AQUATIC LIFE

Nordplus

A TOOLKIT

ON WATER COMPETENCE FOR SWIMMING TEACHERS AND COACHES WORKING WITH CHILDREN AND YOUTH

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ABOUT THIS TOOLKIT

This Toolkit is a practical guidebook for swimming teachers, swimming coaches and other educators working with children and young people in and around water.

Ability to swim and be safe in the water are important life skills crucial for human survival and wellbeing. Nevertheless, only small percentage of children and young people in the Baltic states (Lithuania and Latvia) get access to organized swimming classes. World Health Organization highlights drowning as a huge threat for public safety especially in the Baltic countries, where drowning rates are much higher than in other Nordic or Baltic Sea Region countries (Lithuania 8.1, Latvia 6.0 persons drown out of every 100 000[1]), comparing with Finland 2.4, Sweden and Norway 1.4. Drowning is often associated with a lapse in supervision, swimming in prohibited places and the lack of swimming abilities. Joint effort is needed to address these issues and develop the quality of swimming education. Although, swimming ability has been long regarded as the most important aspect in swimming classes, researchers argue that, swimming skills alone are not sufficient to prevent drownings[2]. Therefore, this Toolkit presents a more complete view on what water competency is and how it can be developed. It covers areas of water basics, swimming skills training, water safety, attitudes as well as some educational aspects in swimming teachers' work. The Toolkit aims to provide practitioners with basic knowledge, practical tips and activities for assisting young people in learning to swim and developing their water competence.

This publication was developed as a part of the Nordic-Baltic cross-sectoral cooperation project "Aquatic Life" conducted under the NordPlus Horizontal program. The project brought together swimming teachers, lifesavers, athletes and researchers from Lithuania, Latvia, Finland and Norway in order to share experience in the field of swimming education, develop quality swimming teaching programmes and prevent accidents in the water.

We hope this Toolkit will serve as a practical resource for all those helping children and young people to enjoy the pleasures of water activities, be health and stay safe.

Sincerely,
The project team

[1] WHO, 2014.
[2] Stallman, 2017.

I. SOME PEDAGOGICAL ASPECTS IN SWIMMING TEACHERS WORK

THOUGHTS AROUND BEING A SWIMMING TEACHER:

Being a swimming teacher or a coach you are, first of all, an educator who has a role to help young people learn new things and develop themselves. Therefore, as a swimming educator you don't just need good swimming skills and practical knowledge of swimming teaching techniques but also need to know how to relate to children and young people in your class, understand their development and help them learn. When you are going to teach water safety and swimming:

- You must have knowledge about physical facts about water and hydrodynamics in mind, in order to make reasonable decisions.
- You must have a positive attitude towards water yourself and show that swimming is fun.
- You must have knowledge about the development of children.
- You must have knowledge that creates security and safety, so the students feel safe.
- You need to know how to use equipment. We can differentiate the most important of technical elements for to succeed from the less important, i.e. we have to understand why and how human beings can swim and have basic appropriate swimming self-competence.

The following pages cover some pedagogical /educational recommendations that are important in the learning process. The ideas presented further are based on educational science as well as practical experience of non-formal learning and swimming teaching working with groups of children and young people.

1.1. CREATING A POSITIVE ENVIRONMENT FOR LEARNING IN YOUR SWIMMING ACTIVITIES

A swimming lesson (activity) is a multi-faceted experience for all its participants, including yourself as a teacher. During a swimming class children not only engage in water activities and get physically active but also get in touch with other members of the group, get to deal with new situations and a range of different feelings. A swimming class is as much a social experience as it is a physical exercise. Experiences in a group can significantly impact on students' learning progress in swimming as well as their emotional well-being and general development in the group. Therefore, as a teacher you have an important role in creating conditions that would help young people feel safe, welcome and ready to learn in your class. There are several tips for creating a positive and supporting environment for learning in your class:

THE FIRST AND LAST MINUTES OF A LESSON

Greeting and "good-bye" rituals. Every meeting should start from greeting each other and end with saying "good-bye". Regardless of how well kids in a group know each other, it is important for students to greet one-another in the beginning and say goodbye in the end. It helps all participants build positive relationships and "check-in", set the mood for class (I am here, ready for swimming). For a teacher, these greeting activities can be a good way to quickly assess each participants emotional state and readiness for class. It also helps building a friendly atmosphere. These activities could be short name games or other traditional start rituals.

Reflection and review in the end. In the very end of each class it is recommended to quickly review and reflect on the learning which happened during the lesson. It is not always possible to go into deep discussions and individual reflections, especially with younger kids. However, it would be a good idea to stop for a minute ask the kids to assess their learning: How am I feeling? What have I enjoyed most? What have I learned? What is still difficult for me? There are important skills for student's self- awareness and ability to set future learning goals. They also help bring everyone's attention to the end of the lesson.

SOME TIPS:

Greeting circle: The group tosses the ball/floater to one another by saying the name of another person and greeting them. Then return the ball backwards. After this everyone enters the water. Another option: Everyone gives the next person their paddleboards and quickly share what's on their mind before class.

Al those who: Students stand in a circle. The teacher tells several statements one by one. All those who agree with these statements – step in the center. "All those who like ice cream. Al those who feel tired. All those who love swimming on their back. All those who are ready to jump into the water. Everyone jumps.

Paddle board / noodle self-assessment: Good for both beginnings and endings of lesson. Ask each participant to pick a floating board/noodle of a color that represents their feeling in the end of class. E.g. "Yellow – feeling great, energized", "Green – feeling calm, relaxed", "Blue – feeling tired", "Red – feeling angry, frustrated", "Black – feeling sad". Ask everyone to give a short comment. The meanings of color could be different depending on your question e.g. How well have a mastered a new skill today?" "Green – very good, feel confident", "Yellow – need to improve", "Red / blue– need some help" or similar.

Live scale. Evaluation in the end. Ask everyone to agree disagree with the statements by positioning themselves on a scale from + to – on the floor (or by swimming in the water).How difficult were today's the tasks for me? How much have I enjoyed the activities?" Ask to everyone to give a short comment.

SHARED RULES AND AGREEMENTS IN CLASS

The rules of the swimming pool as well as specific agreements in class should be known and shared by everyone. This is especially important for safety reasons but also impacts on the discipline and respect for agreements in class. During the first activity with the group it would be a good idea to use a whiteboard or another dedicated area to write down and review the main rules of swimming class together. The set of rules should be hanged on the wall and be visible to everyone (This could also be a general board/poster of swimming pool rules). Then ask the kids if they want to propose and write down any other agreements that need to be made. Every time a rule is violated, a teacher need to remind what has been agreed before.

ATTENTION SIGNALS

During the first activities it is important to agree on the main signals for calling attention during the swimming class. An attention signal means that whoever is making an "attention sign" is calling for everyone's attention and everyone should respect it. For example: explain what lifeguard's/teacher's whistle calls mean or agree on a common sign for "all out of the water ". Other examples could be: A raised hand - an internationally recognized sign for calling attention and silence. Everyone who sees the raised hand – also raises their hand, pays attention and keeps silent.

FOCUS ON POSITIVE BEHAVIORS

Incentives and praise. A teacher should notice and reinforce not only the good results achieved but also efforts made by students and examples of positive behavior (keeping to the rules, assisting others, friendliness, cooperation, autonomy etc.). It is important not just to praise but react on the specific behavior you liked (instead of "Good job", it's better to say "I liked how you helped others" or "I like your enthusiasm, keep going!", it helps students build self-confidence and understand the specific behaviors they need to keep up (see also Dweck, 2007).
Regular feedback. Students need regular constructive feedback from the teacher on their progress and behavior. Feedback should be individual, timely and cover both the student's strengths (see above) and challenges. The feedback could be given in a form of a conversation, a letter or any other form of comment. Feedback should focus on the specific actions of the student and not generalizations about the person's character (i.e. I didn't like you we're late for class today, try not to be late next time" instead of "You're always late").

RESPECTFUL RELATIONSHIPS

Intolerance to bullying and other forms of violence. Immediately react and stop to all forms of bullying, harassment or aggression you observe in the group. Stop the words or actions first – ask questions later.

Be a role model to children. Try to be an example of respectful attitude and behavior to your students in your words and actions. This means treating everyone equally, being honest, approachable ("I am here, you can ask me"), manage your emotions, admit mistakes. It is important to observe your non-verbal clues: open/inviting body posture, eye contact when talking to children (lowering to their eye level), calm voice tone, smile. These cues leave immediate impression on your students.

POSITIVE DISCIPLINE

React timely to negative/disruptive behaviors. Use incentives but not punishments. Instead of assigning blame and punishment first stop the disruptive behavior and talk to those involved, reminding them of the rules and agreements. If disruptive behavior continues – suspend the student from the activity and discuss the behavior later with students' parents. Always try to notice and give incentives for positive behavior.

ASSESSING THE RISK OF ACTIVITIES

Starting a new, unusual activity in class is often challenging. When starting up with new teaching methods, games and exercises try to introduce the gradually, assessing the readiness of the group to take part in them. Special caution should be used when introducing new exercises that require children's interaction. For example, it could be difficult and even dangerous for a group to take part in a water game that requires trust in each other (like carrying or leading each other in the water) if the children are not yet familiar with each other. The purpose of all activities used in a class should be properly explained to participants.

NON-FORMAL COMMUNICATION, HUMOR AND PLAY

Non-formal / Less-formal relationship does not mean that a swimming teacher / coach should become best buddies with their students, openly share details all details of private life and play games all the time. However, it means you should try to be open and sincere with your students and allow them to get to know you as a person. Therefore, from time to time, it would be good to share with the kids some personal experience, stories, special occasions that are important to you. This will also serve as an example to students on how to be open and sincere in relating to each other.

Humor. Some humor and play is a needed for a good lesson. It helps to reduce stress, give the lesson a feeling of liveliness, and improves interpersonal relationships in the group. However, too much laughter can be disruptive and disbalance the class. Also, you need to be a referee of which humor is appropriate in class and not: personally insulting or ridiculing jokes as well as jokes of sexual nature should never be allowed.

Play. Games are a great method for developing practical water skills as well as social and emotional skills during swimming activities. However, all playing needs to have a clear educational purpose and be related to the objectives of the lesson.

VERSATILE TEACHING / RESPECT FOR INDIVIDUALITY

All children learn differently in their own individual way and at their own space. It is likely that students will achieve better results if the teacher uses a variety of teaching methods: demonstration, observation, games, skills drilling activities, group activities and individual consulting, activating different senses, body movement and thinking. There is a number of different methods to choose from provided in this Toolkit. Try to combine include modes of teaching in each lesson for specific lesson objectives[3,4].

PRACTICAL ADVICES TO HAVE IN MIND, WHEN PLANNING AND CARRYING OUT THE LESSON.

Be well prepared for each lesson and know your topic, and how to explain a skill. Take in account the individual differences in the group, when selecting your exercises and tasks.

[3] Based on Lions Quest (2015), Skills for Growing program for Social and emotional learning.
[4] Toolkit for Assessing Social and Emotional Skills at School. LVJC, 2018.

◌ Adjust your lessons concerning **use of the pool** in relation to children's abilities: it is often useful rather to swim many short distances than one long lane. So, if there are three 25 m lanes at your disposal, why not using them crosswise or diagonal? Many more can be active at the same time, more possibilities for feedback and easier to learn new abilities. Or maybe in another way. Don't let the floating lines limit your creativity as a swimming teacher.

◌ Are there **students with special needs,** who require extra attention or safety efforts (like e.g. students with epilepsy, diabetes, asthma, hyperactivity etc.)

◌ Small children shall first dive under water when they have learnt to control breathing.

◌ **Freezing stops learning!** Do lots of activity in order to prevent children from freezing. Rather shorter classes (30 min / 40 min), depends on the age and lot' s of activities.

◌ **Preparing before entering the pool area:** As a swimming teacher we also have to take a shower and are standing at the pool deck with swimming clothes, as we may go into the pool, when adequate or needed for the class (depends on taught topic, and level as well as number of students and teachers). You have swimming abilities and your life saving competency updated and are looking forward to have joyfully swimming lessons.

◌ **Hygiene:** All students have to take a shower and wear appropriate swimming clothes.

◌ No food in the swimming pool.

◌ Agree upon a **signal** for all that means **"all out of water"** and gather at the meeting point. This is important both in case of emergency, but also useful for finishing your lessons.

◌ Due to physiological reasons (increased pressure in water, cold temperature) we have the need to pee more often, when being in water. Request the students **to go to the toilet before entering the pool.** Make it also easy for the students to visit the toilet during the lesson, if needed.

◌ Use **positive instructions,** i.e. avoid talking about what NOT to do, as our brain can just carry out positive messages, and is not able to perform negative signals ("Don't think about a pink elephant eating ice cream")

◌ Use **metaphors for explanations** and invite students to explore the movement **with all senses:** what they hear, feel at their skin, see, and smell.

◌ Be fair and positive and try to emphasize what the student mastered, before giving support and feed back to improve the more difficult things.

◌ Be honest when giving praise.

◌ **Positioning during the lesson:** Depending on the level of ability, the age and the number of the students, you have to decide whether to stand at the pool deck or be in the water. Alternatively, of course do both during a lesson: out and in when explaining/giving an example. When larger, advanced groups it is useful standing outside as you have a better overview and the need for manual help is little. Place yourself at the best suitable place, where all students can see AND hear you! Train your "swimming pool voice", as it is often bad acoustic in swimming halls. Give short, clear instructions (s.o.) and reduce waiting time. With new learners and younger children, it is useful to be with them in the water. Have another instructor who can supervise from the outside if necessary, while you are teaching in water. Non-swimmers may need physical support and will often search for contact. Re-

member you have just to hands/arms, often a pool noodle can be helpful to hold on.

- **During the lesson:** Have all your material/ equipment ready at the pool desk, where you are working. Don't let children you have responsibility for alone without supervision. Avoid turning your back to the students. If working in larger pools, where you have to share the space with other groups: count your group members regularly and make sure that all of yours are with you.

- **Student's practice:** many repetitions of skills can be important, but need not to be boring: vary with different tasks and games.

- **Feedback:** when you give feedback, be constructive, i.e. a feedback the student can work with. Use also self- feedback, i.e. the student learns to observe themselves by feeling, watching, listening. Partner –feedback is also very useful, as it learns them to understand the movement better by watching each other and put words on what they have seen.

- Jumping/diving always happens under control and after signal from the teacher. If there are anxious children, enter the water and let them jump straight forward in your direction. As anxious children tend to jump towards their trusted instructors, it can be dangerous, if you are standing at the pool deck.

- **Use reasonable equipment!** Not equipment, like swimming wings, which makes it more difficult to become a safe swimmer! Those contributes to more uncertainty in the long run (getting rid of these later, provides greater uncertainty, than being water-based without such pseudo "help" in the beginning. They prevent the process from being safe in water because of a wrong body position in water. They intensify the rotation around the lateral axis, the swimmer is "hanging" vertical in water! Those are more likely a sign of lack of knowledge / lack of staff / convenience for the adults.

Equipment need not to be fancy and expensive! Kitchen towels, sponges, table tennis balls (NB! Check if the drain is not as big as the balls will disappear and tighten it), plastic cups, buckets, balloons, plastic balls etc. are useful for lot of activities and games in water.

SOME RULES FOR THE CHILDREN IN THE SWIMMING POOL AREA:

- We have taken a shower before entering the pool area
- We walk cautious when being at the pool desk, because the floor is slippery.
- We go to the gathering point before the class starts and at the end.
- We have been to the toilet and give note to the teacher if we need to pee during the class.
- We enter the water after the teacher has told us to do so. We always listen to the teacher's instruction and signals.
- No chewing gum etc. in the pool area.
- We are kind to each other. We do not push other children from the edge of the pool neither hold them under water.
- We are becoming good swimmers and do not keeping our nose.

1.2. **PLANNING AND IMPLEMENTING YOUR LESSONS** (ACTIVITIES)

LESSON PLANNING

One of the most important tasks for the swim teacher or coach is to plan their lessons / training professionally. Depending on the organizational structure the teacher / coach may get ready planned programs or free hands. If you can plan your sessions on your own the following structure may be useful.

[5]

1. MAPPING THE STARTING POINT

Start you planning by finding out what kind of group do you have

- How old are they?
- What is their level (physical / cognitive)?
- Are they motivated to take part?
- Do they have special needs? Do you need assistant teacher?
- How is the group dynamics? Do they know each other's already?
- How is the physical learning environment, how much space you do have?
- What are the equipment/ tools available?
- What is your level of knowledge?
- Other things?

2. LEARNING OUTCOMES

What do you want them to learn? Remember there are different categories you can think. Swimming and sport are a great arena to learn behavioral aspects like taking care of others, cheering up for others, tolerate the feelings of joy and anger (winning and losing).

- (SA) Social Affective: "To be able to cooperate"
- (K) Cognitive: "Understand the concepts of "water resistance"
- (PM) Psychomotor: "To be able to kick properly"
- (F) Physical: "Get the pulse up"
- (E) Ethical: "Fair play"

[5] Keskinen et al., 2018.

3. TEACHING CONTENT

How can you aim your learning outcomes? What kind of exercises should you instruct? Describe your content well and / or show to sources (example different games, tasks, tracks, relays, problem solving tasks).

4. TEACHING METHODS

What is the best way to teach? When choosing teaching styles, it is important to think who will make decisions (teacher – student)[6] . Mosston spectrum of teaching styles have been the most common model in physical education in recent decades. It comprises a scale from teacher-managed to student-centered teaching methods.

- Should you give the orders or let the group think and find the best way on their own?
- Should they work in pairs or as a group or on they own?
- Who gives feedback: you, they in pairs or should you give criteria's and ask them to do self-evaluation?

5. EVALUATION

How do you know that they have attained the learning outcomes? If you want the students to cooperate, remember to give them feedback about that. Write down the questions you have asked while evaluating the group. Remember that learning outcomes/objectives and evaluation should be linked!

If you want the group to use self-evaluation or pair evaluation, you can write the criteria on the paper with the performance / goals.

STRUCTURE OF THE LESSON

THE SWIMMING LESSON COULD CONSIST OF THE FOLLOWING PARTS:

Preparation / Motivating the students
Repeat part / Warm up
Teaching and training part
Repeat part / Application part
Finishing the lesson / Evaluation

PREPARATION / MOTIVATING THE STUDENTS

- Meeting at the side of the pool.
- The lesson begins, teacher greets the students, general instructions are given / repeated.
- Inform about lesson - what you will do / what is the purpose of the lesson.
- Going into the water: game or other united start.

[6] Mosston and Ashworth's (2008)

REPEAT PART / WARM UP

- Repetition of the skills learned earlier using games / tasks.
- Preparing for learning of new skills with the help of games / tasks.
- Consider the lesson's intensity.

TEACHING AND TRAINING PART

- Learning of new skills (= skills development stages).
- Training of new skills that requires active concentration.
- Practice skills using versatile and applied tasks and exercises.
- Combination with new skills and those that the participants previously learned (= applied exercises - transfer effect).

REPEAT PART / APPLICATION PART

- More "relaxed" after the previous learning phase.
- Repetition of learned skills example using games, fantasy tasks, individual training.

FINISHING THE LESSON / EVALUATION

- Reflect on the experience and evaluate the learning.
- Give and ask for feedback.
- Provide any home assignments.
- You can inform about the following lesson.
- The lesson ends[7].

[7] Keskinen et al., 2018.

1.3. **MOTIVATING STUDENTS**

What makes you feel that you want to come to the pool again? Why was that latest swimming lesson so much fun? Is it so that some children just like water and others don't and there is nothing we can do about it? When we are thinking about these questions we are talking about motivation. The key questions are can we help children to be motivated and how?

There are several theories concerning motivation. We will open up one theory that is used a lot within physical education and health behavior.

SELF-DETERMINATION THEORY (SDT) represents a broad framework for the study of human motivation and personality. According to Deci and Ryan, the three psychological needs motivate the self to initiate behavior and specify components that are essential for psychological health and well-being of an individual. These three psychological needs we all have are: ***autonomy, competence,*** and ***relatedness.***

Autonomy: a person can make decisions by themselves without pressure coming outside.

Competence: Feeling that you can, tackle the challenges and succeed.

Relatedness: Need to be together, the feeling that we take care about the other people and they take care about us.

As a swim teacher or swim coach you can motivate participants by "answering" their needs. You can use the theory for example the following way:

AUTONOMY: give the participant the possibility to choose things and influence the lesson. For example: give different variations (dive under arm, dive thought legs, just put your mouth underwater). Let them choose the game or equipment. The older they get the more freedom you should offer. Let them choose the warm up or plan the trainings on their own with your support.

COMPETENCE: this is the most important component for the beginners. Is it very important that the instructor or coach can plan their lessons so that everyone will feel they succeeded. You should know the level of your group and be able to change your plans when needed. Tasks should not be too easy or too difficult.

RELATEDNESS: Use time to think how the group works. Make sure there is no bullying. Many times it is better that the instructor or coach makes groups and pairs so that no one will feel outsider[8].

You can study the theory mode widely at: http://selfdeterminationtheory.org/theory/

[8] Deci & Ryan, 2018.

1.4. DIFFERENT WAYS OF TEACHING. TEACHING STYLES.

TEACHING STYLES

When talking about Teaching styles in general, one can differ in a continuum from a teacher – centered style to a student centered learning. The **Teaching Style Spectrum,** with increasing independence and creativity reach from:

A COMMAND STYLE - where the instructor demonstrates, makes the decision and the students just follow, over the task style, where students still follow the instructor's choices on subject, but make own decisions on how to execute the given tasks.

THE RECIPROCAL OR PARTNER STYLE - where two students are working together and observe each other and give feedback on the tasks.

A SMALL GROUP STYLE - extend the last one, and give the possibility, that students take over different functions.

THE INDIVIDUAL PROGRAM STYLE - offers the possibility to provide individual teaching programs, where the students choose their own adequate progression. At the end of the spectrum and with most independence/creativity are the guided discovery style and the problem-solving style, we already presented by practical examples in the chapter two "Elements of Learning Swimming"[9].

For the student's motivation it is useful to have a task or mastering orientation while teaching, instead of a class orientated motivational style, where they easily can feel frustrated when their performance is measured in comparison to their rank in the class, and not related on their own.

PROBLEM SOLVING AND GUIDED DISCOVERY STYLES

Another way of teaching, especially when children are not motivated to participate in direct teaching group activities, is to invite them to explore water and use problem- solving or guided discovery tasks. This indirect teaching often may challenge them to proof and show, what they can. The following are suggestions from the YMCA – YSWIM: Teaching swimming fundamentals (1999). As a teacher you have to pick out tasks which are appropriate for the situation and level of learning process:

[9] YMCA 1999, p. 5.

PROBLEM –SOLVING STYLE:

How many different ways can you get into the pool?
Which ways can you float while holding on to the wall?
Show me how you push off from the wall.
Who can get his or her face wet with water a different way?
How many ways can you make your arms move through the water?
Who can make the biggest splash with his or her legs?
How many ways can you move through the water – show me.

GUIDED DISCOVERY STYLE

Which way gets you into the water without getting your face wet?
Which is the easiest way to float with your face in the water?
Who can push off the wall and go the farthest?
How many times can you bob your face and make bubbles?
Which arm movement makes you go backward?
Which leg movement makes you go forward easiest?
How far can you swim without touching the side?

COMBINED SKILLS

PROBLEM- SOLVING STYLE

Which of you can jump in and come up floating on your back?
Which of you can push off, glide, and then roll over and float?
Which of you can hold your breath and glide underwater?
How can you move your arms and keep your head up?
Which of you can kick your feet without splashing while you glide?
Which of you can jump in and swim to the other side without touching the side?

