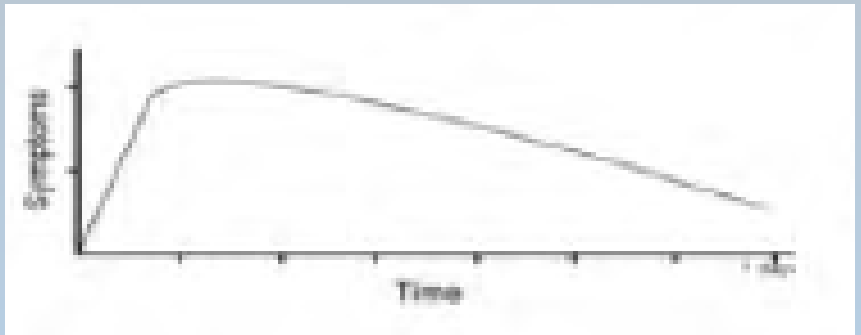
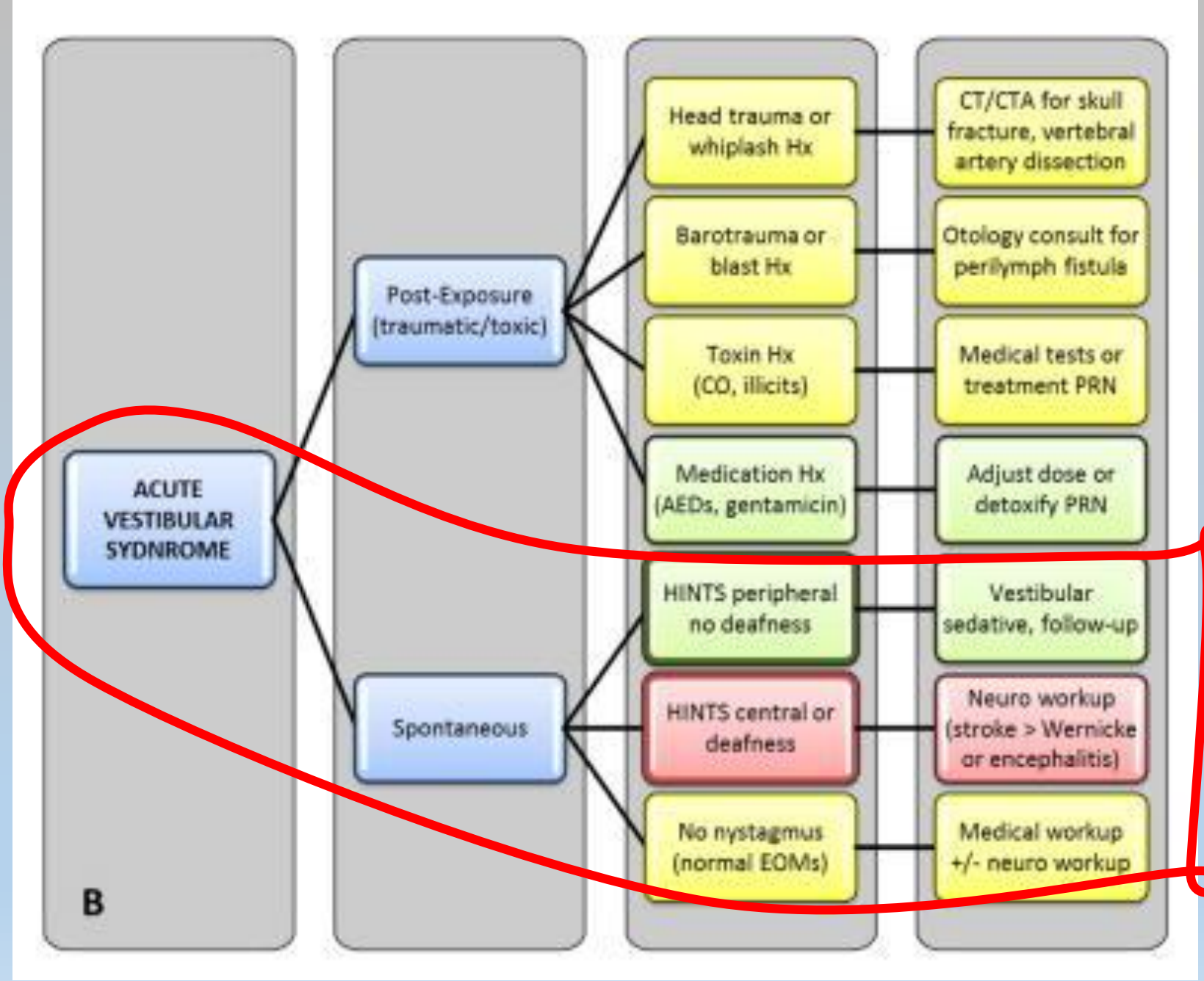


Figure 1. Timing, triggers, and target examination (TiTrATE) approach to diagnosing dizziness and vertigo, highlighting cerebrovascular causes (red). Adapted from Newman-Toker et al[2] with permission. Copyright ©2017, Elsevier. AED indicates antiepileptic drug; CO, carbon monoxide; EOM, extraocular movement; Hx, history; MI, myocardial infarction; PE, pulmonary embolus; PRN, pro re nata (as needed); and VS, vital signs.


Symptoms
Time


ACUTE VESTIBULAR SYDNROME
Post-Exposure (traumatic/toxic)
Spontaneous
Head trauma or whiplash Hx
Barotrauma or blast Hx
Toxin Hx (CO, illicits)
Medication Hx (AEDs, gentamicin)
HINTS peripheral no deafness
HINTS central or deafness
No nystagmus (normal EOMs)
CT/CTA for skull fracture, vertebral artery dissection
Otology consult for perilymph fistula
Medical tests or treatment PRN
Adjust dose or detoxify PRN
Vestibular sedative, follow-up
Neuro workup (stroke > Wernicke or encephalitis)
Medical workup +/- neuro workup
B

1) Akutes vestibuläres Syndrom (AVS)

neu / akut, permanenter Schwindel, >24h (Tage bis Wochen)

75%

Akute periphere Vestibulopathie (APV)

(Neuropathia /Neuritis vestibularis, «Labyrinthitis»)

25%

STROKE !!

(Ischämie / Blutung im vertebrobasilären Stromgebiet)

- **50% der Patienten mit AVS und STROKE haben KEINE sonstigen neurologischen Symptome**
- **35% der Patienten mit AVS und STROKE werden bei Erstkonsultation im Notfall verpasst**
- **CT: Geringe Sensivität von 16% für STROKE in hinterer Schädelgrube**
- **MRI: 12% falsch negativ für STROKE während ersten 48 h**

«HINTS» bei akutem Schwindel: peripher oder zentral?

Ewa Zamaro, Dominique Vibert, Marco Caversaccio, Georgios Mantokoudis

Universitätsklinik für Hals-, Nasen- und Ohrenkrankheiten, Kopf- und Halschirurgie, Inselspital Bern

Head Impulstest Nystagmus Test of Skew

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Stroke. 2009 November ; 40(11): 3504–3510. doi:10.1161/STROKEAHA.109.551234.

H.I.N.T.S. to Diagnose Stroke in the Acute Vestibular Syndrome —Three-Step Bedside Oculomotor Exam More Sensitive than Early MRI DWI

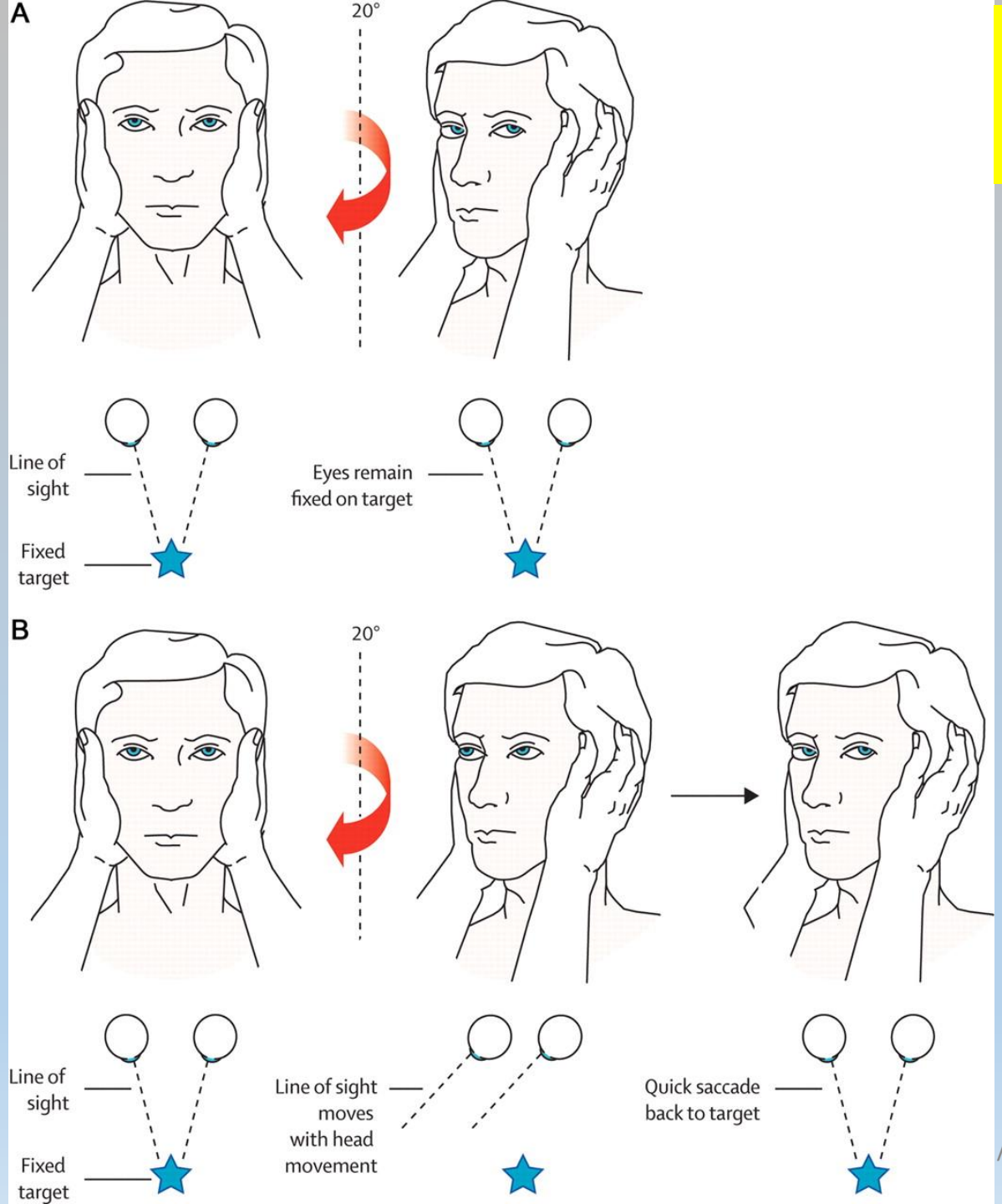
Bedside signs and initial MRI with DWI test properties for ischemic stroke in AVS

	Sensitivity (n=69)	Specificity (n=25)	NLR Stroke (95%CI)
General neurologic signs*	19%	100%	0.81 (0.72–0.91)
Obvious oculomotor signs	28%	100%	0.72 (0.63–0.84)
Severe truncal ataxia	33%	100%	0.67 (0.56–0.79)
Any obvious signs	64%†	100%	0.36 (0.27–0.50)
Initial MRI with DWI	88%‡	100%	0.12 (0.06–0.22)
Dangerous bedside H.I.N.T.S.	100%	96%	0.00 (0.00–0.12)

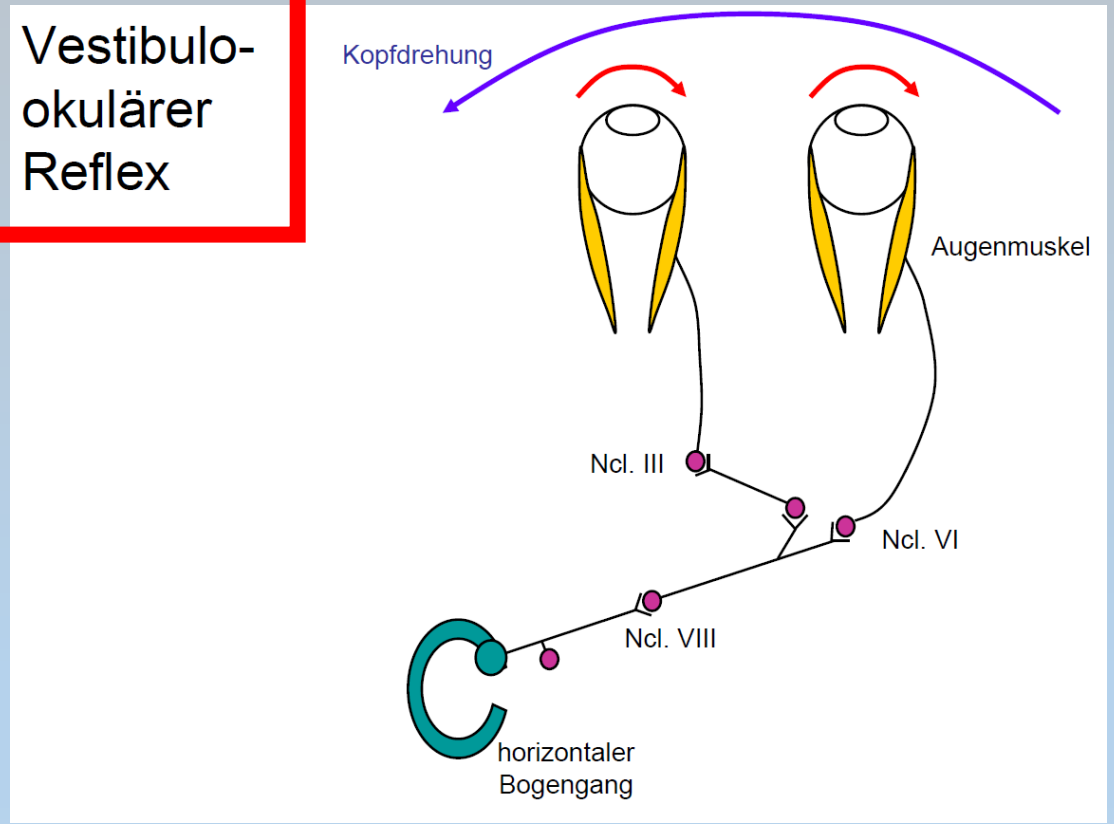
APV – acute peripheral vestibulopathy; DWI – diffusion weighted imaging; NLR – negative likelihood ratio; H.I.N.T.S. – Head-Impulse-Nystagmus-Test-of-Skew

Head Impuls Test…

…Zur Prüfung des vestibulookulären Reflexes



Vestibulo-okulärer Reflex



The evaluation of a patient with dizziness
Kevin A. Kerber and Robert W. Baloh
Neurol Clin Pract 2011;1;24-33

/ Hänni

Nystagmusprüfung

- Mit Frenzelbrille!
- 10 Sekunden in jede Blickrichtung
- Schlagrichtung? (schnelle Komponente)
  - Unidirektional?
  - Richtungswechselnd?
- Verstärkung / Abschwächung durch Wechsel der Blickrichtung?
- Fixationssuppression?

Frenzelbrille

- Aufhebung Fixation
- Beleuchtung
- Vergrösserung

Nystagmus

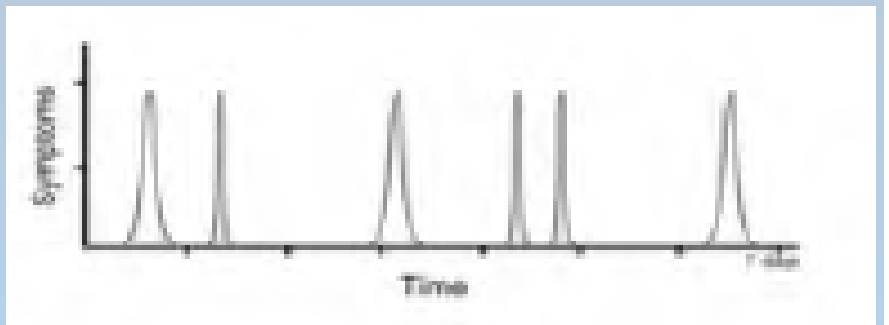
peripher:

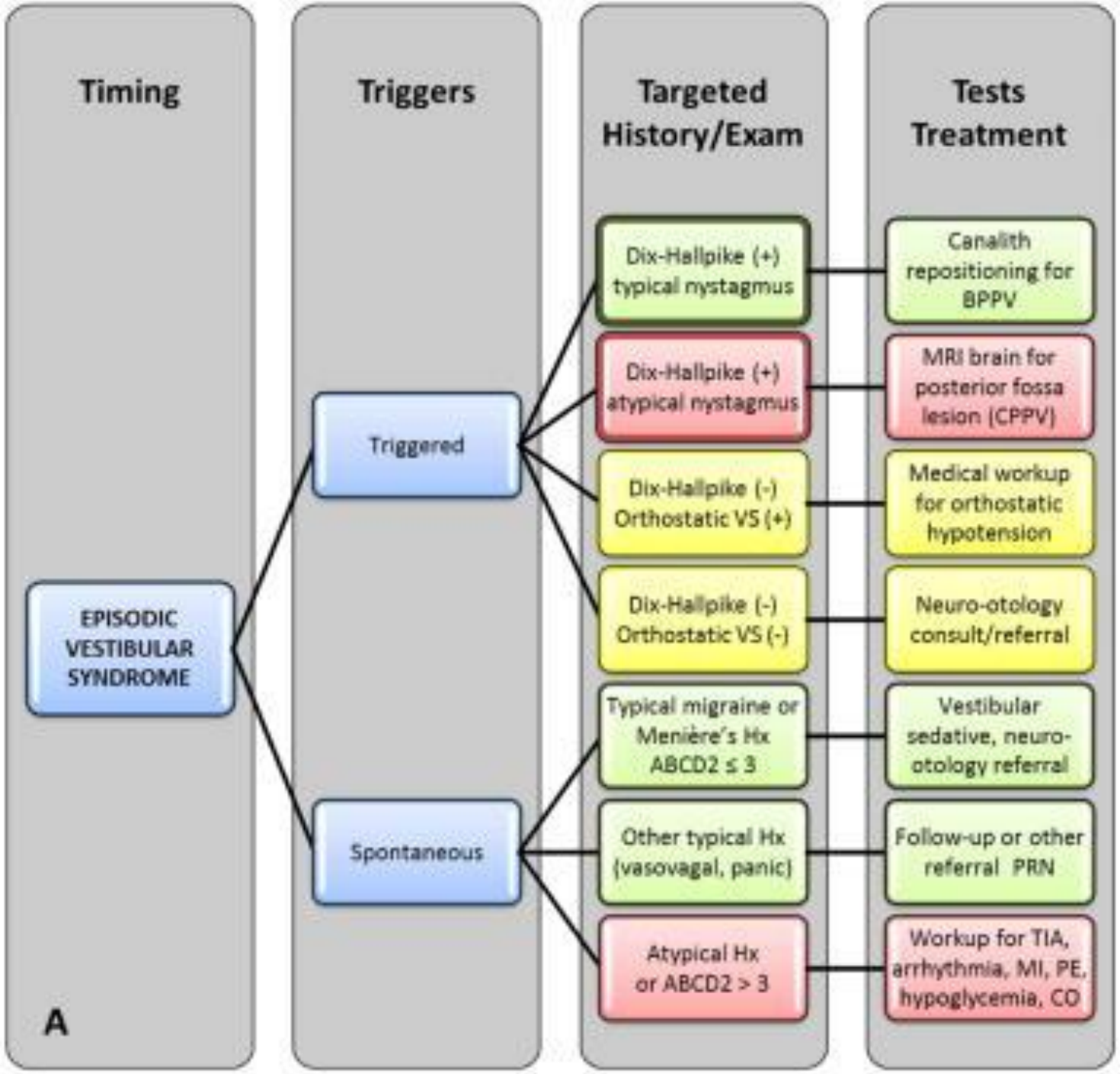
- **Kein Richtungswechsel**
- Horizontal (evtl. rotatorisch)
- Verstärkt bei Blick in Nystagmusrichtung
  - (abgeschwächt bei Blick in Gegenrichtung)
- Intakte Fixationssuppression

zentral:

- **Richtungswechsel**
- Horizontal oder **vertikal**
- Keine Fixationssuppression

Episodisch


Symptoms
Time


Timing
Triggers
Targeted History/Exam
Tests Treatment
EPISODIC VESTIBULAR SYNDROME
Triggered
Spontaneous
Dix-Hallpike (+) typical nystagmus
Dix-Hallpike (+) atypical nystagmus
Dix-Hallpike (-) Orthostatic VS (+)
Dix-Hallpike (-) Orthostatic VS (-)
Typical migraine or Menière's Hx ABCD2 ≤ 3
Other typical Hx (vasovagal, panic)
Atypical Hx or ABCD2 > 3
Canalith repositioning for BPPV
MRI brain for posterior fossa lesion (CPPV)
Medical workup for orthostatic hypotension
Neuro-otology consult/referral
Vestibular sedative, neuro-otology referral
Follow-up or other referral PRN
Workup for TIA, arrhythmia, MI, PE, hypoglycemia, CO
A

TiTrATE
bei APV, BPLS und Menière

	Akute periphere Vestibulopthie APV	Benigner paroxysmaler Lagerungsschwindel BPLS	M. Menière
Timing	**AVS, permanent, > 24 h**	**EVS, Sekunden, repetitiv**	**EVS, 20 Min. – Stunden, repetitiv**
Trigger	**keiner**	**Lagewechsel, bestimmte Bewegungen**	**keiner**
Target Exam	**HINTS**	**Lagerungsprüfung** •Nystagmus • kurze Latenz • rotatorisch, geotrop •Dauer 5 – 30 Sek	**Typische Trias:** •Anfallsschwindel • Tinnitus • Hörverlust **DD Migräne!**

Faustregel für Schwindeldauer:

Sekunden: BPLS, vest. Paroxysmie

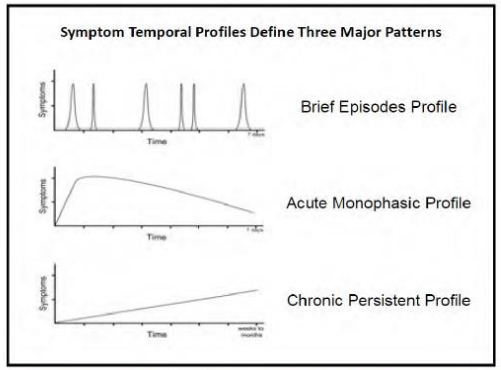
Stunden: Menière, Migäne

Tage: Akutes vestibuläres Syndrom (AVS), dd

-akute periphere Vestibulopathie (APV),

(Neuritis / Neuropathia vestibularis, Labyrinthitis)

- Stroke



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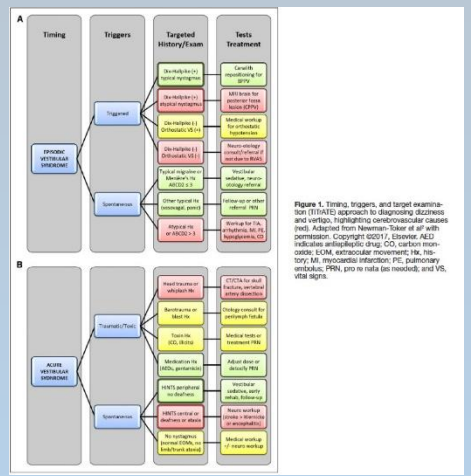
David E. Newman-Toker et al., Barany Society Meeting, Buenos Aires 2014

Klassifikation der vestibulären Syndrome

- Akutes vestibuläres Syndrom AVS
- Episodisches vestibuläres Syndrom EVS
- Chronisches vestibuläres Syndrom



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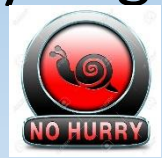
TiTrATE

- Timing, Trigger And Target Exams

HINTS

- Head Impuls, Nystagmus, Test of Skew
- vs 

, 100% Sensitivität