



Co-funded by the
Erasmus+ Programme
of the European Union

**LIFE LONG
SWIMMING**



TEACHERS HANDBOOK



Presentation

The Lifelong Swimming Project (www.lifelong-swimming.eu) is co-funded by the EU Erasmus+ Program with the objective of motivating active elderly people (over sixty) to follow suitable and pleasant regular programs that may contribute to their wellness and health.

Additionally, it aims to help and give simple advice and guidance encouraging more adults and seniors to this sport, which can be safely enjoyed by everyone.

The project was originated in Trieste, an Italian city that – for its demographic composition, relevant number of “seniors” and sport associations, a strong sport tradition – can be considered a European “capital of active ageing”. FIN Federal Centre Trieste in collaboration with Leader Comunicare Interculture developed in Trieste the first H2Open Days, a format that was then adopted by the project partner countries to promote “lifelong swimming”.

The present Handbook has been developed by the collaboration of the Technical Area of the Italian Swimming Federation, the Spanish, Maltese and Turkish Swimming Federations, under the scientific supervision of the University of Coimbra (Portugal) and the support of EN (Ligue Européenne de Natation) and Leader Comunicare Interculture.



Foundations

Scientific research has identified some rules that must be followed in order to successfully implement an optimal exercise program aiming to promote health and functional benefits for seniors: Offer a multidimensional program, including training opportunities for physical improvement like endurance, strength, balance, and flexibility;

- Begin at a low intensity level and then gradually increase the challenge to a moderate physical activity, which will provide a more interesting benefit;
- Aim to develop changes through social support, self-efficacy, active choices, health plans, safety assurances, and positive reinforcement that enhances commitment;
- Monitor physical adaptations through training processes like aerobic capacity, since these are important to progression and motivation¹.

The guidelines for physical activity in older adults, published by the American College of Sports Medicine and American Heart Association, state that, in order to maintain or improve the health and well-being, «*older adults need moderate-intensity aerobic physical activity for a minimum of 30 minutes five days each week or vigorous intensity aerobic*

activity for a minimum of 20 minutes three days each week. (Moderate intensity is when you feel “warm and slightly out of breath”, and vigorous is when you feel “out of breath and sweaty”)»².

Recommendations for physical activity for adults aged 60 and over are as follows:

- At least 30 minutes 5 times a week of moderate-intensity aerobic physical activity;
- Or at least 20 minutes 5 times a week of vigorous-intensity aerobic physical activity;
- Or a combination of both.

Research has identified some guidelines that must be adopted in order to successfully implement an optimal exercise program aiming to promote health and functional benefits for seniors:

- Planning a multidimensional program including endurance, strength, balance, and flexibility training;
- Following changes of behavior including social support, self-efficacy, active choices, health plans, safety assurances, and positive reinforcement that enhances commitment;

- Beginning at a low intensity level but gradually increasing to a moderate physical activity, with lower risk level: a benefit balance;
- Having an emergency procedure plan is prudent for community-based programs;
- Monitoring physical adaptations through teaching and training processes like aerobic capacity, since these are important to progression and motivation ¹.

Various types of problems constrain the popularity of swimming among seniors:

- Organizational: many swimming pools are inadequate for seniors;
- Technical: there is no teaching model available for seniors;
- Sociological: being outside the work and school context, seniors are a population more difficult to reach; generally seniors are online excluded; only now governments and scientific communities are taking into account issues related to aging; non-existence of contacts in databases of sports federations and associations. Information dissemination on health benefits is very useful to entuse seniors to swimming programs.

The LLS Project aims to fill these gaps by:

- Developing an organization model aimed at adapting sport centers to seniors' needs;
- Emphasizing a teaching model: swimming education for adults and seniors;
- Creating a swimmers' certification standard: *the Swimmer's book for Seniors*
- Creating a clubs' certification standard: the quality certificate *LLS partner club*.

The LLS Project is sponsored and funded by the EU, developed by the Technical Area of the Italian Swimming Federation in collaboration with LEN, Spanish Swimming Federation and Turkish Swimming Federation, under the scientific supervision of the University of Coimbra (Portugal).

More details on the official website

www.lifelongswimming.eu.



1.

Organization model

1.1.

AIMS

- To produce *guidelines* aiming to develop swimming seniors-friendly centers.
- To take small steps and focus on making public and private swimming pools a reference in the promotion of aquatic sports on local areas, with a special care for senior people, namely active seniors over 60.
- Create a program that can be adapted by any swimming organization (club, exercise academy, etc.) according to specific peculiarities.

1.2.

THE SWIMMING POOL

All areas should have proper lighting (considering the needs of visually impaired people) and be well ventilated. Elevators or ramps for reducing obstacles must be mandatory.

Hygiene and cleaning should be ensured; i.e. bare-foot surfaces (pool deck, starting blocks, etc.) should be sanitized with antifungal products at least once a day.

1.2.1 Reception

Reception service should be provided for at least half an hour before the beginning of classes, with staff able to clearly explain the seniors' program and help clarify any doubts.

Information about the seniors' program, such as flyers, video walls, etc., should be made available at the desk and online (website, social media, etc.).

1.2.2 The swimming pool as an health center

In order to encourage a greater attention to personal health, it is mandatory the existence of a medical office in each sport or exercise facility. Thus, the swimming pool acts as a health post.

Before engaging in the program, swimmers should submit a medical certificate issued by a family or sports doctor, along with a resting ECG.

Although senior swimmers must carry with them a medical certificate assuring that they have the appropriate health and fitness level for aquatic exercise, it is important to ensure the possibility to perform some simple health testing like blood pressure, heart rate, glycaemia, and so on, both before and after lessons, when required. It pro-

vides confidence in the facility and in the program. Instructors/teachers and reception personnel must be trained to offer this service whenever necessary.

The program assumes that all swimmers candidates are in good physical condition. This is often an unrealistic assumption, so teachers should be able to change some steps, or even completely change the strategy, pragmatically and efficiently.

1.2.3 The staff

To have success any program must rely on a strong organization and adequate human resources.