GUIDED DISCOVERY STYLE

Which jump lets you start swimming sooner?
Which body position lets you kick with less splash?
wWhich arm movement lets you glide farthest and easiest?
How many breaths can you take while you float on your back?[10]

[10] YMCA: Teaching swimming fundamentals. Champaign: Human Kinetics, 1999, p. 48.

II. WATER BASIC COMPETENCY

2.1. WATER - A SPECIAL MEDIUM: BASIC KNOWLEDGE AND PRACTICE FOR LEARNING SWIMMING

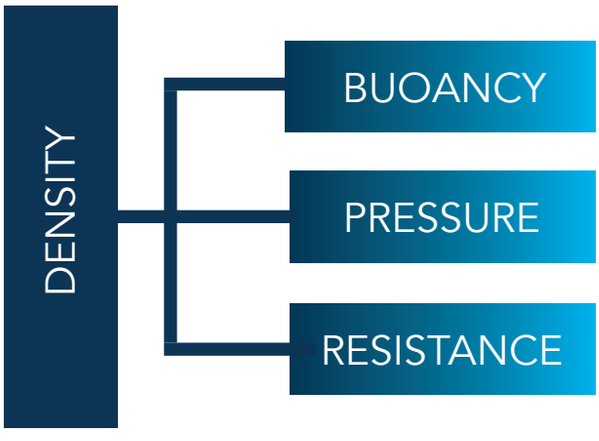
THEORY: the physics of water with an impact on swimming

NB! In these first chapters, when talking about "swimming" and the ability to swim, we have restricted the term to the physical movement through water by well-known swimming techniques and the practical elements needed to do so (see chapter 2). In a larger context, the ability to swim gathers even more than this, like jumping in, climbing out, tolerate temperature changes, being prepared for different challenges in open water etc.

Water is an important medium for life and from the chemical perspective is a very special molecule. Due to its structure, it actually ought to be a gas, although according to the van-der-Waals-forces it is a fluid. This fluid environment has a number of physical qualities, which have an influence on why and how we can swim, and how a learner experiences water. These may cause anxiety and tension to a first time swimmer, when the fluid element is not properly introduced. Therefore, a good teacher will always provide enough time for to get used to the water, and to become friends with the water.

Water has a much higher capacity to store heat than air. This is the reason for why we freeze quicker in water and the body temperature decreases.

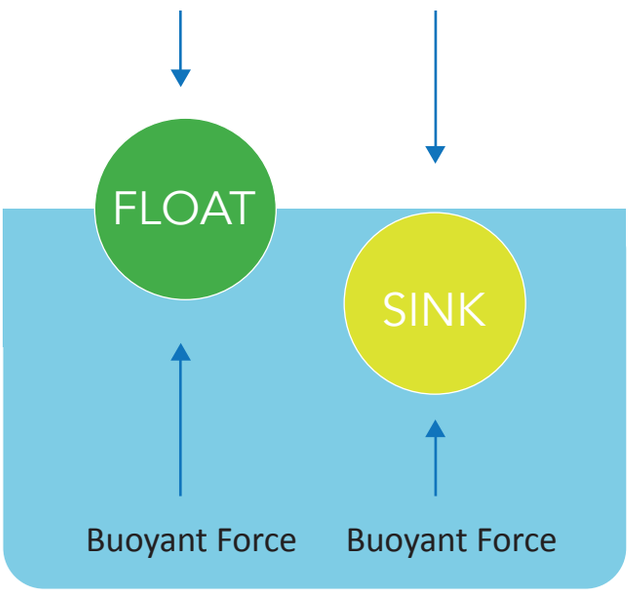
Water has an 800-1000 times higher density than air and this causes certain physical effects, which we can experience in water. Density is defined as Density= mass/volume.

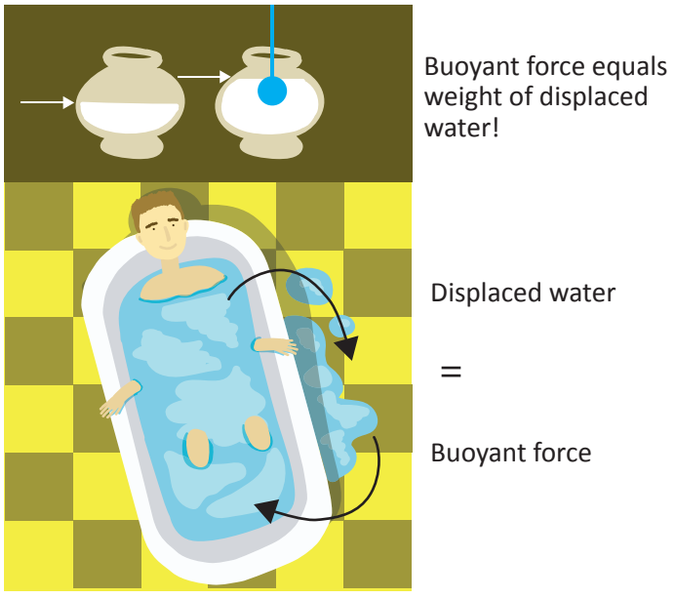


We can experience **buoyancy** and **floatation**. One important concept for to understand why we can swim and even more important, why somebody struggle with swimming, is the "Archimedes principle".

"*A floating body displaces exactly its own weight in water. A body will sink if it isn't big enough to displace water that weighs as much as it does, even when submerged.*" [11]

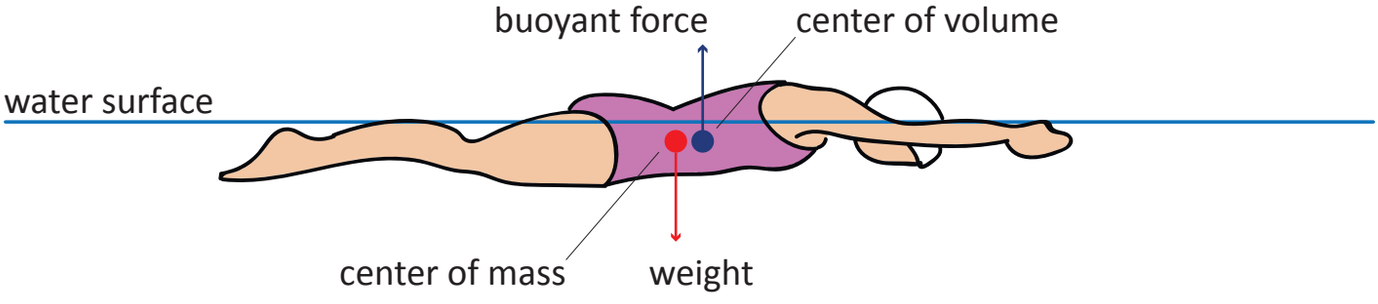
[11] YMCA ,1999 p. 110.





Pictures Kristina Dailyde

That means, we have to submerge our entire body volume, in order to get maximum buoyant force. When somebody is anxious or have a bad body position, with parts of the body outside, the body volume, which displaces water I diminished, and the buoyant force adequately reduced: the person will sink.



As the body fat has slightly lower density than water, and bones' and muscles' density about the same as fresh water, usually all people will float when submerged. Because of the body fat and also our lungs filled with air and other spaces in our body with low density, the volume and weightforce of water we displace, when submerging, usually correspond to a little bit more than the person's weight and weightforce – and therefore: we float! The bigger we make our body volume by for example inhale and fill the lungs, the better we float. If a beginner tries, do be above the surface and stick out parts of his or her body, the volume of water displaced will be diminished. Then the amount of displaced water is less than the actual weight of the body and the person will sink.

A person's potential buoyancy in water is determined by volume of the lungs and by the amount of body fat.

Our body's density is not even, and therefore also our capability for buoyancy is influenced by this. This has an impact on our body position in swimming. The center of buoyancy is around our chest, but the center of mass is approximately around our hips. This results in the effect all can experience, when trying floating without any movement: The legs will sink! There is a center of rotation, a fulcrum around our lateral axis.

We also can feel **pressure** on the body. Because of that, breathing and the heart rate can increase. The density also causes a higher **resistance**. This will make movement more

exhausting. “Fatigue may occur more rapidly than if the same movements were done on land, especially if the water is cool.”[12]
Important to remember: The resistance increases with speed in the second potency, which means, the faster we try to swim, the more important it is to reduce resistance.

BECOME FRIEND WITH WATER: GAMES AND EXERCISES FOR EXPLORING WATER WITH ALL SENSES.

We will present some activities, you can use for the first encounter with water. Especially experiencing the pressure, temperature and what happens to our senses, when being in the fluid element can be challenging. The proceeding activities towards swimming are listed below, when describing the elements and steps on the way to become a swimmer. The focus in this chapter will therefore be on the effect on the senses. In the next chapter, we will proceed to the steps and elements of learning swimming.

VISION. When people are learning to swim with the face in the water, “their vision is distorted and images are blurred. Impairment of vision may make it harder to learn.”

HEARING. While swimming we should have the head submerged in the water, therefore hearing is impaired. That causes that swimmers cannot hear feedback or instructions clearly. “Even when first raising the head from the water, it takes a few seconds for the water to drain from the outer ear canals”. (YMCA 1999, 11)

Other things swimmers will experience as different from the situation on land are touch and smell as well as a different Body position. On land, we usually relate to our environment in an upright position. However, when we attempt to swim strokes, our bodies must be horizontal to move efficiently. All external stimuli must then be interpreted from that new position, which is a radical change from previous learning experiences in the upright position on land”.

[12] YMCA 1999, p.11

GAMES & ACTIVITIES, ALL IN SHALLOW WATER, WHERE ALL STILL CAN STAND UPRIGHT:

- **"TRAIN TRIP":** teacher (the locomotive) receive the children (the wagons) when entering the pool by steps. All holding /connecting by shoulders, the locomotive holds evtl. by hips because of different size. The train is going first along the poolside, so that the children can hold the edge of the pool on the first steps, then the train is going through tunnels (submerge), through avalanches (splash with water), going uphill and downhill (change in body position), speed up and slow down and stops at "stations".

- **"WELCOME THE KING AND SHAKE HANDS":** all are walking around in the pool and greeting each other by shaking hands and bowing to each other, so they touch the water with their faces.

- **"THE MAGIC WELL":** Teacher is holding a big hoola-hoop ring exactly in the middle between two groups. At the pool deck on each side, each group has a bucket. Every child gets a jar. After start, all are going to the magic well to get "magic water" from there with their jar and fill the groups' bucket with it. The group, which was able to fill their bucket, first, has won. Both groups will so be "shower -baptized" with the water from the bucket: the teacher empties the bucket over the whole group.

- **USING SPONGES AND KITCHEN CLOTHS:** Hiding under the kitchen cloth laid on the surface of water, being a ghost. Using the sponge for "washing", getting tactile impressions, squeezing the sponge with water on one's head, playing catch. Who is getting most sponges?

- **WITH SPONGES: "CATCH THE TAIL":** all have one sponge, the sponge must be put under the strap of the bathing suit or in the seam or hem of the swimming trunks in a way that it is available for others (that means at the side and NOT near parts of the body which are taboo). Aim: to catch as much sponges as you can. Whenever you caught a sponge, you have to fix it at your swimming clothes so that the others have the possibility to catch it again.

- **"RED LIGHT":** one has the "red light" (use a small stick etc.) and stands in the middle of the pool. The group is lined up at one side and the aim is to come over to the other side. When "The red light" is looking, no one can move, when "the Red light" is turning around and cannot see them, while in the meantime counting "ONE – TWO –THREE" the group tries to move forward. When "The red light" is turning around again after "THREE" and see someone still moving. This person has to submerge three times, before proceeding.

- **"RAISIN & MELON":** All standing in a circle, holding their hands. Moving towards center, becoming as small as a raisin, so, moving fast outwards again, stretching out the circle, so that it is as big as a melon, so fast towards center again to raisin size, and so big, big, big again.

After combing with activities for breathing and submerge, we can also experience more of our senses underwater: listening underwater: how many times is the teacher knocking at the banister. How many fingers can you see underwater? Look at yourself in a Plexiglas- mirror and make grimaces. Another way, especially when children are not motivated to participate in direct teaching group activities, is to invite them to explore water and use problem- solving or guided discovery tasks. Often this will challenge them to proof and show, what they can.

2.2. **ELEMENTS OF LEARNING SWIMMING**

INTRODUCTION: If you want to swim (in the narrow sense), you have to master making propulsion. For to make propulsion, -> you have to be able to glide. To be able to glide. -> You need to be able to float. For being able to float, you need to be able to dive. For to dive you must be able to exhale in the water, to hold your breath and have control about in- and exhalation. For mastering floating, gliding and propulsion you need to have balance. Balance implicit the ability to adjust your body in water and feel that you can float, "balance" and feel comfortably. For making proper propulsion, you also have to be able to rotate. That means you feel comfortable with diving, submerging and have control over your breath, and then have capacity to adjust your body, feel buoyancy, get balanced, can use your kinesthetic senses for finding balance in water.

A very central element for succeeding in swimming is a good balance and a streamlined body position, with little frontal resistance. Propulsion on the other hand, happens with both hands and legs by creating active resistance using the physical principles of action and reaction and the vortex. The streamlined body position can be obtained by a good adequate tension in body. Do not ask children to be too tense, because then the muscles will get higher density, and the buoyancy diminishes.

BREATHING: GAMES AND ACTIVITIES

- **"MORNING WASH AND BREAKFAST":** wash your faces, «make some tea" by laying your face upon the water and make bubbles, "boil eggs" by submerging your face even more and make bigger bubbles.
- **"BEING A TROLL":** look in a mirror under water and make funny faces.
- **BLOW EGG FLIPS** until they turn around.
- **BLOW TABLE TENNIS BALLS** over from one side of the pool to the other side. Have your hand together behind your back.
- **"WATER PUMP":** Learning to breathe rhythmically. Two & two or after a while four& four,

holding hands, standing in front of each other. Bobbing. One bends her knees, submerge, while the other is standing. The first comes up again, and the other submerge. Do this in fast tempo, like a water pump. Make some synchronized, creative versions when 4&4.

SUBMERGING AND DIVING: GAMES AND ACTIVITIES

- **ADD TO THE MORNING RITUAL:** "watching TV": try to sit down on the bottom of the pool, by exhaling into the water (making bubbles with nose and mouth, for diminishing your volume).
- **"CAR WASH":** Children are standing in two groups, the first (D) is walking through the "Car wash", first round "get wet" making slight splashes, so the next, and the next etc. When through, the "car" takes place and the end of the queue and "washes" the next.

ROUND TWO: "Cleansing": stronger, bigger splashes.

ROUND THREE: "Polishing" Two & two children get a kitchen towel, holding between them. Now the car "gets" polished by either dive under the towel or at least submerge under the towel.

- **"TREASURE HUNT":** Two groups or individual. Lots of sinking figures and rings around in the pool. Pick up as much treasures as you can.
- **DIVING** through or around a partner's legs, maybe you can dive through two, three?
- **"DIVE TO A MIRROR "**(Plexiglas) on the bottom of the pool and look at yourself, make funny faces.

FINDING YOUR BALANCE, FLOATING, GLIDING AND ROTATE: GAMES AND ACTIVITIES

- **ALPHABET – FLOATING:** Floating on back or stomach with arms and legs laying as X – Y - I – O (crunched as a ball).
- **"BASKETBALL AND WASHING MACHINE":** two & two: one is floating as ball, the other one bounces the "ball" (here one can experience the Archimedes Principle and the net buoyancy of the person. When turning around "the ball" it's like a washing machine. Turning smoothly and slowly: washing programme for sensitive fabrics, turning fast: tumbling.
- **"TIDAL CURRENT":** group in circle, holding by hands, alternatively when large group: by the shoulders. Hold tight, move as fast as possible in circle, so that there occur a circular current, then on signal, release the hands and float on back with the current.
- **"STATUE TRANSPORT":** two& two: one is floating on his/her back in streamline body position with an adequate comfortable body - tension.
- **"COOKING POTATOES / WHIRLPOOL":** group standing in a small circle, everybody, but one has a kickboard. The one without kickboard is in the middle, and on signal is floating as a ball/potato in the middle, while the others are making splashes and waves to the center, so that the "potato" gets "cooked" ☺.
- **ISLAND HOPPING –GAME ("DIE REISE NACH JERUSALEM"):** (reminds on a well-known game from birthday parties, then with music and a round of chairs, but one less than participants). Group standing in circle, each and everybody has a kickboard. Everybody

stands on his/her kickboard in circle, very little space between the participants. Then, on signal from the teacher, all move over to the neighbors, kickboard to the right (or left), without missing a kickboard up to surface or without missing balance. After some “training rounds”, this could be as a competition: those, who missed their kickboard/ balance, are out of the game. In the end their might be just 2 left.

- **FLOATING/ DIFFERENT VARIITIES:** in stretched body position on a kickboard, floating on a water polo ball and combination: floating on ball and having kickboard under feet or the other way round: floating on kickboard under stomach and hold a ball with your hand.

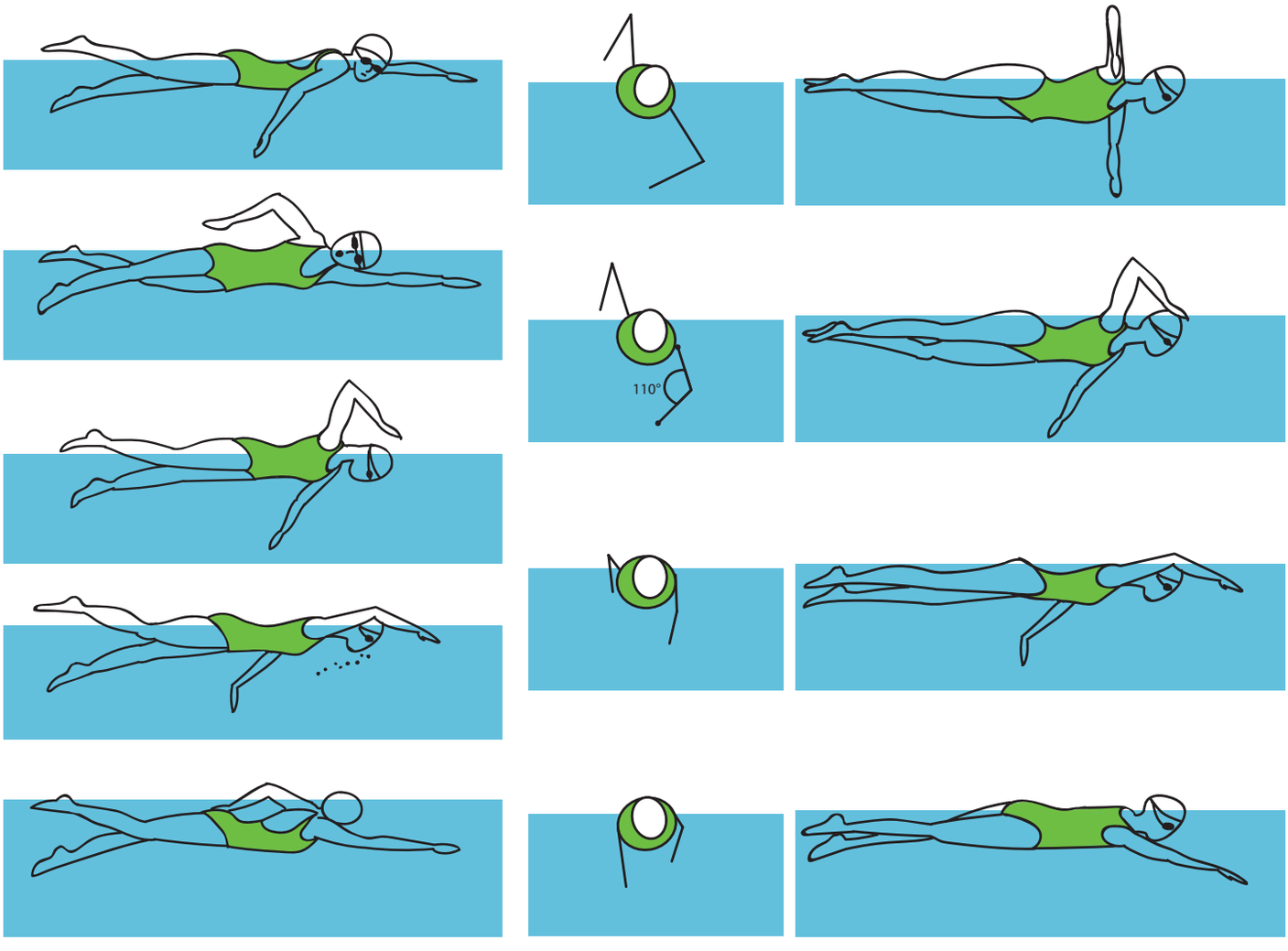
2.3. **PROPULSION: FOUR EXAMPLES FOR SWIMMING TECHNIQUES**

THOUGHTS ABOUT CHOOSING A SWIMMING TECHNIQUE FOR SWIMMING AS TRAINING AND LEISURE ACTIVITY

"There is no first stroke, all strokes first "(Stallman 2014). The choice of swimming technique should be conducted with the aspect of generality and be comprehensive. Students and swimmers are individuals and have individual physical qualifications. Young children for example love swimming like a snake / dolphin, because of their good flexibility in their joints and body. Therefore, for many maybe still surprisingly: elementary Butterfly can give them a joyful experience of mastering swimming. *The traditionally chosen breast swimming is actually the most difficult technique, when correctly and effectively (!) done*. Additionally, it is the slowest and the most energy wasting technique when aiming a technique for training and health related physical activity. Important for all strokes is having balance and streamlined body position when gliding forwards. Crawl is the fastest technique and most popular in terms of swimming as life-long training. It is also preferred in Wild Swimming, as your head down I water will function as breakwater. In the bow wave, it is possible to inhale. In crawl and backstroke the longitudinal rotation, in breaststroke and butterfly the rotation around transverse axis is necessary. There for those techniques can also teaches in combination, i.e. crawl and backstroke as well as breaststroke connected with butterfly. The following exercises for crawl can also applied to backstroke.

2.3.1. **CRAWL BASIC ELEMENTS, METHODOLOGICAL WAY AND ACTIVITIES**

CRAWL (and also modern backstroke) is a swimming technique with rotation around the longitudinal axis. It is important with a streamlined body position in order to avoid frontal resistance. Therefore, good balance is needed. The swimmer rotates from one side to the other. Think to lead this rotation by your hips rather than your shoulders, for to avoid not be stable. It is the whole body, which rotates. When rotated to the side, the swimmer can inhale in the wave bow. Hands and feet are moving continuous. After catch with fingertips first, the hands move through water searching “catch”. This first catch until you reach your shoulder, experiences as a kind of “pull”. You have high elbow, when the hand passes along the shoulders. Fingertips facing downwards to the bottom of the pool. Passing the shoulder and so stretching your arm until the hand powerfully sculls backwards (against the swimming direction) and out by hips/upper leg, experiences as a kind of “push”. The hands accelerate through the stroke. The feet are loose in their ankles, loose knee joints, and the legs move up and down initiated by the hips, like a whiplash. For children easier to understand: move your legs like cooked spaghetti. ☺



BALANCE & STREAMLINED BODY POSITION:

BODY WELL DOWN IN WATER, GOOD BODY TENSION:

- In order to experience the streamlined body position, we can start with an exercise on land: Lay down on the floor on your back, first with the arms along the body, then with the arms stretched out over your head, and press down your lower back, so that you are laying totally flat in streamlined position. Then, in water glide on your stomach, again with the arms stretched out, and retract your belly button, in order to make your lower back as streamlined as in the exercise on land. Feel that you are floating "high" on the surface in water.
- Kick board under the stomach, slide out without losing the board (press down the upper body).
- Glide on stomach, feel as if you still have the kick board under your stomach, small kicking with legs from the hip, arms along with the body or in front in streamlined position.
- Glide on stomach, arms in front, streamlined, then: curl like ball, count to three, stretch out again.
- Glide on the stomach, flex your feet: what happens?
- Glide on the back, compact whip legs (i.e. small kicks with little amplitude), line, body tension. Imagine imaginary kickboard under the upper body, so that you press your chest a bit more down.
- Experiment: glide out and look for your feet? What happens?
- Then again streamlined, tight.
- Glide streamlined and rotate to one side, by taking one arm behind.

