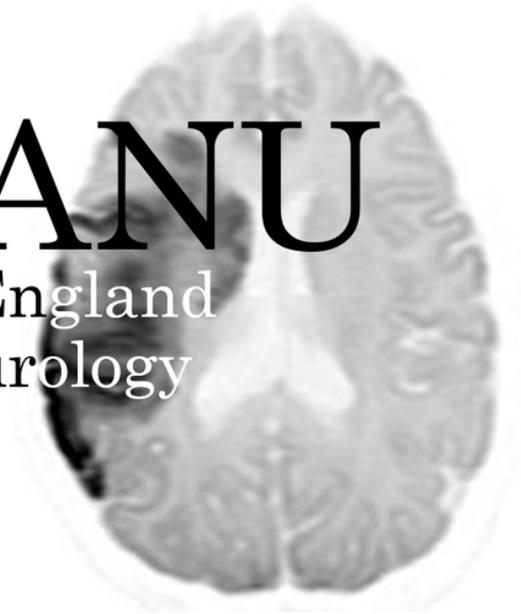


NEANU

North of England
Acute Neurology
Update



Examination Skills

Matt Jones

James Lilleker

What constitutes the Essential Neurological Examination?

The essential neurologic examination What should medical students be taught?

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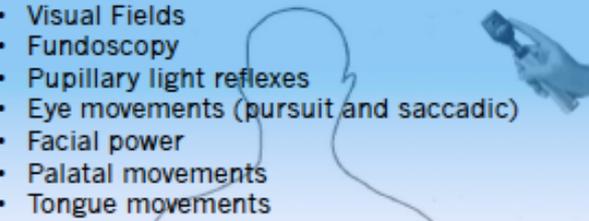
ABSTRACT

Background: Graduating medical students often identify the neurologic examination (NE) as one of the clinical skills with which they are least comfortable. We hypothesized that this is because they are unsure about which elements of the NE are important, and conducted a study 1) to identify whether neurologists agree about the essential elements of the NE and 2) to determine whether the views of medical students about what is essential differ from those of neurologists.

Methods: Using a Delphi process, we asked McGill University neurologists which elements of the NE they would perform at least 80% of the time in a common clinical scenario. We confirmed the results in a sample of Canadian neurologists, and then compared the results of the McGill neurologists to a sample of graduating McGill University medical students.

Results: The neurologists surveyed rated 22 items of the NE as essential, and there was a high degree of consensus about which items were essential. Medical student ratings of the importance of NE items were largely similar to those of the neurologists, although there were some noteworthy discrepancies.

Conclusions: The anxiety felt by medical students regarding the neurologic examination (NE) seems unlikely to be solely due to uncertainty about which elements of the NE are important. Expert consensus about the essential elements of the NE and awareness of areas where neurologist and student views differ should be used to guide teaching of the NE. *Neurology*® 2009;72:2020-2023



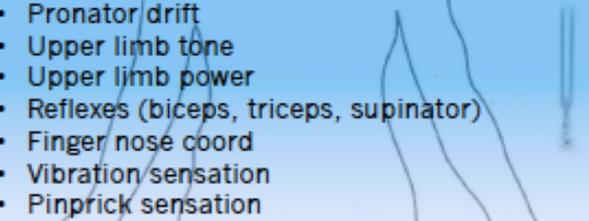
- Visual Fields
- Fundoscopy
- Pupillary light reflexes
- Eye movements (pursuit and saccadic)
- Facial power
- Palatal movements
- Tongue movements



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- Pronator drift
- Upper limb tone
- Upper limb power
- Reflexes (biceps, triceps, supinator)
- Finger nose coord
- Vibration sensation
- Pinprick sensation



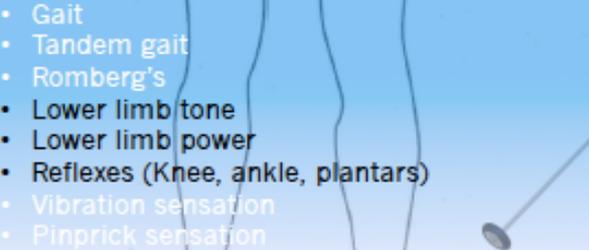
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- Gait
- Tandem gait
- Romberg's
- Lower limb tone
- Lower limb power
- Reflexes (Knee, ankle, plantars)
- Vibration sensation
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Consultant Neurologists n=15

General/acute physicians n=19
Pre-training day

General/acute physicians n=17
Post-training day

What data do we need to localize?