To operate the program, in addition to the full staff the essential personals are:



DENOMINATION	TITLE	TASKS
Sports manager	Degree in physical education <i>or</i> Specific qualification issued by national swimming federation	Represents and manages the club. Sets goals and means. Recruits reception/administrative staff and the swimming school coordinator.
Swimming school coordinator	Degree in physical education <i>or</i> Specific qualification issued by national swimming federation	Organizes sport activities. Creates swimming school classes. Welcomes and refers participants to appropriate classes.
Seniors' swimming teacher	LLS Teacher - trained by national swimming federation	Runs classes
Seniors' aquafitness teacher	LLS Teacher - trained by national swimming federation	Runs classes

The organization chart should be visible to the public, with the personal photo and the duties of each person.

The weekly working plan schedule should include a period of time when the seniors' swimming teachers can talk with the swimmers and help them clarify any doubts. Maintaining a communication channel open is very important for these groups.

1.2.4 Courses organization

The seniors' courses are organized in order to provide two or three lessons per week, to obtain the best behavioral and fitness adaptations.

Classes are organized first according with skills, then according with age.

Every class lasts for 40-60' including general warm up on dryland, tasks for correcting posture or activities for general muscular reinforcement, which could be developed before the aquatic work.

The teacher/swimmers ratio should be proportional to their swimming skills.

- For beginners, who still have a little fear of water, 1:5;
- For intermediate swimmers, who show some autonomy but require a lot of attention in the learning process, 1:12 and never higher than 1:15.
- For advanced swimmers, who train for fitness, the facility rules may be followed, (ex. 1:15 for each lane) (swimming pool rules regarding the instantaneous maximum number of people allowed).

To be comfortable, water temperature must be between 27°C and 30°C and the atmosphere must be 1°C above water temperature.

1.2.5 Pool safety

Providing a safe environment is required for operating the pool. Risk prevention and risk management entail the existence of an action plan. All personal teacher/ coach, lifeguards and people that work at the facility must be familiar with CPR techniques and must be regularly trained to use them. It is fundamental that an automated external defibrillator (AED) be at a maximum distance of 3 minutes from any point of the facility.

Security is a relevant issue for seniors involved in swimming. The progressive loss of vision, hearing and balance are three major concerns for senior swimmers. It is important to consider these handicaps not only in the water, but also during displacements. The facilities and the area around the pool are critical to this particular group. The prevention and the management of risk situations entail the existence of an action plan based on specific strategies aimed to mark and reduce slippery areas. Abandoned equipment, like construction materials, around the swimming pool and other potential critical situations may contribute to falls.

Swimmers safety is the main concern. In the water, attention should be drawn to rules of common sense:

- Teachers and coaches of senior swimmers should also be lifeguards; otherwise, a lifeguard must be present;
- Water depth must be clearly signposted;
- Pool deck must be as clean and dry as possible; barefoot paths must be as short as possible;
- Exercises in apnea should be minimized, and only one swimmer at a time should do it.

1.2.6 How to reach seniors and motivate them to swim

Reaching this target audience is a quite ambitious challenge which involves two distinct steps: the first contact, and then motivate them to follow the programs.

For the first contact, we have two channels: one formal and one informal. Formally, we can promote activities such as: awareness sessions in health centers and local organizations, use formal media (as newspapers), information sessions for senior citizens, collect a list of contacts in clubs or federations of old swimmers and also from other sports. Informally, we can disseminate online information through their sons, daughters and grandchildren, use informal media like Facebook, Twitter, and Instagram, and mostly use word of mouth.

The other important step is after the first contact and it comes down to the suitable strategy of how to motivate this group. We have to take into consideration some aspects like social environment, and promoting active civic participation. Even the surrounding environment is important, for example, providing transportation to the swimming pool or having age-friendly swimming pools. Other actions that can be explored are:

- Open days (free of charges);
- Short courses for self-confidence in the water;
- Promotion of private lessons in public or private swimming pools;
- Sports competition for senior swimmers;
- Providing classes in suitable schedules;
- Celebration day: grandparents and grandchildren in the water.



2.

Senior Lifelong Swimming

The Teaching Model

2.1. ASSUMPTIONS

Teaching seniors how to swim requires rather different strategies than those adopted with kids. This happens because seniors have peculiarities:

- Since seniors tend to show serious coordinative adaptation limitations, they have serious difficulties in learning new sports skills;
- Some show physical problems, which could impair some movements (even if they possess good skills);
- Some suffer from chronic or temporary pathologies (vision, hearing, cognitive disorders) that disrupt communication;
- The fear of water, often turned in real panic, is probably the main issue to address at *Beginners'* level in seniors' programs. Creating a sense of security and pleasure in the water must be the first step in the specific teaching program.
- Many old adults have their first contact with water later in life, perceiving it as an unknown environment, which could generate initial feelings of fear, constrain and stress. The lack of

adjustment and discomfort with a new environment could be a problem.

- A negative attitude (many seniors don't go to the pool because they *want*, but because they *have to*) could lead to communication problems.

This program intends to be implemented taking into account the fitness and skill levels of each senior swimmer, but it should be adapted to the real conditions of the programs of each Exercise Academy, Sport Club, and public or private swimming pool programs.

When designing and implementing any teaching program, we must take under consideration the previous knowledge from field usual practices. Although a more segmented program with several skill level groups could be the ideal choice, this may not be adequate to the majority of real field conditions. In general, a **three level** teaching course seems adequate. In this program we specify the objectives and competences for each level. Even for seniors with physical impairments, three-level approach can be used to teach seniors how to swim and to make them become independent in the water³.

Although the program mentions the expected

continuity in each level, there is not an exact time limit to achieve the objectives of each level, since it depends on the high inter individual variability.

The senior will be placed in his/her actual competence level after an interview with the instructor/teacher or the sports academy (swimming pool) technical director, or even after he/she fills up an appropriate questionnaire.

The access to the next level as a result of the natural competence evolution must be discussed with the senior. In many cases, social relationships created during swimming classes are strong motivational reasons and the senior prefers to stay in the current level instead of advancing to the next one. Another reason could be related to the fact that different swimming levels have different time schedules, which could be incompatible with the daily routines of each person. This may be problematic to class management due to an increase of competence heterogeneity. However, the superior interest of the senior must prevail and alternative tasks could be the solution.

A research conducted with Parkinson's disease (PD) patients, using the Halliwick Principles' 3-phase 10-point methods for acquisition of aquatic motor skills, showed that the patients improved their ability to float and their longitudinal rotation in the bipedal position. The study thus concludes that the activation of the motor control improved the motor skills⁴.

