

**Pool assessment**, Ruthy Tirosh – **WOTA2**

Comments	Score	Basic Orientation	Item
	2	General adjustment to the water	1A
	3	Blowing bubbles through the mouth (over 5 sec.) (MA)	2B
	1	Blowing bubbles through the nose (over 5 sec.) (MA)	3B
	2	Blowing bubbles with head immersed (over 5 sec.) (MA)	4B
	1	Rhythmically exhaling while moving (10 times) (MA)	5B
	1	Exhalation alternately, nose & mouth (3 cycles) (MA)	6B
Using stairs	3	Entering the water (sit on deck, arms & head leads) (MA)	7C
Using stairs	3	Getting out of the water (push body up on deck, rotate body to sit) (MA)	8C
	3	Sitting in the water (box position, for 20 sec.) (MA) (BIS)	9C
	3	Moving along the pool side rail using hands (3 m') (MA)	10C
	3	Walking across the pool (6 m') (MA)	11C
	2	Jumping forward (6 m') (MA)	12C
	2	Jumping and ducking in & out (5 times)(MA)	13C

Comments	Score	Skills	Item
	2	Change position from standing to back floating (TR)	14C
	1	Static back float for 5 sec' (ears in the water, arms & legs extended, mouth & nose out of the water) (BIS)	15C
	2	Change position from back floating to standing (TR)	16C
	2	Prone gliding from wall to therapist (face in, 5 sec.) (BIS)	17C
	2	Change position from prone floating to standing (TR)	18C
	0	Right Longitudinal Rotation (change position from back to prone to back float) (LR)	19C
	0	Left Longitudinal Rotation (change position from back to prone to back float) (LR)	20C
	2	Combined rotation (change position from standing or sitting on deck to prone and long. rot. on back) (CR)	21C
	2	Combined rotation (change position from back to prone to stand) (CR)	22C
	0	Diving (touch pool bottom with both arms, start at chest water level) (up)	23C
	1	Simple progression on the back (using arms only, small movements to and from the body) (SP)	24D
	0	Freestyle	25D
	1	Backstroke	26D
	3	Breast-stroke	27D
<b>Sum score from 81</b>	<b>Score in %</b>	<b>Adjust score (if necessary)</b>	
47		<b>Max score can get</b>	<b>Sum score</b>
			<b>Percentile score after Adjust.</b>

# INTRODUCTION

**Wota** forms are tests designed to enable the hydrotherapist/the instructor to evaluate the swimmer's mental adjustment and function in the water. The forms were developed based on the principles of the Halliwick Concept. The Halliwick Concept is an approach to teaching all people, in particular, focusing on those with physical and/or learning difficulties, to participate in water activities, to move independently in water, and to swim" (IHA- Halliwick Concept, 2000). Halliwick uses the term "swimmer" for anyone who is learning in the water, whether they can swim independently or not (IHA- The Halliwick Concept 2010). The forms can be used for setting therapeutic goals directed to function in the water, and the treatment program can be planned accordingly. The forms allow for objective follow-up of the swimmer's progress, as they were found sensitive to change over time. Several evaluations can be conducted throughout the course of treatment and new goals can be set according to their results.

This booklet presents two evaluation forms of mental adjustment and function in the water:

## **Wota1** - The Water Orientation Test Alyn 1

## **Wota2** - The Water Orientation Test Alyn 2

This is the second edition of the evaluation booklet. This edition contains minor changes made in the instructions, and some clarifications were added to the method of item grading.

**Wota1:** This form was developed based on the principles of the Halliwick Concept. It was developed for swimmers with difficulties in understanding and following instructions. It is designed to evaluate the swimmer's mental adjustment and function in the water, but its target population is swimmers with limited functional and cognitive abilities. This form enables objective follow-up of the swimmer's progress and assists in setting therapeutic goals.

**Wota2:** This form was designed to evaluate the swimmer's mental adjustment and function in the pool. Similar to the **Wota1** form, the **Wota2** was developed based on the principles of the Halliwick Concept and was designed for swimmers who can follow instructions. This form enables objective follow-up of the swimmer's progress and assists in setting therapeutic goals.

The **Wota1** and **Wota2** evaluation forms were developed in 1999, at the Alyn Hospital, a Jerusalem-based pediatric and adolescent rehabilitation center. The forms were found valid & reliable and showed that both are appropriate tools to track change over time (Tirosh, Katz-Leurer & Getz, 2008). They were developed by Ruth Tirosh, Head of the Hydrotherapy Department in Alyn Hospital. Ruth is a senior hydrotherapist and an instructor of hydrotherapy courses. She holds a B.Ed. in Physical Education (Zinman College of Physical Education at the Wingate Institute) and an M.Sc. in exercise physiology (Tel-Aviv University). Ruth has been involved in swimming instruction, training and hydrotherapy for more than 20 years. She is a member of the Board of Directors of the Israeli Hydrotherapy Association.

These forms were presented at a National Pediatric Hydrotherapy Conference that took place in Alyn Hospital in 2002, at the ISAPA 2005 Conference that took place in Italy, at the International Hydrotherapy Conference that took place at Beit Issie Shapiro in 2006, as well as at the Annual Conference of the Israeli Association of Physical Medicine and Rehabilitation in 2008. In addition, since 2005 **Wota** training workshops are conducted in institutions around Israel, where hydrotherapy is taught.

**Wota** is a widely accepted evaluation tool taught in hydrotherapy courses. It is used in evidence based studies and treatment in hydrotherapy worldwide.

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An article that reviews the reliability and validity of the form was published in 2008: Tirosh, R., Katz-Leurer, M., & Getz, M. (2008). Halliwick - Based Aquatic Assessments: Reliability and Validity. *International Journal of Aquatic Research and Education*, 2, 224-236.

The forms are referred to in the textbook of hydrotherapy: Brody, L.T. & Geigle, P.R. (2009). *Aquatic Exercise for Rehabilitation and Training*. USA: Human Kinetics.