FEET/ LEGS ACTIVITY AND BODY POSITION

Whip- legs: loose hip and ankles, tight, feeling like soft boiled spaghetti ("flutter kick"), small amplitude.

- Sitting on the edge and make splashes with your feet, movement from your hips.
- On the back**:** laying on a pool noodle. Kick your legs, feels the feet are kicking as much upwards as downwards. Feels both the upper side of your feet as the sole. Try different ways to kick: With stiff legs, very loose legs, whip legs.
- Basic balance**:** lay/float on your back, press your body in the water, feel that you are submerged, but float at surface. Find your personal "sweet spot" your "breathing hole", children may think about a submarine.
- Basic balance: compact whiplash-kicks, press down shoulders, neck, find your "sweet spot" = U-boat with breathing hole. That means, your entire body is emerged, just nose and mouth are outside for breathing. Good balanced body position with balanced tension. Arms along sides.
- Feel the water all around your head!

BALANCE ROTATION AND INHALATION:

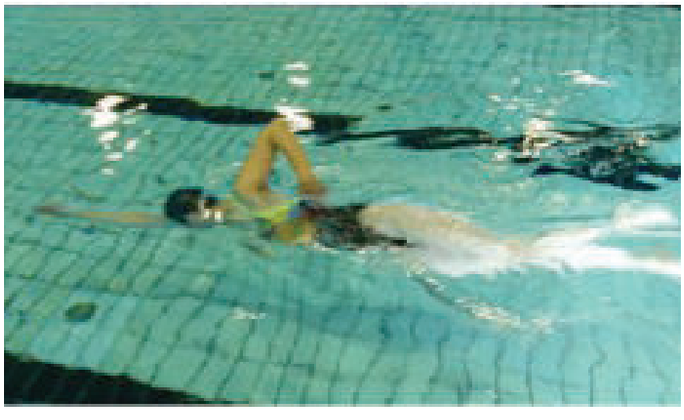
- Sweet spot with rotation around longitudinal axis.
- "Fish": from Basic Balance/sweet spot, rotating over to one side, with face& nose looking down to the bottom.
- Easy skating/Superman = skating or superman position with fist, coming from Basic Balance/ Sweet spot (SSp).
- Test fins: from Basic B/SSp - fish stretched out lower arm. Sweet spot -> fish-> superman-skating.
- "Screwdriver": start on stomach, both arms stretched out in front, rotate into Superman on side, and rotate on back with both arms along the body, rotated to the other side, stretch out lower arm into superman.

TOWARDS THE COMPLETE TECHNIQUE

SUPERMAN swimming, different variations. In Superman we are swimming on one side. We can switch over to the other side with good body control, initiated by the hip, holding tension and the streamlined body position.

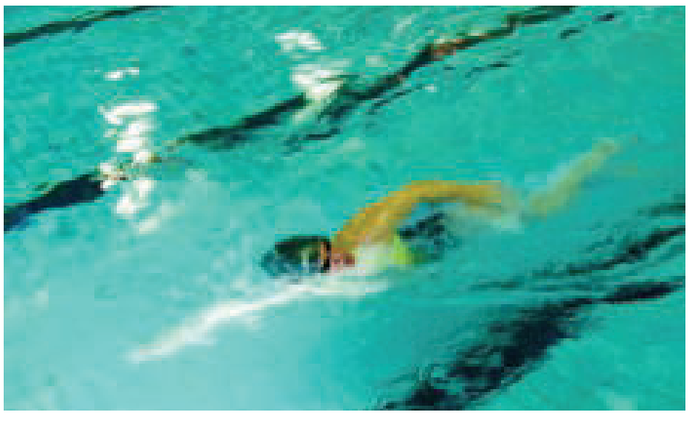
(photo: D. Dahl 2018)

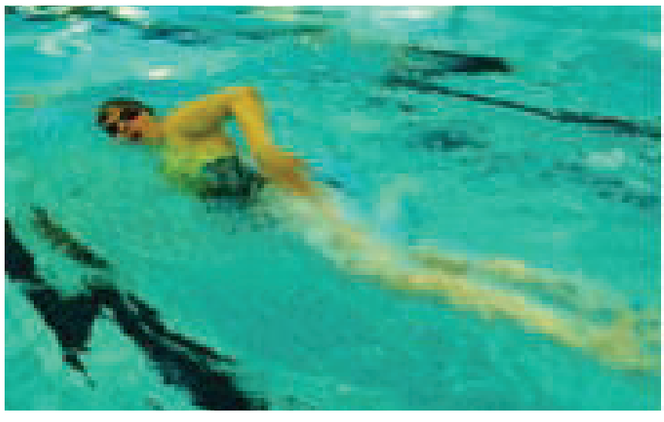
- Face up, switch via stomach, exhalation down to the bottom of the pool, 1- 3 x per length.
- The hand of the arm, which is stretched out, can be hold as fist or in step 2 as open hand. The arm, which is along the body, can be moved under water or as step 2 moved over the water in front.
- Next steps: Six kick switch (switch every 6th kick)/regular switches per length. Focus on Handwork: Hand searching down and backwards, "catch" the water and past the shoulder (high elbow) during the switch, moving against the swimming direction, sculling back and out at hips.
- Superman, nose down, breath in sweet spot position before switch.
- Swim superman with inhalation in sweet spot before switching. Regular switches after three kicks. Hands are searching catch and make propulsion. High elbow after the catch, hand is pulling/pushing aside the shoulder. Acceleration of the hand, which sculls out aside the upper leg. Start on your stomach, swim crawl like a superman. ☺
- Catch up crawl: Both arms in front, one hand at time is doing a stroke. Variation: catch – up-crawl with zipper: Under the recovery phase, the hand is pulling up an imaginative zipper at the side of your body. This will help to have also high elbow during recovery, and recovery is near the body and will prevent that the swimmers become dragged out of balance.



Catch up –crawl with "zipper-switch". (photo: D. Dahl 2018)

- BOBBLE-BOBBLE-BREATHE-MANTRA: "Take a breath and then on each of the following two strokes say 'bubble' into the water. Literally, speak it into the water to emphasize the exhaltion during each stroke! On the third stroke, take a breath to that side whilst saying 'breathe' to yourself (not out loud!). Swimming down the lap repeating 'breathe – bubble – bubble - breathe – bubble – bubble - breathe – bubble – bubble* is a great way to coordinate good exhalation with the timing required to breathe every three strokes (bilateral breathing).[13]





(photo: D. Dahl 2018)

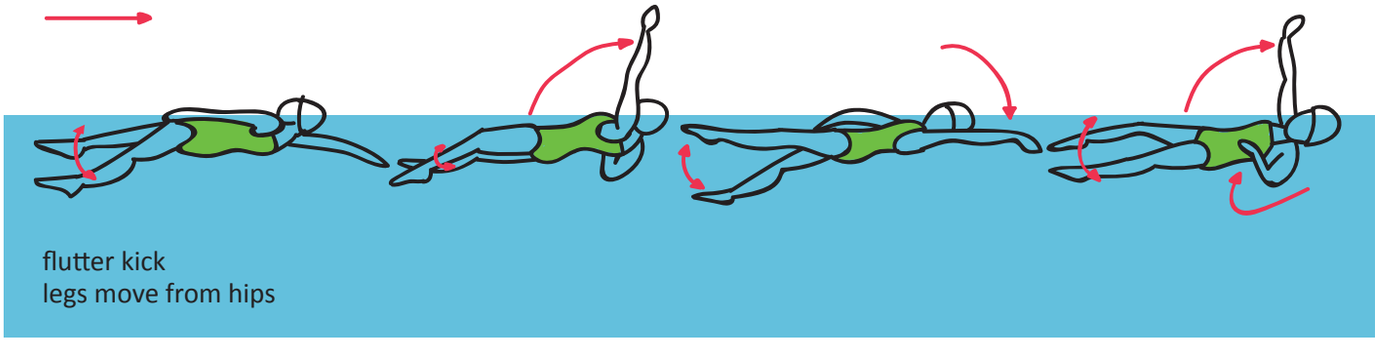
DIFFICULTIES WITH BREATHING/ INHALATION are often the result of poor rotation, delayed inhalation (then the arm is in the way for the mouth); bad body position, not streamlined and horizontal; the head is lifted: then we do not have the wave bow, we usually can easily use for inhalation. Bad balance without adequate tension) and that the swimmer does not exhale relaxed into the water, when facing downwards. Let the air just "falling out" your mouth, without using energy. ☺

[13] Newsome/Young 2012, p. 33.

2.3.2. **BACKSTROKE**

As mentioned above: modern backstroke has quite a lot of similarities with crawl, but performed on the back. That makes of course the breathing easier, but it is more difficult to see, where you are. As both techniques are similar concerning the streamlined body position, the balance and the rotation, the first exercises can be used also for the introduction to backstroke. The body position is horizontal, with hips and shoulders near the surface; the head immersed in the water like in the Basic Balance exercise above, and remains still during the stroke, it is the rest of the body which rotates. The leg kick is like in crawl, as one is laying in the back, it is important to kick with “long legs”, “toes should kick to create a small splash but not break the water surface”. The arm/hand action starts with the entry, the catch with the little finger first. This happens under the rotation to the near superman-position. Otherwise one would have no good catch. It follows by the downward sweep, an upward sweep and another downward sweep, when the hand is passing the body and the body moves ahead. The recovery happens by taking the hand out with the thumbs first when the arm has been stretched out at the thigh. Through the stroke, the action will increase in speed, like in front crawl.

THE BACK CRAWL STROKE



As mentioned above: for the introduction the exercises from crawl are applicable. **Then, when coming to the “Superman” exercises, the switch around will now be performance by switching around your back, looking at the ceiling.**

SOME MORE EXERCISES

- With a kickboard overhead. Straight arms, hold the kickboard tight between your arms and press down in water (this will help the hips coming up to surface). Feel that your arms are submerged in water. Be aware of kicking both upwards and downwards.

SUPERMAN, face up, controlled **SWITCH AROUND BACK POSITION**:

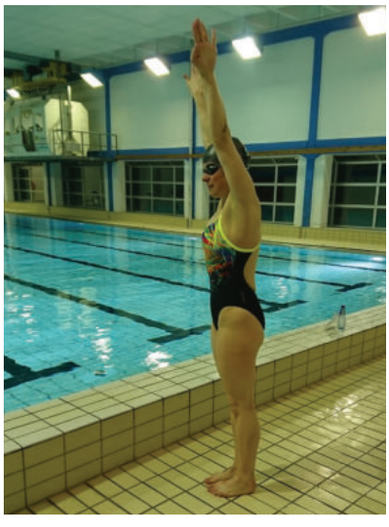
- 3 switch x per length with fist, with the switch hand first under so later over water. Then the same with an open hand;
- Switch regularly e.g. after six kicks, three kicks.

FOCUS HAND ACTION: during the switch around: hand searching/catching downwards and passing by the shoulder (high elbow), then stretch out again with palms down.

- MANTRA –EXERCISE: Back switch with hand activity: straight arm out of water– little finger first – catch the water downwards - as if you are taking /bouncing a big basketball = remember having a high elbow position – hand is passing shoulder– "carve" out with straight arm and thumb first.
- SUPERMAN- DUET: two & two: switching against and away from each other
- 3 kick switch with and without fins.
- Contrast exercise: DOUBLE ARM: swim with both arms at the same time, laying flat on your back, with no rotation possible. You can focus on the lower part of the hand activity. You will experience, how important the rotation is.
- ONE-ARM -BACKSTROKE: hold your head in neutral position, rotate around the longitudinal axis, show shoulder & hip, move out hand with tumbs up, move into water with the little finger first. Change arm after one length.
- SWIM BACK STROKE 3 strokes with right arm/hand +3 strokes left arm/ hand, 2 right +2 left , so right arm–left , smooth without break, tension between the hands (imagine a rubber band between the hands, which should hold tight all the time).

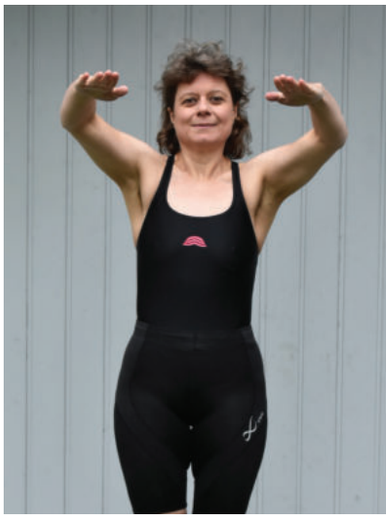
2.3.3. **BUTTERFLY: BASIC ELEMENTS, METHODOLOGICAL WAY AND ACTIVITIES**

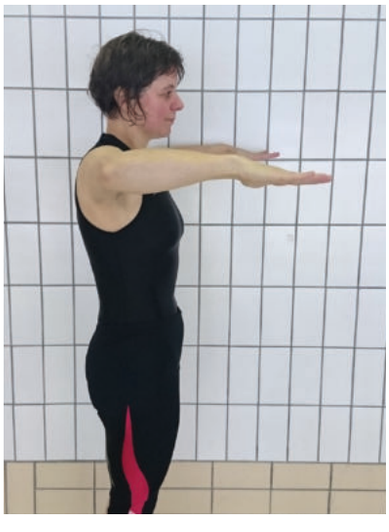
IMPORTANT ELEMENTS: Rotation around lateral axis. Impulse from upper chest for making a wavelike movement with your body: The Body dolphin. Hands catch water in slim V position, in front / slightly to the side of shoulders.

(photo: D. Dahl 2018)

Hands search their way through water in a slim" Diamond" formation with high elbow after the catch, accelerate to the hips, some describe it also as "drawing a keyhole".



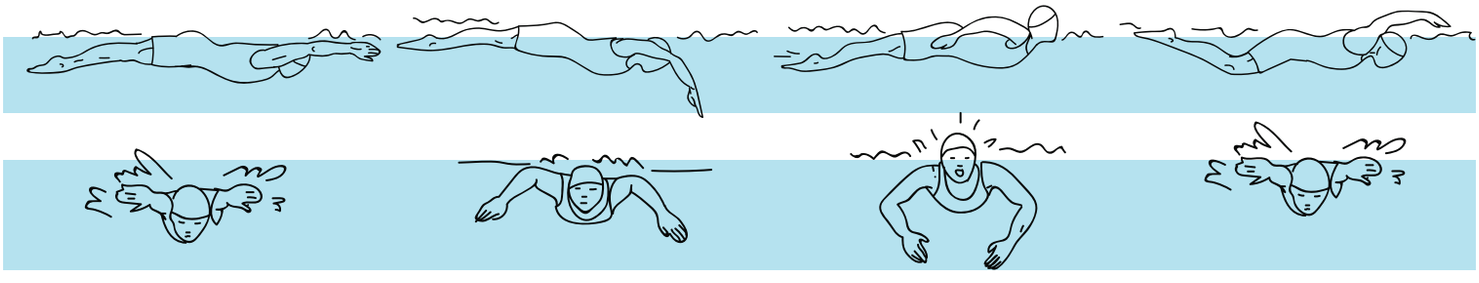


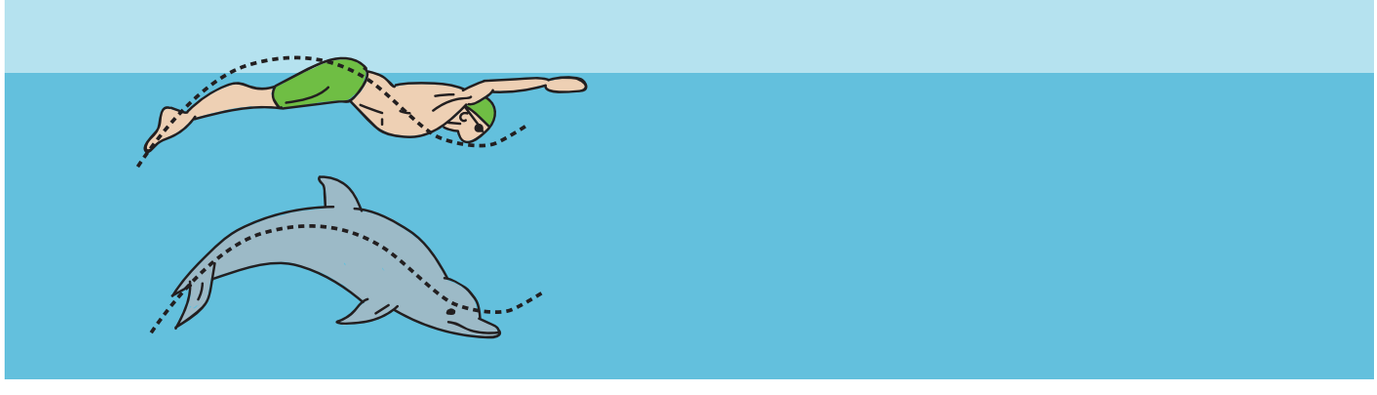
(photo: D. Dahl 2018)

Below hips, hands are sculled out (“angel” position).

(photo: D. Dahl 2018)

Little Finger first out. Breathing at the push back/”angel ”- position , which makes another body dolphin movement. When the hands enter the water again, there is a body dolphin (= “kick”). There are two kicks for one cycle with the hands. For your head: The “two before”: face lifts out for inhalation, BEFORE hands scull out, and face is back into the water BEFORE hands catch again.





- Jump as a dolphin over pool noodles.
- Shake/roll your body in standing position like a snake.
- **“MEDITATION- WAVE”,** lay /float on water surface, arms aside. Push slightly down your chest/sternum and slip off again, feel the buoyancy, feel that the impulse rolls through the entire body as a body dolphin. Children love to imitate a “snake” evtl. “manuell therapy” i.e. that the teacher helps by modelling the movement with her/his hands carefully. therapy. Your legs are passive, they are just floating!
- Body dolphin with slight use of your head from down from chest looking up: Feel as if you are a cat, who is licking cream”.

◌ Same activity with fins, imagine, that somebody is pulling you at your nose over to the other side.

◌ Same activity, now with your arms in front for a complete body dolphin. Legs passive floating, acting like a fish tail.

◌ **BODY DOLPHIN** on your side, on your back.

◌ **STONE SKIPPING**: floating on surface, arms in front, body dolphin. Pull your arms in stretched position down through the water and behind, as if you are skipping two stones behind you. Feel the reaction of your body. Now your hands are laying along your hips/ legs, proceed with body dolphin. Proceeding: after first "stones kipping", move your hand relaxed over the water back in starting position, and skip another pair of stones. Use fins!

◌ **DIAMOND- ANGLE SWING AND BUTTERFLY:** Float on surface. Pull your hands through water as if you are drawing a slim diamond. Scull out hands with "angle" wings (hands below hips), experience the reaction of your body: a kind of wave (hip extension), "swing" your hands back in front in starting position, slim "V" right in front of your shoulders. Then make one Body dolphin (hip flexion). Without breathing. Swim just shorter distances. Use fins for improving legs' flotation. Legs passive as fish tail. Use fins!*

1. Just Diamond-Angle Swing and Float.
2. Diamond – Angle – Swing – Float & Body Dolphin- Float.
3. Diamond – Angel – Swing – Body Dolphin – Float.
4. Diamond – Angel – Swing & Body Dolphin – yeah J That's butterfly without breathing!
5. Same as above, feel the wave and when doing "angel" lift your head as much as needed for getting your mouth out of water for breathing.
6. Same as above, intensify or strengthen the dolphin by "kicking" with your legs adapted to the dolphin wave.

(photo: D. Dahl 2018)

*cf. Steve Haufler 2008

2.3.4. **BREASTSTROKE. SOME SHORT COMMENTS AND RECOMMENDATIONS**

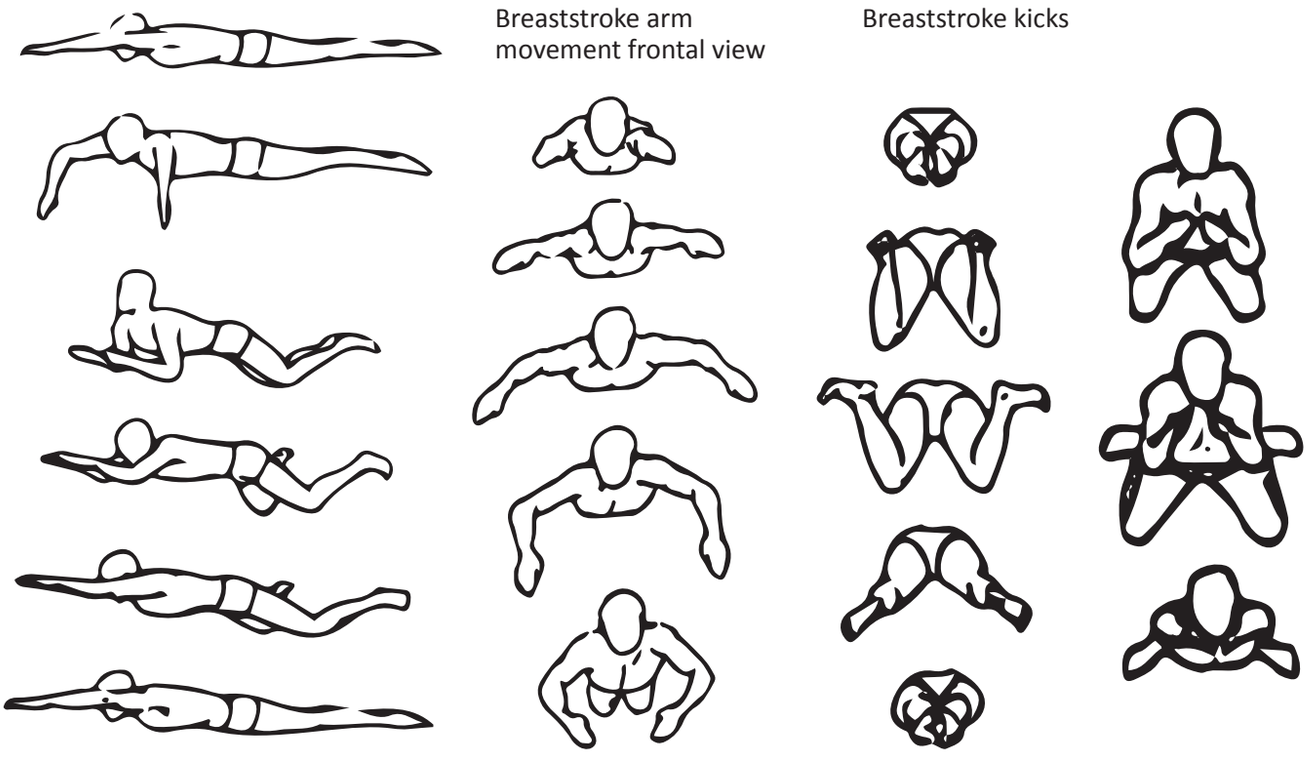
Breaststroke is the most challenging technique if one wants to swim efficiently and with optimal propulsion. There are cultural-historical reasons why a sort of "laying on your stomach – head-up – breaststroke" became popular in parts of Europe. Effectively breaststroke needs good flexibility in your limbs and joints (feet, knee, elbow and hands) and high level of coordinative abilities for the timing: pull – breath – kick – glide. Otherwise it is more a kind of bathing with some ineffective sparks with your legs and some likewise ineffective waving with your hands on the surface of the water. The biggest problem is often, that kids have learned something under the term "breaststroke" which is no proper breaststroke and it is very difficult to re- learn if something had been learnt and taught in wrong way. A learned mistake is difficult to get rid of.