2.2. AIMS

Scientific literature and current training trends show that aquatic skills improvement results in more health and quality of life benefits when compared with many other forms of exercise. Very often seniors insist on working strength, speed, and endurance through other types of exercise that are not ideal for them due to their physical limitations or injury risks.

The main goal is to help seniors develop a continuous smooth stroke, maximizing the stroke effectiveness as follows:

1. Reduce drag:

- Muscle relaxation
- Correct body position (streamline)
- Continuous stroke (path, orientation and acceleration of limb actions)

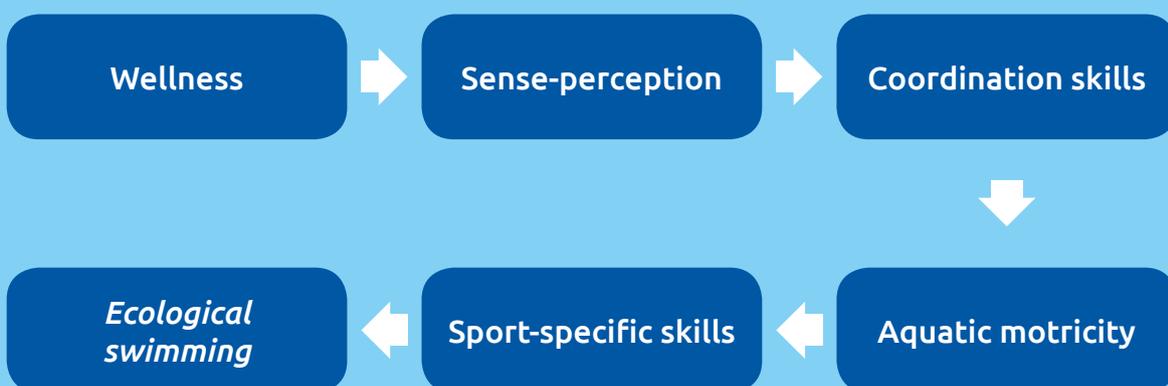
2. Increase the power:

- Strength, speed, endurance training
- Joint mobility training (water and dryland)

Workouts should be fully compatible with age and physical condition of swimmers.

The goal is improving the swimmers' skills through senso-perceptive exercises (*feel the water*) rather than through long, challenging and boring repeats and sets, following a path towards a so-called *ecological swimming*.

GENERAL APPROACH FOR THE SENIOR SWIMMING TEACHING PROGRAM



Special care should be taken in order to avoid monotony, since it often leads to a “dropout” from the swimming program. No matter the swimmer’s level, the key is variety. Programs must avoid repetitive routines, with the same exercises and equipment. When teaching senior swimmers, at every level but especially at Beginners’, every critical component of the movement or desired behavior must be isolated and introduced each time.

2.3. THE TEACHER PROFILE

Adaptations are more difficult to be achieved by adults than by children. So, it is appropriate to reduce the number of exercises and increase the number of sets/repeats for each exercise, advising swimmers to focus on their strokes, seeking the most suitable solution.

The teacher/instructor must be very proficient in swimming-related knowledge: technique, biomechanical, physiological and motor control.

Feedback is the key to skills development. Children should be involved through play and team spirit; seniors instead need to build a mutual trust based on reliability and coincidence of aims and results. The teacher/instructor must systematically pay attention to the swimmers’ needs and expectations in their classes. The extrinsic motivation must be permanently stressed. A seniors’ teacher/coach should be very professional and a great communicator.

Whenever possible, *Beginners’ Level* should be entrusted to the most experienced teachers.

During lessons, the information provided should be simple, verbal, clear and objective. The teacher, or other skilled swimmer, should demonstrate the exercise without ignoring its quality.

Choosing regularly to give positive feedback instead of negative feedback enhances motivational behaviors. The student’s competence acquisitions should be evaluated frequently. Teachers/ Instructors must frequently perform self-assessments in order to improve the quality of their teaching process.

A specific certification for teaching/ coaching seniors must be implemented, according to the national sports certification process. With such certification the teacher/coach will be fully able to manage programs aimed at special populations, like senior citizens.

2.4 GENERAL GUIDELINES FOR SWIMMING LESSONS

Every lesson must be well prepared according to the current plan and the guidance of the program’s general and specific objectives. Each lesson should respect the 3 main phases: initial or warm-up, preparing the swimmers for the physical and cognitive stress of the lesson, the main phase, contributing to achieve the objectives, and the cool down phase, helping recover from the physical and emotional strain and preparing senior swimmers for the next lesson. The possible aquatic activities are somewhat limited in this group. However, introducing some tasks that increase joy and motivation is very important for the seniors’ commitment. The cool down phase is the moment to talk, and to clarify doubts and expectations. Cooperative games are good choices to finish each lesson. Sometimes, at the end of each lesson, we can collect some data regarding the individual’s response (basic well-being questionnaires, heart rate, blood pressure, ratings of perceived exertions, and so on).

Never skip basic steps of learning or move on to new proposals without the previous ones are properly consolidated. The exercises should follow a teaching progression, from simple to complex. Each new exercise assumes completion of prerequisites. Otherwise we should not launch new ones. Avoid exercises that often do not yield positive and expected results. Favor short displacements, since otherwise technical execution could be hindered by the distance.



3.

Senior Lifelong Swimming An Evolutional Program

According to a study published in *Proceedings of International Symposium on Biomechanics and Medicine in Swimming*, a group of low-active senior men followed a five-month swim program. During the program, they were instructed on stroke technique. At the end of the program, the men showed significant improvement in stroke and pool performance but they also showed improvement related to overall flexibility, ankle movement, hip rotation, shoulder movement and body weight.

By designing and implementing any teaching program, we must take under consideration the previous knowledge from field usual practices. Although a more segmented program with several skill level groups could be the ideal choice, this may not be suitable to the majority of real field conditions. In general, a **three level** teaching course seems appropriate. In this program we specify the objectives and competences for each level. Even for seniors with physical impairments, a three stage approach can be used to teach seniors how to swim and to make them become independent in the water³.

Although the program mentions the expected continuity in each level, there is not an exact time limit to achieve the objectives of each level, since

it depends on the high inter individual variability.