Further information regarding the Halliwick Concept at: THE HALLIWICK CONCEPT 2010, IHA Education and Research Committee - [www.halliwick.org](http://www.halliwick.org)

## Evaluation Goals

To evaluate mental adjustment and function in water. The form enables follow-up of the swimmer's progress and also enables setting of new goals accordingly.

## General Rationale

**This evaluation form is designed for**

1. Swimmers with limited functional and cognitive abilities; children of all ages who cannot follow simple instructions.
2. Healthy children up to 3-4 years, based upon their previous aquatic experience.

**The Data collected can be used to**

1. Evaluate the swimmer's degree of mental adjustment and function in the water.
2. Set further therapeutic goals.
3. Re-evaluate after a few months, check for improvement and set new goals accordingly.

## General Instructions

- Assessment of each item should start with full support. Support should then gradually be lessened according to the swimmer's ability.
- It is recommended to conduct the assessment during the second or third aquatic session. The evaluation takes about fifteen minutes.
- Each item is graded from 1-4 (4 is the best result).
- When in doubt as to which grade to give, always give the lower of the two.
- Spontaneous activities can be graded, even if the swimmer did not perform them following a specific instruction.
- The instruction given must be followed by a demonstration of the task.
- Each item should be tried about three times. The task may not be taught during the assessment.
- For convenience, the form is written in a masculine form, but it relates to both genders.

## Item-Specific Guidelines

**Item 1:** "General Mental Adjustment":

It is recommended to grade upon completion of the evaluation.

**Items 5 & 6:** "Side/back floating":

The instructor holds the swimmer along the sides of his upper trunk in a vertical position and stands facing him. The instructor asks the swimmer to change position from vertical to back/side floating. If the swimmer has good head control, no head support should be provided. Grade 3 refers to a population characterized by low muscle strength with no head control, but with good mental adjustment.

**Item 8:** "Submerging of head or face in the water":

The reaction of bringing the face near the water may be assessed from a starting position of sitting on the pool edge and entering the water.

**Item 9:** "Long or short arm hold":

This refers to a specific hold based on the Halliwick Concept: The instructor stands behind the swimmer supporting both upper limbs. The swimmer maintains a vertical position. Grade is determined according to the amount of support required, with a high grade indicating less support when only support of the hands is provided. Grade 2 is given for support under shoulders, forearms and hands – the "short arm hold". Grade 4 is given for support at hands only – the "long arm hold". If the swimmer is only supported at his hands, but his elbows are flexed due to high tone or fear of disengagement, the grade scored should be 3.

**Item 12:** "Holding rope: water at chest level":

A taut rope is strung across the pool, while the swimmer holds and swings himself on it. While holding the rope, the water reaches chest level. If the swimmer floats on his back during the swing and does not manage to stay in a vertical position – the grade will remain the same, but this should be stated under Comments.

**Item 13:** "Sitting in the water":

The instructor stands on one leg, lifting his other leg at an angle of 90 degrees at the hip and knee. The swimmer is placed in a sitting position on the instructor's thigh, his chin is immersed in the water. The swimmer does not lean on the instructor.

# Wota1 WATER ORIENTATION TEST ALYN 1

Aquatic Evaluation based on the Halliwick Concept for swimmers with limited functional and cognitive abilities (Ruth Tirosh)

	Item	Grade
1	<b>General Mental Adjustment</b>	4. Enters pool willingly 3. Slightly hesitant or indifferent 2. Frightened, clings to instructor, calms down intermittently 1. Cries, objects
2	<b>Entering pool from pool edge:</b> Sitting facing the water.	4. Independent (arms forward, head follows) 3. Instructor supports hands only, without flexing elbow 2. Instructor supports forearms/upper arms, or at hands but elbows are flexed 1. Instructor supports trunk
3	<b>Exiting pool from pool edge:</b> Holding pool edge without standing. Raising trunk with push up of hands, rotation of trunk and sitting.	4. Independent, lifts himself up and sits properly 3. Exits the water by crawling, without support, but no independent sitting 2. Initiates, exits by crawling with assistance (sits down with/without assistance) 1. Does not initiate and/or does not perform due to weakness
4	<b>Blowing bubbles in the water</b>	4. Blows bubbles through nose 3. Blows bubbles through mouth 2. Immerses mouth in water but does not blow bubbles and does not inhale water 1. Inhales water or objects or does not initiate or there is contraindication to immersing the mouth
5	<b>Side floating with instructor's help:</b> Instructor faces the swimmer, holding the sides of the upper trunk. Instruction: immerse ear in the water and lie on your side.	4. Support the sides of: pelvis/waist/upper trunk – initiates floating (ear is immersed) and returns to vertical position 3. Weakness does not allow for initiation of floating or returning, but does not object to floating with full support 2. Mildly objects, performs side flexion, ear is immersed in the water 1. Objects forcefully, performs side flexion and refuses to immerse ear
6	<b>Back floating with instructor's help:</b> Instructor faces the swimmer, holding the sides of the upper trunk. Instruction: lie on your back.	4. Support the sides of: pelvis/waist/upper trunk – initiates floating, relaxed, returns to vertical position 3. Weakness does not allow for initiation of floating or returning, but does not object to floating with full support 2. Mildly objects, ears are immersed, is not relaxed and tries to get up 1. Objects forcefully, does not immerse ears, flexes head/pelvis/trunk (tries to get up)
7	<b>"Splashing" water</b>	4. With hands and/or legs. Does not recoil from water around the face 3. Splashes "carefully" and recoils from water around the face 2. Does not splash, has no "feel" for the water 1. Is not able to perform