Cranial Nerves

- Fields
- Pupils and fundus
- Eye mvmts
- Facial power and sensation
- Speech
- Tongue move

Limbs x 4

- Wasting /fasciculation
- Tone
- Power
- Reflexes
- Coordination
- Pin prick
- Vibration +/- JPS





Basic neurological examination demo

16,592 views

👍 113 💬 2 ➦ SHARE ≡+ SAVE ...

Google: Nick Smith YouTube



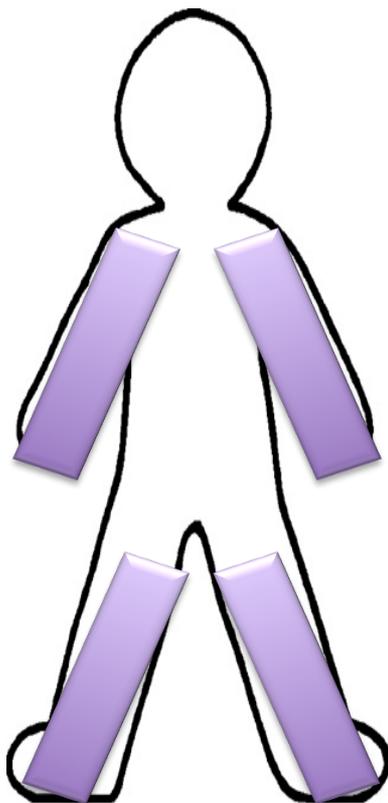
brief neuro exam

680,615 views

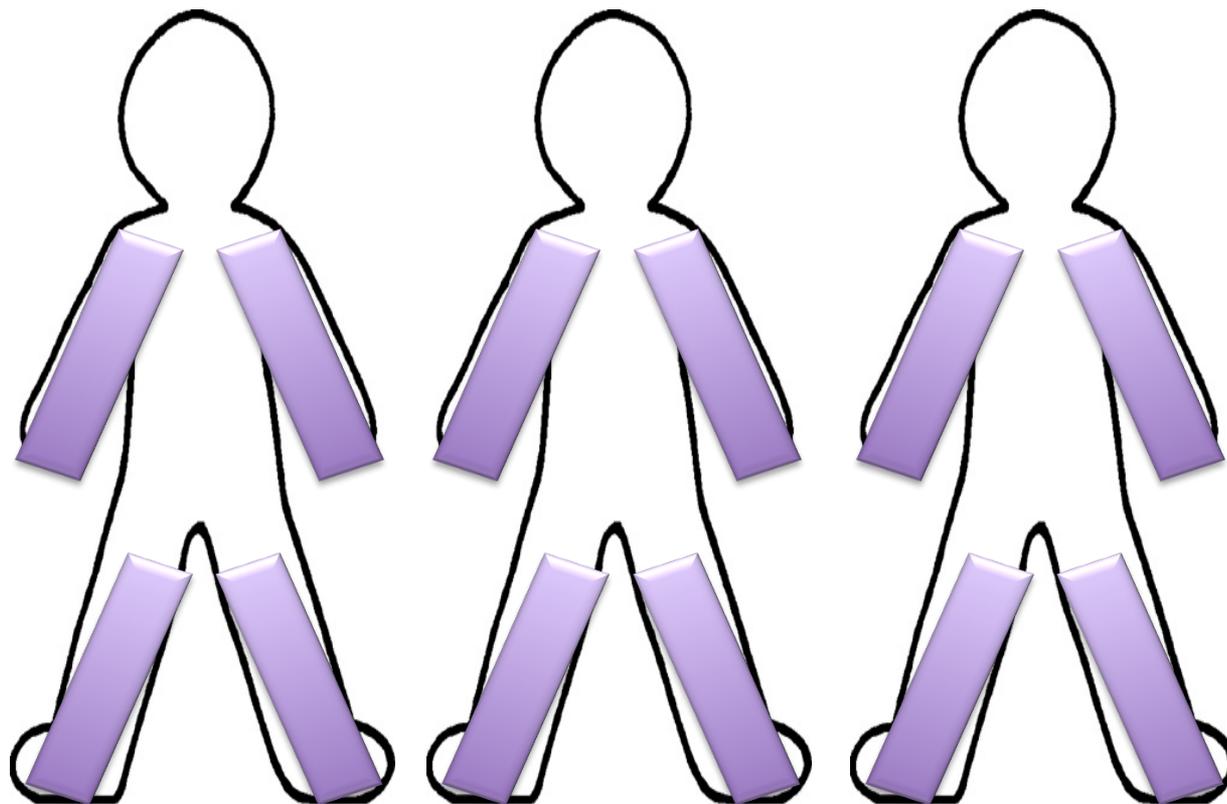
 2.2K  121  SHARE  SAVE ...