The senior will be placed in his/her actual competence level after an interview with the instructor/teacher or the sports academy (swimming pool) technical director, or even after he/she fills up an appropriate questionnaire.

The access to the next level as a result of the natural competence evolution must be discussed with the senior. In many cases, social relationships created during swimming classes are strong motivational reasons and the senior prefers to stay in the current level instead of advancing to the next one. Another reason could be related to the fact that different swimming levels have different time schedules, which could be incompatible with the daily routines of each person. This may be problematic to class management due to an increase of competence heterogeneity. However, the superior interest of the senior must prevail and alternative tasks could be the solution.

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participants improved their motor skills by activating the motor control⁴.

In an ideal tutorial, the program assumes that all swimmers are in good physical condition. This is often an unrealistic assumption, so teachers should be able to change some steps, or even completely change the strategy, pragmatically and efficiently.

3.1. DRYLAND WORKOUT

In general, dryland training is beneficial for seniors. Intermediate and advanced swimmers will often benefit from dryland exercises requiring strength or flexibility, since these help them to become conscious of the movement pattern they do while swimming. Such motion awareness helps them to correct postures and flaws.

Separately sessions of a proper supervised strength and flexibility program may be very useful to overcome some muscular weakness, since the swimming program alone does not solve eventual weakness⁵. However, the need of this kind of training session must be questioned as the exercise in water is itself an important stimulus to develop strength and flexibility.

Nevertheless, proper warm-up or recovery routines must be part of the program at every level assuring that the best physical and emotional conditions are right for the workout. The following is an example of a warm up routine.

3.1.1 Dryland warm up: 10 minutes

Warm up is aimed to improve articular mobility and prevent injuries.

3.1.2 General Mobility

- Flexion and extension of ankles.
- Flexion and extension of knees.
- Hip rotations with necessary caution
- Flexion and extension of elbows.
- Flexion and extension of wrists.
- Shoulder rotations.
- Neck rotations.

3.1.3 Scapular Mobility

- Scapular push-ups using wall slides.

3.1.4 In case of osteoporosis

- Facing wall:
 - With knees slightly flexed, push the wall with the hands keeping the back straight.
 - Climb the wall with the hands until getting full extension of arms and back.
 - Half flexion of knees with the hands resting on the wall above the head level. Up and down slowly.
- Backs to the wall:
 - With feet slightly away from the wall push up the body against the wall and stretch the body as far as possible keeping the back straight and the knees slightly flexed.
 - With the hands resting on the wall, do half flexion of knees keeping the back straight. Up and down slowly

3.2. BEGINNERS' LEVEL

3.2.1 Characteristics

Main characteristics are fear of water and/or difficulty in movement in water if not touching the pool bottom.

3.2.2 General guidelines

- The “aquatic gym” in shallow water (maximum depth 1.40m) could be effective as first activity. The upright position with head above water helps familiarize with the new element and understand how water reacts to body movements.
- The relaxing activities are very important as they allow you to feel more comfortable, to experiment the buoyancy and discover how easy it is to execute movements helping to balance and to move through water.
- At this level, the program must be oriented to assure self-confidence and a sense of security, to acquire autonomy in the water enabling them to have fun during water activities, and to increase their aquatic competences.
- The constant perception of help is a paramount issue.
- The selection of enjoyable tasks is a valuable strategy to assure the familiarization with the water.
- At this stage the lesson tasks are not highly physically demanding.

- The activity is supposed to require little intensity and variety.
- Permanence at this level varies a lot. However, spending an excessive amount of time in this stage could be discouraging. With a frequency of 2 lessons a week 6 to 8 months is supposed to be enough to overcome the initial difficulties.
- It is very important to explain the difference of acquiring skills with a frequency of 1 time a week or 2 times a week.
- The ideal ratio of swimmers for one teacher is 1:8.

3.2.3 General objectives

- **Balance.** Stimulating this ability is also required for further movement acquisitions. Some techniques and exercises that come from Yoga, Tai Chi and postural re-education applied in water could play an important role to prevent the risk of falling and hurting. Many seniors are suffering from the early stages of Parkinson disease, and many benefits will arise from the practice of water activities by improving balance.
- **Water walking.** Water buoyancy supports the body's weight, so there is less stress on joints. Water provides 12 times the resistance of air, so as you walk you really strengthen and build muscle.
- **Breathing.** Breath control is the basis of any physical activity. Moreover, working on breathing helps understand better how buoyancy works (inspiring/floating - expiring/sinking) and promotes relaxation.
- **Static floating** on the chest and on the back. Not all swimmers have a body structure that allows floating: what matters is to maintain the correct position keeping muscles relaxed, so that later the swimmer can build complete strokes.
- **Dynamic floating** (gliding). Pushing the ground/wall, perfectly streamlined. Later, add kicking and sculling (extremely useful to develop sense-perception).
- **Entry.** This competence must be introduced very carefully. Many seniors show limitations in their joints and bones. The quick shift from land to water could be a little risky. The use of access ladders must be the first choice. As soon as the conditions allow, entry by foot from deck to water may be introduced. Later, the

entry by hands and arms, followed by the head, trunk and legs, will be possible for many senior swimmers. Taking special attention to depth is very important.

3.2.4 Specific objectives

- Increasing body immersion, promoting water contact, decreasing gradually the support offered by external aids (fixed or floating equipment);
- Improving a relaxed attitude;
- Promoting the acquisition of static floating with and without help;
- Gliding in streamlined ventral/ dorsal position and in lateral body alignment from surface to progressive deeper immersions;
- Gliding in streamlined ventral/ dorsal position, switching arm position, taking special care with head and hip position;
- Combining breathing (complete in water exhalation) with rhythmic immersion cycles;
- Opening eyes on immersion;
- Combining breathing with glide;
- Combining breathing with glide and rudimentary propulsion (legs);
- Switching body position when gliding.

3.2.5 Final objectives for the Beginners' Level

- Jumping voluntarily from deck without help.
- Breathing rhythmically, inhaling from mouth and exhaling in the water from mouth and nose.
- Moving in shallow water in different directions. Moving in deep water with additional floating equipment.
- Keeping horizontal floating position, and returning to vertical position without help. Doing the same in deep water with additional floating equipment.
- Floating without help, adopting the jellyfish position and returning to vertical position.
- Making a displacement of 12 meters in ventral position with leg propulsion, with floating kickboard.
- Making a displacement of 6 meters in ventral or dorsal position, with global contribution of legs and arms, without additional floating equipment.
- Making a glide in total immersion from the wall (5 meters).