	Item	Grade
8	<b>Submerging:</b> Submerging head or face in the water.	4. Retrieves object by doing a deep dive (with or without the instructor's support) and comes up by himself 3. Initiates submerging of face, controls breathing, remains in water unsupported for a short time (1-2 seconds) 2. Does not object to bringing his face near the water or initiates submerging face, inadequate breathing control 1. Objects to bringing the face near the water and/or there is contraindication to submerging head in the water
9	<b>"Short or long arm hold":</b> Maintaining vertical position.	4. Yes, with support under hands, arms straight forward or sideward 3. Yes, with support under forearms and hands or support of hands, but elbows are flexed 2. Yes, with support under full arm 1. No, sagging of shoulders and/or lack of head control and/or afraid of disengagement
10	<b>Progression along pool edge using hands:</b> Legs or feet against the wall. Moves along wall one and a half meters.	4. Yes, without support 3. Yes, with help in initiation by hands or trunk support. Holds on to edge without support 2. Yes, help in initiation by hands or trunk support. Does not hold on to edge unsupported 1. Does not initiate movement or pushes away from the wall
11	<b>Standing in water:</b> At chest level.	4. For unlimited period (with supervision) 3. For about 10 seconds, then falls 2. With support of rail and/or instructor's support at hands 1. With instructor's support at trunk or cannot stand
12	<b>Holding rope:</b> Water at chest level.	4. Progresses by reciprocal hand over hand movement or sideways 3. Holds on with both hands during swinging – 10 seconds 2. Requires side trunk support during swinging – 10 seconds 1. Does not hold the rope: unable and/or does not initiate
13	<b>Sitting in water:</b> On instructor's thigh, chin in water, 10 seconds.	4. Requires mild support at pelvis 3. Requires mild support around waist 2. Requires mild support at upper trunk sides 1. Refuses to disengage, clings to instructor

Swimmer's name \_\_\_\_\_ Diagnosis \_\_\_\_\_ Date of birth \_\_\_\_\_

Instructor's name \_\_\_\_\_ Date \_\_\_\_\_ Total score \_\_\_\_\_ score in % \_\_\_\_\_

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# SETTING GOALS BASED ON Wota1

When setting goals of mental adjustment and functioning in water based on **Wota 1**, we must remember that there are items that incorporate both function and mental adjustment elements. Hence, it is recommended to review first the test results in all items that have mental adjustment properties (section A), and check whether it is appropriate to set mental adjustment goals. Later, breathing control should be reviewed (section B), and appropriate goals should be set. Finally, all items that have functional properties should be reviewed (section C), and functional goals should be set, as necessary.

It is important to note that these goals must be aligned with the land goals set by the referring doctor and the other therapists: physiotherapy, occupational therapy, speech therapy, education, etc.

The following is an outline of the item review of mental adjustment:

- If mental adjustment is low —————> focus should be on mental adjustment goals
- If mental adjustment is high —————> focus should be on functional goals

## A. General Mental Adjustment:

1. **General Mental Adjustment** (item 1) – does he enter the water happily and willingly, is he hesitant about physical contact with water.
2. **Splashing** (item 7) – does he splash water with hands and feet, is he hesitant about physical contact of water on his face.
3. **Side and back floating** (items 5 & 6) – grade 1-3 – is he hesitant about immersing ears in the water, does he initiate immersion of ear(s). Does he object to floating.

## B. Breathing Control

1. **Bubbles** (item 4) – does he immerse mouth in water, does he blow bubbles through nose and mouth separately.
2. **Submerging** (item 8) – does he initiate submerging of head, does he object to bringing his face near the water. Does he control his breath while submerging.

## C. Functional Goals

1. **Level of support in back and side floating** (items 5 & 6) – does he need support at his shoulder, waist or pelvis.
2. **Level of support in "short or long arm hold"** (item 9) – is he fully supported at his forearms or hands.
3. **Level of support in standing and sitting** (items 11 & 13) – is he supported at his trunk, hands, waist or pelvis.
4. **Level of support upon entering and exiting the pool** (items 2 & 3) – Entrance: is he supported at his trunk, arms, hands or does he enter independently. Exit: is he supported at his trunk, does he get help for sitting.
5. **Level of support in holding and progressing along pool edge** (item 10) – does he require support, does he hold himself independently, does he progress independently.
6. **Level of support in holding and moving forward along a rope** (item 12) – does he require support at his trunk, does he hold himself independently, does he progress independently.

## Evaluation Goals

To evaluate mental adjustment and function in water. The form allows for follow-up of the swimmer's progress and setting new goals accordingly.

## General Rationale

This evaluation form is designed for any individual, usually from age 4-5 years, who can follow simple instructions. It is designed to assess the individual's mental adjustment to the aquatic environment and his pool-specific functioning, or as it is referred to hereinafter: The Skills. The evaluation is based on the Halliwick Concept's Ten-Point Program. Hence, at the end of each item, the specific step out of ten steps of this concept is indicated (in acronyms).

The Data collected can be used to

1. Evaluate the swimmer's degree of mental adjustment and function in the water.
2. Set further therapeutic goals.
3. Re-evaluate after a few months, check for improvement and set new goals accordingly.

## General Instructions

- Assessment of each item should start with full support. Later, support should gradually be lessened according to the swimmer's ability.
- When in doubt as to which grade to give, always give the lower of the two.
- Spontaneous activities can be graded, even if the swimmer did not perform them following a specific instruction. If the swimmer does not perform the activity spontaneously, due to lack of cooperation (although it seems that he is able to perform it) – a score of "0" should be recorded. Improvement in score reflects improvement in cooperation.
- The instruction given must be followed by a demonstration of the activity.
- Goggles should be recommended to the swimmer in items where the eyes are immersed in the water.
- For convenience, the form is written in a masculine form, but it relates to both genders.
- Each item should be tried about three times, unless further clarification is needed. The task may not be taught during the assessment.
- It is advised to perform the assessment according to the proposed order of items (except of item # 1).
- It is advised to state the quality of performance under Comments.