Google: David Nicholl Neuro Exam

= Ataxia



= Ataxia





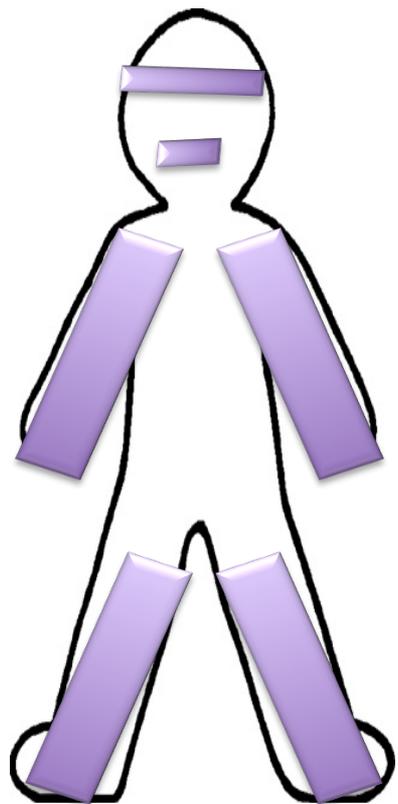
= ↑ Tone, reflexes
+/- weakness



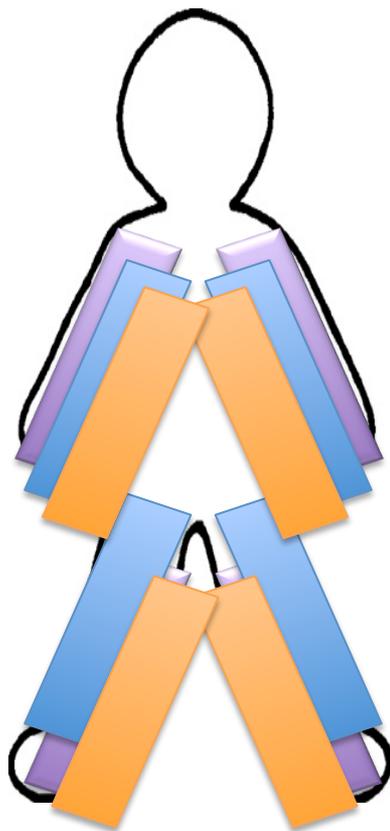
= weak/wasting
+/- ↓ Tone, reflexes



= ↓ JPS/vibr



Cerebellar ataxia



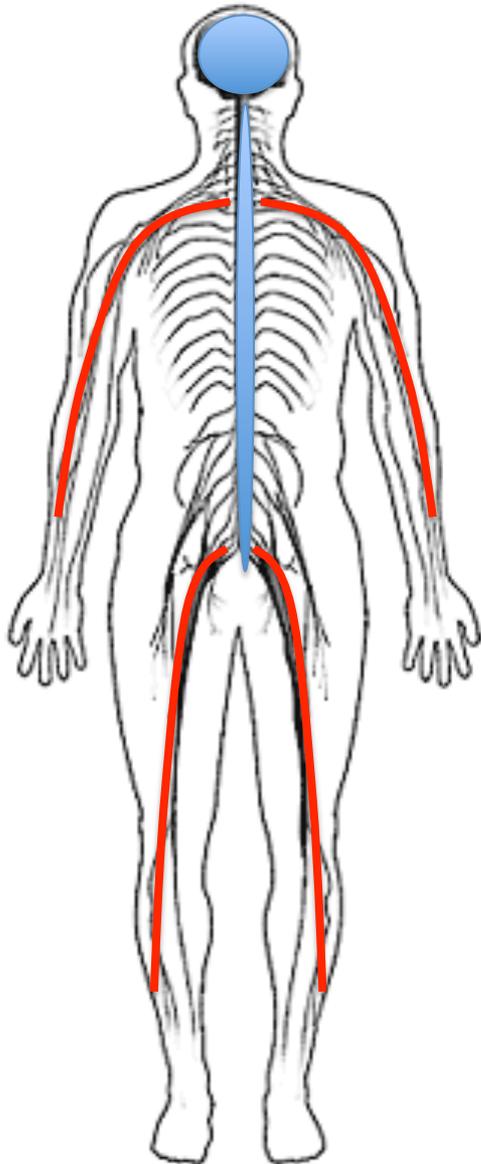
Spinal Cord

Sensory ataxia



Peripheral nerve

Ataxia localisation



Cerebellum

Spinal cord
(posterior column)

Peripheral nerve
(large fibre)

