





**Table 1: Overview of Cawthorne - Cooksey's exercise programme for compensation of vestibular dysfunction based on Cooksey<sup>1</sup>, Hecker<sup>2</sup>, and Dix<sup>3</sup>**

<b>Stage/ Main focus</b>	<b>Starting position</b>	<b>Examples of exercise</b>	<b>Comments</b>
<b>Stage I Eye movement</b>	Sitting position	Start with shoulder/head movements to loosen up  Up – down Side-to-side Focus on finger moving from 3 ft to 1 ft away (on objects near and distant)	Slow – increase in tempo Alternating slow/quick movements
<b>Stage II Eye and head movements</b>	Sitting position	Up – down Side-to-side Focus on finger moving from 3 ft to 1 ft away	Slow tempo – increase in tempo Includes eyes closed
<b>Stage III Head and body movements</b>	Sitting position	Shrugging shoulders Circling arms Picking up objects from ground move to above head, looking at the object all the way	Relaxation between each exercise
<b>Stage IV Head and body movements</b>	Sit to stand  Standing position	Stand without support  Turn around Sway towards affected side Throw ball from hand to hand above head, pass ball under knees	Eyes open-closed  Eyes open-closed
<b>Stage V Head and body movements by moving around</b>	Ambulation  Introduction of various games	Walking across room, round a chair and back Up-down slopes Up-down steps/ladders  Games involving stooping, stretching like: pass ball between legs, above head	Eyes open, then closed  Provocation of dizziness through movements as natural part of games Increasing tempo

Dosage: persistently for 5 minutes 3 times per day, 1-3 months. From Stage II exercises are performed in a class setting.

<sup>1</sup> Cooksey FS: Rehabilitation in vestibular injuries. *Proc R Soc Med* 1946, 39: 273-277

<sup>2</sup> Hecker HC, et al.: Treatment of the vertiginous patient using Cawthorne's vestibular exercises. *Laryngoscope* 1974, 84: 2065-2072

<sup>3</sup> Dix MR: The rationale and technique of head exercises in the treatment of vertigo, *Acta Otorhinolaryngol Belg* 1979, 33: 370-384

**Table 2: Overview of independent and dependent variables**

	Papers			
	I	II	III	IV
	Sample 1	Sample 2		
<b>Demographic characteristics</b>				
Age	x	x	x	x
Sex	x	x	x	x
Caloric weakness			x	
Height			x	x
Weight			x	x
Vestibular sedatives		x		
Other chronic conditions		x		
Neck pain <sup>1</sup>	x	x		x
Diagnoses	x	x		
<b>Gait and balance characteristics</b>				
Balance in standing	x	x	x	
Cadence			x	
Step length			x	
<b>Dizziness characteristics</b>				
Dizziness, current status	x	x		
Recent spells of dizziness	x	x		
Symptom duration <sup>2</sup>	x	x		
Symptom duration, pre-intervention				x
<b>Outcome measures</b>				
Symptoms: VSS-SF	x	x	x	x
Balance control: Trunk acceleration values			x	
Musculoskeletal dysfunction: GPE-52				x

<sup>1</sup> Neck/shoulder pain was registered as part of “other complaints” at the medical examination (**Paper II**), and by a validated pain drawing procedure (**Papers II, IV**) according to Kvåle et al.: Relationships between physical findings (GPE-78) and psychological profiles (MMPI-2) in patients with long-lasting musculoskeletal pain. *Nord J Psychiatry* 2001, 55: 177-184.

<sup>2</sup> Symptom duration was calculated according to Altman DG: *Practical statistics for medical research*, 1<sup>st</sup> ed. Chapman & Hall; 1991, p: 131.

**Table 3: The Vertigo Symptom Scale (VSS) long version and the short version (VSS-SF), and the relationship between the two versions**

LONG VERSION	SHORT VERSION
<p><b>Introductory text</b> Please circle the appropriate number to indicate about how many times you have experienced each of the symptoms listed below during the past 12 months (or since the vertigo started, if you have had vertigo for less than 1 year)</p>	<p><b>Introductory text</b> We would like to know what dizziness-related symptoms you have had just recently. Please circle the appropriate number to indicate about how many times you have experienced each of the symptoms listed below during the past month</p>
1. A feeling that either you, or things around you, are spinning or moving	1. A feeling that either you, or things around you, are spinning or moving, lasting less than 20 minutes
(PLEASE ANSWER ALL THE CATEGORIES)	4. A feeling that either you, or things around you, are spinning or moving, lasting more than 20 minutes
a) less than 20 minutes	
b) up to 20 minutes	
c) 20 minutes to an hour	
d) Several hours	
e) more than 12 hours	
2. Pains in the heart or chest region	14. Pains in the heart or chest region
3. Hot or cold spells	2. Hot or cold spells
4. <i>Unsteadiness so severe that you actually fall</i>	
5. Nausea (feeling sick), stomach churning	3. Nausea (feeling sick), vomiting
6. <i>Tension/soreness in your muscles</i>	
7. A feeling of being light-headed, "swimmy" or giddy	15. A feeling of being dizzy, disoriented or "swimmy", lasting less than 20 minutes
(PLEASE ANSWER ALL THE CATEGORIES)	6. A feeling of being dizzy, disoriented or "swimmy", lasting all day
a) less than 20 minutes	
b) up to 20 minutes	
c) 20 minutes to an hour	
d) Several hours	
e) more than 12 hours	
8. <i>Trembling, shivering</i>	
9. <i>Feeling of pressure in the ear(s)</i>	
10. Heart pounding or fluttering	5. Heart pounding or fluttering
11. Vomiting	
12. <i>Heavy feeling in arms or legs</i>	
13. <i>Visual disturbance (e.g. blurring, flickering, spots before the eyes)</i>	
14. Headache, or feeling of pressure in the head	7. Headache, or feeling of pressure in the head
15. Unable to stand or walk properly without support	8. Unable to stand or walk properly without support, veering or staggering to one side
16. Difficulty breathing, been short of breath	9. Difficulty breathing, been short of breath
17. <i>Loss of concentration or memory</i>	

18. Feeling unsteady, about to loose balance	13. Feeling unsteady, about to loose balance, lasting less than 20 minutes
(PLEASE ANSWER ALL THE CATEGORIES)	10. Feeling unsteady, about to loose balance, lasting more than 20 minutes
a) less than 20 minutes	
b) up to 20 minutes	
c) 20 minutes to an hour	
d) Several hours	
e) more than 12 hours	
19. <i>Tingling, prickling or numbness in parts of the body</i>	
20. <i>Pains in the lower part of your back</i>	
21. Excessive sweating	11. Excessive sweating
22. Feeling faint, about to black out	12. Feeling faint, about to black out
<b>TOTAL SCALE RANGE: 0-136</b>	<b>TOTAL SCALE RANGE: 0-60</b>
<b>Vertigo/balance sub-scale</b> Sub-scale score range: 0-76 Sum item: 1a-e, 4,5,7a-e, 11, 15, 18a-e	<b>Vertigo/balance sub-scale</b> Sub-scale score range: 0-32 Sum item: 1,3,4,6,8,10,13,15
<b>Autonomic/anxiety sub-scale</b> Sub-scale score range: 0-60 Sum item: 2,3,6,8,9,10,12,13,14,16,17,19,20,21,22	<b>Autonomic/anxiety sub-scale</b> Sub-scale score range: 0-28 Sum item: 2,5,7,9,11,12,14
<b>Sum-scores</b> To obtain a measure of symptom severity, sum marked responses of the total and/or the respective sub-scales. Mean score: divide sum-score by respective number of scale items	

Response	0	1	2	3	4
<b>VSS</b>	Never	A few times (1-3 times a year)	Several times (4-12 times a year)	Quite often (on average, more than once a month)	Very often (on average, more than once a week)
<b>VSS-SF</b>	Never	A few times	Several times	Quite often (every week)	Very often (most days)

Items in *italics* in the long version are not included in the VSS-SF. These items are mainly related to the somatic aspects in the original long version.

Yardley L, et al.: Psychosocial aspects of disorders affecting balance and gait. In: Bronstein A.M, et al. eds.: Clinical disorders of balance posture and gait 2nd ed. Arnold, London, 2004; 383 - 384.

Utfylt av:..... Dato:.....

## Vertigo Symptom Skala – Kortversjon, Norsk utgave

Vi ønsker å vite hva slags svimmelhetssymptomer du har hatt i det siste. Hvert spørsmål skal besvares ved å sette en ring rundt det tallet som passer best med dine opplevelser **den siste måneden**

Hvor ofte har du i løpet av <b>den siste måneden</b> hatt følgende symptomer:	Aldri	Noen ganger	Flere ganger	Ganske ofte (hver uke)	Veldig ofte (nesten hver dag)
1. En følelse av at du selv eller ting rundt deg roterer eller beveger seg, som varer <b>mindre enn</b> 20 minutter	0	1	2	3	4
2. Varme eller kulde anfall	0	1	2	3	4
3. Kvalme, kastet opp	0	1	2	3	4
4. En følelse av at enten du selv eller ting rundt deg roterer eller beveger seg, som varer <b>mer enn</b> 20 minutter	0	1	2	3	4
5. Hjertebank eller flaksing	0	1	2	3	4
6. En følelse av å være svimmel eller desorientert, som varer <b>hele dagen</b>	0	1	2	3	4
7. Hodepine eller følelse av trykk i hodet	0	1	2	3	4
8. Ute av stand til å stå eller gå skikkelig uten støtte, skjener eller trekker mot en side	0	1	2	3	4
9. Pustevansker, kortpustet	0	1	2	3	4
10. Følt deg ustø, nær ved å miste balansen, som varer <b>mer enn</b> 20 minutter	0	1	2	3	4
11. Overdreven svetting	0	1	2	3	4
12. Følt deg svak, nær ved å besvime	0	1	2	3	4
13. Følt deg ustø, nær ved å miste balansen, som varer <b>mindre enn</b> 20 minutter	0	1	2	3	4
14. Smerter i hjerte eller brystregion	0	1	2	3	4
15. En følelse av å være svimmel eller desorientert, som varer <b>mindre enn</b> 20 minutter	0	1	2	3	4

**VSS-total:**.....

**VSS-V: (balanserelatert svimmelhet sum av 1, 3, 4, 6, 8, 10, 13,15):**.....

**VSS-A: (angstrelatert svimmelhet sum av 2, 5, 7, 9, 11, 12, 14):**.....