## General Scoring Guidelines

Scoring of each item is done on a scale of 0-3. The form comprises 4 sections: A, B, C, D and the evaluation must be completed based on these sections:

- |                   |             |
|-------------------|-------------|
| <b>Section A.</b> | Item 1      |
| <b>Section B.</b> | Items 2-6   |
| <b>Section C.</b> | Items 7-23  |
| <b>Section D.</b> | Items 24-27 |

In sections B, C, and D, a score of 0 indicates one of two options to be noted on the form:

1. **"Item cannot be assessed" = x:** according to our assessment, the swimmer does not perform the task due to a physical disability nor will he be able to perform it in the near future. For example, a swimmer with complete paraplegia cannot be expected to walk and jump across the pool. Similarly, a swimmer with temporary contra-indication of weight bearing on lower limbs, a swimmer with a tracheostomy cannot be expected to immerse his face in the water. Under this definition, a score of 0 should be recorded as x.
2. **"Does not perform" = 0:** this indicates that the swimmer does not perform the task during the assessment due to difficulty or lack of initiation or lack of mental adjustment, but can be expected to do so in the future.

At the completion of the evaluation, the individual item scores should be summed up to obtain a total score. The maximum score is 81. A percent score can also be calculated (for horizontal comparison with different swimmers' achievements). The score can also be calculated in absolute numbers (for vertical comparison after the training period).

If there are items that were recorded as "x", as they are "items that cannot be assessed" (as described above), they should be deducted from 81 to receive the "real" percent score. Items recorded as 0, as they are "not performed", will be calculated in the total score and will not be deducted from the maximum score of 81.

## Guidelines and Instructions for Test Item Scoring

### Section A: Item 1 "General Mental Adjustment to the Water" (MA – Mental Adjustment)

#### Score Allocation:

0	Scared/cries/objects
1	Indifferent
2	Slightly hesitant, enjoys some activities in the water
3	Happy, relaxed, splashes water

### Item 1: "General Mental Adjustment to the Water" (MA)

*Instruction: "Immerse your eyes in the water and open them without goggles". The other items can and advisably should be assessed with swimmer wearing goggles. It is recommended to record this item upon completion of evaluation. Attention should be drawn to the ability of disengagement and eye opening in water.*

0	Scared/cries/objects.
1	Indifferent.
2	Slightly hesitant, enjoys some activities in the water (does not open eyes in the water, has some difficulty in disengagement).
3	Happy, relaxed, splashes water (opens eyes in the water, disengages from instructor).

### Section B: Items 2-6 "Breathing Control"

#### Score Allocation:

x	Cannot be assessed due to physical disability
0	Does not perform or seems capable but does not cooperate
1	Poor quality performance
2	Moderate quality performance
3	High quality performance

### Item 2: "Blowing bubbles through the mouth" (5 seconds) (MA)

*Instruction: "Immerse mouth in the water. Blow bubbles through your mouth, count to 5".  
The instructor will observe the swimmer underwater using goggles.*

x	"Cannot be assessed due to physical disability"	Such as tracheostomy/ear infection/contraindication to immersion of mouth.
0	"Does not perform"	Does not immerse mouth in the water at all, or seems capable but does not cooperate.
1	"Poor quality"	Immerses mouth in the water, but does not blow bubbles or blows a few weak bubbles.
2	"Moderate quality"	Exhales within 2-3 seconds, and/or has a tense facial expression, eyes are tightly closed.
3	"High quality"	Able to exhale in a controlled fashion for a long period time: about 5 seconds.



**Item 3: "Blowing bubbles through the nose" (5 seconds) (MA)**

*Instruction: "Immerse nose in the water. Blow bubbles through your nose, count to 5".*

*The instructor will observe the swimmer underwater using goggles.*

<b>x</b>	"Cannot be assessed due to physical disability"	Such as tracheostomy/ear infection/contraindication to immersion of nose in the water.
<b>0</b>	"Does not perform"	Does not immerse nose in the water at all, or seems capable but does not cooperate.
<b>1</b>	"Poor quality"	Immerses nose in the water, but blows a few weak bubbles or does not blow bubbles at all.
<b>2</b>	"Moderate quality"	Exhales within 2-3 seconds, and/or has a tense facial expression: eyes are tightly closed.
<b>3</b>	"High quality"	Able to exhale in a controlled fashion for a long period of time: about 5 seconds.

**Item 4: "Blowing bubbles with face/head immersed in the water" (5 sec') (MA)**

*Instruction: "Immerse head/face in the water. Blow bubbles and count to 5".*

*The instructor will observe the swimmer underwater using goggles.*

<b>x</b>	"Cannot be assessed due to physical disability"	Such as tracheostomy/ear infection/contraindication to immersion of face in the water.
<b>0</b>	"Does not perform"	Does not immerse face in the water at all, or seems capable but does not cooperate.
<b>1</b>	"Poor quality"	Immerses face in the water, but blows a few weak bubbles or does not blow bubbles at all, or immerses face in the water for 5 seconds, but holds breath and does not blow bubbles.
<b>2</b>	"Moderate quality"	Exhales within 2-3 seconds or immerses face for 5 seconds and blows weakly, and/or has a tense facial expression: eyes are tightly closed.
<b>3</b>	"High quality"	Able to exhale in a controlled fashion for a long period of time: about 5 seconds.

**Item 5: "Rhythmically exhaling in the water while moving" (MA)**

*Instruction: "Put your head/face in & out of the water, 10 times, exhale briefly in the water and inhale once out of the water".*

*Instructor: The above instruction should be followed while moving forward in the water independently or with the instructor's support.*

<b>x</b>	"Cannot be assessed due to physical disability"	Such as tracheostomy/ear infection/contraindication to immersion of face in the water.
<b>0</b>	"Does not perform"	Does not immerse face in the water at all, or seems capable but does not cooperate.
<b>1</b>	"Poor quality"	Occasionally inhales water, numerous interruptions to the rhythm of breaths.
<b>2</b>	"Moderate quality"	Takes 1 or 2 breaks with several breaths out of the water and/or has a tense facial expression.
<b>3</b>	"High quality"	Performs the task with no difficulty about 10 times.