Vertigo

- The patient with episodes of acute vertigo and unsteadiness...
- When seen in MAU they have mild dysequilibrium but basic neuro exam is normal

Vertigo



Google the Dix
Hallpike test and
Epley

More Vertigo

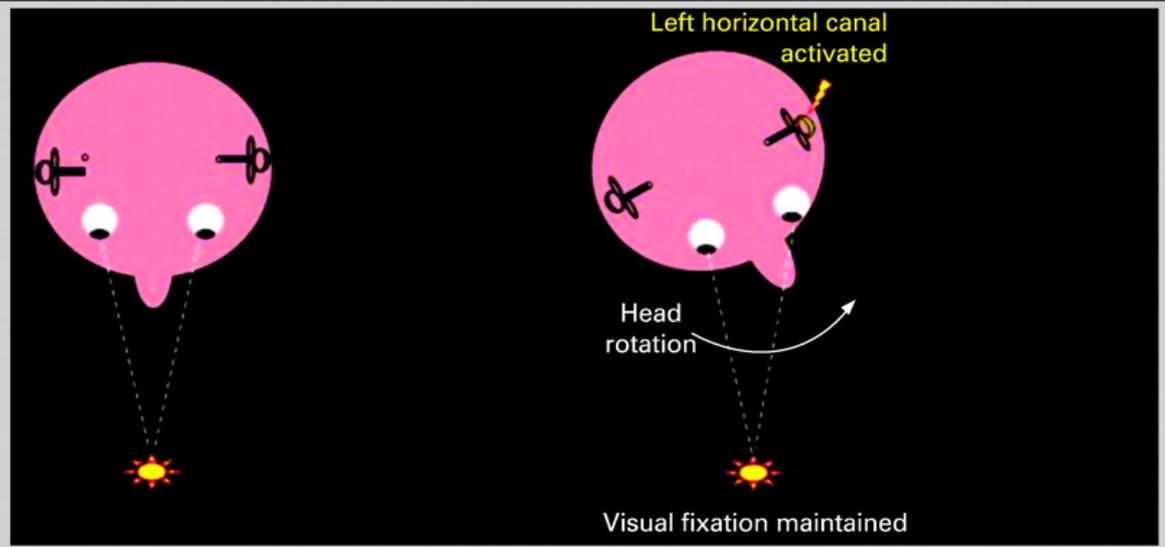
- The patient with persistent vertigo and unsteadiness for 12 hours...
- When seen in MAU they complain of vertigo, are unsteady and have some nystagmus on horizontal gaze

