

One of the tasks for the deafblind Usher-group was to present some guidelines concerning early visual balance and hearing testing.

European Workgroup on Genetics of Hearing Impairment

VESTIBULAR TEST PROTOCOL

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IDENTIFICATION: Patient ID _____ Examination Centre _____

ANAMNESIS

Date of test	_____	d/mos/yr
Date of Birth	_____	d/mos/yr
Sex		m/f
When was the child able to walk without help	_____	months
Problems with		
Walking in darkness		yes/ no/ unknown
Walking on uneven surface or in sand		yes/ no/ unknown
Gymnastics and sport activities		yes/ no/ unknown
Motion sickness		yes/ no/ unknown
Reading (visual fixation) during walking		yes/ no/ unknown
Age of onset of vestibular problems	_____	yr

Vestibular symptoms

Acute attacks of vertigo
Character : rotational , linear , other _____
Duration of symptoms (1: < 1 months, 2: < 6 months, 3: < 1 year, 4: > 1 year) _____
Length of an attack (1: < 5 min, 2: < 20 min, 3: < 2 hrs, 4: < 12 hrs; 5: < 24 hrs; 6: > 24 Hrs)

Frequency of attack (1: once a year; 2 : twice a year; 3: once a month; 4 : once a week; 5 : more freq) _____
Associated **symptoms** : tinnitus , fluctuating hearing loss , nausea , other _____
Prolonged imbalance
Lateropulsion (tendency to fall sideways) yes/ no/ unknown
Lightheadedness / faintness yes/ no/ unknown
Unsteadiness / drunken feeling yes/ no/ unknown
Oscillopsia (*unsteady visual image/field*)
Unassociated with head movement yes/ no/ unknown
Head movement induced yes/ no/ unknown

History

Trauma including Whiplash	yes/ no/ unknown
Infection (e.g. Meningitis)	yes/ no/ unknown
Ototoxic drugs	yes/ no/ unknown
Perinatal problems (> 48 hrs in SCBU-Incubator)	yes/ no/ unknown

Family History: Family members with balance dysfunction

yes/ no/ unknown

Specify who, and what _____

CLINICAL EXAMINATION

Ear-nose and throat examination

Normal/ Abnormal

Specify if abnormal _____

Cranial nerve examination

Normal/ Abnormal

Specify if abnormal _____

Wide based gait (*eyes closed*)

yes/ no

Nystagmus detection

Spontaneous nystagmus (on direct observation)

yes/ no

Patient seated looking in primary gaze position

Spontaneous nystagmus (using Frenzel or goggles)

yes/ no

Gaze-evoked nystagmus (*30 degrees left-right from mid position - naked eye*)

yes/ no

Positional nystagmus (*lateral horizontal position*)

yes/ no

Head-shaking nystagmus (using Frenzel or goggles)

yes/

no

Fistula test (pressure in the ear canal)

yes/ no / unknown

3. TESTING

Spontaneous nystagmus present in darkness :

yes/ no

left - right beating ; slow phase velocity _____(deg/s)

Positional nystagmus (*lateral horizontal position*) in darkness :

yes/ no

left - right beating ; slow phase velocity _____(deg/s)

Caloric testing (Bithermal-Binaural (250cc)) by preference and **for age > 4 years**

In darkness

yes/ no

Right 30 °C (Maximal slow phase velocity)

_____deg/s

Left 30 °C

_____deg/s

Left 44 °C

_____deg/s

Right 44 °C

_____ deg/s

Bilateral hyperactivity

yes/ no

Bilateral hypoactivity

yes/ no

(If total sum of 4 irrigations < 40 deg/sec in the dark, or if response is below own normative limits)

If hypoactive : is the patient bilateral areflexive

yes/ no

(choose one of the following)

Tap water calorics (_____ °C) during 60 seconds irrigation

Nystagmus present ?

yes/ no

Ice water calorics (20 seconds)

Nystagmus present ?

yes/ no

Labyrinthine asymmetry :

$[(LW+LC)-(RW+RC)]/[LW+RW+LC+RC]*100= \text{_____}\%$

Nystagmus preponderance:

$((LW+RC)(LC+RW))/[LW+RW+LC+RC]*100= \text{_____}\%$

Recording mode of eye movements

Electro-oculography (electro-nystagmography)

yes/ no

Video-oculography

yes/ no

Other _____

For children < 4 yrs or those not cooperative with the above assessment, the presence or absence of vestibular function should be assessed by a rotational test in the dark, evaluating the nystagmus response.

[Mark with a vertical line]

No response |-----!Normal nystagmus

VESTIBULAR DIAGNOSIS

Vestibular Activity :	Normal
	Unilateral hypoactive Left
	Unilateral hypoactive Right
	Unilateral Absent Left
	Unilateral Absent Right
	Bilateral <u>hyperactive</u>
	Bilateral hypoactive
	Bilateral Absent
	Central involvement

If more advanced equipment is available a standard ENG/rotational protocol for the individual unit should be carried out and the results, together with normative data,

valid for the laboratory should be faxed with the basic vestibular assessment to Claes Moller: fax 46.31.82.9811 Claes.moller@orlss.gu.se or Linda Luxon: fax 44.171.278.8041