**Item 6: "Exhaling alternately from nose and mouth" (MA)**

*Instruction: "Immerse nose and mouth in the water. Perform 3 cycles of exhalation through the nose, then through the mouth and then repeat the cycle without taking your nose out of the water". The instructor will observe the swimmer underwater using goggles.*

<b>x</b>	"Cannot be assessed due to physical disability"	Such as tracheostomy/ear infection/contraindication to immersion of mouth in the water.
<b>0</b>	"Does not perform"	Does not immerse nose in the water at all, or seems capable but does not cooperate.
<b>1</b>	"Poor quality"	Attempts and succeeds in exhaling through the nose and mouth separately but not alternately.
<b>2</b>	"Moderate quality"	Succeeds in alternating once or twice between nose and mouth and/or exhalations are faster than one bubble at a time, and/or blows bubbles through the nose continuously whereas bubbles blown through the mouth are accumulated intermittently, and/or has a tense facial expression.
<b>3</b>	"High quality"	Performs the task with no difficulty for three cycles, with full control in the alternation, creates sufficient pressure within the nose and mouth for long, slow exhalations – one bubble at a time.

## Section C: Items 7-23

### Score Allocation:

<b>x</b>	<b>Cannot be assessed due to physical disability</b>
<b>0</b>	<b>Does not perform or seems capable but does not cooperate</b>
<b>1</b>	<b>Performs a task with the instructor's full support</b>
<b>2</b>	<b>Performs a task with the instructor's partial support</b>
<b>3</b>	<b>Independent, performs a task without the instructor's support</b>
<b>*</b>	In all of these items, if scores 3: it should be noted under Comments whether requires supervision.

### Item 7: "Entering the water" (MA)

*The instructor stands in the pool facing the wall. Instruction: "Sit on the edge of the pool, stretch your hands forward towards the water and come towards me with your head until you are fully in the water".*

<b>x</b>	"Cannot be assessed"	The swimmer is unable to sit, enters the water seated on a chair or lying down or via a different means or if there is a contraindication to this movement.
<b>0</b>	"Does not perform"	Does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires full trunk or pelvis support. May also hold on to instructor.
<b>2</b>	"Partial support"	Requires arm or hand support, or the swimmer places his hands on the instructor's shoulders and the instructor does not support the swimmer.
<b>3</b>	"Independent"	It should be noted under Comments whether the swimmer requires close supervision.

### Item 8: "Getting out of the water" (MA)

*Instruction: "Stand with water at chest level. Push yourself up onto the edge of the pool using your hands, turn around and sit down with your feet in the water".*

<b>x</b>	"Cannot be assessed"	The swimmer is unable to exit the pool due to a physical disability for various reasons: unable to push with his hands, has no head control or exits the water on a chair, lying down or via a different means or if there is a contraindication to this movement.
<b>0</b>	"Does not perform"	Does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires full trunk support.
<b>2</b>	"Partial support"	Requires minimum assistance getting out or turning around in order to sit down.
<b>3</b>	"Independent"	It should be noted under Comments whether the swimmer requires close supervision.

### Item 9: "Chair (Box) Position" (Sitting in the water) (MA) (BIS – Balance In Stillness)

*Instruction: "Sit up straight unsupported, as if there is a chair underneath you for 20 seconds, arms stretched forwards".  
An angle of 90° must be maintained as much as possible at the ankle, knee, and hip joints.  
Feet should be at width of the pelvis. It is recommended to add a comment about the sitting quality.*

<b>x</b>	"Cannot be assessed"	Due to physical disability: swimmer has no head control or paraplegia, or contraindication to weight bearing or stepping.
<b>0</b>	"Does not perform"	Does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires full trunk support for 20 seconds or less.
<b>2</b>	"Partial support"	Requires minimal support of hands or trunk. Sits unsupported and from time to time requires support.
<b>3</b>	"Independent"	For 20 seconds. It should be noted under Comments whether the joint angles are maintained. It should be noted under Comments whether the swimmer requires close supervision.

**Item 10: "Progression along the pool edge, using hands" (MA, SR-Sagital Rotation)**

*Instruction: "Hold onto the edge of the pool, feet must be off the floor but may be up against the wall.*

*Move at least 3 meters along the pool edge".*

*This task is performed in water deeper than the swimmer's height. A toy can be used to encourage a child to move.*

<b>x</b>	"Cannot be assessed"	Disability of upper limbs, or contraindication to this movement.
<b>0</b>	"Does not perform"	Cannot perform due to upper limb weakness, or does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires full trunk support.
<b>2</b>	"Partial support"	Performs most of the task. Requires minimum support intermittently or throughout the task.
<b>3</b>	"Independent"	It should be noted under Comments whether the swimmer requires close supervision.

**Items 11: "Walking across the pool" (MA)**

*Water reaches the swimmer's chest. Instruction: "Walk 6 meters across the pool".*

*Support should be given from a position facing the swimmer by supporting his trunk or holding his hands, or from behind by supporting his trunk or pelvis. Where there is asymmetry between left and right, or where the swimmer has uneven steps and poor-quality walk, but has good balance control, the same scoring system is used.*

<b>x</b>	"Cannot be assessed"	Due to physical disability: paraplegia or lower limb amputation or contraindication to this movement.
<b>0</b>	"Does not perform"	Does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires trunk support.
<b>2</b>	"Partial support"	Hands/arms support, or minimum trunk or hand intermittently.
<b>3</b>	"Independent"	It should be noted under Comments whether the swimmer requires close supervision.

**Item 12: "Jumping across the pool" (MA)**

*Water reaches the swimmer's chest. Instruction: "Jump 6 meters across the pool".*

*Support should be given from a position facing the swimmer by supporting his trunk or holding his hands, or from behind by supporting his trunk or pelvis. Where there is asymmetry between left and right (hopping on one foot), but there is good balance control, the same scoring system is used.*

<b>x</b>	"Cannot be assessed"	Due to physical disability: paraplegia or lower limb amputation, or contraindication to this movement.
<b>0</b>	"Does not perform"	Does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires trunk support.
<b>2</b>	"Partial support"	Hands/arms support, or minimum trunk or hand intermittently.
<b>3</b>	"Independent"	It should be noted under Comments whether the swimmer requires close supervision.