MOVEMENT DESCRIPTION

The arm pull begins with a catch of the water six inches to eight inches deep, with the elbows extended and palms facing diagonally to the sides. Wrists are flexed as the hands separate, while elbows remain high and then start to bend when the hands are about a foot apart.

"The hands then pull outward and downward in a narrow heart-shaped pattern (the dough bowl see below) underwater, approaching the shoulder line. The angle of the hands then changes from outward to inward (with palms facing each other). The upper arms drop as the hands gets closer. Arms move right from the pull to the recovery with no pause, moving forward strongly to complete extension. The kick is performed by both legs simultaneously, and the feet are just below the water's surface throughout the kick. When the feet are not kicking, they are pointed, fully extended and streamlined. Recovery begins with flexion of the knees and hips, with feet close together. As the heels approach the buttocks, the feet flex up toward the shins and the heels and knees separate. Knees and feet are maximally flexed, with ankles flexed up toward the shins, as the toes turn out. The kick begins with the knees being extended and driving the feet outward and backward, engaging the water with the insteps of the feet. (Knees do not lead). This part of the kick is performed at a steady, moderate speed, but when the legs kick backward, the speed of the feet gradually increases. Maximum speed is reached during the last quarter of the kick. The feet come together in a semicircular pattern as the legs straighten, and the kick ends with the knees extended, the feet pointed, and the toes together"[14].

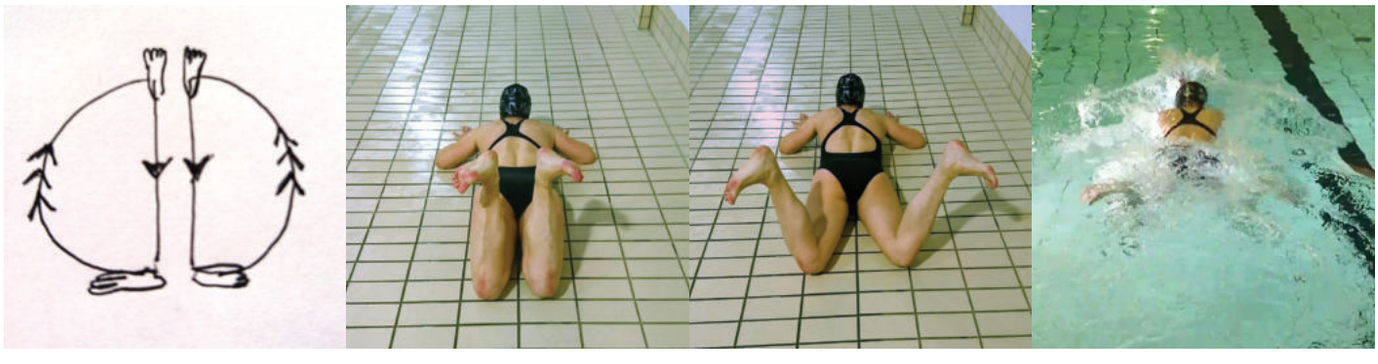
[14] YMCA, 1999, p. 120.



During the glide phase: body horizontal & streamlined. During the arm/hand activity: upper body is lifted up: inhalation. **The movement is coordinated in: Glide – pull and breathe – kick – glide.**[15]

EXERCISES FOR THE FEET/LEG ACTION

- On the edge: "duck feet" exercise (activate and mobilize your ankles) and leg kick sitting position, with open hip angle, with drawing: the heels up against the seat, duck / penguin feet (dorsal flex), two semicircles around and together.



(photos: D. Dahl 2018)

- The feet move parallel and alike. At the end the feet accumulate quickly and vigorously, the legs are pulled upwards with plantar flexed ankles and a wide angle in the hip joint.
- The movement is run on land by partner, who is conducting the feet. Partner must do this correctly!! Mantra: "heels up to your bump, duck feet, two fast semi circles around and feet together in ballerina pose."
- Try the movement in water with a kickboard on your stomach, lying on back, then also on stomach: feel your legs & feet! Know the water pressure on the inside of your feet. Imagine the movement and enjoy the energy / speed you get from the kick and slide/glide.

[15] YMCA, 1999 p. 121.

- Hang on the short side, hip into the wall: vertical leg kick (that will help against the typical mistake: the ineffective scissor-kick and is also preventing the knees to pull up - another typical mistake).
- Hanging along the long edge (ballet bar): hold your foot, turn out and release.
- With a kickboard: on the stomach - familiar with the movement, imagine the feet. Glide!
- Without kickboard on stomach with pull - buoy between your upper thighs: that will help you to learn the right direction of the semicircles. Often some kids move their legs in the wrong direction like small frogs kicking out.
- Without board, short distances: Swim just kicks, straight, passive arms, realize that you are covered with water.
- On pool noodle: noodle between legs, only short end out. Swim breast legs.
- Use the pool crosswise, arm straight in front: how far do you come with just one kick?
- do you manage to cross over with just one breast kick?
- Partner Feedback: look at each other and give feedback.
- On your back, kickboard over the thighs, for avoiding knees out of water: the heels are moving towards the seat.
- "Ankle touch": hold your hands on your back upon/besides seat, feel as if you nearly can touch your ankle when pulling up to duck feet - position.

BREAST ARM & HAND ACTION AND COMBINATION WITH LEGS

(photos: D. Dahl 2018)

- Laying on the pool desk, with upper body so far over the edge, that the breast is in water, move hands through water as if you want to scratch out dough from a cake bowl.
- "Scratch – scratch – hands together – shoot forward!" High elbow, after catching downwards with your hands, feel the hydrodynamic lift when bringing arms together in front of your breast, shoot both hands forwards, stretch out and glide.
- Arm stroke laying on a pool noodle, tech pool noodle is under your breast, like a bra, have a pull- buoy between the legs.
- Focus exercises: a) scratch with high elbow position, the arm pull performs in front of you, you can see your hands all the way! Imagine a medium sized dough bowl for having the high elbow position.

- b) scratch together = squeeze water & “shoot” forward with energy;
- c) / scoop- and – shoot – glide: timing! Not too large arm movement;
- I – y- scoop and shoot, experience the energy from hydrodynamic lift and shoot.
- Inhalation: Face down in water, inhale with the natural movement of the lift under the arm pull, put down the face again when “shoot” forward (reduce resistance).
- Game: 2+2 together: one partner is the upper body, swimming with the arms, the other one is the lower body, swimming the leg kicks. evtl. use pool noodle under lower body of partner 1.

COORDINATION ARM – LEG:

- 3 arm pull +3 leg kicks, 2 arm pull +2 leg kicks, 2arm pull +1 leg kick, 1+1 arm pull –leg kick – glide!
- Partner feedback!

2.4. SOCIAL – EMOTIONAL LEARNING ASPECTS AND TIPS FOR TEACHING

We want to give some information here concerning the social-emotional aspects. In the chapter about the pedagogical aspects you will find further advice.

THE SWIMMER WITH "WATER PHOBIA" – THE REASON WHY WE NEED TO UNDERSTAND ARCHIMEDES

ANXIETY AND FEELING UNCOMFORTABLE - SOME KEYWORDS

There can be many reasons why somebody is afraid of water. Some may have had bad experiences; some may have had overprotecting parents, who taught the child to be anxious. There some aspects, which influence water phobia:

BREATHING: Breathing and having enough oxygen is central for all living beings. When we feel, not having enough oxygen, we will instinctively get panic. We **cannot inhale** submerged in water and have to learn, that it is **safe and necessary to exhale** in water.

BALANCE: the anxious swimmer is afraid of missing the stable ground, coming out of balance, losing control of where the body is placed.

BODY POSITION: Children are proud, when they learned to raise and walk. In swimming, we have to "go back" into the unusual horizontal position, where we do not have the same overview as we have when standing upright.

ORIENTATION: (up to 24 months): very young children cannot realize that they cannot fall down in the deep end of the pool. They still have no understanding to that the 3 – 4 meters below are filled with water, which prevents them from falling down.

NEGATIVE MESSAGES: Children are born with curiosity, and learn from own experiences, but mainly from parents and other significant persons to be afraid of something. Overprotective parents can destroy the relaxed and joyful encounter with the water.

RELATIONSHIP WITH THE INSTRUCTOR: The instructor has to be trustworthy, nice, sympathetic and convey safety and a positive attitude towards swimming.

Respect the integrity of the student. When helping by holding the body/parts of the body, ask and inform before doing so.

Heat loss: The water temperature is important. The water for learning to swim classes should be at 32 * C. For children who cannot swim, the stay in water should not last longer than 45 minutes for children, but **NB!!** Concentration time is even shorter!

THE VICIOUS CIRCLE OF THE ANXIOUS SWIMMER

Head is been holding high out of water, avoiding getting water into the face. Anxious not to be able to breathe, when face is in water. Consequence: less buoyancy! More frontal resistance because of bad body position subsequently swimming is more strenuous, missing balance AND feeling of sinking down (Archimedes principle! The less volume is submerged, the less buoyant force you can experience) The result: The swimmer gets even more anxious and tries to lift herself/himself even more out of water: Consequence: Body position becomes even more vertical. Due to Archimedes the swimmer will sink, subsequently he/she is doing panic movements with arms in order to try to avoid sinking; this will take energy for making sensible decisions.

III. SELF-RESCUE AND SAFE RESCUE SKILLS

The WHO *Global report on drowning: preventing a leading killer* highlights that 372,000 people drown worldwide each year. Drowning is among the ten leading causes of death for children and young people in every region of the world. The report sets out the evidence showing a range of effective drowning prevention strategies, and makes a number of recommendations for concrete measures to be taken by national and local governments.

As a swim teacher or swim coach you will mainly be working with the strategy number three.

COMMUNITY-BASED ACTION

1. Install barriers controlling access to water.
2. Provide safe places away from water for pre-school children, with capable child care.
3. **Teach school-age children basic swimming, water safety and safe rescue skills.**
4. Train bystanders in safe rescue and resuscitation.
5. Strengthen public awareness of drowning and highlight the vulnerability of children.

EFFECTIVE POLICIES AND LEGISLATION

6. Set and enforce safe boating, shipping and ferry regulations.
7. Build resilience and manage flood risks and other hazards locally and nationally.
8. Coordinate drowning prevention efforts with those of other sectors and agendas.
9. Develop a national water safety plan.

FURTHER RESEARCH

10. Address priority research questions with well-designed studies[16].

[16] World Health Organization (WHO), 2014.

3.1. SWIMMING ABILITY VERSUS SELF-RESCUE AND GENERAL WATER SAFETY SKILLS

Nordic countries agreed The Nordic definition of swimming ability in 1996: “one is able to swim when one, after being immersed in water, can swim continuously for 200 meters, of which at least 50 meters on backstroke”. Definition is easy to measure and well-known in most of the Nordic countries. Same definition is mentioned and partly used by International Life-saving Federation Europe[17].

Swimming ability is a important skill, but what are the actual water safety skills children need to master so that they will not drown in the future? The most important learning outcome from the water safety programs seems to be a good attitude (see page 42), for example “do not take unnecessary risks and know your limits”. Attitude is hard to change, so it is easier to form a safe relationship with water in the early age.

Water safety knowledge and skills are easier to teach and learn. International lifesaving federation has done water safety and swimming education guidelines (anex 7) where they mention following water safety related areas and divide those by age categories:

- SAFE ENTRY AND EXIT
- SCULLING AND BODY ORIENTATION
- MOVEMENT IN WATER AND SWIMMING STROKES
- SURVIVAL SKILLS
- UNDERWATER SKILLS
- RESCUE SKILLS
- WATER SAFETY KNOWLEDGE
- EXTENSION SKILLS

There is no such a water safety intervention or program that would be the only right one. As a swim teacher or coach you can make the difference. You know your group and the risky situations that can occur in your water environments (pool, ocean, ice-safety, rivers etc.). There are plenty of good water safety programs available online and even some research articles - get excited - let’s stop drownings!

The following chapter will open up few water safety skills and give a practical example’s. In the end of this toolkit (anex 2, 3, 4) you will find two water safety models, one from Lithuania and one from Finland. Read those carefully and adapt the best parts into your water activities. But do remember that safety comes always first.

[17] Olausson, 2017.

3.2. HOW TO CHANGE ATTITUDES

It's important that you have knowledge and skills concerning safety aspects, but it is even more important that you have right attitude. Attitude is a feeling or opinion concerning water safety. It's often very difficult to change people's attitudes. For example, some people may think that "drownings just happen" – there is nothing we can do about it. Or that if you can swim, you can't drown. These assumptions are wrong and can be dangerous.

As a swim teacher / coach you are a role model. If you behave in a way that teaches the children that swimming is fun, but you should never behave like a fool around the water, it may save their lives. At the same time, it's important to think about your lessons learning outcomes and keep in mind that attitude towards water safety is learned in the early age. Activate your group by questions and pictures while teaching them swimming, water safety and lifesaving skills.

Below are listed examples of research findings on the impact of attitudes on safety:

- Poor basic **attitudes**, knowledge, and abilities are often the cause of drowning. In too many cases children are not taught what is necessary for them to cope with a unexpected submersion that could lead to drowning[18].
- Cognition and safety knowledge are related to children's safety practices, but **attitudes** emerged as the best predictor of these practices[19].
- It is difficult to change attitudes - most effectively influencing concerning water safety knowledge and **attitudes happens at kindergarten age** according to intervention, there was no significant change in attitudes of school-aged children[20].
- Short but comprehensive swimming and water safety intervention for adolescents and young adults, including of a combination of swimming, survival and rescue skills along with water safety knowledge, played a positive role in shaping the water safety knowledge and swimming and survival skills of young adults. No changes were observed in attitudes[21].

[18] Stallman et al. 2008, p. 372.
[19] Morrongiello et al. 2008, p. 176 -179.
[20] Terzidis et all. 2007, p. 120-124.
[21] Petrass, L & Blitvich, J. 2014, 188-194.

3.3. **PERSONAL FLOTATION DEVICE**

Using life jacket would prevent most of the drownings that happen during water activities like boating, kayaking and SUP paddle (stand up paddling). For example, in Finland eight out of the ten persons who drowned while in boating or other water activity would have been saved if they would had been wearing life jackets and got help. The effect of life jacket is undeniable. The authorities as well as the professionals one after another answers the question “What is the most important safety device in the waters?” in the same way: LIFE JACKET. Life jackets are often referred to a cheap life insurance.

You can use life jacket in the pool and do funny games and exercises (see anex 4: Junior Lifesaver model lessons). In that way children will be familiar with swimming and jumping with life jackets and hopefully will use those later on.

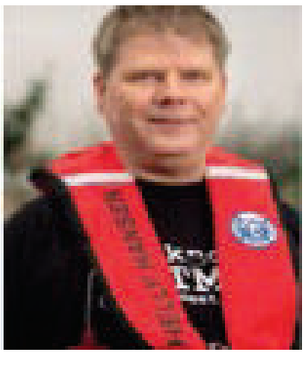
Below you can find tips on choosing life jackets.

First be honest with yourself when you buy your life jacket or buoyancy aid. If you cannot swim or you don’t have experience on water sports, you need to have a proper life jacket. There is also reason to be honest about the weight. How much do you actually weight in the water in fully dressed, maybe boots on your legs?

When buying new life jackets, require an open purchase and the opportunity to try out the vests in practice. Make sure they sit well and feel comfortable. Remember that under the life jacket should also fit overcoat and/or other clothing. Try to sit down because during boating that is your main position.

LIFE JACKETS: FOR CHILDREN, PERSONS WHO CANNOT SWIM OR HAVE A WEAK SWIMMING ABILITY

100 Newton lifejackets are intended for use in the sheltered waters. They turn the unconscious person on to their back within 10 seconds. These vests are made only in orange, red or yellow color and include mandatory reflectors and whistles. These are the only vests for children!

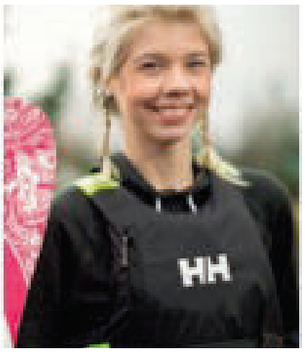


AIR CHAMBER LIFE JACKETS: FOR ADULTS IN DIFFICULT CONDITIONS

150 Newton lifejackets are intended for use in coastal waters. They turn the unconscious person on to their back within 5 seconds. Generally, they are inflatable.

275 Newton life jackets are intended for use in open sea conditions with waterproof and heavy clothing. They turn the unconscious person to a safe floating position within 5 seconds. Generally, they are inflatable.

Please make sure you remember do the maintenance properly and frequently.



BUOYANCY AID: PERSONS WHO CAN SWIM AND WHEN THE HELP IS NEARBY

The 50 Newton floating vest, jackets and overalls are intended for use only for persons who can swim very well. They can be used in sheltered waters and near the beach, where the help is close by. Buoyancy aid are favored, for example, in water sports because it is easy to move with them.

Buoyancy aid do not turn the unconscious person on to their back. Buoyancy aids are not manufactured for children under 30 kg.[22]

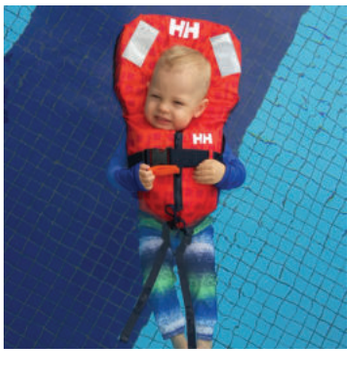
[22] Finnish Swimming Teaching and Lifesaving Federation, 2018.

3.4. **PRACTICAL TIPS FOR LIFE JACKET TRAINING**

The aim for the life jacket training is to build confidence so that the child will learn to trust/rely that the life jacket will keep him / her floating. The other goal is to teach children/parents to choose a safe life jacket that fits and advise them how to correctly use them.

INFANTS:

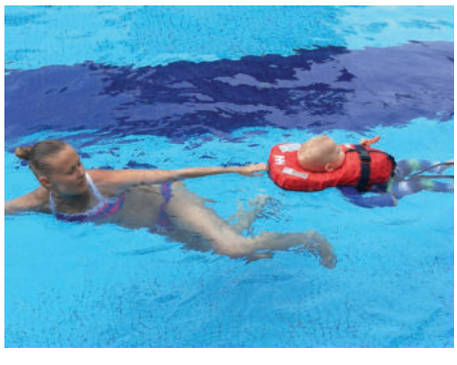
- Let them try floating while wearing a life jacket.
- Let them try to kick while wearing a life jacket.
- Let them try walking on land and jump in to the water while wearing a life jacket. Make sure the parents help/give guidance.
- Teach parents to transport their babies while they both have lifejackets on.
- Remind parents to listen to their babies. Do not force – try to make it a nice experience for the baby. Make sure the environment is peaceful. Few minutes is enough at the beginning. Give lots of positive feedback.
- Safety:
  - make sure the life jacket is right size/fits;
  - never leave the babies alone, even when wearing a life jacket.



Baby floating


Baby walking


Baby jumping


Mommy transporting the baby

TODDLERS AND YOUNGER CHILDREN

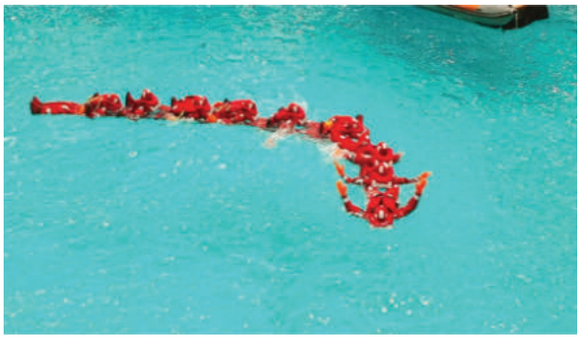
- Teach them how to properly put on/wear the life jacket.
- You can make this a game (you can for example take time) or even ask them to practice to put on the life jacket with their eyes closed. Ask them to practice to put on the life jacket with their eyes closed.

- Practice floating and swimming on your back (in supine position) while wearing life jackets.
- Let them try to swim on their stomach (prone position) and teach to turn from prone to supine position and vice versa.
- You can play normal swimming school games (e.g. tag) at the shallow end of the pool. They can float with life jackets.
- Practice jumping in to the pool and then turning on the back and swimming back to the edge of the pool and then exit the water.

OLDER KIDS:

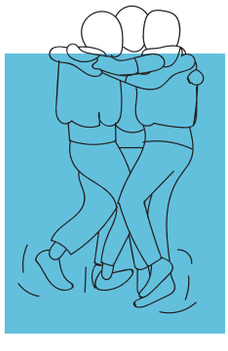
- You can start with the same practices as with toddlers.
- Practice jumps from higher levels.
- practice heat escape lessening position (H.E.L.P). The position reduce heat loss while immersed in cold water.
- practice HUDDLE position with the group. Huddling with other people in the water lessens the loss of body heat and helps to keep up the survival spirit. Rescuers can also spot a group more easily than individuals.
- Practice swimming in a line.
- Practice to make a rescue so that the rescuer wears a life jacket and uses a floating device to help the person in need.
- Go through safety principals: call 112, know your limits.

You can use imagination and storytelling while teaching the use of life jacket. Remember to keep the stories positive and use the language and stories that are suitable concerning the age and child's development.



Swimming in a line

H.E.L.P



Huddle position

3.5. **HOW TO IDENTIFY A PERSON WHO MAY BE IN DANGER/ DROWN**

All people have naturally existed so called an instinctive drowning reaction. With that reaction, a person tries to avoid choking in water. The drowning usually occurs very quickly. The average time for a person to drown below the surface is after 20 to 60 seconds of battle. These characters allow you to identify a person who is about to drown:

WHAT DOES DROWNING LOOK LIKE?

Almost without exception a person who is drowning is unable to call out for help. This is because human respiratory organs try to breathe instead of being able to speak.

A person who is drowning lifts and lowers his mouth alternately above and below the water surface. During this phase a person does not have the time to perform inhalation and exhalation and to call for help.

In order to keep the mouth above the water to breathe, he pushes the water surface instinctively with his hands on his side.

A person is not able to deliberately controlled movements of his arms during an instinctive drowning reaction. For this reason, a person who is drowning can't for example wave with his hands, reach a rescue device or move to right direction.

The body is in a vertical position and kicks are not visible.

3.6. **SAFE RESCUE SKILLS**

A safe water rescue is always carried out in such a way that minimize the risk to the rescuer to get into the danger. The best way is to prevent drownings, for example use life jackets, no your limits, never swim alone, look after children and do not use alcohol while swimming.

Sometimes accidents do happen. If you need to make a rescue, please make sure you do it in a safe way. When teaching rescue techniques for children you have to make sure you only choose the exercises that are safe concerning their age and skill level. Never make a rescue without equipment.

Here you will find a list of different rescue techniques. The first (level 0) is the best and most safe, the last one is most risky.

THE PRINCIPLE OF THE LOWEST RISK

0- PREVENTION

Act right away if you see a risky situation. For example, inform it is not a good idea to run at the poolside.