More Vertigo

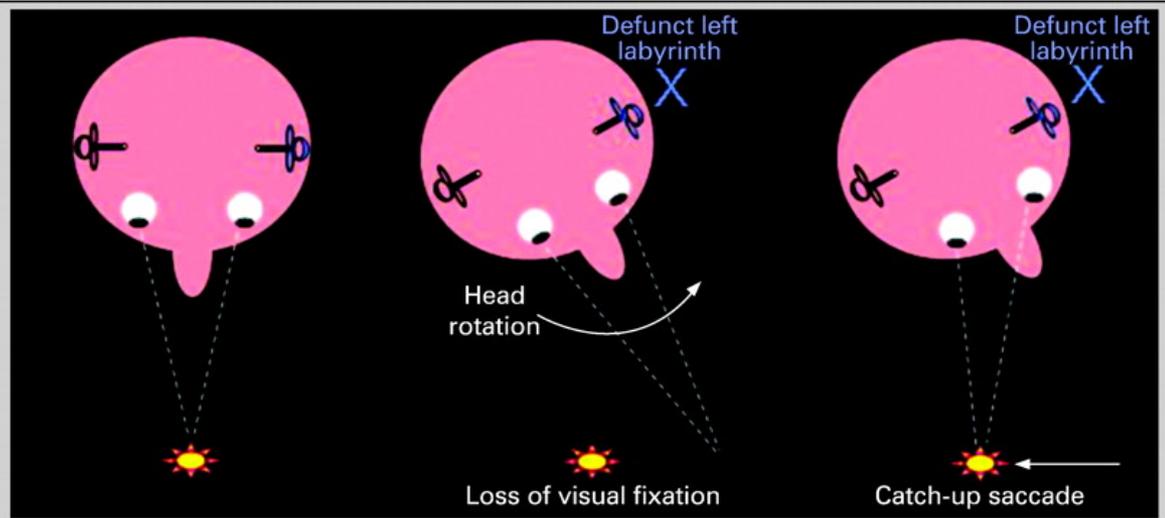
Google the Head Thrust Test
or Head Impulse Test

Vestibular-ocular reflex (VOR) physiology made simple.

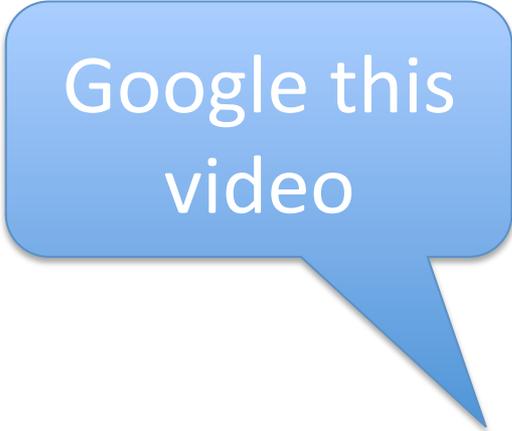
The normal state. Head movement towards a canal (yellow in figure) will cause (i) activation of that canal (ii) reflex movement of the eyes in the opposite direction—that is, away from the canal.



The pathological state and the basis of the head-impulse test. Head movement towards a defunct canal (blue in figure) will result in failure of activation of the VOR and thus the visual target will be lost from fixation during sudden head movements. In the head impulse test, the examiner turns the patient's head with a high acceleration but low amplitude head thrust, in this case to the patient's left. A positive test is observed when the patient makes a catch-up saccade to re-fixate the visual target (usually towards the examiner's nose).



**B M Seemungal, and A M Bronstein Pract Neurol
2008;8:211-221**



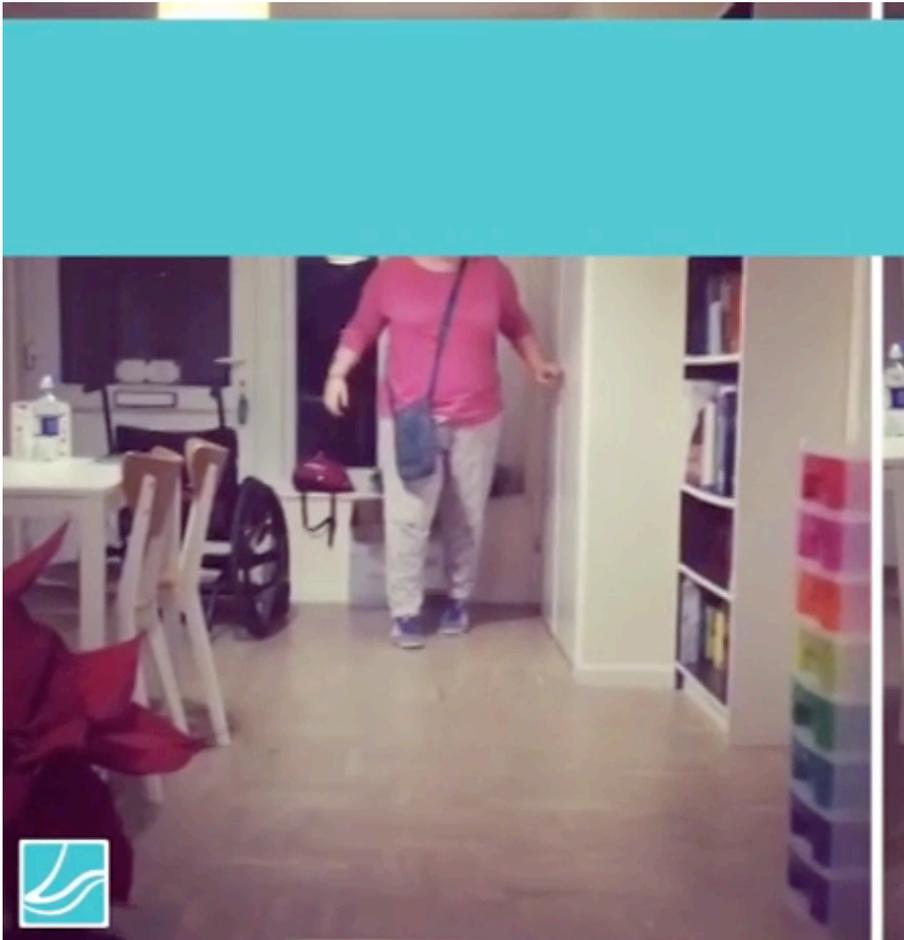
Google this
video

More Vertigo

Summary of The Big 3 of Vertigo
An initial approach to the
undifferentiated vertigo patient

Peter Johns MD, FRCPC
Assistant Professor
Department of Emergency Medicine
University of Ottawa

Even more vertigo...



Admitted 3 months ago with acute vertigo

Diagnosed with Vestibular Neuritis (HIT +ve)

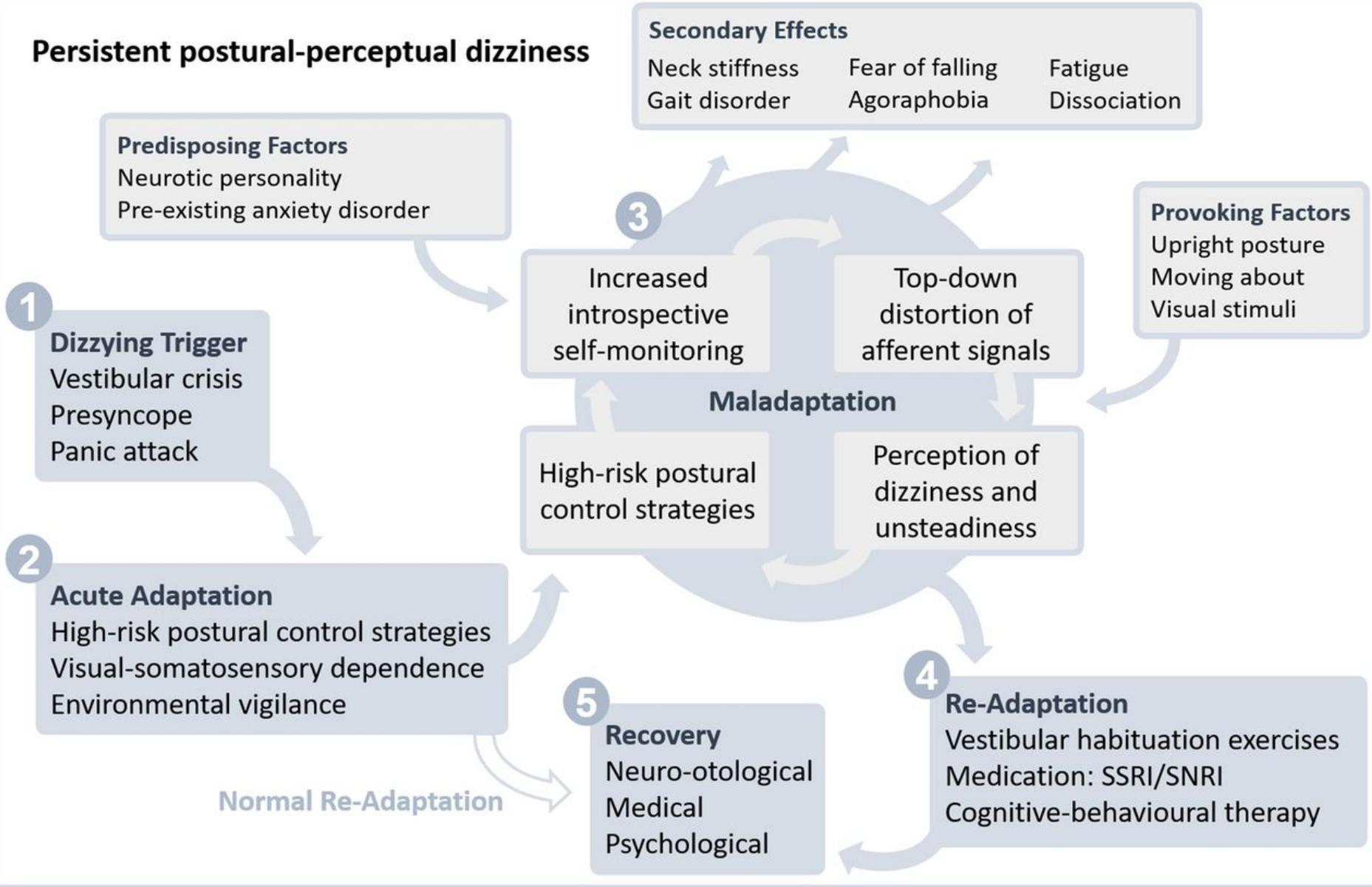
Minimal improvement

Increasingly disabled by unsteadiness whilst walking

Now: no nystagmus, HIT -ve

- What is the clinical sign?
- What is the diagnosis?
- **Persistent Postural Perceptual Dizziness**
 - **With Functional Gait Disorder**

Persistent postural-perceptual dizziness



Stoyan Popkirov et al. Pract Neurol 2018;18:5-13



Diagnosing Functional Disorders

Don't

- Assume that anything weird is functional
- Assume that anything you've never seen before is functional
- Rely on presence of psychiatric comorbidity
- Confuse it with malingering
- Make it a diagnosis of exclusion

Do

- Use positive signs to make a diagnosis
- Explain the diagnosis to patients – they want to know...

Functional Weakness



Test hip extension – it's weak



Test contralateral hip flexion against

Useful Resources for Functional Neurological Disorder

www.neurosymptoms.org

www.fndhope.org