### Item 13: "Jumping and ducking in & out of water" (MA)

*Water reaches the swimmer's chest. Eyes should be immersed in the water at each jump.*

*Instruction: "Jump up and duck in the water 5 times, immersing your head/face in the water each time".*

*Swimmer is supported at trunk or hands, or from behind by supporting the trunk or pelvis.*

*Where there is asymmetry between left and right, but there is good balance control, the same scoring system is used.*

*\* If the swimmer does not immerse his head in the water or cannot properly perform the rhythmical breathing, allocate a score of 0 – "does not perform" and note the reason under Comments.*

*This item assesses balance control while jumping with the added element of submerging the head in water – which increases the level of difficulty. Therefore, the score relates mainly to the degree of support as detailed below.*

x	"Cannot be assessed"	Paraplegia or lower limb amputation, or contraindication to this movement.
0	"Does not perform"	Does not initiate movement, and/or does not immerse his head in the water, or cannot properly perform the rhythmical breathing, or seems capable but does not cooperate.
1	"Full support"	Initiates movement, but requires trunk support.
2	"Partial support"	Hands/arms support, or minimum trunk or hand intermittently.
3	"Independent"	It should be noted under Comments whether the swimmer requires close supervision.

### Item 14: "Change position from standing to 'chair (box) position' (sitting) to back floating" (TR-Transversal Rotation)

*Instruction: "Sit in the water and slowly move to float on your back, without jumping, while lifting your pelvis and looking diagonally up at the ceiling".*

*If the swimmer cannot stand in the water (e.g., paraplegia), the instructor should place him in a vertical starting position and continue the assessment from there. If the swimmer's relative density is high and his feet touch the pool floor, but he performs movements under control, the same scoring system is used.*

x	"Cannot be assessed"	Due to contraindication, e.g. tracheostomy or ear infection.
0	"Does not perform"	Objects, flexes at trunk and pelvis, does not immerse ears in the water and/or does not initiate movement, or seems capable but does not cooperate.
1	"Full support"	Instructor holds the swimmer's trunk using both hands. Does not object, both ears are immersed in the water, but flexes at his trunk. Head support is required where there is no head control.
2	"Partial support"	Swimmer is relaxed, can be unsupported for a short time, but the instructor still supports him with one hand under his trunk, thumb touches the back with the little finger towards the floor of the pool.
3	"Independent"	Swimmer's body is not tense and does not flex at the pelvis. It should be noted under Comments whether the swimmer requires close supervision.

### Item 15: "Static back float for 5 seconds" (BIS)

*Instruction: "Count to five while floating on your back".*

*The instructor can assist the swimmer to reach the required position. If the swimmer's relative density is high and his feet touch the pool floor, but he performs movements under control, the same scoring system is used.*

x	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection.
0	"Does not perform"	Objects, flexes at trunk and pelvis, does not immerse ears in the water and/or does not initiate movement, or seems capable but does not cooperate.
1	"Full support"	Instructor holds the swimmer's trunk using both hands. Does not object, both ears are immersed in the water, but flexes at his trunk. Head support is required where there is no head control.
2	"Partial support"	Swimmer is relaxed, can be unsupported for a short time (one second), but the instructor still supports him with one hand under his trunk, thumb touches the back with the little finger towards the floor of the pool.
3	"Independent"	Swimmer's body is not tense and does not flex at the pelvis. It should be noted under Comments whether the swimmer requires close supervision.

**Item 16: "Change position from back floating to standing" (TR)**

*Instruction: "Stand up by bringing your head forward while blowing out bubbles, extending your arms forward and flexing your knees up, towards your stomach".*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection, aspirations.
<b>0</b>	"Does not perform"	Objects, flexes at trunk and pelvis, does not immerse ears in the water in the starting position and/or does not initiate movement, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Instructor's both hands hold the swimmer's trunk. Head support is required where there is no head control.
<b>2</b>	"Partial support"	Requires minimum help with his trunk, instructor supports him with one hand under his trunk; thumb touches the back with the little finger towards the floor of the pool.
<b>3</b>	"Independent"	Swimmer's body is not tense and does not flex at the pelvis. While coming to standing position: swimmer manages to stand up in a controlled fashion, without "falling" forward. It should be noted under Comments whether the swimmer requires close supervision.

**Item 17: "Prone gliding from the pool wall or from standing position: for 5 seconds" (BIS)**

*Instruction: "Immerse head/face in the water and change to a straight prone position, while hands are straight forward, looking down for 5 seconds". Starting position can be the "Chair (box) Position".*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection, aspirations.
<b>0</b>	"Does not perform"	Does not immerse head in the water or is afraid of prone float, even with the instructor's support, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Instructor holds the swimmer's trunk or hands and guides the entire movement. Most of the swimmer's weight is borne by the instructor or the swimmer raises his head after 1-2 seconds.
<b>2</b>	"Partial support"	The instructor has contact with the swimmer's hands, but does not bear any of his weight and can occasionally let go while the swimmer floats in a prone position or the swimmer raises his head after 3-4 seconds.
<b>3</b>	"Independent"	Performs the task for 5 seconds while maintaining stability of his body. It should be noted under Comments whether the swimmer requires close supervision.

**Item 18: "Change position from prone floating to standing" (TR)**

*Instruction: "Flex your knees towards your chest, bring your extended arms towards your knees, straighten your legs towards the floor and take your head out of the water".*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection, aspirations.
<b>0</b>	"Does not perform"	Does not immerse head in the water or is afraid of prone float, even with the instructor's support, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Instructor holds the swimmer's trunk or hands and guides the entire movement. Most of the swimmer's weight is borne by the instructor.
<b>2</b>	"Partial support"	The instructor has contact with the swimmer's hands or trunk, but does not bear any of his weight.
<b>3</b>	"Independent"	Swimmer manages to stand up in a controlled fashion and does not lose his balance. It should be noted under Comments whether the swimmer requires close supervision.