1- GUIDANCE

Give verbal instructions to the victim, for example: grab to lane rope or put your feet down (if shallow).

2- THROWING / EXTENDING THE FLOATING DEVICE (RESCUER ON LAND)

A good floating device is, for example, a life buoy with the rope, so that rescuer can pull the victim from the edge of the pool/pier/beach.

3-DELIVERING THE FLOATING DEVICE

Rescuer goes into the water safely and keeps the distance while giving the floating device to the victim. Any kind of physical contact should be avoided.

4-FASTENING AND TRANSPORTATION WITH THE FLOATING DEVICE

Rescuer goes into the water safely. If the rescuer is unable to hold the floating device, it must be fastened to the victim. Different techniques are used depending on the floating device. After fastening the rescuer transport the victim to the pool edge or shore.

5- RESCUE WITHOUT FLOATING DEVICE SHOULD NEVER BE PERFORMED!

Direct contact is always avoided. Guide, calm down, swim next to and encourage. Highest risk is to rescue without floating device and only professional lifeguard can use this technique if there is no other choice[23].

[23] Ryti, 2007.

WATER RESCUE

"Rescue" means all the actions that will help a person in danger of drowning. There is no need to swim in order to help someone. Even person who cannot swim, can help.

If you see that someone need help, you must quickly assess the situation before taking actions. External conditions determine how rescue operations are performed. You have to think the following aspects before you make actions:

- Is the victim in a pool or open water?
- Is it a child or adult who needs help?
- What is the weather like?
- In addition to the external conditions, you must evaluate your abilities and skills.

After you have assessed the situation you can follow the memory rule ACER, which means ALARM, CALM down, find a rescue EQUIPMENT, make a RESCUE.

ALARMING / CALLING FOR HELP

Children should ask help from adults. Make sure that you have informed your colleagues before you make other actions. Call 112 or tell someone else to make the phone call.

CALM DOWN

Calm down the person who needs help. Tell the victim that the situation he's been noticed, and help is coming. Calm down yourself as well.

RESCUE EQUIPMENT / FLOATING DEVICE

Find a floating device: lifebuoy, bucket, can – anything that floats. Even a t-shirt is better than making a rescue without equipment.

RESCUE

Hold the eye contact to the victim. Do not go too near, keep about 1-meter distance and reach out the floating device to the victim. If the victim in unconscious approaching should be made for safety from behind. Transport the victim to the shore by using floating device. Start the resuscitation at the shore if necessary. Make sure that ambulance is on the way[24].

[24] Finnish Swimming Teaching and Lifesaving Federation, 2016.

IV. WATER SURVIVAL SKILLS TRAINING
AN EXAMPLE FROM THE "SWIMMING ABC" PROGRAMME

WHY WATER SURVIVAL SKILLS ARE IMPORTANT. EXAMPLES FROM THE "SWIMMING ABC" PROGRAMME

We all have pleasant memories related to water and spending our spare time by the water. Unfortunately, being in the water is not just a way of having fun – it's also a high risk activity. The guidelines on water survival skills training presented further in this Toolkit follow a specific programme for children called "Swimming ABC" which provides structure and methods for children's water skills training. The programme has been adapted from a Dutch programme "Zwem-ABC", implemented nationally in the Netherlands since 1984. Since 2015 the programme has been implemented in Lithuania by Lithuanian Children and Youth Centre. The structure and activities of the "Swimming ABC" programme can be used as a preventive "second step" working with children and youth who already have basic swimming skills in order to develop skills to act in difficult situations. The programme described below is presented as a methodological recommendation that covers important skills for safety in the water. It can be implemented systematically as a whole working with groups of students or serve as an inspiration on what is important in water survival training. However, the programme should not be regarded as the only possible way of teaching survival skills.

"Swimming ABC" programme teaches basic skills for survival in the water and theoretical knowledge that will help you keep cool and feel safe both in water and next to it. During the lessons, the children are introduced to potentially dangerous situations, and through practical simulations in a safe environment (the pool), children gain experience, learn how to deal with stress and emotions, as well as how to make decisions.

WHAT CHILDREN LEARN

Children learn to float on their stomach and on their back, different ways to jump into the water and get out of it. They also learn to roll over in the water, dive with their eyes open, swim to overcome obstacles and change their styles of swimming. The aim is to allow children to acquire a broad range of skills so they can feel confident in the water.

Young children learn best by playing, so it's recommended to carry out most of the exercises in the form of games. Don't make the mistake of thinking that the children are just playing in the water! Each game contains an important educational element.

IMPORTANT COMPONENTS OF WATER SURVIVAL SKILLS LESSONS:

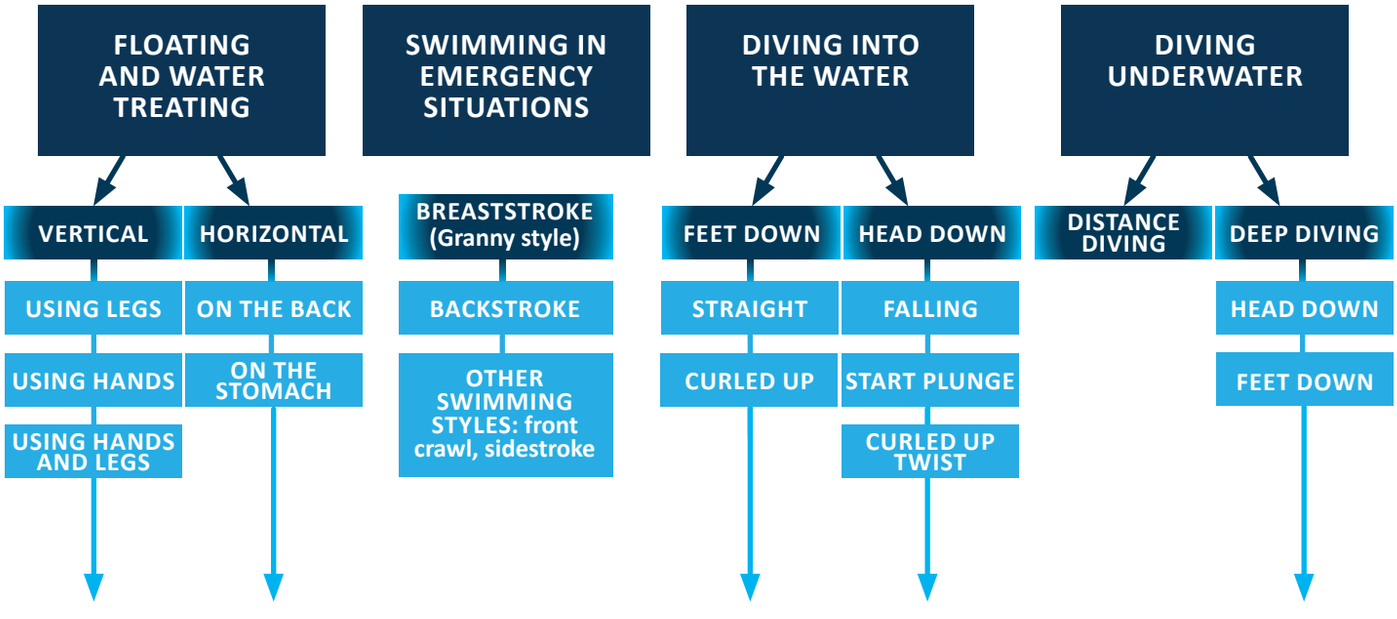
- **Exercises are performed without swimming goggles or caps** "Exercises in classes, as well as in tests, are carried out without swimming goggles or caps". However, glasses can be used while learning these difficult exercises.
- **Children learn** what to do if they unexpectedly find themselves in the water. At the end of the programme the children take part in the test. If they pass, they receive A, B or C-level certificates, depending on the level of their water survival skills.
- **Swimming with clothes on.** Taking into account the children's level of preparation, it is recommended to try the exercises wearing heavier clothes: sweater, jacket, light shoes and so on. This helps simulate realistic situations when people unexpectedly enter the water with their clothes on, and prepare to act in them.

DURATION OF THE TRAINING:

- **A-LEVEL CERTIFICATE**. For children without basic preparation level to learn and master tasks, it is recommended to spend about 48-50 hours carrying out these tasks in shorts and short-sleeved T-shirts and sports shoes. Level A can ensure child safety in the pool.
- **B-LEVEL CERTIFICATE.** It is recommended to spend an additional 12 hours on this. The tasks involved are to be performed wearing long trousers, a long-sleeved T-shirt and sports shoes. Level B can ensure child safety in water parks.
- **C-LEVEL CERTIFICATE.** It is recommended to spend 12 hours on this. The tasks involved are to be carried out wearing long trousers, a T-shirt, a light jacket and sports shoes. *(See Annex 3).* Level C can provide child safety in open water bodies except the sea.

The standards for levels A, B, C of the diplomas are described in Annex 3 to this publication.

WATER SURVIVAL SKILLS TRAINING (SCHEME)

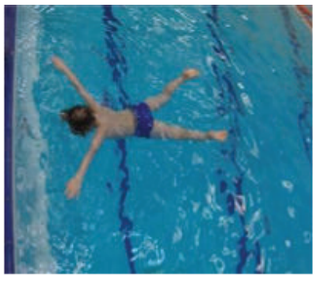
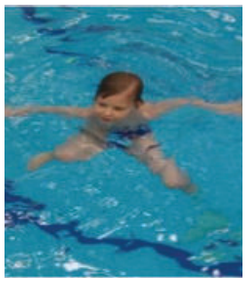
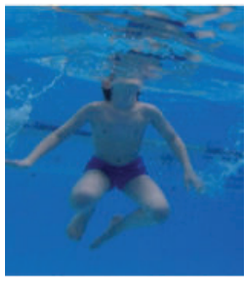


4.1. FLOATING AND WATER TREATING

When you are losing strength, choking on water, experiencing cramps or waiting for help it is important to know how to remain on the surface of the water with minimal effort, and how to restore the rhythm of breathing.

HORIZONTAL floating is necessary for resting, regulating breathing, planning actions, waiting for help.

VERTICAL floating is necessary in various survival situations waiting for help.

ON THE STOMACH	ON THE BACK	USING HANDS AND LEGS	USING HANDS	USING LEGS
				
FLOATING ON THE BACK – lie down on your back, inhale and take up as much surface as you can, the same on the stomach.		Make horizontal, pushing motions.	Sculling movement.	Egg beater.

RECOMMENDATIONS:

Knowing how to relax.

Keeping as much of the body underwater as possible.

When your lungs are full, it is easier to float.

The body composition influence person's ability to float - more fat - easier to float.

Making soft, gentle, gradual movements.

RECOMMENDATIONS:

If you want to stay in the water vertically, it is best to learn to float using the chest and legs.

If necessary, you should be able to change the position of the body to horizontal.

4.2. **SWIMMING IN EMERGENCY SITUATIONS**

In a situation when you are far from the shore, in case of danger the ability to swim long distances increases your chances of reaching a safe place.

BREASTSTROKE (Granny style) is an important stroke to teach beginner swimmers because of its survival values.

BACKSTROKE helps save strength, allowing rest, and is convenient when transporting a load or a person.

OTHER SWIMMING STYLES: FRONT CRAWL AND SIDESTROKE can be chosen based on the abilities of the swimmer.

Swimming – a sport that can save your life. People who cannot swim and behave wisely in and around water, run a greater risk of drowning. Well-prepared swimmers can overcome longer distances and keep up in the water for a longer time, and so are more likely to survive.

A person who can swim and have good water competence is able to breathe correctly, jump into the water, dive deeper and further, and float on the surface for longer periods of time.

"GRANNY BREASTSTROKE" (swimming breaststroke with your head above the water) and backstroke can be both useful styles in emergency situations.

The advantages from a survival perspective are that:

- the limbs recover under the water;
- a rest or glide phase can be developed to conserve energy;
- the head may be kept above the water to allow for natural breathing style;
- a clear view to the front is obtained;
- backstroke enables you to control your breath without submerging your head underwater;
- easier to swim with clothes;
- easier to pull another person or push/pull an object with your head up.

“Granny Breaststroke” is the most suitable way to swim with clothes on when there are no waves. When swimming in the sea, it is advisable to swim sidestroke or front crawl.

WE RECOMMEND:

- Combining your survival skills in the water – jumping, swimming, diving and floating water treading;
- Choosing the most appropriate style of swimming for you;
- Swimming on your back to enable free, unrestricted breathing, and alignment of the body.

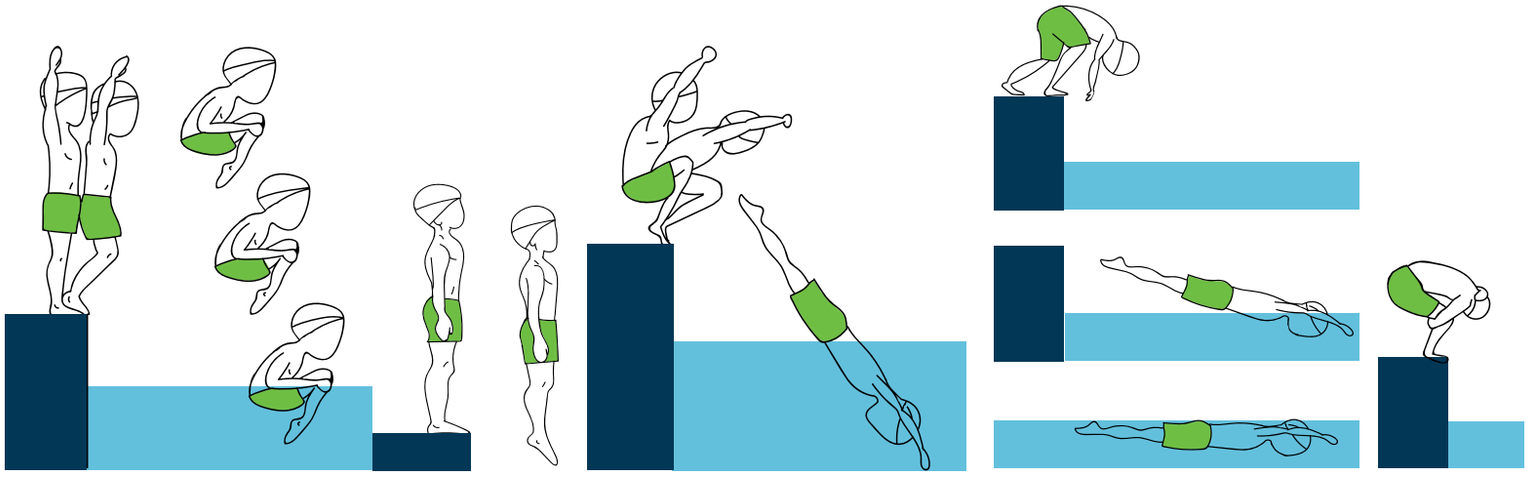
4.3. **DIVING INTO THE WATER**

After accidentally falling into the water, it is important to stay calm, be able come back to surface and then breath as normally as possible. Practicing a variety of dives improves the balance of the body and minimizes danger. The ability to dive into the water is crucial in cases of accidents on water, during crashes and catastrophes. The chances of survival and people's lives often depend on whether they can dive safely.

WAYS OF DIVING INTO THE WATER

FEET-DOWN - diving into the water with your feet-down.

HEAD-DOWN - a leap head-down, keeping the body straight or curled up upon entering the water. Children learn by falling or leaping, if the balance is lost.



NOTE: In most cases children love to dive and practice entering the water. However, you must be cautious about the children who may be hesitant or afraid of diving. Therefore, while working on diving skills, it is important for the teacher to be sensitive to children's differences and proceed in a child-centered way.

DIVING FEET-FIRST: The body slightly leans forward, one leg steps forward, the other leg simultaneously pushes away from the platform. While in the air, the legs are stiffened and kept together, while arms are kept straight alongside the body.

CURLED UP DIVE FEET-DOWN. Standing facing the water, bending the knees, jump up and forward, quickly bend the knees and hips in the air and pull your knees to the chest, at the same time curl up and reach the knees with your hands. Curled up jump feet down and backwards is done the same way.

"STEP-IN ENTRY" Keep your head above the water and eye contact with the victim.

https://www.youtube.com/watch?v=xFYnh7xbnQY&t=10s

DIVING HEAD-DOWN:

- **Starting position** - sit on the edge of the pool/diving board, holding your arms straight above your head. Lower your hands and bend towards the water, then fall forward. While in the air, quickly stretch and jump into the water, hands and head forward.
- **Starting position** - squatting on the edge of the pool/diving board holding your arms straight above your head. Lean hands and bend towards the water, then jump. While the legs are detaching from the support, straighten up, and enter the water holding your hands in front of you.

FROM THE FRONTAL POSITION WITH A PUSH-OFF. Stand facing the water, squat, lift your hands and merge forward overhead. When you lose your balance and start to fall, push off with your feet; when entering the water, and keep your head directly between the hands. Jumps over obstacles into the target are done in the same way.

ROLL. This is made from a squatting or half-squatting position facing the water. Push off gently, and roll around your vertical axis more than 180°.

Deep side (at least 4 METERS) – after dive and submersion, relax and swim to the surface and back in the direction you jumped from using your arms and legs.

Shallow side (at least 1,8 METERS) – dive only feet-down with knees bent, then “squat “Into the water.

NOTE: Never jump into the shallow water where water depth is less than 1,8 m. The other countries might have different regulations. Follow the rules of your country!!!

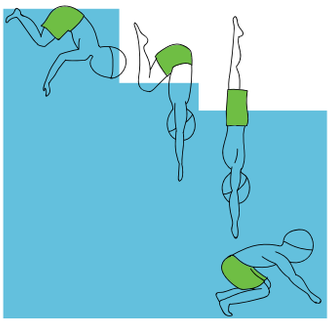
4.4. **DIVING UNDERWATER**

You suddenly fall into water, get tangled in weeds or overtaking an obstacle, it is important to find one's way under the water as quickly as possible and to reach the surface. Diving is different from regular swimming due to high water pressure and the necessity of holding your breath. Exhaling is also important to reduce the volume of lungs.

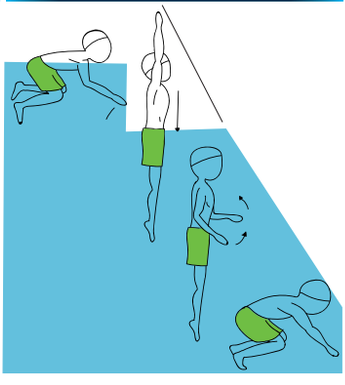
WAYS OF DIVING

DEEP DIVING

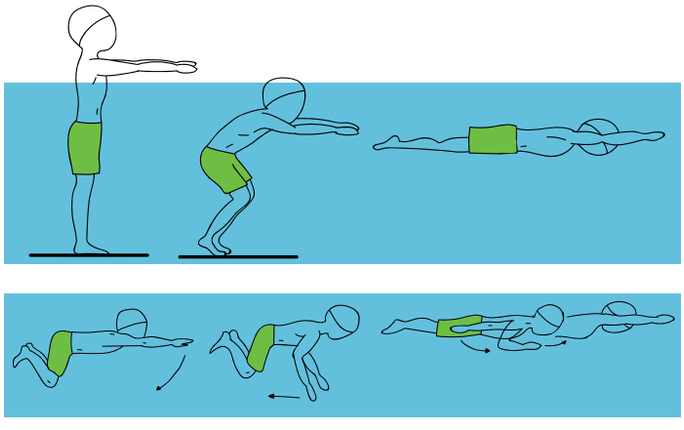
HEAD-DOWN



FEET-DOWN



DISTANCE DIVING



DEEP DIVING:

◌ **Head down.** Moving your arms, get above the water, breathe in and bend your head down quickly; when the body is in an upright position, quickly lift up the legs and bend downward using your arms and legs.

◌ **Feet down.** Put your legs together, breathe deeply and dive; move your hands, pushing water upwards.

◌ **Distance diving.** Distance diving is carried out at a depth of 1.5-2.0 m; the most comfortable movements of the arms, chest and legs are carried out underwater.

SAFETY RECOMMENDATIONS FOR THE TEACHER CONDUCTING TRAINING FOR DIVING: BE SAFE - NEVER DIVE ALONE!

- Dive no deeper than 2 m, and not more than 10 m for a dive into the distance.
- Dives must not last longer than 10-15 sec.
- Never hyperventilate before diving, just breath normally.
- Due to increasing water pressure on the eardrums, during deep diving pain may be felt in the ears; Make sure you can equalize the pressure in your ears. If you feel pain come up to the surface.
- Do not practice dives when you have running nose ets.as you cannot equalize the pressure and you can damage your eardrums.
- Before practicing deep and distance diving, the student is required to have mastered at least one swimming style.
- The number of diving exercises must be limited (2-3 times per workshop), because multiple dives can lead to oxygen deprivation (Brain is sensitive to oxygen deprivation, which may lead to sudden loss of consciousness).
- To ensure better orientation in water, dive with your eyes open.
- When diving to deep make sure you don’t wear goggles. The pressure changes inside the goggles might injure your eyes.

V. SAFETY ASPECTS CONCERNING SWIM TEACHERS AND SWIM COACHES SKILLS, KNOWLEDGE AND COMPETENCE

INTRODUCTION

The swimming instructor's work is responsible but rewarding. There are very few drowning accidents happening during the swimming lessons in the developed countries, but examples can be found. At the same time the pupil may be in danger in the blink of an eye.

This part of the toolkit aims to improve water safety and prevent drownings during swimming lessons.

This is primarily targeted to swimming teachers and swimming coaches, but chapter can be used for other activities that take place in the water. The chapter addresses the safety aspects of swimming schools and swimming training on a practical level from the start of the lesson to the end of the lesson.

As a swimming instructor and a swimming coach, you must take particular care of the safety aspects of the activity. As a swimming instructor and as a swimming coach, you have the duty to know the legislation concerning the swimming teacher's work and responsibility. In addition, you should also be familiar with key recommendations, guidelines and regulations governing your work.

Please start by finding out the local laws and legislation. You can for example contact:

- The Ministry of Education
- Your local Swimming federation and Lifesaving Association
- International Lifesaving Federation https://www.ilsf.org/
- WHO http://www.who.int/news-room/fact-sheets/detail/drowning

When you work as a swim teacher or swim coach make sure you are competent and keep yourself updated concerning safety knowledge. Co-operation with different actors working at the pool side, safe learning environment, preventive actions, group size and group management are important. You should also recognize a person who may be in danger. One of the most important skills is to be able to teach children how to behave in and around water. Attitudes concerning water safety are difficult to change later on – so please be a good role model and help kids to love and respect the water environments.

5.1. COMPETENT SWIM TEACHER AND SWIM COACH

The table below is intended to illustrate what requirements and recommendations exist for swimming instructors and swimming coaches.

SWIMMING TEACHER	SWIMMING COACH
● Age: Only person who is at least 18 ● A minor can be an assistant teacher. ● No criminal record - is able to work with children. ● Competent swim teacher ● At least adequate rescue skills so that person knows how to make rescues in that place.	● Age: Only person who is at least 18 ● A minor can be an assistant teacher. ● No criminal record - is able to work with children. ● Competent swim coach ● At least adequate rescue skills so that person knows how to make a rescue in that place.

LIFESAVING KNOWLEDGE, SKILLS AND COMPETENCE

The teacher / coach or the supervisor must have at least **adequate rescue skills** for the place where the teaching takes place. You should be able to do the "minimum test" without problems. In addition to the rescue skills, you must familiarize yourself with the security arrangements for that particular place where the swimming schools / training is held at.

RESCUE TEST

Swimming from the one pool end to the other end.

Diving and picking up the manikin from the deepest place and carrying it to the pool side.

Lifting the manikin from the pool.

\+

YOU KNOW THE PLACE

Rescue system.

Safety document.

Rescue suplements, where they are located and how to use them.

First aid kit.

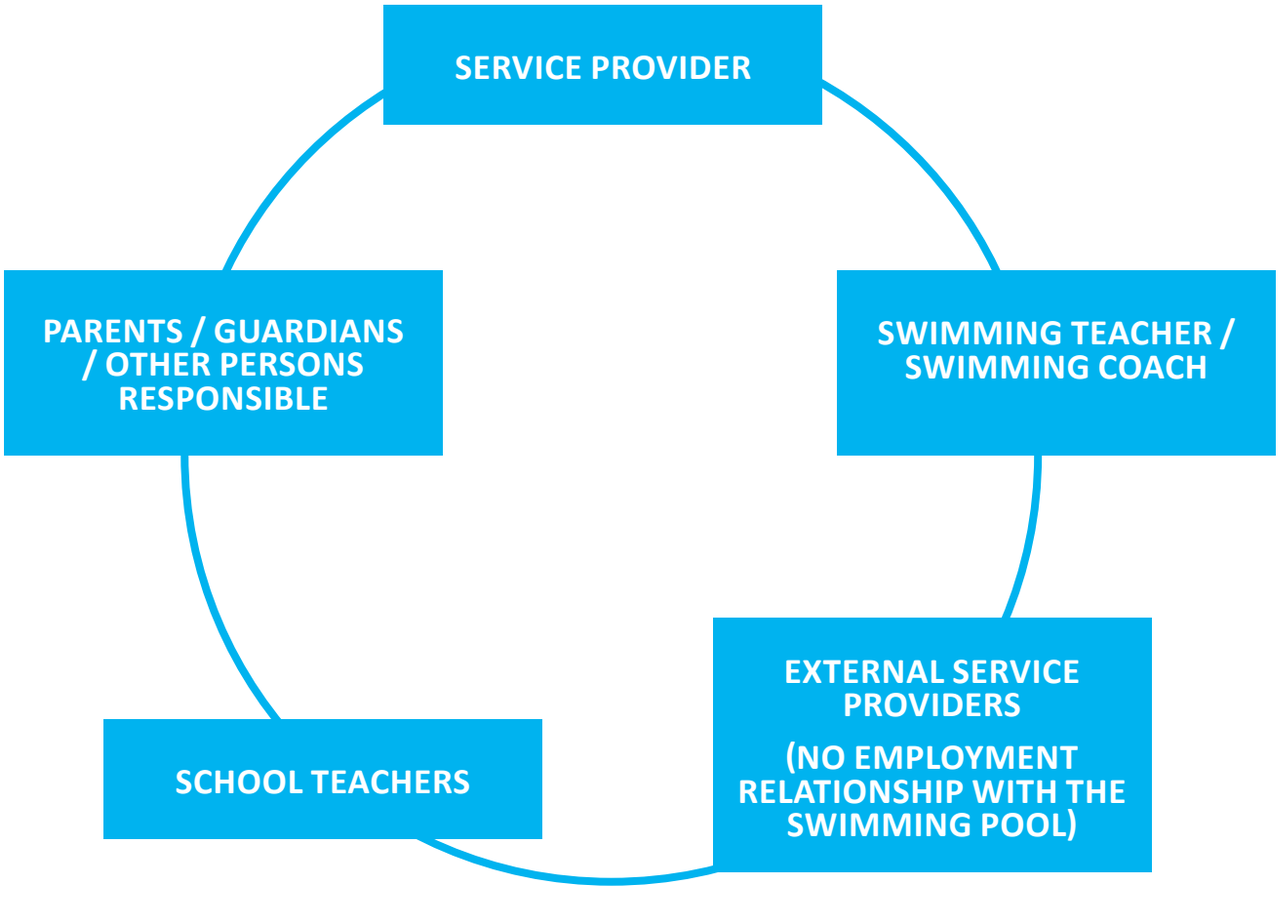
Emergency exit and escape route.

=

ADEQUATE RESCUE SKILLS, KNOWLEDGE AND COMPETENCE

5.2. **RESPONSIBILITIES IN SWIM TEACHING AND SWIM COACHING**

As a swim teacher or coach, you have a big role concerning safety aspects. At the same time, there are other actors working for the water safety as well.



THE FOLLOWING TABLE ILLUSTRATES THE DIFFERENT ROLES

Service provider	○ Respond to the safety of the swimming pool and its use ○ Make sure that the persons hired have a required qualification ○ Creates a safety document and make sure all those involved in the service get the information ○ Safety of the teaching room and equipment ○ Insurance: both for the swimming teacher and the swimming school ○ Notification to the supervisory authority ○ Private entrepreneurs are responsible for the necessary insurance for teachers and for children
Swimming Teacher / Swimming Coach	○ Design and implementation of the safe teaching ○ Responsible of your own group throughout the lesson ○ Must have adequate rescue skills ○ Must know all necessary regulations to prevent trauma and drowning ○ Classes can attend children who has GPs permit to participate in activities. The coach should be aware of child's health issues. ○ Assistant should be approved by the director when needed
School teachers	○ Respond to the whole group in dressing and washing rooms ○ Respond to group security throughout the class = be present all the time. The swimming teacher has pedagogical responsibility in teaching ○ Answer the group after the end of the lesson ○ General supervisory responsibilities with swimming supervisors*
Parents / guardians / other persons responsible	○ Pre-notification of potential risk factors / sicknesses / other factors affecting the child (preferably when the child is notified to the swimming school) ○ Is responsible for the child until swimming lessons start = bring the child to the agreed place at the agreed time ○ Is responsible for the child at the end of the hour = pick up the child at the agreed place and at the agreed time.
External service providers **(no employment relationship with the swimming pool)**	○ Respond only to the security of your own service ○ Creating a safety document from your own service perspective - The practices of the pool (swimming halls safety document) should also be taken into account ○ The swimming pool owner must ensure that the external service provider's activities are carried out safely ○ Adequate rescue skills. However, security controls can also be arranged separately with the swimming pool ○ A written agreement is recommended to agree on security arrangements ○ Before signing the contract with external service provider/ tenant, the manager should evaluate: o Responsibilities of the tenants delegated persons; o Qualifications of coaches and assistants; o Program of the classes and included safety aspects; o Amount of the customers and the level of their skills; o Action plan in everyday and emergency situations signed by staff; o Tenants and staffs proof of approval that they will follow the rules of the internal safety rules and procedures; o Customers are aware of internal safety rules.

* There may be country specific regulations concerning school teachers responsibilities during the swimming lesson.

5.3. **A SAFE TEACHING ENVIRONMENT IS THE MOST IMPORTANT**

The swimming pool is as a teaching environment that is very exhilarating educational environment, but at the same time a place where the risk of accidents is high. A safe teaching environment is therefore very important in swimming lessons and swimming training. Risk assessment and management, prevention of danger and the group are examples of things that are part of the secure teaching environment.

In addition to swimming lessons, there are many sporting activities in the swimming pool, such as association activities. During opening hours, the safety instructions given by the swimming pool should be followed. Sports facilities must not cause the extra risk for the swimming pools general safety. Responsibility for the training venue belongs to the group supervisor.

Safety issues outside of the swimming pools opening hours should be agreed in advance with a written agreement with the swimming pool. In this case, the responsibility for the safety issues will be transferred to the responsible person (s) of the group (for ex. swimming club).

A SAFE TEACHING ENVIRONMENT IS A STARTING POINT FOR HIGH-QUALITY TRAINING!

Characteristics of a safe teaching environment:

- Anticipating for the upcoming events and actions.
- Rules that will guarantee the child's mental and physical health.
- Confidence between coach/teacher and the child/participant.
- Common game rules that everyone knows.
- Knowledge of the risks and competence to prevent them.

5.4. **PREVENTION**

As a swimming instructor and as a swimming coach, you are responsible for ensuring that teaching is carried out safely. With good preventive actions, most of the hazards can be avoided!

PREVENTING INCIDENTS

◌ Is the teaching environment safe for the group/ for the lesson (think about the age, group size, skills level).

◌ Are the tools/ equipment's used in teaching in good quality. Do students know how to use them safely.

◌ Reviewing the rules and guidelines of the pool with groups.

SECURITY IN THE TEACHING AREA

◌ Is there a sowering water in the pool?

◌ Are the structures in shape?

FIRST AID SUPPLIES

◌ Do you have mobile and do you know the address and how to call for help?

◌ Are the first aid supplies fast available?

◌ Do you know the location of first aid supplies?

LIFE-SAVING EQUIPMENT

◌ Is the life-saving equipment is fast available?

◌ Do you know the location of life-saving equipment?

5.5. **RISK ASSESSMENT AND RISK MANAGEMENT**

Carefully conducted risk assessment serves safe and high-class teaching. At the same time, risk assessment prevents accidents and injuries. A swimming instructor may only be responsible for his / her own group. The swimming instructor is also responsible for ensuring that the planned instructions are carried out safely. Risk assessment is part of the service provider's responsibility, but you also need to be able to assess the risks involved in the activity as a swimming teacher.

HERE ARE A FEW EXAMPLES TO HELP YOU EVALUATE POTENTIAL RISKS:

Operational hazards, possible situations where they may occur and possible accidents such as drowning, slipping or falling.

- Is the likelihood of a hazard unlikely, probable or likely?
- Is the consequence of the accident minor, harmful or serious?
- Preparing for accidents and emergency preparedness.

5.6. **GROUP SIZE**

The size of the group affects the safety of the operation essentially. Too big group does not guarantee that the safety of every student can be guaranteed. The size of the group must be agreed in advance with the employer.

There should be an open discussion between the swimming coach/ swimming teacher and the manager concerning person competence and teaching environment. It's important to make sure the safety aspects. For example, open water and swimming pool are totally different kinds of learning environments concerning the safety.

All potential risks should be considered. This relies on situation that there is one qualified coach, lifeguard who monitors the swimming pool. In case the number of students is greater than the one mentioned in the table the coach should have an assistant.

THE FOLLOWING ASPECTS SHOULD BE TAKING INTO A COUNT WHEN DECIDING THE GROUP SIZE:

- Experience of the coach.
- The level of skills and the age of students.
- Physical and medical aspects.
- Depth, size and design of swimming pool.
- Interaction with other visitors.
- Rescuing and additional equipment.
- Lifeguards.
- Possible distractions.

The maximum size of the group towards one qualified swimming instructor according to Finnish recommendation:

10 NON SWIMMERS → **15** MORE ADVANCED SWIMMERS → **15** ADULTS

5.7. GROUP MANAGEMENT AND ORGANIZING ACTIVITIES IN SWIMMING POOL

The ability of a swimming instructor to manage a group is essential for a safe atmosphere and learning. By maintaining order, you will have the attention of your students focused on what you want. As a swimming instructor, you also need to be able to concentrate on many things simultaneously. **Remember that you are an adult, authority - your behavior is likely to be of great importance to how the students behave and develop in the water!**

Activities in swimming pool can be categorized as structured and non- structured. Non- structured activities have more risks and potential threats. It's is very important to have a lifeguard around the pool.

THE FOLLOWING ASPECTS ARE ESSENTIAL FOR THE MANAGEMENT OF THE GROUP:

The rules given must be kept - both for the teacher and the student!

Preventing incidents

Immediate action in hazardous situations

Placement of a Swimming Instructor

- You know where the students are
- You know what each student does

Know the level of your group - too challenging exercises are a safety risk

Clear instructions - always consider the safety aspects of the exercise!

Bullying / disruptive behavior

- In swimming instruction, bullying and disturbing behavior are treated with zero tolerance.
- A lively pupil may not be intentionally disturbed - do not intervene until the behavior starts to interfere with other group members or the teaching actions.

As an annex 5 there is a safety checklist for swim teacher. We are hoping that the checklist will be an easy way to make sure all the safety arrangements have been taking into account.

Enjoy swimming!

ANNEX
1. WATER SAFETY TIPS

Water safety knowledge and competence can be learned already in the early age. Children should learn to swim and enjoy the water as well as know their limits and act on the proper way. A child should never put her/himself into the danger in order to save someone's life.

This chapter will introduce the basic elements how to avoid dangerous situations and prevent drownings, personal flotation device, safety on ice and how to make a rescue in a safe way.

PREVENTION
1.1. **FOR PARENTS**

It is lot easier to prevent drowning accident than making a rescue. There are few very basic things you can teach for all children starting from the baby swimming. As a swim teacher or coach, you can star from this list. You can also courage parents teach their kids the following principles:

- Children learn to ask permission before going into the pool.
- Adult is always nearby when a child who cannot swim is in the water – HAND REACH.
- Teach children to turn from stomach position to their back and float and then turn back.
- Teach children to jump into the water and then turn to the direction she/he jumped from.
- Teach children how to use a life jacket.
- Teach children to use rescue equipments.
- Teach children to swim the rescue swim (with life jacket on).

Adults need to be present ALL THE TIME while children are in the water. While teaching water safety proceed slowly and listen and observe the child[25].

[25] Finnish Swimming Teaching and Lifesaving Federation 2018 b.

1.2. **FOR KIDS**

WATER SAFETY RULES FOR THE KIDS:

- Never swim alone, especially in an unfamiliar place.
- Do not swim on inflatable mattress, toys.
- When doing water sports like rowing a boat, always wear a life jacket.
- Know the meaning of the beach flag colors.
- If the sea waves reach 1-3 points, swimming and bathing is dangerous.
- Refrain from asking for help if you're not really in danger.
- Do not swim right after eating.
- If, in case of necessity, you have jumped from a boat or a ship whose engine is still working, swim away from it as soon as possible, because blades may suck in and fatally injure.
- It is forbidden to jump out of the boat, because this may cause it to capsize; if necessary, one can carefully jump out only at either end of the boat.

SAFETY RECOMMENDATIONS FOR LEARNING TO DIVE INTO THE WATER:

- learning to dive into the water is only allowed in places where the bottom has been checked and the depth of the water has been determined, and while under the supervision of a trainer;
- dive only after a whistle, or after a sign has been given;
- a child getting ready for a dive must stand 1.5m back from any others who are plunging;
- take a deep breath before diving, wrap your toes over the edge of the platform;
- if jumping into shallow water, adopt a squatting position, as this softens the impact to the bottom;
- if diving into deep water, during the jump hands have to be pressed to the body;
- during the plunge, keep your eyes open and look ahead of you;
- when diving with an object in your hands, keep your hands up and in front of you, otherwise the object/load may hurt you after diving, quickly swim to the side.

SAFETY RECOMMENDATIONS FOR LEARNING TO DIVE UNDERWATER:

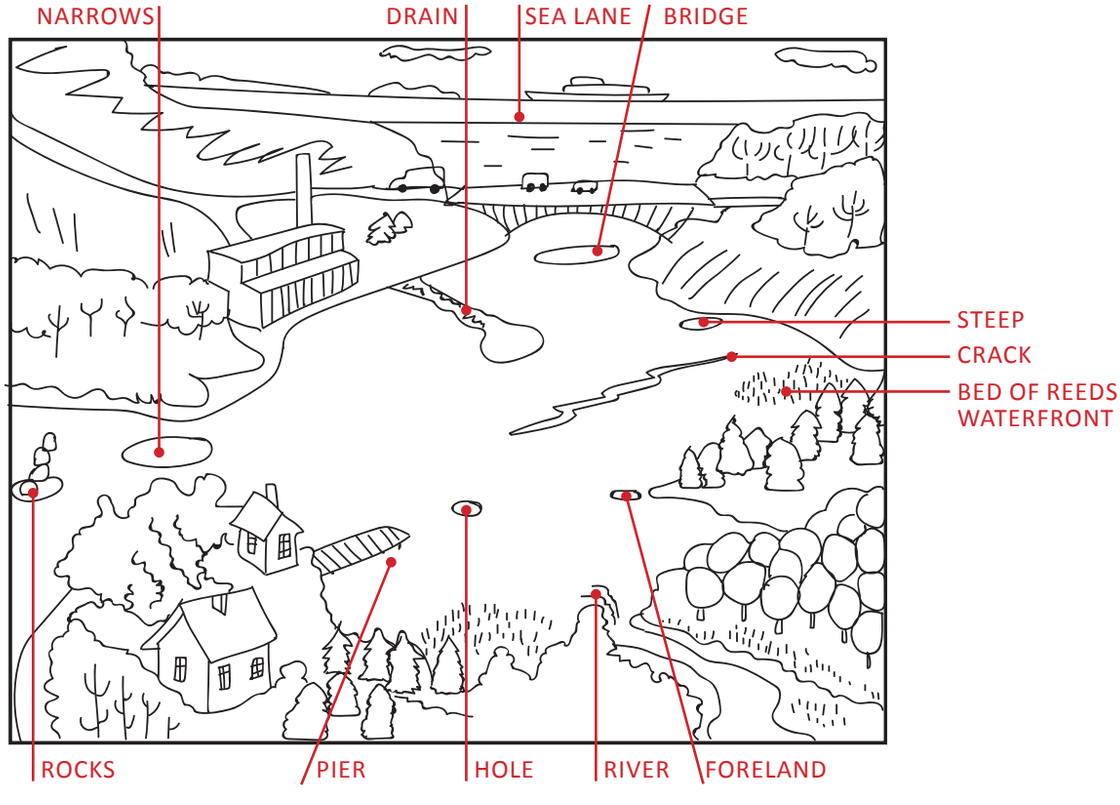
- learning to dive is allowed only in places where the water is still and transparent, and can only take place under the supervision of a coach, an adult;
- due to increasing water pressure on the eardrums, during deep diving pain may be felt in the ears; in order to reduce the pressure, make swallowing movements;
- diving while you have an earache is not allowed, as water getting into the inner ear cavity can cause dizziness, nausea and loss of orientation;
- to ensure better orientation in the water, dive with your eyes open;
- when beginning, and if in water that is non-transparent, it is necessary to dive using aids: such as a float tied to a rope.

1.3. **ICE SAFETY**

THE FOLLOWING LOCATIONS MUST BE AVOIDED

There is no need to move on to the ice before it is completely sure that ice will carry the whole voyage. The solid ice should be at least 5 cm thick if one person is walking above it. Clear blue ice is strongest. Grey ice is unsafe. The grayness indicates the presence of water.

- Because of the currents the dangerous places are rivers, lakes, ditches, peninsulas, streams and steep waterfront / banks.
- Near factories and residential districts drainage areas ice will remain weak due to warm water emission and the water flow.
- Bridges, piers and vessels bind heat and generate currents that will weaken the ice underneath and nearby.
- In the deep areas, the ice may be weaker than the surrounding ice because the larger water content will cool down and form ice more slowly.
- A bed of reeds makes ice more brittle.
- Near and on the shipping routes and fishing hole's ice is weak.
- At the cracks the ice load capacity will deteriorate. When the snow covers the cracks and other breaks the ice will be thinner and can sometimes even melt completely.



THE RIGHT EQUIPMENTS ON THE ICE

If you walk on the ice, please take the following equipment with you

- ICE AWLS. The most important safety gear. Should ne on the neck ready for the use. Without ice picks it is difficult or even impossible to get up. Remember to choose high-quality CE markers.
- WATERTIGHTLY PACKAGED MOBILEPHONE. It is good to take your mobile phone with you and pack it watertight. You can call help when needed.
- FLOATING BACKPACK. The backpack must be packed to float and be firmly stuck with the stomach belt. If a person falls through the ice, it stays in place. Content packed in plastic bags (example changing clothes, matches, mobile phone) remain dry and act as float support. Coming up from the ice hole is easier.
- HYPOTHERMIC BAG. To help the person who has fallen through the ice, hypothermic bag will reduce the heat loss. Another person can go into the hypothermic bag to warm it up.
- WHISTLE. With the whistle you can alert others and get help. Its sound goes beyond the scream and you can use it even when there is no longer enough energy to scream.
- DRY SUIT. The best safety gear on ice and cold water is a dry suit. In cold water hypothermia is a big threat and it comes quickly, at worst in minutes. A dry suit keeps the body dry and functional longer. Good undergarment increases the thermal insulation of the suit. There are different types of dresses, including MPS-suit (Multi-Purpose Suit). The MPS suit is used especially in situations where overcoat needs to be changed according to prevailing conditions. The slim suit is perfect for any kind of boating, fishing, kayaking and for example skating.
- FLOTATION COVERALLS. Flotation coveralls and suits are especially suitable for cold weather, as they protect against wind, rain and frost. However, the circumstances in which they are used should be taken into account. The flotation coveralls may momentarily delay hypothermia when floating. When moving in water, however, it gets wet easily and accumulates weight, so rescuing from ice may be difficult. When boating on the seas, in the waves or in heavy seas, it is recommended to use a life jacket or a dry suit and lifejackets instead of flotation coveralls.
- ICE PEAK. The ice peak has a metal ice ax. While walking or skating, you can try ice strength at any time. When it comes to falling, it helps others: you can pull up a person to the edge by using the ice peak.
- LIFE JACKETS OR NOT? When moving in the water, consider using life jackets with a dry suit. When falling through ice, life jackets may make it more difficult to come up. in particular, air chamber life jackets should not be used when moving on ice. Instead of life jackets, consider using thinner buoyancy aids. Lifejackets keeps you on the surface, but it can be very challenging to get up even if you have ice awls.

IF THE ICE BREAKS

If the ice brakes keep your mind calm and consider your actions:

- Call help right away or blow the whistle.
- Turn in the direction you were coming from.
- If you are skiing, remove the skis unless you otherwise get up.
- Break the ice by hand and body as far as it is possible.
- Raise yourself with swim kicks in a horizontal position using ice awls and clime on to the ice.
- Spin and crawl until you're surely on a strong ice.
- Quickly get to a warm place.

If you cannot get up from the ice hole:

- Hold on the edge of ice.
- Stay still to minimize heat loss.
- Call for help or blow the whistle.

IF SOMEONE ELSE NEEDS YOUR HELP

If someone else needs your help:

- Call for help. Consider whether you can quickly get help from trained professionals (police, fire fighters or ambulance) or bystanders.
- Act fast, but so that you are not victimized yourself.
- Find a suitable equipment to reach the person easily. For example, a rope, a pole, a twig or a coat. Rescuing another person from ice can be dangerous. The safest way to perform a rescue is from shore.
- Check if you can reach the person using a long pole or branch from shore – if so, lie down and extend the pole to the person.
- Approach the victim from the strong ice direction, crash and crawl the last meters. When near the break, lie down to distribute your weight and slowly crawl toward the hole.
- If there are more helpers, you can form a rescue chain.
- Move the rescued person very carefully. Massage, alcohol and rapid heating can result in dangerous after-cooling.
- Protect the person from extra cooling and transport the person to the health center.
- If the victim is unconscious, make sure the airways are open. Quickly deliver the victim to the hospital. Do not start the resuscitation before you get the command from the emergency center.[26]

[26] Finnish Swimming Teaching and Lifesaving Federation 2018.

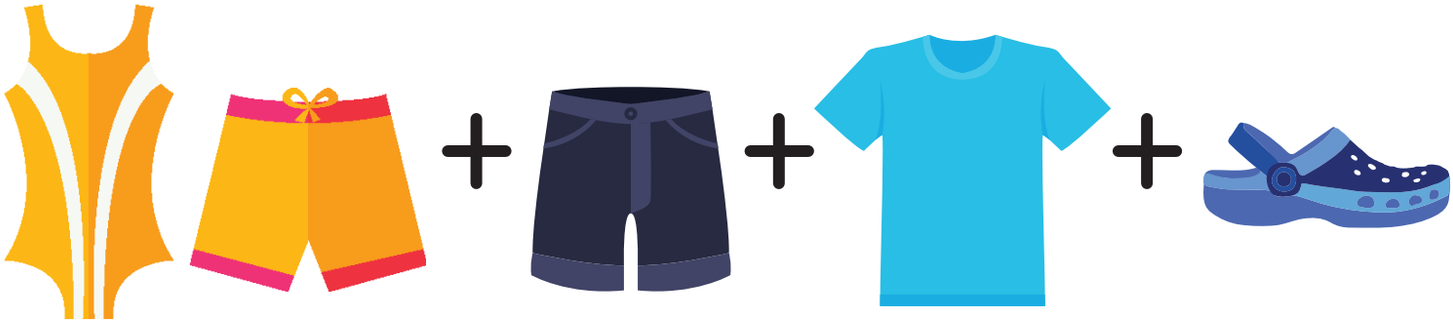
2. EXERCISES AND TASKS FOR WATER SURVIVAL SKILLS TRAINING

SITUATION	ACTIONS	EXERCISES AND TASKS
Finding yourself far from the shore	1. Float horizontally, adjust your breathing. 2. Float vertically, assess the situation. 3. Float horizontally, consider your plan of actions. 4. Swim with your head up. 5. If you are tired, rest, floating on your back.	◌ Swimming with the tasks. For example, 200 m. swimming with head raised, floating every 25 m. ◌ Flotation exercises and combinations ◌ Games: water polo, volleyball and others ◌ Perform a somersault with eyes closed and continue swimming without losing orientation. ◌ Girls perform dives, flotation and swimming tasks with their hair loose. ◌ To cross the pool or float on one's back when other children are kicking hard, simulating waves. ◌ Group swimming. All the children are released simultaneously. Learning to avoid contact.
Unexpectedly falling into the water	When you reach the surface immediately lie on your back and float. Consider your plan of actions: a. Swim to the shore b. Wait for help, floating.	
Reaching the shore overcoming obstacles (e.g. tree branches)	1. Make an assessment of the situation while floating 2. If possible, circumnavigate the obstacle 3. Dive under the obstacle	◌ Swimming while diving under an obstacle, for example, under the pool division lines, under a raft, etc. ◌ Obstacle course. ◌ Exercise. The raft is made of several platforms and students have to dive under it, simulating diving under a boat, a tree trunk and so on. ◌ Swimming a distance or completing specific task with the eyes closed. The goal is to notice the obstacle in a short period of time and to complete the exercise with the eyes closed or wearing goggles with covered glasses. ◌ To perform a task with your eyes open underwater, and above water with your eyes closed.
Transportation of an object in the water (e.g. a backpack)	1. If possible, put a backpack on a floating object (e.g. boards, branches) and push it, swimming using your legs and chest 2. Transport swimming on one's back, holding the object to the chest	◌ Swimming using a wide range of tools, choosing different methods of transportation and swimming styles.
When finding oneself in the water while wearing clothes	1. Float, assess the situation; 2. After selecting the flotation method, remove unnecessary clothes.	◌ Test how much clothing limits swimming movements, to swim in various styles ◌ Learn to remove unnecessary clothes ◌ Apply object transportation skills ◌ Exercise: throwing a T-shirt or a towel over a floating child
Choking on water	1. Don't panic, try to calm down. 2. Depending on the situation, float horizontally or vertically, and cough while raising your head.	◌ Completing the distance with stops: when stopping, make certain sounds. This could be counting aloud, or saying particular phrases. ◌ Completing the distance with flotation. ◌ Completing the distance, diving, floating, and making sounds.

Beginning of cramps	1. If you are experiencing cramps (foot or calf), bend your leg and pull the foot 2. If you are experiencing cramps in your thigh, hold your ankle and pull it towards the body	○ While floating, imitate holding the foot and bending the leg. ○ While floating, imitate holding the foot and bending both legs. ○ Completing the distance combined with floating, and bending legs
Falling into the river flow	1. Swim downstream diagonally, slowly approaching the shore.	○ Overcoming the distance in breast swimming, head up.
Falling into cold water	1. Do not panic. 2. Consider plan of actions, depending on the situation: a) swim to shore, protecting your head from the dive b) wait for help, performing light movement to postpone frost danger.	○ Swimming breaststroke with clothes on, keeping your head up, combined with floating.
Cracked ice	1. Don't panic. 2. Grab onto the edge of a hole in the ice and think through your course of action 3. Try to take up as big an area of ice as possible with the chest and arms 4. Intensively working with your legs try to climb onto the ice	○ If possible, use the floating instruments in the pool – platforms, mattresses and rafts, etc. ○ Combine swimming with climbing over, diving under, climbing onto an obstacle and other imitating movements. ○ It is recommended to emphasize climbing over an obstacle on the chest, arms reaching the furthest edge.
Finding yourself under an object (boat, log, bridge, etc.).	1. Open your eyes. 2. Evaluate the situation: where the bottom is, where the object is, where you can reach to the surface. 3. Hold your breath. 4. Swim sideways from the object, using your arms and legs 5. Rise to the surface.	○ Using the instruments, in the pool learn to climb, fall, submerge, orientate yourself underwater, reach the surface, and get out of the pool. ○ Exercises and tasks should be carried out individually or in pairs racing.

3. REQUIREMENTS FOR "SWIMMING ABC" CERTIFICATES

A LEVEL CERTIFICATE



WITH CLOTHING (SHORTS, A SHORT-SLEEVED T-SHIRT, SHOES):

1	From a certain height plunge into the water, feet-down → 15 sec. pedaling in the water → 12.5 m breaststroke, dive under the floating line with a 180 degree turn → 12,5m backstroke → clime out of the water without the use of stairs.	Orientation falling into the water, under the water and during immersion. Staying on the surface, floating vertically. The ability to swim in different styles to overcome obstacles and control of the body in the water. Getting to land on your own.

WITH SWIMWEAR:

2	Plunge into the water (preferably head-down) → Orientation under the water by swimming 3 m underwater through a hole in the canvas → 50 m breaststroke → 50 m backstroke.	Body control in a dive (head-down). Orientation under water and immersion in tough conditions. Completing a distance in different styles.
3	Push and glide on the stomach → 5 sec. floating on the stomach, a series of chest movements → floating on the stomach for another 5 sec.	Body control and flotation in the water while lying on your chest.
4	Push and glide on the back → 5 sec. floating on the back, a series of backstroke movements → floating on the back for another 10 sec.	Body control and flotation in the water while lying on your back.
5	Push and glide, 5 m crawl swim.	The ability to perform elements of front crawl swimming.
6	Push and glide, 5 m backstroke.	The ability to perform elements of backstroke swimming.
7	Plunge into the water (free choice) → 60 sec. static pedaling, including turning in a 360- degree circle twice.	Orientation while falling into the water, under the water and during immersion. The ability to stay on the surface and look around while floating vertically.

B LEVEL CERTIFICATE

WITH CLOTHING (LONG TROUSERS, LONG-SLEEVED SHIRT, SHOES):

1	From a certain height plunge into the water, feet-down, making a 180-degree turn under the water around one's axis → 15 sec. static pedaling → 25 m breaststroke, diving under a raft and turning 360 degrees around one's longitudinal axis → 25 m backstroke → Getting out of the water without help.	Orientation falling into the water, underwater and during immersion. Staying on the surface, floating vertically. The ability to swim in different styles to overcome obstacles and control of the body in the water. Getting to land on your own.

WITH SWIMWEAR:

2	Diving in to the water head-down → Orientation under the water by swimming 6 m underwater, through a hole in the canvas → 75 m breaststroke, reaching the bottom with the legs → 75 m backstroke.	Body control diving head-down. Orientation underwater and immersion in tough conditions. Completing a distance in different styles.
3	Push and glide on the stomach → 5 sec. floating on the stomach, a series of chest movements → floating on the stomach for another 7 sec.	Body control and flotation in the water, lying on your chest.
4	Push and glide on the back → 5 sec. floating on the back, a series of backstroke movements → floating on the back for another 15 sec.	Body control and flotation in the water, lying on your back.
5	Push and glide, 10 m crawl swim.	The ability to perform elements of front crawl swimming.
6	Push and glide, 10 m backstroke.	The ability to perform elements of backstroke swimming.
7	Plunge into the water (free choice) → 30 sec. static pedaling, using arms and feet, followed by 30 sec. using only the feet.	Orientation while falling into the water, under the water and during immersion. The ability to stay on the surface vertically floating two different styles.

C LEVEL CERTIFICATE

WITH CLOTHING (LONG TROUSERS, SHIRT, LIGHT JACKET, SHOES):

1	Falling forward into the water in a semi-somersault → 15 sec. static pedaling → 30 sec. flotation holding an object in one's hands, shouting for help.	Orientation while falling into the water, under the water and during immersion. Staying on the surface floating in tough conditions.
2	Plunge into the water in a style of your choice, 50 m breaststroke, diving under the mattress → climbing over a mattress, 50 m backstroke→ Getting out of the water without help.	Body control diving into the water. The ability to swim in different styles, overcoming obstacles and control of the body in the water. Getting to land on your own.

WITH SWIMWEAR:

3	Starting jump → Orientation under the water by swimming 9 m underwater, through a hole in the canvas → 100m breaststroke, performing a forward somersault and briefly diving → 100 m backstroke.	Body control diving head down. Orientation underwater and immersion in tough conditions. Completing a distance in different styles. Body control in the water.
4	Starting jump → 5 sec. floating on the stomach, a series of chest movements → floating on the stomach for another 10 sec.	Body control while diving head-down. Body control and floatation in the water, while lying on one's chest.
5	Push and glide on the back → 5 sec. floating on the back, a series of backstroke movements → floating on the back for another 20 sec. → 5 m back swim, using only the hands.	Body control and flotation in the water, while lying on one's back. The ability to perform elements of backstroke swimming.
6	Push off and slide, 15 m crawl swim.	The ability to perform elements of front crawl swimming.
7	Push off and slide, 15 m backstroke.	The ability to perform elements of backstroke swimming.
8	Starting jump → 30 sec. static pedaling, rotating one way and then the other, turning around on one's axis, 30 sec. Vertical flotation using only hands.	Body control diving head-down. Orientation under the water and during immersion. The ability to stay on the surface and look around while floating vertically in two different styles.

Requirements are taken from the Netherlands National Board of Swimming Safety site. [28]

[28] https://www.allesoverzwemles.nl/nationale-zwemdiplomas/zwem-abc/

4. JUNIOR LIFESAVER CLUB

Junior Lifesaver is a concept made by Finnish Swimming Teaching and Lifesaving Federation (FSL). The main idea is to teach self-rescue and lifesaving skills for the children age 8 – 15.

Junior Lifesaver Club contains activities mainly performed in the pool, but some activities are done at the pool side or even outside. Club can be arranged at the beach, but because of the short summer period most of the clubs are hold at the swimming pools.

Junior Lifesaver instructor course is a part of swim teacher course. From the year 2017 every swim teacher is a junior lifesaver instructor as well.

THE SWIM TEACHER COURSE GIVES SKILLS AND KNOWLEDGE FROM THE FOLLOWING AREAS:

- Wates mechanics, swimming techniques, elementary swim teaching
- Pedagogic and didactics
- Swim teachers work
- Safety: Laws and regulations, CPR, basic lifesaving

THE JUNIOR LIFESAVER PART GOES THOUGHT FOLLOWING LEARNING AREAS:

- How to start and market the club
- Swimming and underwater skills
- Survival skills
- Rescue skills, First Aid, CPR
- Water safety knowledge (including Ice Safety
- Lifesaving competitions

Junior Lifesaver Instructors get free hands to plan their clubs and session based on the knowledge, skills and competence they get from the course. Modell lessons can be used partly and modified freely considering the age and skill level of the participants.

THE FOLLOWING LEARNING OUTCOMES ARE RECOMMENDED:

- Water Safety and Self-Rescue knowledge and skills
- Lifesaving skills
- First Aid skills

- Physical challenges and competitions (www.ilsf.org/lifesaving-sport/disciplines)
- Co-operational activities
- Problem solving tasks

FSL encourages swim teachers to add self-rescue and lifesaving practices even to the normal swimming schools.

MODELL LESSONS

MODELL LESSON 1:

SELF-RESCUE SKILLS AND GETTING TO KNOW EACH OTHER

WARM UP

- Getting to know each other game / play in water (write to google: “icebreakers”).
- Nordic Swimming ability test (200 m).

PROBLEM SOLVING

How to swim with rescue equipment? How to transports victim with rescue equipment?

- Pool full of different equipment – time to try out.
- Relay: 2-3 groups. All the equipment (10-20 items) are in the middle of the pool, kids will jump in one at the time and pick up equipment and then climb up to the pool edge with the help of others. The team that gets more equipment will win.

SWIMMING

- Everyone gets a ball. Kids have to swim 25-50 meters and carry the ball at the same time by using elbows, tows, fingers, blowing, holding the ball under the surface and so on.

LIFE JACKETS

- Swimming with life jackets.
- Floating with life jackets – a lone, in pairs, in groups (help, huddling).
- Jumps from the pool edge with the life jackets on.
- Taking the life jacket away and putting in on again while being in a water.
- Climbing up from the pool with the life jacket on (low and high edge) – co-operation!
- Relay: Two groups. All the life jackets in the middle of the pool, kids will jump in at the same time, pick up and put on the lifejackets and swim back to the pool edge and climb up. Encourage kids to help each other’s.
- Competition: 25 meters relay in a chain and on the back:
    - on your own;
    - in pairs;
    - in groups (4).

CO-OPERATION

- Kids have to push the lifejacket to the bottom (2 meters pool). Working in pairs.
- Kids have to keep (a small) ball under the surface. Group of four. Can be organized as a competition.

MODELL LESSON 2:

BASIC SKILLS

WARM UP

- 100 m rescue swim (free stroke: head above the water, look forward).
- 100 m side swim on both sides.
- 100 m rescue swim on the back (breast stroke kick).

DEEP DIVES

- Equalizing the pressure (practices on the pool edge and in the water).
- Dive the rings from the bottom of the pool.
- Dives into the pool bottom directly while swimming.
- Swimming – when the teacher blows the whistle dive to the bottom.
- Picking up the manikin from the bottom (right technique: use your legs when coming up, arms straight).

SWIMMING

- Water polo swim with the ball (= free stroke, head above the surface).
- Free stroke swimming – technique tips:
    - Self-evaluation / pair evaluations / video;
    - Print right criteria on to the paper.

LONG DISTANCE DIVING

- Water resistance knowledge.
- Kick from the pool edge and **glide** as long as you can under water.
- Kick from the pool edge, **glide** and then try different kicks (free stroke kick, dolphin kick, breast stroke kick).

COMBINATION

- Rescue swim, dive to the bottom (2 meters) to pick up rings / manikins and then transport those to the side (free style). (Emphasize the correct lifting technique for the manikin)

PROBLEM-SOLVING

- Take a rope and tie the diving rings on it. But the rope on the shallow end of the pool. Let the participants try to remove as many diving rings as possible during one dive.

MODELL LESSON 3:

BASIC SKILLS

WARM UP

- 200 m swimming exercises in different styles (free stroke, back stroke, breast stroke, side swim without the pair etc.)

RESCUE EQUIPMENT'S

- Throwing the floating aids to the victim: lifebuoy, big bottle, canister, ball, "bananas" etc.
- Swimming with the floating aids.
- Transportation with the floating devise so that the victim can help with kicks.

OBSTACLE COURSE

- Track length 50 meters.
    - diving 5 - 10 m - crossing the obstacle – swimming 15 m - dive to the bottom to pick up rings (at the end of the pool).
    - swimming 15 m - crossing the obstacle – swimming 10 m - dive to the bottom to pick up rings.

CO-OPERATION

- Paddling with the mattress, as a group.

DEEP DIVES

- Dives by using the rope that goes to the bottom of the pool (max 4 meters).
- Picking up objects from the bottom of the pool.

PROBLEM-SOLVING

- A bucket or bottles lies at the bottom of the pool. Kids need to figure out how to get them up so that they do not use hands or feet. (In pairs or in groups).
- Manikin lies at the bottom of the pool. The children need to figure out how to get the manikin up by using the rope and a life jacket.

JUMPING INTO THE WATER

- Rescue jump feet first (step in) different techniques.

MODELL LESSON 4:

FIRST AID AND CARDIOPULMONARY RESUSCITATION (CPR)

FIRST AID PRACTICES

- How to call help (112), A-B-C, wound binding etc.
- CPR with the manikin.

SWIMMING

- Swimming with clothes and life jackets.
- Swimming with clothes on.

FLOTATION

- Practicing how to make a floating device by using the clothing.

CO-OPERATION

- Relay by using clothing, life jackets and lifebuoy or “bananas”.
- Ex. First person swims 25 meters with life jacket on, second with cloths on, third transports the fourth by using “bananas”.

DEEP DIVES

- Dives by using the rope that goes to the bottom of the pool (max 4 meters).
- Picking up objects from the bottom of the pool (max 4 meters).
- Picking up the rings that are tied to the rope.

OBSTACLE COURSE

- Ropes and matrasses are placed on the pool – in between you have to dive and pick up rings, float, dive 10 meters etc.

MODELL LESSON 5:

RESCUE EQUIPMENT

WARM UP

- 200 m swimming in different styles and transportation a pair.

THROWING EXERCISES FROM THE POOL EDGE

- Canister, rope, lifebuoy, life line (different techniques).
- Working in pair – one throws and pulls the person in the other catches and kicks.

RESCUE EQUIPMENT: SOFT LIFE BUOY

- Used at the pool.
- Jump into the water with life buoy.
- Approaching the victim with the equipment.
- Transporting the conscious victim with the equipment (swimming 50 m).
- Practicing how to rescue the unconscious victim with life buoy.

RESCUE EQUIPMENT: TORPEDO

- Used at the beach and at the competitions mainly.
- Jump into the water with torpedo.
- Approaching with the equipment.
- Transporting the conscious victim with the equipment (swimming 50 m).
- Practicing how to rescue the unconscious victim with torpedo.

CO-OPERATION AND COMPETITIONS

- 100m Manikin Tow with Fins.
- 4x50m Medley Relay.

MODELL LESSON 6:

LIFTING THE VICTIM

WARM UP

- Transporting the victim on the land (different techniques mainly done in pairs).

TREADING THE WATER

- Working as a pair, children get balloons. They have to throw it to each other's by using hands, head and feet. Balloon needs to stay above the surface all the time.
- Bucket full of different kinds of balls. The kids need to take one ball at the time, transport it to the other end (25 meters) by swimming in different ways, then walking back to the starting end and taking the next ball.

LIFTING EXERCISE

- Safety aspect concerning lifting.
- Practicing lifting the victim from the pool – different techniques – in pairs and alone.

COMBINING

- Jumping into the pool (rescue jump), swimming with the rescue equipment, picking up the victim (pair) from the middle of the pool and then swimming to the pool edge and lifting/helping the victim out of the pool.

PROBLEM-SOLVING

- Manikins lies at the bottom of the pool and other victim (manikin or another object) on the surface. The children have to figure out how to get the manikin up and the victim to the shore by using the rope, lifebuoy and life jacket. Children will work in pairs or groups.
- Discussion concerning how to make a rescue in a safe way.

MODELL LESSON 7:

COMBINING SWIMMING AND DIVES

WARM UP

- Swimming exercises using the swim board uprights.
- Working in pairs - pushing from different directions.

LONG DISTANCE DIVES WITH DIFFERENT KICK

- Dolphin kick.
- Breast stroke kick.
- Free stroke kick.
- Diving through gates, tunnels or big tires.

COMBINING: OBSTACLE COURSE

- Diving through the tube.
- Climbing on the mattress.
- Diving into the bottom of the pool and picking up rings.
- Diving under the mattress.
- Climbing on the mattress.

PROBLEM-SOLVING

- Tug of War. Group is divided into two teams. They test strength against each other's: teams pull on opposite ends of a rope, with the goal being to bring the rope a certain distance in one direction against the force of the opposing team's pull.
    - Underwater (max 2 meters depth). Team members get time to figure out how to organize this (breathing / diving).
    - Above the surface.
    - Above the surface and having life jackets on.
- Group of children (3) have to carry the making while walking at the bottom. One person has to be in touch with the manikin all the time. Max diving distance per person 5 meters at the time.

MODELL LESSON 8:

DIVING WITH THE MASK AND SNORKEL AND COMPETITIONS

WARM UP

- 100 m free stroke with fins.
- 100 m transporting the pair by using fins and torpedo.
- 100m Obstacle Swim (Masters) with fins.

DEEP DIVING

- Diving to 4 meters by using fins and mask (and snorkel).
- Picking up obstacles by using fins and mask (and snorkel).
- Dives to 4 meters using the rope.
- Dives to 4 meters – making and opening a not at the bottom.
- Dives while eyes closed – picking up objects from the bottom (pair observes).

SWIMMING AND LONG-DISTANCE DIVING

- Long distance: 10 – 15 – 20 – 25 meters by using fins.
- Combining swimming and long-distance / deep diving with fins.
- Underwater obstacles: swimming and diving with fins or underwater rugby game.

PROBLEM-SOLVING

- Throw your mask and fins to the bottom of the pool. Dive in and put those on before coming up to the surface. Children will choose the level (depth) on their own. Other pair observes.

COMPETITIONS

- 100 m Manikin Tow with Fins.
- 100 m Manikin Carry with Fins.
- 4x50 m Medley Relay.
- Modify the events if participants are young.

MODELL LESSON 9:

THE SIMULATED EMERGENCY RESPONSE COMPETITION (SERC)

WARM UP

- Swimming 100 m with clothes on (different techniques).
- Swimming 25 m with clothes, then taking them away while in the water.

LIFE JACKET

- Eyes closed: how much time it takes to take the life jacket on at the pool edge (still clothes on).
- Eyes closed: how much time it takes to take the life jacket on in the pool (still clothes on).
- Jumping from the pool edge and from the five meters platform with the life jackets on.
- Relay: First person swims half of the pool on the back (12,5 m), then the second join (25 m) and they make a chain, the third join (37,5 m) and the fourth (50 m). Then same thing other way around so that one child leaves the chain after every 12,5 meters.

PROBLEM-SOLVING AND CO-OPERATION

- The Simulated Emergency Response Competition tests the initiative, judgment, knowledge, and abilities of 4 lifesavers who, acting as a team, apply lifesaving skills in a simulated emergency situation unknown to them prior to the start.
- Competition is judged within a 2-minute time limit. All teams respond to the identical situation and are evaluated by the same judges.
- Boat accident as scenario for example https://www.youtube.com/watch?v=fYqs90YFmlg&t=2s

MODELL LESSON 10:

WORKING AS A HERO

EXCURSION

Fire station / search and rescue unit / paramedics / beach life guards / water park – pool lifeguards etc.

OR

FIRST AID TRACK

- Instructor plans different small accidents.
- Half of the kids will play offers and half lifeguards.
- Working in pairs.
- Kids will get 2 minutes time to deal the case – whistle and the next case.

WARM UP

- Swimming free store – when instructor use the whistle, child makes a somersault.
- Obstacle course that includes swimming, diving, floating, climbing up from the pool, jumping in and helping each other's.

COMPETITIONS

- 200m Super Lifesaver (can be done in 100 m).
- 4x50m Medley Relay (can be done in 4 x 25 m).

POOL LIFEGUARD PHYSICAL TEST

- Jump in – head above the water.
- Swim 25 meters – head above the water.
- Turn and then dive 10 meters.
- Swim 15 meters (free style).
- Touch the wall and the dive 2 rings and manikin.
- Transport the manikin or pair 50 meters.
    - You can take time.
    - To be a pool lifeguard you have to manage the test under 3,40 minutes.

DIPLOMAS / THANKS / FEEDBACK / HOW TO CONTINUE THE HOBBY.

5. CHECKLIST FOR SWIMMING TEACHER / SWIMING COACH

Below is a list of practical safety considerations designed to improve safety during swimming lessons. Please note the following items.

BEFORE THE SWIMMING LESSON

○ You are familiar with the security arrangements (eg emergency and rescue equipment, alarm system, etc.) (1)

○ You have adequate rescue skills, knowledge and competence (1)

○ You have checked that the teaching area is safe

- The risk factors must be removed before the start of the lesson (eg. fizzy / showering water in the pool) (2)

○ Is the teaching area sufficiently large in relation to the size of the group (2)

○ Is the group size ok (2)

- One qualified swimming teacher:
    - max 10 non swimmers
    - max 15 more advanced swimmers

○ How have you planned to use the pool and the potential equipment with that group. Check the condition of the equipment. Plan how you will split the group before the lesson begins (2)

○ Pick up the group from the pre-arranged location (2)

WHEN GROUP (S) ARRIVE

○ Go through the common rules with the group:

- how to behave in the swimming pool are and why there are certain rules (2) For example:
    - Don’t run
    - Go to shower before lesson
    - Don’t go to water without permission of teacher
    - Inform if you going to bathroom
    - Stop and listen when teacher uses whistle
    - Don’t eat chewing gum
- no one can leave the pool areas on their own (3)
- the whole group is listening when the swimming teacher speaks. It’s good to agree in advance, for example that when a teacher speaks everyone keep their ears above the surface. (2)

It’s a good idea to made up rules and negotiate with kids what will happen if they won’t follow the rules. Ask before every lesson if they remember the rules.

DURING THE SWIMMING LESSON

- Group management / organization models
- Placement so that you can see the entire group, all the time (2)
- Give the instructions first – then students can make actions (2)
- No one can go to the pool alone until the teacher gives permission (2)
- No one can leave the pool areas on their own (2)
- The swimming instructor should never leave the group alone - in situations where there is a need to leave, eg. the lifeguard should be asked to supervise the group for that time (2)
- The student can only go to the toilet facilities with the teacher’s permission (2)

PEDAGOGICAL SAFETY

- Perform the exercises only at a depth appropriate to the pupils’ level (2)
- Provide appropriate exercises for the student’s age (2)
- In diving exercises - diving must take place from the deep end of the pool to the lower end of the pool (2)
- The Swimming School’s rules must be followed (2)
- Bullying / disruptive behavior should be immediately addressed / stopped (2)

AFTER THE LESSON

Before the group (s) leaves the pool

- Taking students into the predetermined location (2,3)
    - No one can leave alone in the pool areas - all leave the pool at the same time
    - The swimming instructor should ensure that all pupils have been picked up - no one should be allowed to move alone around the pool area
- The swimming instructor is obligated to keep track (documentation) of accidents / injuries occurring during lessons (2)
- If there has been accident / incident -> If necessary, inform the employer/ service providers. Service providers may be required to report a hazard to the supervisory Authority (1,4). Making a notification is important - the notification is a prerequisite for legal protection and possible insurance coverage!

[1] Security and Chemicals Agency, 2017.

[2] Keskinen et al., 2018.

[3] Finnish Swimming Teaching and Lifesaving Federation, 2008.

[4] Finlex, 2018.

6. SAFETY ASPECT CONCERNING SWIMMING POOL IN GENERAL

Most of the swimming schools and swimming trainings are hold at the pool environment. Swimming pools are places with elevated safety risk so it's very important to develop a safety plan in order to increase safety in swimming pools.

Swimming pools safety plan should include:

1. Evaluation of risks;
2. Swimming pools stuff;
3. First aid;
4. Safety equipment;
5. Communication between stuff in every day and in emergency situation;
6. Emergency plan- manager should organize trainings, divide tasks;
7. Swimming pools equipment;
8. Equipment of swimming pools visitors;
9. Usage of electric devices in swimming pool;
10. Organization and holding of structured and non-structured activities;
11. Providing well-being and children supervision;
12. Responsibility of swimming pools staff.

The head of institution should evaluate specifics of the swimming pool and its risks which should be in included in swimming pools safety plan.

6.1. **EVALUATION OF RISKS / RISK ASSESSMENT**

Evaluation of risks is the basic of swimming pools safety plans. Just in case when all the risks are evaluated the manager and staff of swimming pool can develop safe and pleasant environment and provide qualitative swimming lessons. Evaluation of the risks include:

1. Identification of potential threats;
2. Identification of risk groups and characteristics of potential threats;
3. Evaluation of risks and prevention;
4. Documentation;
5. Control of implemented presentational events and regular monitoring.

As priority in risk evaluation should be:

1. Children safety;
2. Qualification of stuff of swimming pool;
3. Tenant's competency and qualification;
4. Supervision of non-structured activities and organization of structured activities.

As one of risks is swimming pools infrastructure which should correspond to safe and easy supervising swimming and other kind of activities in swimming pool.

To evaluate and identify the risks the manager of the swimming pool should be competent in the structure of swimming pool, exploitation and be aware of swimming disciplines and in the same time he should be objective. As one of tools of objectivity is listen up and evaluate opinions of staff and swimming pools visitors. Another way how to gain objective information is stress test which shows strengths and weaknesses of the staff and institution and things which should be improved. The evaluation of possible threats and risks should be performed in two dimensions- possibility and risk. The higher possibility of the potential threat the sooner it should be prevented. Evaluation of risks and monitoring should be performed regularly and at least once in year.

6.2. **SWIMMING POOLS STAFF**

The stuff of swimming pool can be categorized:

1. Administrative staff;
2. Coaches, swim teachers and other water sport actors;
3. Lifeguards;
4. Additional staff.

The staff should be aware of safety plan and they role in emergency situations. The stress should be on lifeguards and coaches. The role and field of competency should be established by the manager of the swimming pool. Manager should provide the staff with emergency plan. Staff should be informed about their role and tasks in emergency situations. The manager also should organize a training regarding to emergency situations.

6.3. **LIFEGUARDS**

Lifeguard is an essential part of swimming pools safety. Very important thing is action plan in emergency situations which includes calling emergency medical care, necessary resuscitation and perform first aid, arrival time of the emergency medical care unit. The manager of swimming pool should provide conditions which allow perform all necessary actions as fast and effectively as possible. If there is no licensed lifeguard certification program, the manager of swimming pool can organize training course which includes:

1. First aid training;
2. Swimming skills;
3. Rescuing the drowning person;
4. Action in case of pool characteristic traumas gained in swimming pools.

Recommended skills which lifeguard should master: jumping in water, diving, swimming with clothes on, rescuing the drowning person, conscious and unconscious persons pulling out of the water, combined tasks, action in case of specific traumas. Lifeguard should be able to swim 100m on chest and 100m on back effortlessly, jump into water, dive in at least 2m in depth (depends on depth of swimming pool lifeguard is working in), and swim 50m distance in 50 seconds.

Physical and mental preparedness: it has a crucial role in emergency situations. Besides that communication skills and ability to observe are important skills. Lifeguards main task is to provide the safety of swimming pools visitors so his duties can't be combined with other duties. The lifeguard shouldn't be distracted by electronic devices. Duties of lifeguard should include:

1. Qualitative and effective supervision of the swimming pool;
2. Control of behavior of swimming pools visitors;
3. Practice all the prevention activities;
4. Action in every day and emergency situations regarding the action plan;
5. Performing saving;
6. Identification of spinal cord traumas and adequate decision making;
7. Perform first aid;
8. Perform resuscitation if necessary.

Training courses should be held at least once in the year before the season and should be organized by manager of the swimming pool and should be held in the swimming pool where the lifeguard is working in.

Restrictions regarding to work place is:

- Lifeguard should be able to overview the pool in less the 10 seconds;
- Lifeguards should be able to reach any part of swimming pool in 10-20 seconds.

The manager of the swimming pool should provide lifeguard with all necessary equipment which is suitable and noticeable. Surveillance cameras or specific devices can be additional thing to provide the safety but it can't replace the lifeguard.

Lifeguard should monitor the pool all its working hours. Manager should arrange who is monitoring the pool while lifeguard is on the lunch break. Reinforced attention of lifeguard should be provided in all of these cases:

1. The depth of the water is more than 1.5 meters;
2. Pools area exceeds 170 m^2;
3. It's possible to jump into the pool;
4. Additional equipment in swimming pool;
5. The depth of the swimming pool changes;
6. Unlimited access;
7. Visitors of the swimming pool are younger than 15 years of age;
8. High occupancy is planned.

Regarding to differences in swimming pools the manager should develop criteria on number of lifeguards, their schedule (one shift is not more than 6 hours). Additional lifeguard should monitor children swimming lessons. During the structured lessons attended by young athletes the number of lifeguards can be less.

Lifeguards physical condition /fitness can be tested for example by following swimming test used in Finland: https://www.youtube.com/watch?v=xFYnh7xbnQY

THE RECOMMENDATIONS CONCERNING THE NUMBER OF LIFEGUARDS PER WATER AREA / POOLS	
Max 25 meters pool + children's pool	1 – 2 lifeguards
25-meter pool + 2 small pools	1 lifeguard and camera surveillance or 2 lifeguards
50-meter pool + children's pool	2 lifeguards
50-meter pool + 2 other pools	2 lifeguard and camera surveillance or 3 lifeguards

*Promotion of the safety of swimming pools and spas 1/2015. By Safety and Chemicals Agency, Finland

Number of visitors in swimming pool should be established by manager regarding to specifics of swimming pool and possible threats and risks. There is no standard, but international experience shows than there should be 2.5-5 m^2 per person.

6.4. **SAFE AND QUALITATIVE SWIMMING CLASSES**

All classes should have a program and it should be approved by swimming pool's manager and national swimming federation. Program should include hours, target audience, number of classes and it length in one week, aims and goals, content of the classes, methods, basic drills and results. Program should include aspects of safety on water.

7. ILS INTERNATIONAL WATER SAFETY AND SWIMMING EDUCATION GUIDELINES

SKILL AND KNOWLEDGE	6 AND 7 YEARS STANDARD	7 AND 8 YEARS STANDARD	8 AND 9 YEARS STANDARD	9 AND 10 YEARS STANDARD	10 AND 11 YEARS STANDARD	11 AND 12 YEARS STANDARD	12 AND 13 YEARS STANDARD
SAFE ENTRY AND EXIT	Enter and exit the water safely and confidently	Perform a slide in entry and exit using the edge	Perform a step in entry and exit using the edge	Safely perform a compact jump, a fall in entry and exit from deep water using the edge	Demonstrate a safe forward dive	Demonstrate a stride entry	Demonstrate an entry technique selected by the examiner
SCULLING AND BODY ORIENTATION	**Float to Stand** Recover from a face down float or glide to a standing or other secure position	**Scull** Demonstrate horizontal arm sculling actions to support the body in an upright position with the face above the surface of the water. Small movements of the legs permitted. **Float to stand** Recover from a back float or back glide to a standing or other secure position	**Scull – Head First** Demonstrate sculling head first	**Scull – Feet First** Demonstrate sculling feet first on the back. **Body Rotation** Demonstrate rotation of the tucked body, keeping the face above the surface of the water	**Body Rotation** Rotate the body about the vertical and horizontal axes with and without arm and leg action. **Eggbeater Kick** Demonstrate the eggbeater kick to show the basic co-ordination of the leg action. Arms or a kickboard may be used for support.	**Somersaults** Demonstrate a backward and a forward somersault in the water	**Eggbeater Kick** Demonstrate an efficient eggbeater kick without use of arms
MOVEMENT IN WATER AND SWIMMING STROKES	**Movement** Move through the water unassisted with the feet clear of the bottom for a distance of 3 metres. Any method of propulsion is acceptable	**Swim** Swim 20 m using an action which resembles a stroke	**Swim** Swim 50 m using actions which resemble two or more strokes. These must include at least 15 m using an above-water arm recovery stroke and 15 m using an underwater arm recovery stroke	**Swim** Swim continuously: • 50M of stroke(s) with above-water arm recovery and • 25 m of stroke(s) with underwater arm recovery. Recognised stroke techniques must be used	**Swim** Swim continuously: • 25 m freestyle • 25 m survival backstroke or sidestroke • 25 m back crawl and • 25 m breaststroke. Recognised strokes must be used	**Swim** Swim continuously: • 50 m sidestroke • 50 m back crawl • 50 m breaststroke and • 50 m freestyle. Efficient stroke techniques should be used	**Swim** Swim continuously: • 50 m butterfly or freestyle • 50 m back crawl • 50 m breaststroke • 50 m freestyle • 50 m sidestroke and • 50 m survival backstroke. Efficient stroke techniques must be used. All alternative techniques are permissible

SKILL AND KNOWLEDGE	6 AND 7 YEARS STANDARD	7 AND 8 YEARS STANDARD	8 AND 9 YEARS STANDARD	9 AND 10 YEARS STANDARD	10 AND 11 YEARS STANDARD	11 AND 12 YEARS STANDARD	12 AND 13 YEARS STANDARD
SURVIVAL SKILLS	**Float with Aid** Float for 30 seconds holding a rescue flotation aid for support. Signal for help intermittently	**Survival Skills** Demonstrate the following as a continuous sequence: • survival sculling for 30 seconds • floating for 1 minute, holding a rescue flotation aid which has been thrown for support and kick to safety	**Survival Skills** Swim 50 m using actions which resemble two or more strokes. These must include at least 15 m using an above-water arm recovery stroke and 15 m using an underwater arm recovery stroke. Demonstrate the following as a continuous sequence: • survival sculling for 1 minute and • swim for 1 minute, holding a rescue flotation aid which has been thrown for support	**Survival Skills** Dressed in swimwear, shorts and T-shirt, demonstrate the following as a continuous sequence: • sculling, floating or treading water for 2 minutes • swim slowly for 3 minutes using the actions which resemble three recognised survival strokes, changing after each minute to another stroke **Float with Buoyant Aid** • float for 1 minute using an open-ended flotation aid thrown to the candidate	**Survival Skills** Dressed in swimwear, long pants and long sleeved shirt, perform the following as a continuous sequence: • demonstrate survival sculling, floating or treading water for 4 minutes • perform a feet first surface dive and swim underwater for a short distance • swim slowly for 6 minutes using three survival strokes, changing after each minute from one stroke to another. Remove clothing in deep water. **PFD*** Correctly fit a PFD, jump into the water, float for 30 seconds and then climb out of deep water	**Survival Skills** Dressed in swimwear, long pants and long sleeved shirt and jumper, perform the following as a continuous sequence. • enter deep water using feet first entry • submerge feet first, swim underwater on the back looking up at the surface • swim 50m quickly as if escaping from a dangerous situation and then swim 50m slowly and float using a buoyant aid for 1 minute • swim slowly demonstrating survival strokes for 6 minutes • scull, float or tread water for 3 minutes waving for help intermittently. Clothing may be removed. PFD* Correctly fit a PFD while treading water and swim 25 m using survival strokes. Exit the water	**Survival Skills** Dressed in swimwear, long pants, long-sleeved shirt, long-sleeved jumper, shoes and socks, perform the following as a continuous sequence: • dive and swim 10m underwater • swim a further 40 m freestyle • remove shoes while treading water and swim slowly 50m breaststroke • float, survival scull or tread water for 5 minutes waving one arm occasionally; reassure any nearby candidates • swim slowly for 200M using survival strokes, changing stroke after each 50 m • remove clothing in deep water. PFD* Correctly fit a PFD* while treading water, swim 100 m survival strokes, demonstrate HELP technique and exit water wearing the PFD*
UNDERWATER SKILLS	**Submerging** Open eyes and breathe out whilst submerging the body completely	**Recover Object** Submerge and recover an object from water of chest depth	**Underwater Swim** Surface dive, swim underwater and recover an object from water of chest depth	**Underwater Search** Demonstrate a surface dive, swim underwater, search for and recover an object from water of depth equivalent to the candidate's height			

SKILL AND KNOWLEDGE	6 AND 7 YEARS STANDARD	7 AND 8 YEARS STANDARD	8 AND 9 YEARS STANDARD	9 AND 10 YEARS STANDARD	10 AND 11 YEARS STANDARD	11 AND 12 YEARS STANDARD	12 AND 13 YEARS STANDARD
RESCUE SKILLS	**Be Rescued** Grasp a rigid article or piece of clothing offered by a rescuer and be pulled to safety	**Be Rescued** Be pulled through the water with a rope for 5 m to a standing position of safety	**Reach Rescue** Using a rigid object, pull a partner to safety	**Throw Rescue** Throw a rescue flotation aid to a partner at 5 m distance and instruct the partner to kick to the edge	**Reach Rescue** Using a rope, towel or item of clothing, pull a partner to safety	**Throw Rescue** Throw an unweighted rope over a distance of 6 m to within reach of a partner and pull to safety	**Throw Rescue** Commencing with an uncoiled and untangled rope lying at the feet of the rescuer, throw a weighted rope over a distance of 10 m to within reach of a partner and pull to safety. **Wade Rescue** Wade to and pull to safety a partner by using a towel or item of clothing as an aid
EXTENSION SKILLS				**Butterfly** Demonstrate introductory butterfly arm action for a distance of 5M	**Butterfly** Swim butterfly for 10M demonstrating a recognisable stroke and using correct breathing technique	**Butterfly** Swim butterfly for 15M using an efficient stroke and correct breathing technique	**Butterfly** Swim butterfly for 25M using an efficient stroke and correct breathing technique

*PFD – personal flotation device

REFERENCES

Bissig, Michael/ Gröbli, Corinne: Schwimmwelt. Bern: Schulverlag 2004.

Deci, Edward, L. & Ryan, Richard, M. 2018. Self-Determination Theory. Available (14.4.2018) at http://selfdetermination-theory.org/

Dutch program ,,Zwem - ABC" requirements for diplomas. Available at: https://www.allesoverzwemles.nl/nationale-zwemdiplomas/zwem-abc/

Erwin, Phil. 2005, Asenteetjaniihinvaikuttaminen, 1 painos, Porvoo: WSOY, 180

Finlex 2018. (department of justice in Finland). Kuluttajaturvallisuuslaki 920/2011. 2011. Available (14.10.2018) at https://www.finlex.fi/fi/laki/ajantasa/2011/20110920

Finnish Swimming Teaching and Lifesaving Federation 2018 a. Vauva- japerheuinti, Ohjaajamateriaali. MinnaNevalainen, Johanna Timonen, Ilpo Johansson, AnneliToivonen and MallaGrönlund.

Finnish Swimming Teaching and Lifesaving Federation 2018. Viisaastivesillä. Available (14.10.2018) at: http://www.viisaastivesilla.fi/etusivu/pelastu_ja_pelasta

Finnish Swimming Teaching and Lifesaving Federation. 2008, Materiaalipankki, Uimaopetusturvallisemmaksi. Available (14.10.2018) at: http://www.suh.fi/files/243/Uimaopetuskirje_paivitetty_300508.pdf

https://www.finlex.fi/fi/laki/ajantasa/2002/20020504

Keskinen, Ilkka; Hakamäki, Johanna; Hotti, Kristiina; Lauritsalo, Kirsti; Liinpää, Samuli; Läärä, Jukka, Pantzar, Tommi&Savolainen, Tero. 2018 Uimaopetuksenkäsikirja, 6 painos, Jyväskylä: Docendo Oy, 272

Lakilastenkanssatyöskentelevienrikostaustanselvittämisestä 504/2002.2002

Laughlin, Terry: Total Immersion. New York: Fireside 2004.

Lions Quest, 2015, Skills for Growing Programme.

Lithuanian Children and Youth Centre et al., 2018, Toolkit for Assessing Social and Emotional Skills at School, prepared for the "Learning to Be" project.

Morrongiello, B, A; Cusimano, E; Orr, E; Barton, B; Chipman, M; Tyberg, J; Kulkarini, A; Khanlou, N; Masi, R & Bekele, T. 2008, School-age children's safety attitudes, cognitions, knowledge, and injury experiences: how do these relate to their safety practices?,Injury Prevention, vol. 14 nr 3, 176-179.

Mosston, Muska& Ashworth Sara 2008. Teaching Physical Education. First online edition. Available (14.10.2018) at https://www.spectrumofteachingstyles.org/styles-quick-guide.php

Newsome, Paul/ Young, Adam: Swim Smooth. Warwickshire: Fernhurst 2012.

Olausson, Mikael 2017. Pool Safety Guidelines. International Life Saving Federation of Europe. Version 2.0 Edsbro, Sweden. Available (14.10.2018) at: https://europe.ilsf.org/sites/europe.ilsf.org/files/ILSE%20Pool%20Safety%20Guidelines%2020170724.pdf

Petrass, Lauren A., Blitvich, Jennifer D. 2014. Preventing adolescent drowning: Understanding Water safety knowledge, attitudes and swimming ability. The effect of a short water safety intervention. Accident Analysis and Prevention, nr 70, 188-194.

Security and Chemicals Agency. 2017. Tukes-ohje 1/2015 Uimahallienjakylpylöidenturvallisuudenedistäminen. Available (14.10.2018) at: https://tukes.fi/documents/5470659/6372871/Tukes-ohje+-+Uimahallien+ja+kylpyl%C3%B6iden+turvallisuuden+edist%C3%A4minen/d3159630-d077-4fa0-8938-5832709f8de5/Tukes-ohje+-+Uimahallien+ja+kylpyl%C3%B6iden+turvallisuuden+edist%C3%A4minen.pdf

Stallman, K, Robert; Junge, Malfreid&Blixt, Turid. 2008, The Teaching of Swimming Based on a Model Derived from the Causes of Drowning, International Journal of Aquatic Research and Education, vol. 2 nr 4, 372.

Stallman, Robert Kieg (2014) "Which Stroke First? No Stroke First!," International Journal of Aquatic Research and Education: Vol. 8 :No. 1 , Article 2.DOI: 10.25035/ijare.08.01.02. Available at: https://scholarworks.bgsu.edu/ijare/vol8/iss1/2.

Terzidis, Agis; Koutroumpa, Anastasia; Skalkidis, Ilias; Matzavakis, Ioannis; Malliori,Meni; Frangakis, Constantine E; DiScala, Carla &Pefridou, Eleni Th. 2007, Water safety: age-specific changes in knowledge and attitudes following a school-based intervention, Injury Prevention vol. 13 nr. 2, 120-124

World Health Organization (WHO). 2014, Global Report on Drowning. Available (14.10.2018) at: http://www.who.int/violence_injury_prevention/publications/drowning_global_report/Final_report_full_web.pdf

YMCA: Teaching Swimming fundamentals. Champaign: Human Kinetics 1999.

IF YOU HAVE QUESTIONS, FEEL FREE TO CONTACT ANY PERSON WHO WORKED ON A PARTICULAR CHAPTER

I SOME PEDAGOGICAL ASPECTS IN SWIMMING TEACHERS WORK.

Creating a positive environment for learning in your swimming activities: **TOMAS RAKOVAS**

Planning and implementing your lessons (activities) & Motivating students: **RIITTA VIENOLA**

Different ways of teaching. *Teaching styles:* **DAGMAR DAHL**

II water basic competency: **DAGMAR DAHL**

III self-rescue and safe rescue skills: **RIITTA VIENOLA**

IV water survival skills training. An example from the “swimming abc” programme: **VAIDA MOCKEVIČIENĖ**

V safety aspects concerning swim teachers and swim coaches skills, knowledge and: competence: **MIKAEL MURRO; RIITTA VIENOLA**