3.2.6 Examples of workout sessions

BEGINNERS' LEVEL WORKOUTS

Overcoming the fear and learning to relax and becoming comfortable in the water.

WORKOUT 1

OBJECTIVES: 1. Buoyancy
2. Breathing –water stress in breathing cycles.

TIME: 45 – 50' (5' - Warm-up; 30' - Main part; 10' – cool down)

SPECIFIC WARM UP (5')

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Hopping in the same place or in small displacements in shallow water (waist deep) own shower exercise keeping eyes open and simply enjoying the activities.	Different directions (forward, backward, sideways) without and with the help of arms (simultaneous and alternatively).	General activation.

MAIN PART (30 – 40')

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Walking in water (waist and chest deep) shoulders at surface level.	With kickboard or another flutter device, head up, mouth immerse, blow near the surface, eyes open.	Feeling the water pressure. Overcoming the water resistance when exhaling (making bubbles).
Walking in water (waist and chest deep) with trunk in horizontal.	With kickboard or another flutter device, face immersed, blow underwater, eyes open.	Feeling comfortable by breathing and opening eyes underwater.
Walking in shallow water pushing a ball with the head.	Each time someone pushes the ball, he or she must put his or her face in the water.	
Series of total immersion of the body in the same place, exhaling the air through the mouth.	In pairs, or with the help of the teacher.	Controlling the breathing rhythmically.

COOL DOWN (5- 10')

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Wheel Games. Moving continuously holding hands, mark alternatively the seniors as 1 or 2. At the teacher's signal, all submerge and look to their right and left smiling underwater.	Change direction every time the teacher signals.	Focusing on breathing, opening eyes underwater in a ludic way.

WORKOUT 2

OBJECTIVES: Body alignment - streamline position. Breathing pattern associated to ventral floating and alternating kicking

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
In shallow water (chest deep) in the same place or in small displacements, running, skipping, hopping or bouncing around, moving arms front and back alternatively and simultaneous, in circles. In case of deep water, they must use adequate floating equipment.	Move slowly and softly when changing direction. With and without fixed and mobile support gradually increase the body immersion, encouraging contact with water.	Overcoming the fear and learning to relax in the water. Learning how it feels to move through the water and maintaining your balance.
On the wall, lying on the stomach, kick legs, varying the intensity.	Feel the bubbles in the face. Keep eyes open. Control breathing to promote relaxation.	Becoming comfortable in the water.

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Gliding in supine position (≈6 -8 meters). Pushing the wall, glide in supine position keeping the ears and the chin at the surface, eyes looking up to feet, which are in vertical position. Arms close to the body.	To return to vertical position, bend the knees flexing the neck. Feet on the ground and face out of water. (For those who show difficulties in this task, the use of a kickboard on the chest will be helpful)	Focusing on body alignment. Streamline. Felling safe while switching position from horizontal to vertical.
In prone streamline position, gliding after pushing the wall, exhaling during displacements (≈6 meters). Open eyes on immersion. 4 repetitions for each arm position. Switch arm position. Both arms extending, blocking the head. One arm extending in front, the other close to the body. Switch arm position. Both arms extending close to the body.	Keep attention to the head position, and exhale completely. To return to vertical position, first bend knees to chest, feet on the ground and, at the end, emerge the face extending the neck.	Controlling breathing in order to promote relaxation. Maintaining the streamline, switching arm position.

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
In total immersion, after pushing the wall with arms along the body, the student must perform flutter kick. When breaking the surface, he or she should continue until reaching the middle of the pool.	Combine breathing with gliding.	Focusing on body alignment. Streamline. Feeling safe while switching position from horizontal to vertical.
Crawl without breathing (≈10 -12 meters) Pushing the wall, streamline, add kick and move the arms alternatively like in crawl stroke.	Hold the hand and your body moves through. Feel smooth and easy without struggling with the water.	Controlling breathing in order to promote relaxation. Maintaining the streamline, switching arm position.

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Towing partners in different positions and directions.	Pay attention to the risk of some positions adopted, which may be uncomfortable at this level.	Playing and enjoying the water.

WORKOUT 3

OBJECTIVES: Breathing control

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Walk around in chest-deep water, or deep water with floating equipment.	Move slowly and gently when changing direction. With and without fixed and mobile support gradually increase the body immersion, encouraging contact with water.	Move slowly and gently when changing direction. With and without fixed and mobile support gradually increase the body immersion, encouraging contact with water.
Hold onto the side of the pool. Put the nose under water while humming, blowing bubbles at the surface. Do the same with the face completely immersed.	Feel the bubbles in the face. Try to always keep eyes open.	Becoming comfortable in the water.

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Practice blowing bubbles through the mouth in the water Blow water through the nose before immersion. Sink the nose under the water and blow to create bubbles.	Feel the bubbles in the face. Try to always keep eyes open.	Controlling breathing in order to promote relaxation.

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Hold onto the side of the pool, take a breath and hold it, then submerge your entire body underwater. Immediately bob back to the surface. Repeat 10 times, quickly.	In the beginning, use the same aid to submerge like the pool stairs.	Understanding how buoyancy works (inspiring/floating – expiring/sinking). Opening eyes on immersion.
Hands on the deck, arms in extension, immerse your face, blow bubbles, and then turn the head to one side and breathe.	While rotating the head, keep the opposite ear in the water.	This introduces rudimentary head lateral rotation for breathing. Controlling breathing in order to promote relaxation. Opening eyes on immersion.
Walk with the help of a floating board. At the teacher's signal, immerse the head and exhale through the mouth.	Keep shoulder at surface.	Understanding how buoyancy works (inspiring/floating – expiring/sinking). Opening eyes on immersion.
Go under the lane rope.	Keep eyes open.	

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Walk in shallow water pushing a ball with the head.	You must put your face in the water whenever you push the ball.	Feeling the enjoyable moving sensations while immersing your face.

WORKOUT 4

OBJECTIVES: Balance and propulsion

TIME: 30-40'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
With hands on the side of the pool, move along the wall.	Do not cross hands, feet in contact with the wall.	Feeling comfortable.
Go trailering the student on his or her back.	In pairs, changing the role between them when coming back.	

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Holding a kick board or noodle, stretch out with chin in the water and glide by pushing the wall.	Keep shoulders and hips at surface. Straight and horizontal legs.	Dynamic floating (gliding).
The same (keep the kickboard), and add breathing and kicking.	After pushing the wall, immerse the face and exhale the air in the water making bubbles.	Dynamic floating (gliding). Combining breathe with glide and kicking.
With head and hands at the edge of the pool, in dorsal position, practice kicking.	Try to kick the surface with straight legs and the toes breaking the surface.	Kicking alternatively in dorsal position.
In back position, with a noodle behind the head and arms. Stretch and glide by pushing the wall.	Look diagonally towards the pool roof.	Horizontal floating position.

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Water fight, always keeping the eyes open.	Teacher must control the reaction of those less comfortable with the game	Joy.

WORKOUT 5

OBJECTIVES: Propulsion

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Scatter several balls or other objects so that you go fetch them and throw them to your colleagues.	Within a limited area, preferable in hip to chest deep.	Creating a relaxed atmosphere.

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
With kickboard, body alignment, do the alternating kick for propulsion (≈10 -12 meters). 4 repetitions. Breathe in every 12 kicks	Combine breathing with gliding. Inhale by neck extension, emerging the face briefly and exhale completely in the water. Keep the shoulders in place (water line).	Streamline body position. Streamline.
With one arm holding the flutter kickboard and the other close to the body add the alternating kick for propulsion (≈8 -10 meters). 4 repetitions switching the arm position.	Add the leg kick. Inhale before pushing the wall or the ground, and exhale during displacements.	Small and quick kicks. Focusing on keeping the streamline.
First exercise without kickboard, turn the head for breathing every 12 kicks. 4 repetitions switching arms and breathing side.	Incorporate regular inhalation.	
After pushing the wall, glide at the surface on ventral position, exhale and turn to dorsal position keeping the streamline.		

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Each student has a noodle to use like it was a horse. Organize relay races in short distances (ex. 12-15 meters).	You can move more efficiently in the water with the aid of the arms.	Playing and enjoying.

3.3. INTERMEDIATE LEVEL

3.3.1 Characteristics

Seniors at this level must show autonomy in the water. Considering security conditions, they are able to choose the appropriate way to enter in the water according to their skill level, they immerse voluntarily and float statically and dynamically (glide) both in supine and prone position. They are able to do some breathing cycles in the same place or during displacements.

3.3.2 General guidelines

- Considering the necessary individual skill competence at this level and a frequency of 2 times per week, the swimmer would supposedly stay in this stage for 8 to 10 months.
- Each lesson takes 45-50'.
- The ratio between teacher and swimmers is around 1:10 – 12.

3.3.3 General objectives

- Lead seniors to agree to float (in any position) in deep water. It is very important that swimmers work safely even when they cannot touch the pool ground.
- Execute the basic swim techniques crawl and backstroke, which should be developed globally, starting from a raw form to subsequent refinements.
- Associate the correct regular breathing pattern to each stroke.
- The breaststroke kick and the undulatory movement can be introduced at this level.

3.3.4 Methodology

The basic approach for learning the swimming strokes is as follows:

- Glide in ventral/dorsal body position adding the kick (small and quick). In these exercises the instructor/teacher may ask seniors to keep their arms in different positions.
- Displacement in small distances (10-12.5 meters) breathing forward, adding the freestyle kick, and on back position, first with the kickboard near the knees.
- Standing up on deck, work one arm separately to help feel the sense of the movement. If necessary, the teacher can give proprioceptive feedback, guiding the movement, and focusing on critical points of execution.

- In shallow water, do the arm movement alternatively first in the same place and later while walking. Afterwards, when gliding after pushing the wall or the ground, add leg kicks.
- The same exercise but introducing the free-style lateral breathing. Only 1-2 breathings for the same side. Sometimes seniors have many difficulties to breathe for one of the sides. In that case he or she must choose the one which is more comfortable.
- Jumping from deck, varying the initial body position, the fly and the body entry into the water.
- Progression occurs when more regular breathings are required while swimming the distance. In backstroke, there are no natural limitations, but swimmers should be asked to breathe regularly.
- Rotate the body in several axes, preparing it to learn the open and somersault turn.

3.3.5 Final objectives of the Intermediate Level

- Jumping from deck and returning swimming to the wall.
- Swimming 25 meters in crawl using legs and arms, breathing regularly.
- Swimming 25 meters in dorsal position using legs and arms, breathing regularly.
- Complete submersion to catch one object (with eyes open).
- Swimming 12.5 meters in ventral position, turning 180° and swimming 12.5 meters on back position.
- Swimming 12.5 meters with breaststroke kick, with kickboard.
- Swimming 12.5 meters in undulatory movement in ventral and dorsal position.

Normally, seniors require less exercises and more time to repeat them. In a 45 minute session, 7 to 9 exercises are enough. However, sometimes the same exercise can be used changing a few elements and in this case is just one exercise. Thus, the number of repetitions must be adapted so the swimmers would not get too tired. Teachers must pay attention to executions and correct them while keeping on motivating.

3.3.6 Examples of workout sessions

SENIORS' INTERMEDIATE LEVEL

Towards autonomy in water.

WORKOUT 1

OBJECTIVES: Improve immersion skills and switch the balance position (Ventral/Dorsal)

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Scatter several balls or other objects so that you go fetch them and throw them to your colleagues.	Feeling comfortable, safe and active.	Preparing for the main tasks of the session.
Glide under water after pushing the wall, add 6 kicks breaking the surface and combine 6 crawl arm strokes without breathing (4 repetitions).		

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x25 m: Alternating leg kick without kickboard (12.5 m ventral position, turn, 12.5 m dorsal position).	Feel the legs straight, small amplitude of kicking and heels breaking the surface.	Keeping the streamline while switching position.
2x25 m: Alternating crawl and backstroke (12.5 m ventral position, turn, 12.5 m dorsal position).	Keep the alignment.	
Collect objects from the ground in shallow water.	Eyes open for guidance and keeping the streamline.	Focusing on the capacity to move in total immersion.
Collect objects in greater depth.		
Submerge pushing the wall and in streamline. Collect objects 3 meters apart in greater depth.		
Submerge pushing the wall and in streamline. Collect objects 5 meters apart in greater depth.		

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
Simplified water polo game.	2 teams in shallow water.	Playing and enjoying.

WORKOUT 2

OBJECTIVES: Improve crawl, streamline position and breathing control

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
5' walking in chest deep water, with the help of arm movements.	Change direction often.	Preparing for the main tasks of the session. Feeling comfortable, safe and active.
4x15": Holding onto the edge of the pool (horizontal position) kick with legs and breathe exhaling in the water through nose and mouth.	Feel the legs straight, small amplitude of kicking and heels breaking the surface.	
Push the wall and glide at surface and underwater. Keep body horizontally aligned in streamline position. (4 Repetitions each).	Always keep the eyes open.	

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x12.5 m kicking.	Using a kickboard, breathe forward.	Breathe exhaling underwater.
4x12.5 m: Lateral kicking. One arm close to the body and the other in extension.	Keep body in lateral position. Eyes looking to the bottom of the pool. To breathe, head and body must roll together.	Keeping horizontal body alignment.
4x25 m: Adding 1 arm crawl to the kick, switching side every lap.	Pull with one arm, the other holds the kickboard.	Adding the rotation of the head and trunk to make inhalation easier.
2x25 m: Catch-up.	Same as the last exercise, however the swimmer must switch arm side in every stroke.	Stimulating the bilateral breathing pattern.

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x12'5: Normal crawl.	Try to do at least 2/3 breathing cycles.	Continuity of the alternating movements, avoiding interruptions.

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
6x20" Buoyancy on the back in the same place, with the help of floating material.	Feeling relaxed and calm.	Recovering and relaxing.
1x25 m: Backstroke with both arms.	Relax between each arm cycle and feel the glide.	
5' ball game.	2 teams making 5 consecutive passes to get 1 point.	Playing and enjoying.

WORKOUT 3

OBJECTIVES: Backstroke position and breathing control

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
5' walking in the water (chest deep). Changing direction with the aid of the arms for propulsion.	Feeling comfortable, safe and active.	Preparing physical and emotional conditions to the main tasks of the session.
In total immersion, glide after pushing the wall, streamline adding 6 kicks (4 repetitions).	Streamline. Try longer distances each time.	
2x12.5 m: Crawl.	Thermal adaptation.	

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x12.5 m: Backstroke leg.	Switching arm position: 1 – Arms extended and close to the body. 2 – One arm vertical at shoulder level, the other extended over the head. 3 – Both arms extended over the head.	Dorsal streamline.
4x25 m: Backstroke, one arm for each length.	Swim with one arm keeping the other close to the body. Kick without stopping.	Learning the arm stroke and synchronization with the leg kick.

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x25 m: Backstroke catch-up.	One arm at a time. One begins after the former finishes.	Learning the arm stroke and synchronization with the leg kick.
4x12.5 m: Backstroke.	Swim with continuous arm and leg movements. Never stop.	Global synchronization.

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
6x10" Buoyancy in ventral grouped position.	Exhale slowly and completely the air in the water. Catch heels with hands.	Relaxing.

WORKOUT 4

OBJECTIVES: Crawl & backstroke, body position and breathing control

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
5' walking in the water (chest deep) with the aid of the arms. At the teacher's signal, do a total immersion.	Felling comfortable, and active.	Preparing for the main tasks of the session.
Glide under water after pushing the wall, add 6 kicks breaking the surface and combine 6 crawl arm stroke without breathing (4 repetitions).	Streamline body position.	

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x12.5 m: Crawl kick.	With kickboard, frontal breathing.	Exhaling underwater.
2x25 m: Catch-up.	One arm at a time. One begins after the former finishes.	Correcting arm path and combining the right time to breathe.
2x25 m: Crawl.	Swim with normal stroke.	Continuity of movements and right breathing pattern.

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
1x25 m: Crawl breathing every 3 arm stroke.	Bilateral breathing.	Stimulating the bilateral breathing pattern.
1x12.5 m: Crawl with some increasing speed	Increase power.	Continuity of the alternating movements, avoiding interruptions.
2x12.5 m: Backstroke leg kick.	Switching arm positions: 1 – Extension close to the body. 2 – One arm close to the body, the other in extension over the head. 3 – Both arms in extension over the head.	Streamline dorsal position.
2x25 m: Backstroke catch-up.	One arm at a time. One begins after the former finishes.	Correcting arm path and synchronization with leg kick.
1x25m: Backstroke.	Swim with normal stroke.	Synchronization and continuity of movements.
1x12.5 m: Backstroke, increasing speed.	Increase power.	Continuity of the alternating movements, avoiding interruptions.

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
6x20" Buoyancy in dorsal position.	Pay attention to head and hip position.	Relaxing.
1x25 m: Backstroke with double arm stroke.	Focus on glide effect of the arm stroke.	

WORKOUT 5

OBJECTIVES: Other movements, breaststroke kick & undulatory movement

TIME: 30-45'

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
5' walking in deep chest water, with the help of arm movements, occasionally immersing voluntarily.	Felling comfortable, safe and active	Preparing for the main tasks of the session.
2x25 m Crawl. Emphasize the glide after impulse on the wall.	Streamline as possible.	
2x12.5 m Backstroke.	Smooth arm movements. Never stop kicking.	

MAIN PART		
EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x12.5 m: At the surface, undulatory movement of the body, hands close to the body, without breathing.	At the surface, ventral position.	Stimulating the undulatory movement.
2x12.5 m: Butterfly leg movement, without breathing.	At the surface, lateral position.	
4x12.5 m: Butterfly leg movement underwater.	Total immersion.	
4x25 m: Alternate 6 butterfly kicks + 6 crawl kicks + normal crawl to complete the length.		
4x10 Rep. At the wall, breaststroke legs.	Hold onto the wall, execute the movement in ventral position.	Learning the breaststroke kick
4x12.5 m: Breaststroke legs in dorsal position.	Arms in extension over the head. Reach the heels to rear in the leg recovery phase.	
4x12.5 m: Breaststroke legs in ventral position.	Use the kickboard.	
2x25 Synchronize double arm backstroke with breaststroke leg kick.	For every arm stroke one kick.	Synchronization of the breaststroke.
COOL DOWN		
EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
6x20" Dorsal buoyancy.	Relaxing.	Relaxing and recovering.
1x25 m: Backstroke with double arms.	Focus on glide after pulling the arm.	



3.4. ADVANCED LEVEL

3.4.1 General objectives

- Continuing the crawl and backstroke improvement.
- **Breaststroke.** It is a fundamental stroke, since it allows swimming underwater and it is easy to learn in its elementary form: for most swimmers it is the most instinctive technique, so it could be the first stroke to be learned by people with poor buoyancy or with physical limitations (i.e. difficulties in arm rotation). As it could be done at very low speeds, the energy consumed could be lower when compared with other strokes, which are usually swum at greater speed.
- **Butterfly.** It is essentially a useless stroke and it should be learned only by full-healthy swimmers with a competitive attitude (masters swimming). Its undulatory movement can be used as a basic support not only to the normal butterfly stroke, but also for underwater displacements after starts and turns.
- **Other strokes/techniques:** all water sports techniques can and should be taught. Bicycle kick, sculling, rescue swimming skills, and underwater breaststroke are especially useful.
- Above all, improving endurance, specifically muscular resistance and speed.

Since swimmers may show some technical flaws and lower aerobic capacity, interval training with short to medium intervals (50-200 meters) with brief rest recovering times (15" – 2/3') is recommended.

Drills and legs can be used in this kind of work. If possible, the workload intensity can be checked by monitoring the HR (pulse meter or hand palpation), or by using the Rating of Perceived Exertion (Borg scale). The HR must be between 50-70% HR max.

3.4.2 Methodology

Each lesson or training session of 45-60 minutes must focus on a maximum of two swimming techniques.

In general, the swimming training session will be composed of:

- General warm-up. Usually with some exercises on deck aiming to explore cardio vascular stimulation, articular amplitude and general strength (lower, upper body and core exercises) (about 5 -10').
- Specific warm-up. Swimming drills using exercises from the last session (10-15').
- Main part. Exercises related to the main objective of the session (20-30').
- Recovery or cool down. Ludic activity with lower intensity (5').

3.4.3 Examples of workout sessions

SENIORS' ADVANCED LEVEL

Mastering the competence of swimming.

CAPTION: FS – Freestyle (Crawl stroke) BS – Backstroke
BR – Breaststroke BF – Butterfly

WORKOUT 1

OBJECTIVES: 1. Freestyle technical correction

2: General endurance

TIME: 50-60'

VOLUME: 1400m

WARM UP

10' general activation on dryland

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x50m FS – 10" rest	Easy swimming	Specific warm up
1x100m BS	Easy swimming – long glide between strokes	Specific warm up

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
6x25m FS – 10" rest	Maintain the streamline	Correct body position
6x50m FS – 15" rest	Keep elbow high during recovery and propulsive phases	Optimize propulsive action of the arm stroke
3x100m FS – 20" rest	Alternate 25m fast/25m slow	Manage stroke rhythm
4x25m FS/BS – 15" rest	At halfway, turn from ventral to back position and then backstroke until the end	General coordination

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x75m BS – 15" rest	Streamline with long soft strokes	Cool down
4x25m BS		

WORKOUT 2

OBJECTIVES: 1. Kick coordination and power
2: General endurance

TIME: 50-60'

VOLUME: 1200m

WARM UP

10' general activation on dryland

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x25m FS kick – 10" rest	With kickboard, frontal breathing every 12 kicks	Specific warm up
4x25m BS kick – 10" rest	Arms extended over the head	
4x25m FS – 10" rest	Start with underwater dolphin kick (if possible)	

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x25m FS – 10" rest	Alternate 25m full stroke/25m kick	Focusing on kicking
4x20" – 10" rest	Vertical position kick in the same place	Improving muscular power and resistance
4x75m – 10" rest	Alternate 25m FS/25m BS/25m FS with dolphin kick (if possible)	Arm/leg coordination
4x20" – 10" rest	Vertical position kick in the same place	Improving muscular power and resistance
2x50m FS – 10" rest	Full stroke with maximum power kick	Improving muscular power and resistance Arm/leg coordination
200m	Alternate 25m FS/25m BS	Focusing on full stroke

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x100m BS – 15"R	Streamline with long soft strokes	Cool down

WORKOUT 3

OBJECTIVES: 1. Breaststroke technique
2: General endurance

TIME: 50-60'

VOLUME: 1200m

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
100m FS	Streamline with long strokes	Specific warm up
100m BS		

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
2x100m BR – 10" rest	Stroke reducing 1 stroke every lap	Streamline long strokes
8x50m BR – 10" rest	Alternate 1 fast lap/1 slow	Muscular resistance and power
200m BR	With kickboard	Muscular resistance and power of the kick

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
100m FS	Maximum stretch	Cool down
100m BS		

WORKOUT 4

OBJECTIVES: 1. Breaststroke technique
2: General endurance

TIME: 50-60'

VOLUME: 1200m

WARM UP

10' general activation on dryland

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
200m FS	Long strokes 25m breathing every 3 strokes /25m breathing every 5 strokes	Specific warm up

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
4x50 BS – 10" rest	Increase speed (start slow, finish fast)	Building stroke rhythm
4x100 BS – 15" rest	25m fast/25m slow	Potentiating stroke
4x50 BS – 10" rest	Decrease speed (start fast, finish slow)	Building stroke rhythm

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
200m FS	Breathing every 2/3 strokes (alternate right/left side)	Cool down

WORKOUT 5

OBJECTIVES: 1. Speed
2. General endurance

TIME: 50-60'

VOLUME: 1200m

WARM UP

10' general activation on dryland

SPECIFIC WARM UP

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
12x25m FS – 10" rest	Long strokes	Specific warm up

MAIN PART

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
6x25m FS – 60" rest	12.5m maximum speed/12.5m very slow	Increasing speed
6x25m FS kick – 60" rest w/kickboard	12.5m maximum speed/12.5m very slow	Increasing kick speed
2x200m FS – 10" rest	Medium speed	General endurance

COOL DOWN

EXERCISE	TASK/RECOMMENDATIONS	OBJECTIVE
200m FS	Very slow Maximum stretch	Cool down

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