### Items 19-20: "Longitudinal Rotation" (LR-Longitudinal Rotation)

*Changing position from back to prone to back float. The swimmer floats on his back and the instructor stands at his side in the direction of the roll. Instruction: "Move your far hand and head in the direction of the roll, turn onto your belly, and continue to back float. Repeat this movement to the other side".*

*Note – if the swimmer had a score of 1 in Item 15, he will not have more than a score of 1 in items 19-20.*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection, aspirations.
<b>0</b>	"Does not perform"	Does not initiate movement, objects, is afraid, does not initiate immersion of head in the water, stands in the middle, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Swimmer initiates the movement, but requires maximum assistance for turning to prone position and/or onto his back, immerses his head in the water.
<b>2</b>	"Partial support"	Swimmer almost completes the task by himself, but requires minimum assistance, mainly for turning from prone to back float.
<b>3</b>	"Independent"	Performs the task without assistance. It should be noted under Comments whether the swimmer requires close supervision.

### Item 21: "Combined Rotation" (CR)

*The swimmer should begin this task by standing in the water or sitting on the edge of the pool. Instruction: "Change position to prone float and then straight onto a back float. Your head can be above the water throughout the task".*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection.
<b>0</b>	"Does not perform"	Does not initiate, objects, is afraid, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires full assistance in performing the task. Requires support at arm and thigh.
<b>2</b>	"Partial support"	Swimmer almost completes the task by himself, but requires minimum assistance, mainly for turning from prone to back float and support at hand only.
<b>3</b>	"Independent"	The instructor has no contact with the swimmer. It should be noted under Comments whether the swimmer requires close supervision.

### Item 22: "Combined Rotation" (CR)

*Instruction: "Change position from back to prone float with your head immersed in the water and then stand up".*

*Note: option 2: "Partial Support"- should be tried by the edge of the pool.*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection, aspirations.
<b>0</b>	"Does not perform"	Does not initiate, objects, is afraid, or seems capable but does not cooperate.
<b>1</b>	"Full support"	Initiates movement, but requires maximum assistance in performing the task.
<b>2</b>	"Partial support"	Swimmer almost completes the task by himself, but requires minimum assistance, or performs the task by himself if next to the pool edge, which he uses to help him change to standing position.
<b>3</b>	"Independent"	The instructor has no contact with the swimmer. It should be noted under Comments whether the swimmer requires close supervision.

**Item 23: "Submerging, touching the pool floor with both hands" (Up-Upthrust)**

*The swimmer stands in chest-level water. Instruction: "Dive down, touch the pool floor with both hands and come back up. Feet do not touch the pool floor when Submerging".*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection, risk of aspirations.
<b>0</b>	"Does not perform"	Does not initiate, objects, is afraid, the feet do not disengage from pool floor, or seems capable but does not cooperate.
<b>1</b>	"Full support"	After asking his permission, the instructor pushes the swimmer down to the pool floor and helps him resurface, or the swimmer holds the instructor's hands and pushes himself down, and/or the swimmer initiates but cannot stay with his head submerged long enough.
<b>2</b>	"Partial support"	Swimmer can get himself down partially, but requires further assistance to reach the pool floor, or the swimmer holds one of the instructor's hands and pushes himself down.
<b>3</b>	"Independent"	The instructor has no contact with the swimmer. The swimmer dives down in a controlled fashion. It should be noted under Comments whether the swimmer requires close supervision.

**Section D: Items 24-27****Score Allocation:**

<b>x</b>	<b>Cannot be assessed.</b>
<b>0</b>	<b>Does not perform.</b>
<b>1</b>	<b>Swims a distance of 20 meters, with 3 to 7 stops for rest during the swimming.</b>
<b>2</b>	<b>Swims a distance of 20 meters, with 1 to 2 stops for rest during the swimming.</b>
<b>3</b>	<b>Swims a distance of 20 meters, continuously, with no stops to rest. It should be noted under Comments whether the swimmer requires close supervision.</b>

These items should only be assessed if the specific swimming styles have been learned. If the instructor does not know the swimmer he should ask him which styles he has learned and assess accordingly. If the swimmer does not know, a score of 0 should be recorded.

- A "stop" is a rest by standing with the feet touching or not touching the pool floor (the swimmer floats himself while standing with the head above water), resting at the side of the pool or with the instructor's support.
- Under Comments, note the main mistakes in swimming styles or suggestions for adapting the swimming style to the swimmer's disability.

**Item 24: "Simple progression on the back" (SP-Simple Progression)**

*Swimmer progresses on his back using simple propulsive movements.*

<b>x</b>	"Cannot be assessed"	Due to contraindication, e.g., tracheostomy or ear infection.
<b>0</b>	"Does not perform"	Unable to swim independently, or seems capable but does not cooperate.
<b>1</b>	"Swims a distance of 20 meters, with 3 to 7 stops for rest during the swimming".	
<b>2</b>	"Swims a distance of 20 meters, with 1 to 2 stops for rest during the swimming".	
<b>3</b>	"Swims a distance of 20 meters, continuously, with no stops to rest"	It should be noted under Comments whether the swimmer requires close supervision.

**Item 25: "Freestyle" (crawl)***If the swimmer swims with head above the water: the score should be 0.*

<b>x</b>	"Cannot be assessed"	Due to contraindication: e.g., tracheostomy, risk of aspiration.
<b>0</b>	"Does not perform"	Unable to swim independently, or swims with head above the water, or seems capable but does not cooperate.
<b>1</b>	"Swims a distance of 20 meters, with 3 to 7 stops for rest during the swimming".	
<b>2</b>	"Swims a distance of 20 meters, with 1 to 2 stops for rest during the swimming".	
<b>3</b>	"Swims a distance of 20 meters, continuously, with no stops to rest"	It should be noted under Comments whether the swimmer requires close supervision.

**Item 26: "Backstroke"***Swimming on the back with reciprocal arm movements*

<b>x</b>	"Cannot be assessed"	Due to contraindication: e.g., tracheostomy, risk of aspiration.
<b>0</b>	"Does not perform"	Unable to swim independently, or seems capable but does not cooperate.
<b>1</b>	"Swims a distance of 20 meters, with 3 to 7 stops for rest during the swimming".	
<b>2</b>	"Swims a distance of 20 meters, with 1 to 2 stops for rest during the swimming".	
<b>3</b>	"Swims a distance of 20 meters, continuously, with no stops to rest"	It should be noted under Comments whether the swimmer requires close supervision.

**Item 27: "Breaststroke"***If the swimmer swims with head above the water: the score should be 0.*

<b>x</b>	"Cannot be assessed"	Due to contraindication: e.g., tracheostomy, risk of aspiration.
<b>0</b>	"Does not perform"	Unable to swim independently, or swims with head above the water, or seems capable but does not cooperate.
<b>1</b>	"Swims a distance of 20 meters, with 3 to 7 stops for rest during the swimming".	
<b>2</b>	"Swims a distance of 20 meters, with 1 to 2 stops for rest during the swimming".	
<b>3</b>	"Swims a distance of 20 meters, continuously, with no stops to rest"	It should be noted under Comments whether the swimmer requires close supervision.



# Wota2 WATER ORIENTATION TEST ALYN 2

Aquatic Evaluation based on the Halliwick Concept (Ruck Throsh)

Item	Mental Adjustment	Score	Comments
1A	General Mental Adjustment to the water (MA)		
2B	Blowing bubbles through the mouth (over 5 sec.) (MA)		
3B	Blowing bubbles through the nose (over 5 sec.) (MA)		
4B	Blowing bubbles with face/head immersed (over 5 sec.) (MA)		
5B	Rhythmically exhaling while moving (10 times, face/head are immersed) (MA)		
6B	Exhaling alternately, from nose and mouth (3 consecutive cycles, nose and mouth are immersed) (MA)		
7C	Entering the water (sit on deck, arms & head lead) (MA)		
8C	Getting out of the water (hands push body up on deck, rotate body to sit) (MA)		
9C	Chair (Box) Position (Sitting in the water, for 20 sec.) (BIS) (MA)		
10C	Progression along pool edge using hands (3 m) (MA)		
11C	Walking across the pool (6 m) (MA)		
12C	Jumping across the pool (6 m) (MA)		
13C	Jumping and ducking in & out of water (5 times)(MA)		

Item	Skills – Balance Control & Movement	Score	Comments
14C	Change position from standing to back floating (TR)		
15C	Static back float for 5 sec. (BIS)		
16C	Change position from back floating to standing (TR)		
17C	Prone gliding for 5 sec. (head is immersed) (BIS)		
18C	Change position from prone floating to standing (TR)		
19C	Right Longitudinal Rotation (change position from back to prone to back float) (LR)		
20C	Left Longitudinal Rotation (change position from back to prone to back float) (LR)		
21C	Combined Rotation (change position from standing in the water or sitting on deck to prone and longitudinal rotation on back) (CR)		
22C	Combined Rotation (change position from back to prone floats to standing position) (CR)		
23C	Submerging - touch pool floor with both hands (swimmer starts at chest water level, feet disengaged from the floor) (UP)		
24D	Simple progression on the back (using simple propulsive movements) (SP)		
25D	Freestyle		
26D	Backstroke (reciprocal)		
27D	Breaststroke		

Total score out of 81	Score in %	Adjusted score (if necessary)		
		Max score possible	Total score	Percentile score after Adjust'

Section	Item #	Graded evaluation
<b>A</b>	<b>1</b>	0 Scared/cries/objects 1 Indifferent 2 Slightly hesitant, enjoys some activities in the water (does not open eyes in the water, some difficulty in disengagement) 3 Happy, relaxed (opens eyes in the water, disengages from instructor)
<b>B</b>	<b>2-6</b>	X Cannot be assessed 0 Does not perform or seems capable but does not cooperate 1 Poor quality performance 2 Moderate quality performance 3 High quality performance
<b>C</b>	<b>7-23</b>	X Cannot be assessed 0 Does not perform or seems capable but does not cooperate 1 Performs the task with the instructor's full support 2 Performs the task with the instructor's partial support 3 Independent, performs the task without the instructor's support. It should be noted under Comments whether the swimmer requires close supervision
<b>D</b>	<b>24-27</b>	X Cannot be assessed 0 Does not perform or seems capable but does not cooperate 1 Swims a distance of 20 meters, with 3 to 7 stops for rest during the swimming 2 Swims a distance of 20 meters, with 1 to 2 stops for rest during the swimming 3 Swims a distance of 20 meters, continuously, with no stops to rest. It should be noted under Comments whether the swimmer requires close supervision

Swimmer's name \_\_\_\_\_ Date of birth \_\_\_\_\_

Instructor's name \_\_\_\_\_ Date \_\_\_\_\_

Diagnosis \_\_\_\_\_

## SETTING GOALS BASED ON **Wota2**

When setting goals of mental adjustment and functioning in water based on **Wota2**, we must review the first 13 items in order to examine the swimmer's general mental adjustment to the water and his breathing control status. If there is no mental adjustment, treatment must focus on general mental adjustment and breathing control goals. If there is partial mental adjustment, the instructor must integrate both mental adjustment and functional goals of aquatic skills. If there is maximum mental adjustment, the instructor should focus on functional goals, according to treatment priorities.

Similar to the **Wota1**, in **Wota2**, goals should be aligned with the land goals set by the referring doctor and the other therapists outside the water. One should remember that full mental adjustment to water allows working with the swimmer in a large variety of exercises and activities, thereby improving his chances for rehabilitation.

Following is a schematic view:

