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FOREWORD

This book was written pro-bono with the sole purpose to help guide beginners and more advanced swimrunners to further explore what swimrun is all about:

"The adventure, experience and way of life"

Many of the topics are condensed from posts and science articles published on www.worldofswimrun.com (WoS). It's important to understand that swimrun is a young sport developing in different directions and that this book is my take on swimrun. Consider this a living project which will be updated in the future with more swimrun related material.

Happy Reading

Nic

/The WoS Team



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AN INTRODUCTION TO SWIMRUN

Swimrun is a new sport undergoing rapid development. In just 10 years it's gone from a single race to more than 400. People seem to enjoy it which surely has to do with the challenges they face while swimrunning, by own force, in an ever-changing nature. When asking swimrunners about their experiences they really can't explain it, that undefined sensation of happiness. This is why you have to experience it yourself to understand, and when you do, you will get hooked.



Photo: Difficult and ever-changing swimrun conditions

In swimrun you rarely race or train on the same course twice. The elements of nature like ever changing winds, waves, currents, sun and rain can turn the swimrun setting into something unrecognisable



within minutes so you rarely know what to expect. Comparing between situations like this is therefore near impossible.

Fighting the elements with little or no protection, swimming in exposed open water or running deep in the forest, can trigger your inner animal and consequently your basic biological survival instinct. An instinct that rarely comes in handy on a day-to-day basis in the office. In the scientific community there's a growing consensus that we humans weren't built for effortless comfort. That 200.000 years of evolution fighting hardship to survive, has shaped us in such a way that we frequently need to experience this type of mostly positive survival-instinct related stress. Our bodies are coded and shaped by evolution to adapt to an ever-changing environment around us, why swimrun training and racing makes the perfect catalyser for challenging and stimulating both body and mind. Another strong contributing factor is facing and experiencing these challenges together with a teammate, keeping each other safe and helping out.



Swimrun is a combination of many things and all of them will make you feel alive. Swimrun will help provide you with existential purpose.



Photo: The swimrun adventure awaits, <u>SAUC</u> 2015

The original swimrun adventure

In 2002, four friends had a late wet night at Utö hostel, playing around with a napkin with a print of the of the Stockholm archipelago. A challenge was put forward. "Go from Utö to Sandhamn Island, in teams of two, all while running and swimming." The route was free of choice and the adventure to be self-supported. Through this swimrun was born and in 2006, the world's first swimrun race took place along the very same route, the now famous ÖtillÖ main race. Of the nine teams starting, only two managed to finish the race.



Swimrun compared to aquathlon, triathlon and adventure racing

Many are under the impression that swimrun is the evolution of other sports, often comparing it to aquathlon, triathlon or adventure racing. Aquathlon is a multi-stage sport where competitors also run and swim but individually and a race must only cover one run and swim stage. You don't swim with your shoes and you don't need to carry all gear from start to finish. Triathlon is an individual multi-stage competition where you swim-bicycle-run, always following pre-set course distances and always in that order (some organisers offer relay-versions). In triathlon you start individually in one group, or in waves e.g., smaller groups starting every few minutes based on gender, age or expected finishing time etc., and you also switch equipment between the disciplines. Adventure racing overlap with swimrun in the sense of racing autonomously through the wilderness and in teams, having to carry equipment with you throughout the race. The difference comes from the many activities an adventure race can contain such as running, kayaking, mountain biking,



horseback riding and more rarely swimming. However, in adventure racing it's also common to change or leave equipment at stations during a race.

Consequently, there are clear commonalities between swimrun, aquathlon, triathlon and adventure racing, but swimrun is a unique sport with its own format, values and characteristics.

Swimrunning together in a team

Most swimrun races require you to compete in teams of two. This setup comes from the original adventure and doing it together is fun and more challenging. Not only does it let you share your experience with a partner, but usually also involve you training and developing you skills together. Most of the time this help improve your own weak areas, develop your communication skills and when tired, having a shoulder to lean on. Swimrunning together will help elevate you to perform better than you would individually. The swimrun performance and experience are the result of the common effort



where you succeed or fail together. Then there's the safety aspect of always having somebody around to help out if necessary.



Photo: The team effort at the ÖtillÖ main race

If you're new to swimrun and don't have anybody to race with, team racing can become an unfortunate barrier, why the availability of individual races is good. Today, most big race organisers offer both opportunities and there are plenty of <u>forums online</u> where you can find a teammate.

Swimrun as equal as it gets

As in most sports, swimrunners race in gender specific categories but also in mixed category. Normally swimrun races don't offer any race



allowance and it is standard with a mass-start procedure where everybody race on equal terms. This is also the case for the equipment where there is no differentiation between genders. Even though men have a physical advantage towards women, the natural setting of swimrun racing and the aspect of racing in twos including other factors like technical trail, choppy or cold water conditions, the level of difficulty orienting in water and on land, the many ins and outs, and the type of gear being used by the team, just to mention some, can all play their part in levelling the odds. Let's not also forget that in longer endurance races women tend to outlast men.

Swimrun is also equal in terms of availability of training possibilities and the cost of getting started. Running and swimming in nature is free of charge and widely available for many. Buying a wetsuit can be a bit expensive but there are many budget variants available and the second-hand market is growing steadily (read more below).





Photo: The start of the ÖtillÖ main race

The universal swimrun rules

Originating from the original swimrun adventure, swimrun is a sport defined as:

"Always carried out outdoors on land and in water. Carrying at least two swim and run sections. Whatever equipment a participant starts with, has to be brought to the finish, (apart from redundant garbage left at energy stations). You race in teams of two and any flotation equipment can't be larger than 100×60 cm."



A GUIDE TO SWIMRUN EQUIPMENT

In the early days of swimrun, swimrunners showed up with whatever equipment they had at hand. Today the manufacturers have developed a variety of equipment to suit individual needs, most of which honestly, you can do without. Less equipment mean fewer things to manage or worry about and less chance for problems. Keep in mind that you need to carry everything to the finish.

The basic set-up

To get started with swimrun you need to have the basic set-up i.e., a wetsuit, a pair of goggles, socks and shoes. With only this you'll get further than you think. Of course there's loads of stuff to buy and this will be dealt with in a later chapter.

Wetsuit

Wetsuits are arguably the most important piece of equipment in swimrun training and racing. It should provide good buoyancy, keep you warm in the water, be easy to run in on land and easy to



ventilate, or "cab-down" (unfold the upper part and leave it hanging from your waist down) in hot conditions. It's important that the wetsuit aligns itself properly with your body. If it's too tight it will impact negatively on your breathing and swim and run technique, possibly causing unwanted injuries. If it's too loose on the other hand, it will take in water, cool you down and slow your swimming.

Therefore, always try the wetsuit on before buying it and if possible, in real life swimrun conditions. Remember that the wetsuit will be the most expensive item you'll buy, so take time and choose well.



Photo: Daniel Becker and Philip af Robson getting ready for Stockholm Swimrun

Today there are two basic types of swimrun wetsuits on the market

i.e., the full wetsuit and the semi-full, also known as a "shorty".



The full wetsuit

The full wetsuit covers most of the body featuring long arms and legs.

It is recommended for those who:

- Find it hard to stay warm during swims
- Are strong runners
- Are weaker in swimming and need buoyancy
- Are ok swimmers but want to skip the pull-buoy
- Do longer-type of swimrun training and racing
- Swimrun in cold conditions
- Do short distance racing e.g., with little impact on running economy
- Do races with high swim/run-ratio



Photo: Colting SR01

The semi-full wetsuit a.k.a the "shorty"

A semi-full wetsuit normally covers the torso, shoulders, arms and thighs and is cut just before the knee. It's recommended for:

- Strong swimmers
- Those who easily stay warm
- Do shorter type of swimrun training and racing
- Swimrun in warm conditions
- Do long distance racing where running economy becomes a factor
- Do races with low swim/run ratio
- Do races with high elevation

Some swimrun wetsuits come featured with removable arms.



Photo: Colting SR Go



Important wetsuit features to keep in mind

The wetsuit has to fit properly around the neck, without chafing, to keep water out. Allow for easy breathing and be flexible around the shoulder to allow for an easy rotation during a swim stroke. It's very important that these requirements are fulfilled. Most brands provide a wide range of sizes but remember that the wetsuits are manufactured from a standard body type template i.e., mesomorphic, endomorphic or ectomorphic which might not suit your own type. It can therefore be challenging to find a good wetsuit with a proper fit. Other key features of importance is if the wetsuit feature a single or dual zipper, the type of neoprene material used and how different sections are placed around the body.

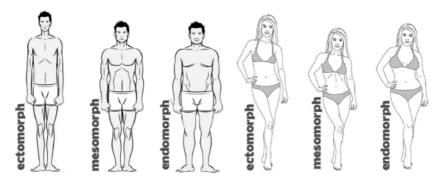


Image courtesy of Govt. of Western Aust. Dept. of Health



Single vs. dual zipper

Choosing between a single or dual zipper basically comes down to your own preference and need for ventilation. The dual zipper is recommended for those who easily need to "cab-down" the wetsuit, or be able to ventilate abundant heat both in back and front.

"Cabbing-down" is also possible with only a front zip wetsuit, but much harder if you're strongly built around the torso or shoulders, or without a teammate. A front zip wetsuit will however allow you to ventilate the front, which can be convenient in shorter races.

Remember that zippers will have negative impact on the flexibility of the material.

The neoprene material in the wetsuit

The swimrun wetsuit features three types of neoprene material i.e., open, closed cell and hybrid running-stretch. The open cell neoprene is more flexible but also more sensitive to wear and tear compared to the closed cell, which in turn is less flexible but has a streamline advantage in the water. Wetsuits featuring hybrid running-stretch material, usually on the lower part around the bottom, are designed



to make it easier to run and to help improve your running economy,

however at the expense of buoyancy, streamline and insulation.



Photo: World of Swimrun wetsuit test 2018, Hvar Croatia

Today there are wetsuits on the market featuring a wide range of material-options, so take your time to choose.

Things to look for in a wetsuit:

- Extra thick floating panels on the thighs for better buoyancy
- Pockets on the back or front
- Anchoring loops for a pull-rope
- A whistle
- Colourful arm-panels to increase your visibility in the water
- Varying thickness of neoprene panels to facilitate flexibility when running
- Pockets for adding flotation

Things to be careful about:

- The materials thickness and how it's distributed on the body
- If the wetsuit comes prepared for being cut
- If it has plastic zippers
- If the seams are glued or not
- How many years of fabric warranty that is given
- Older wetsuits as the material tends to shrink



Swimrun wetsuit pants and top

The wetsuit pants come in two versions, full or short. They're growing in popularity and beyond only pool training, where they serve as a good supplement to using a pull-buoy. They're recommended for:

- Training or racing in warm climate
- Short swimrun races
- Those who wants to skip the pull-buoy
- Swim or swimrun training in the pool or warmer open water
- Both beginners and experts



Photo: Colting swimrun pants

Currently very few swimrun tops exists on the market since they're not widely used in swimrun training or racing. But as more races are taking place in warm conditions, expect more options to be available in the near future. The swimrun top combined with a pair of swimrun pants is a good choice if you don't want to go with a 1-piece wetsuit, but still maintain buoyancy and insulation. This combination will also provide better flexibility in your overall movements given that the fabric is not attached together as one single piece over the waist.

Remember to get one with a full front zipper, since you'll want to open it up in hot conditions.





Photo: Orca Core removable top and pants

The swimrun wetsuit top and pants combo is recommended for:

- Training or racing in warmer climates
- Short or standard distance swimrun races
- Swim or swimrun training in open water
- Windy conditions to avoid the cooling effect while running on land
- Protection from the sun

Tips and tricks:

Remember to always long-term store neoprene equipment turned inside out, folded or rolled-up, in a cool dark space. Never let it hang on a clothes hanger for longer periods of time or exposed to bright light or the sun. Pay attention that some wetsuits tend to shrink between seasons.



Shoes

Next to wetsuits, the shoes are very important and the 2nd most expensive equipment you will buy for swimrun. Regardless of which shoe you opt for, it should fit your feet, feel comfortable, provide a good grip and support your running technique. You will find shoes for all kinds of environments and terrain like tarmac, trails, gravel roads, rocky and beach conditions and so forth. But since you'll swim with them on (most of us do), it's also important that the material of the shoe doesn't retain too much water and that it drains any excessive water quickly when you start to run.



Photo: Irock 2 grip under water



Apart from this, there are several other features that are of importance but most related to individual preference like how much the shoe weighs, how much drop it has, if it offers any support/cushioning and, last but not least, how much they cost. Today it's popular among swimrunners to use more minimalistic-type shoes but pay attention that these carry a lightweight flexible construction with little to no support, putting real demand on your running technique. Hence, they're not recommended for the beginner. All shoes will have negative impact on your buoyancy by weighing down your legs, which in turn will make your feet drag in the water. A good swimrun shoe should have as little impact on this as possible to avoid slowing you down when swimming. You should try shoes out under the guidance of an experienced runner.

Keep in mind that:

- Redundant water should drain fast (and all of it)
- The shoe material should absorb as little water as possible
- Laces absorbing water easily unties while running

Pay attention that:

- Wet shoes will cause your feet to slip which can lead to chafing and blisters
- Shoes that are too big or narrow can cause broken (blue) nails, or pressure ache



- The sole type, stack height and drop should fit your current running technique
- A thicker sole has more negative impact on your buoyancy
- Warm conditions or long races can cause your feet to swell beyond your current shoe size
- A shoe with low stack height and drop is usually more flexible than the other way around

Using swimrun shoes with studs or not

Swimrunning with shoes without studs is perfectly ok. The sole on most standard "flat" shoes will carry some form of grip, but pay attention if you're going to use these shoes on rocks or muddy wet conditions where it's easy to slip around. Shoes with studs are preferred for races carried out in rougher terrain e.g., trail, gravel roads, rocky or muddy conditions and will provide good grip in both wet and dry conditions. It's recommended to use shoes with plastic studs or a similar type of stud-like grip. Having a pair of shoes with metal studs can be good for winter swimrunning.

Tips and tricks:

Remember that the material in swimrun shoes will dry-up eventually and shrink. To counter this effect and extend its life-span, it's recommended to always dry-store them using a pair of metal or plastic shoetrees.



Socks

Socks come in different material, shape and complexity in stitching.

Buying a proper swimrun sock mean taking multiple factors into account, such as if they're seam-free, stitched with different panels, the type of fabric used, if they're reinforced in wear-and-tear areas, how much water they absorb and release and so forth. Swimrun socks are usually found back in three categories:



Photo: Gococo swimrun socks

The long sock provides full support over the foot and calf, with some models also offering calf-compression. The long socks will protect you from sand, mud and small stones coming inside, being sun-burned or scraped by branches or bushes when trail-running. It's possible to



insert floating material on the inside of these socks to increase buoyancy, or store energy gels, bars or waste during a race or training session. Choosing a bright colour will help provide visibility in the water for the person swimming behind. If you are prone to heatingup they can become too warm, they will retain more water and won't provide the same sense of "freedom" as the shorter models. The medium version (ankle high) will help prevent most sand, mud or small rocks from coming in on the inside where the short (ankle low) will provide minimal protection from this. Both these models won't offer protection or compression to the calfs but they will allow for good ventilation, flexibility and retain less water than the long socks. The shorter versions also offer the possibility of using separate swimrun calfs.

Goggles

There is many types of swim goggles on the market why choosing a pair can be difficult. You basically have to decide if you want a comfortable pair with a soft silicon or rubber seal against your eye socket, or a low-profile type



without. Also, if you're going to use them for training, racing or both. If swimming outside always choose UV-treated goggles.



Photo: Swimrunners use a variety of goggles depending on preference

Low-profile goggles without a soft seal

These types are widely used by professional swimmers since they sit directly on your eye-socket and create less resistance in the water.

Some find this uncomfortable, especially during longer swims. But this type you get to assemble yourself and they can be adjusted to millimetre perfection over your eyes and nose bridge. To complement you can adjust the accompanying elastic band around your head which, depending on preference, can be fitted together or split in a high-low position on the back of your head. This type of google will weigh next to nothing.



Goggles with a soft seal

This goggle is the popular choice among swimrunners given the comfort coming from a soft lining. They come in a narrow to wide range, where the narrow lies closer to the low-profile type and the wider closer to a full size swim mask. They don't feature the same adjustment possibilities as the low profile however and some even have fixed sizes between the eyes. The wider type comes with a wider lens that will provide better vision possibilities which is good in wavy open water conditions. But the wider the goggles become, the more resistance you'll get in the water and the clumsier they'll be when you run. Bigger goggles, like the mask provides an even more comfortable feeling and better vision and tend to fog-up less than the smaller ones, but on the other hand creates more resistance when swimming in the water

Tips and tricks:

Store the goggles separately to avoid scratches on the surface. It will blur your vision and make them fog up more quickly. Always clean away redundant salt.

Or why not go without goggles? Perhaps awkward at first but ridding yourself of equipment is always preferable





Photo: Various goggles and lenses popular among swimrunners

Lens type

There's a wide range of lens types available and the most popular choices are lenses that are *transparent*, *mirrored*, *tinted*, or *polarized*. The transparent are excellent if you want to run with your goggles on, or about to swim in cloudy or darker conditions. The mirror, tinted and polarized are good in bright light sunny conditions or environments where light is strongly reflected since they will help reduce any potential eyestrain coming from reflecting bright light.



A GUIDE TO SWIMRUN RACING

It is important to understand that in swimrun you will rarely train or race the same course twice. The ever-changing environment and

One day you swim in flat open water and the other day the same segment can look entirely different with winds, big waves and strong

currents. You run on rock, sand,

conditions will take care of that.

"When I started swimrunning there was only one race to choose from, the 74 km ÖtillÖ. Today there are many races available which suits both beginner and professional, ranging up to the most extreme."

Petter Larsson, ÖtillÖ finisher
 2009 and Director of Kungsbacka
 Swimming Society

grass, trail, tarmac, grabble, which will change completely if it starts to rain. Most of the time swimrunning it's less of a competition and more of an adventure since you really don't know what to expect.

Remember that you will run in your wetsuit and that black neoprene tends to absorb heat if the sun is out, adding to the challenge.

Swimrun racing today

In 2011, the 2nd and 3rd swimrun race was launched; Wet Rock



Race in Gothenburg and Ångaloppet in Nyköping, both in Sweden. In 2014, Finland, Italy, Norway and Switzerland joined the world of swimrun and today there are more than 400 races available in some 30 countries. Swimrun is growing fast and in different directions. Even though most races require you to race in teams of two, there are many offering to race individually. The majority of races take place in northern Europe, apart from France currently ranking as the second largest swimrun country in the world. Most races are wedged into the short summer season of May to September. As the sport keep growing so do the availability of races, where you today can swimrun all year around and in most parts of the world.



Photo: The World of Swimrun (WoS) <u>race map</u>



How you choose a suitable race

Swimrun racing is fun and given the many options available, you have the possibility to choose a race specifically suited for your ambitions.

Some races favour the strong swimmer, some the strong runner, whereas others will suit the average swimrunner. The race options are basically endless and in order to choose a race you should have a basic understanding of common race features and environmental factors like:

- Overall distance
- Swim/run ratio
- Number of transitions
- Longest swim and run stage
- Elevation

- Open water vs. protected water swimming
- General topography
- Easy vs. technical terrain
- Expected weather

Then there are additional factors that play their part like number of contestants, starting procedures, specific mandatory equipment and so forth. Below you will find a more detailed description starting with how to choose a fitting race distance.



How to decide which distance to go

A good start is to figure out what kind of distance you feel comfortable doing. In general, swimrun races are divided into 5 distance categories:

- Sprint which is below 10 km
- Short which is between 10-20 km
- Standard (sometimes called regular) which is between 20-40 km
- Long which is between 40-75 km
- Ultra which is 75 km and above

These are reference categories since no standardised system exists.

Commonly race organisers offer shorter versions of their "main" race, and today most swimrun races are found in distance categories below 20 km. If you're a beginner, or not used to swimming, it's recommended to start with a sprint race i.e., below 10 km. This way you get a feeling for swimrun racing without having to push yourself to the extreme or worry too much about your equipment, since this becomes more important in longer races. Just remember that sprint races tend to go very fast in the beginning so stay in the back of the starting field and take you time. Sprint races are usually also cheaper



than longer races and usually more "protected" given that the race organiser doesn't have to cover too much ground.

Feel comfortable with the swimrun setting

The swim and run setting is important. If you're used to swimming in protected waters or run on tarmac road, you'll be in for a big surprise

"Swimrun to me is like touching nature to its deepest."

- Barbara Seidel, Founder of Swimrun Germany if choosing a race in an exposed
environment. Open water swimming put
pressure on navigation skills and the
ability to fight the weather elements

which can get stressful the tougher the challenge is. Swimming in currents will make you drift and swim longer than expected, forcing you to adapt your technique and most likely deplete your energy reserves much faster than anticipated. Swimming in waves will mess with your technique and can make you sea-sick or disoriented. The same goes for running in technical rough terrain, which will be even harder in wet conditions where trails can become muddy and rocks slippery.





Photo: swimming in challenging water conditions

Other things to look-out for is the expected elevation i.e., if the race feature high or steep ascents or descents, or if it will take you through terrain without trails. Just lifting your foot 5 centimetres higher than normal, over and over again, all while running in a wetsuit, will have great impact on your running economy and technique. All-in-all, swimrunning in exposed elements can put you outside your comfortzone, which is fun, but watch out for injuries.

Understand the race swim/run-ratio

Once you've decided on a distance it's time to look at the swim/run-ratio. The swim/run-ratio is the relation between how much you will swim and run during a race. The majority of races feature a swim/run-



ratio of 10-15% meaning that during a 20 km swimrun race, you're going to swim somewhere around 2 000 – 3 000 meters in total. On paper. If winds are strong, or waves or currents are present, you will swim longer and even longer if you have poor navigation skills. But this we will deal with in a later chapter. If your running is stronger than your swimming, you should go for a race with a lower swim/runratio.

Check how long the swim and run stages are

It's important to look at the different stages of a race, how long they are and how they are distributed. A race with a high swim/run-ratio doesn't necessarily have to benefit the strong swimmer. If the stages are short, the chances of out-swimming somebody e.g., on an 80 meter stage, will be slim and in reality come down to only seconds gained. If several stages are long however, you should be comfortable doing them, especially if they're located towards the end of the race when fatigue or cramps might set in. Some races feature several long swims or runs accumulated with only short transitions in between



e.g., 800 m swim – 30 m run – 400 m swim – 80 m run – 300 m swim.

On paper it's easy to think you'll get to rest in-between when in reality you'll swim almost 1.5 km in a single go.



Photo: A long swim stage during SAUC

Pay attention to these little details since knowing the lengths and how they are distributed throughout the race will help plan how- and when to go slower and when to fuel up on energy and water. It's also important to check if the swims are exposed and if you'll have to face this towards the end of the race since it can be the difference in making the finish or having to DNF (did not finish). Most races will provide a map of some sort. If not, you should ask for one.



The number of transitions in a race are important

You can save valuable time in a race if you're fast in the transitions.

The more transitions a race feature, the better your in-and-out of the water technique should be. The majority of races have between 1015 transitions meaning that during a 15 stage race you'll have to run 8 stages, swim 7 and get in and out of the water 14 times. Very few races start directly in the water. Transitions might seem easy but they are not. Transitions consume more energy than you think and will put pressure on both your physique and mental capacity as you might have to crawl out from the water on slippery rocks together with other swimrunners fighting for the same space. Getting in and out of



Photo: Crowded and slippery transitions at the ÖtillÖ main race



the water is associated with multiple factors you need to take into account. Best is to practice this a lot and if you get your transitions right, this is where you can save valuable time.

Air and water temperatures

Even though you swim protected in a neoprene wetsuit and latex swim cap, you probably want to have a look at the water temperature. Normally it's measured on the surface in calmer waters and close to shore, why a provided temperature can be miss-representative of the true conditions of a swim. If you then add



Photo: Cold winter swim at <u>Hellas Frostbite</u> swimrun (<u>Pierre Mangez</u>)



factors like wind, waves, currents and depth of the sea or lake, the water can be much colder than expected. This can come as a surprise and even a shock to some, especially if you're in the end stages of a race. Being exposed to cold water while being tired and depleted of energy can cause cramp or hypothermia to set in and you don't want that to happen if you're far out in the water. Never underestimate the dangers of being out in the cold exposed water. Safety first!

The air temperature is equally important. Exposure to sun and absence of winds, all while running in a black, thick tight neoprene wetsuit, will make you sweat a lot. Most of the time, swimrunners don't realise how much they are sweating since they repeatedly go in and out of the water. Failing to understand how important it is to ventilate redundant heat can quickly lead to dehydration or overheating. Knowing the weather conditions and dressing accordingly can therefore be the difference between success and failure.



The overall race format and additional services

The overall race format can be good to consider as not all races will provide showers or changing rooms. Will toilets be available and if so, how many? Never underestimate people's needs just before a race and the unnecessary level of stress it can cause. The better prepared you are the more you can relax before the start.



Photo: Waiting for the toilet before a race

The most important thing however is the race briefing. Here the organisers will tell you what you need to know about the race, if there are things to look out for or any planned changes. Do pay attention and ask questions if you're unsure. The organisers are there for you so use that opportunity. If a race doesn't have a scheduled briefing, regardless of the distance, then think twice before signing up



if you're a beginner. Whatever information that is shared during the briefing, or in your sign-up package, the safety information is the most important. Check how you will you be protected on your runs and during your swims because when swimming on surface-level and in a black wetsuit, fast boats won't be able to spot you. Also, what will happen if you sprain an ankle in the middle of nowhere, away from an aid-station? Will there be a pickup or are you expected to make it back yourself? How can you contact the race organisers in case of emergency and so forth? Ask questions, clarify uncertainties and get rid of any unnecessary cause for stress or doubt.

Then you have the race rules. Make sure you read and understand them, what equipment is mandatory and specific rules like if it's ok to use a pull-rope on all swims and so forth. Swimrun is a young sport and rules vary between races and race organisers. There are stories of swimrunners being stopped from starting a race because of lack of mandatory equipment.



Feel comfortable with the starting procedures

How a race is started can be important in relation to your own ambitions. Most races use a mass start i.e., you start all together in one go. If your race ambitions are moderate, then stay in the back of the group and take it easy. Mass starts are crowded why it might be difficult to find your own space and rhythm. Very few swimrun races today have variants like starting by category (men, mixed and women) or by expected finish time.



Photo: The start at Hvar swimrun in Croatia

How to get ready for race start

Never ever change your equipment just before a race. It's very common to start questioning your own equipment choices when you get to see what others are bringing to the starting line. Swimrun is all about individual choices, in relation to your teammate and the race and its conditions. A neoprene cap might not be a good choice for you, but a good choice for someone who easily gets cold in the water. The same goes for long vs. short socks, the size of the paddles, swimcalfs and so forth. At the starting line, you'll see everything, including what the professionals are using. Changing equipment is a common mistake among beginners which can cause blisters, injuries or in the worst case scenario an unwanted DNF. The same goes for energy intake. Don't start eating and drinking stuff you're not used to since it can cause cramp, disrupt your stomach function or even make you vomit. Always use what you yourself do exercise with.



Extra equipment worth brining to a race

Most races will provide water but check if they will supply cups or if you need to bring your own. As races become more environmental friendly they will cut down on stuff that pollute the environment. A good thing to have is a "swimrun kit" containing some basic stuff that might come in handy like:

- Extra energy
- Vaseline to protect the skin from chafing under the salty wetsuit
- Sunscreen to protect foremost the neck which is more or less exposed the whole time
- Tape for your feet or nipples
- A soft flask or reusable cup to carry water
- Extra insulation for cold conditions
- Extra straps for paddles and goggles
- Extra pull-rope and carbine hooks
- Fog spray for goggles
- A marker for noting down the lengths of the race stages on your paddle
- A pair of scissors
- Neoprene glue to fix your wetsuit
- Extra shoe laces

After a couple of races you will know what to bring.



Doing a swimrun race

So, it's time to race and you're standing there with your teammate waiting for the starting gun to go off. The adrenaline is starting to kick-in and this is the moment where you should remember to stay calm and stick to the plan. Before the race you and your partner should agree on a sound overall race strategy, pace and when and how to pause, and then stick to it. Despite of what others are doing.



Photo: Cutting the swimrun wetsuit just before race start

In the beginning it's always wise to go slow because it's very common to keep a much higher pace because of the group dynamics, or more



correctly, the "flock mentality". Some team's game plan is to go fast in the beginning and adrenaline will help others to join in. It's a very common and manageable mistake to make, just remember to stay within your capabilities and not to burn your energy in advance.



Photo: The start of Amfibiemannen Swimrun in Stockholm

It's common to talk about the concepts of negative vs. positive splits, which basically mean that with a negative split you start the first half of a race in a lower tempo and increase in the second half, and vice versa. It's a good idea to read-up on it online since either one can be favourable to your team. Try to find teams keeping the same pace and stay with them. It will help mentally. Today, with the availability



of GPS watches or training apps, most racers can have a pretty good idea of which pace to keep, which can be easily monitored in a race.

How to enter the water fast and safe

Most races start with a run-stage and if you're a strong runner going fast in the beginning, expect to be caught up by the stronger swimmers during the first swim. At the first swim it can get a bit chaotic and pay attention to pull-ropes, because it's easy to get entangled. It's in the transitions where valuable time can be saved if being fast in and out of the water. The water-entry phase basically stretches from the point where you stop running until you start to swim. Between these two points you need to spend as little time as possible and avoid messing around with your equipment as you will repeat this procedure over and over again. If a race has 15 transitions and you spend an average of 30 seconds to a minute at each, you'll add 7-15 minutes to your overall time. In some cases this can be the difference between making the cut or not.





Photo: Nicolas (Team Envol) performing a safe, controlled entry in difficult terrain

Before hitting the water make sure you've located a safe spot where to enter and to avoid injuries. Keep control over your equipment and enter slowly. The trick to a fast and smooth entry is to never stop moving. If racing as a team, talk loud and clear, especially if using earbuds. Many people hitting the water at the same time is noisy and wearing a swim cap doesn't help. Remember not to use your nails when putting on the swim cap. It rips easy. If using paddles, enter the water with them mounted ready to start swimming and remember the pull-buoy, a common mistake going into the water. You obviously never dive and should try to avoid to jump, but if you do, keep your arms out and hands or with paddles with the flat side down to keep



from submerging too deep under water. Before starting to swim, make sure you have located your exit point on the other side. This will help you navigate during the swim.

Swimming and navigating your way across

Races with long open water swims put high demand on a swimrunners ability to navigate. If the race is known to demonstrate changeable wind, wave and current conditions, this skill becomes even more important, because poor navigation can cause you not to finish a race. If it's a coastal race, it's easy enough to navigate if you just breathe and look at the coastal side during the swim. Races that go point-to-point and over large open water are more difficult since there's a great chance of deviating from the planned course without knowing it, especially in strong weather conditions. It's also important to know that currents tend to change and re-shape when passing an island or narrow gap, usually picking up in strength, also creating circular or even counter currents. If the water and wind is calm and you're a strong swimmer with good navigational skills, it's advisable



to go directly across (green line in the picture below).

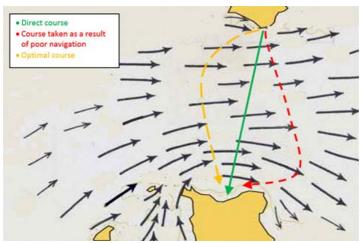


Photo: Swim navigation in theory

What happens to most beginners is that they get pushed away, having to make up for lost ground towards the end of the swim (red line), in most cases having to swim against the current at the end of the swim. This is not recommendable since being tired, depleted on energy and probably cold, will impact negatively on the upcoming run. Ideally, under challenging conditions its best to take the fight head-on in the beginning, when you're fresh in the shoulders (yellow line). This will enable you to use the current to your advantage towards the end of the swim, and to drift-down towards the exit point. Also saving energy for the coming run stage.



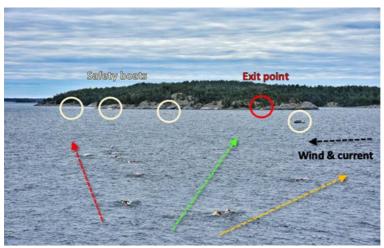


Photo: Teams navigating differently during the "Pig swim" at ÖtillÖ

As can be seen from the picture above, taken during the 2015 ÖtillÖ race, many swimrunners ended up being pushed away from the exit point (red line).

Tips and tricks:

- Never use a safety boat for navigational purposes since they move constantly
- If swimming in waves, adjust your navigation frequency to only navigate when being on-top of waves
- If the conditions are rough, consider using a pull-rope to help the second swimmer to draft and navigate
- During long swims in cold water, remember to exercise the blood flow in legs and feet by jiggling them around



Exiting the water

When closing in on your exit point, keep an eye on what swimrunners in front of you are doing to get out of the water, to avoid repeating their mistakes. Make sure your feet are well anchored to the ground and crawl out of the water. Crawling is efficient and safe and will help your body and blood flow accustom from a laying-down to an upright position. Standing up too fast, especially in cold conditions can cause severe dizziness and you don't want that to happen around sharp slippery rocks. This is where the majority of accidents happen. Also, try not to swallow water close to shore as racers in front will have stirred up dirt from the ocean floor. If you use paddles, keep them on as protection from sharp rocks and remember to always swim as close to the shore as possible, even if your hands hit the bottom. If you're warm or swimrunning in warm conditions, it's a good idea to rinse your body with cold water to cool-off before exiting. Some people can for various reasons have troubles with starting to run directly after a swim. So take it slow in the beginning.





Photo: Supporting each other after a tough swim

Running and "cabbing-down" the wetsuit

Yes. You pee in the wetsuit and don't take it off (just remember to clean it after the race). Taking the wetsuit off is energy and time consuming, why most swimrunners only open the back or front zipper or "cabs-down" the wetsuit. Do this regularly to release abundant heat, since overheating can be really tough on your physical performance and psyche.



Tips and tricks:

- If it's cold you can use double race caps and this way skip the neoprene cap. It will work better than you think
- Tighten the pull-buoy with a rubber cord around the thigh to help keep it in place, especially during transitions
- Use transparent goggles as you will be able to keep them on during transitions and short runs
- Avoid touching the goggles with Vaseline on your hands. It really won't come off after that
- Add a small rope piece on the front zipper-holder as it might be hard to manoeuvre if your fingers are cold
- If you use calfs or long socks, use them to store energy during the race
- Cool of before a long run by rinsing your wetsuit with cold water (before exiting)
- If you race in Stockholm archipelago, you can actually drink the ocean water if needed

After the race

After the race it's important to rehydrate, stretch, eat well to restore your energy levels and try to get some rest or sleep. Falling asleep can sometimes be difficult, especially after longer races since the body can still think it's in "race mode". Put some after sun lotion on exposed areas, foremost neck and lower legs if swimrunning in a shorty, and don't forget to rinse your equipment.



SWIMRUN EQUIPMENT TO HELP IMPROVE PERFORMANCE

Even though it's recommended to be conservative with equipment you can help your overall swimrun performance by using extra equipment. The most popular is the pull-buoy, paddles, pull-belt, swimcalfs and neoprene cap and gloves.

Pull-buoy

The pull-buoy is designed primarily for swim training but have become a standard item in swimrunning. All swimrun pull-buoys are positioned between the legs just below the groin, to help the body into a favourable horizontal swim position. For swimrun specifically, it also helps by lifting the shoes up towards the surface to minimize their drag in the water, but also helping the legs to rest for the upcoming run stag. In swimrun, there's basically two types, the 1-piece shaped like an hour-glass and the 2-piece with a tubular shape normally produced in hard plastic. The pull-buoy is normally anchored around the thigh using a strap, where some opt for placing it on the



lower-back using a flexible pull-belt. The pull-buoy is especially recommended when using certain wetsuits that doesn't feature much buoyancy.

Paddles

Swim paddles are normally used for building strength, but in swimrun they've become frequently more popular. The paddles are used to increase efficiency and speed in the water by increasing the "catch and pull" of the water during a stroke and come in many shapes and sizes. What you want to look out for before buying a pair is how they perform in the water e.g., if they feel slippery, how much they weigh, type of rubber straps used, if they float and what colour they are since dark will disappear in the water.



Photo: Colting pink paddles adds visibility in the water



Some paddles come with pre-drilled holes, others without.

Remember that larger paddles put serious demand on swimming strength and technique and if not used correctly, they can increase the risk of injuries like the swimmer's shoulder.

Pull-cord

The pull-cord (tether) is intended for team swimrunning to hook each other up. The idea with the pull-cord, which should be elastic, is for the strong swimmer/runner to help the partner during swims, transitions and runs. It's recommended to use a length that positions the swimmer directly behind the lead partner, to enable this person to stay in the slipstream (wake). However, a short rope can be challenging if running in rough terrain with poor visibility.

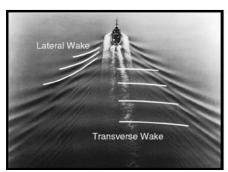




Photo courtesy of Professor W.H. Munk, Scripps Institute of Oceanography



Swimrun calfs

Swimrun calfs come in two basic forms, the neoprene and the hybrid compression sock-type. The neoprene calfs are made from neoprene and the hybrid-type is a calf-guard which either has an added flotation panel sewn into the calf-guard or a long sock where you insert any type of floatation aid on the inside. Both types work equally well in supporting your lower buoyancy position. However, the neoprene weighs more but on the other hand helps you keep warm during the swims whereas the socks will ventilate better.

Neoprene cap and gloves

A neoprene cap or gloves main purpose is to help the swimmer keep warm. A neoprene cap is recommended for really cold water as most heat from the body usually escape via the head. Some people use gloves with 'skin' in-between the fingers to help their swimming, but the added weight from these gloves, especially when wet, can have negative impact on your swim technique. The cap and gloves should



only be used for swimrunning in very cold conditions as they will not otherwise help improve your swim performance.

Safety buoy

The safety buoys primary purpose is to increase the swimmer's visibility in the water and to warn water-borne vehicles of the swimrunners presence. Depending on the type, the buoy can also serve as a safety floatation if there is an emergency situation like being unable to swim due to fatigue, cramping-up or having to help a teammate unable to swim.



Photo: The safety buoy provides great visibility in the water

In some races it's custom for the organisers to provide the swimrunners with a buoy for long and exposed swim-stages, why it's a good idea to practise swimming with one.



Peripheral equipment

Peripheral equipment like a pull-belt, earbuds, snorkel or GPS watch can be useful to all swimrunners and especially the beginners. A pullbelt which fits around the waist can help anchor stuff like the pullbuoy, pull-rope or paddles. Some pull-belts also feature small pockets for storage. Ear buds are good for those who easily get dizzy after swimming, foremost in cold water, or to just keep water out and protect from getting the well-known swimmer's ear condition. A snorkel is mainly used training purposes. However, in adventure swimrun or racing and training in tough and wavy conditions, the snorkel will help the swimmer breathe and facilitate easier navigation and save both energy. A watch that carries a GPS function with a built in compass, which for some races is a mandatory equipment item, can be good to use as they are accepted by most organisers. The GPS watch, if it also featuring a swim and run monitoring function, can help the swimrunner in both training and racing by keeping track of the number, the length and time spent on stages, temperature and so forth.



Tips and tricks:

Remember that swimrun sport is still undergoing development and that there are no universal regulations governed by a single entity or federation. Why some equipment might be banned or limited between seasons, or differ in allowance between races.

Modifying and optimizing your swimrun equipment

If you're a beginner do some races before starting to modify your swimrun equipment, since this is all about improving performance and chasing minutes during a race. Remember that any change to equipment needs to be cross-referenced to the expected overall race performance. Cutting time in swimming could mean increasing time in running and vice versa.

"The less equipment the better!"



The race bib

The race bib usually come as a one size fits all. For most people they provide a decent fit but for some they can impact on mobility while

running, swimming and taking it on and off. If allowed by the race organisers, it's suggested to cut open the race bib under the armpits and around the waist on both sides. This will allow for more flexibility when swimming and



Photo: A loose race bib can be annoying

taking it on and off when "cabbing-down" the wetsuit. Likewise, if a race bib is too big it can be tightened up by tying a knot or sewing it tighter together. There will usually be time to do this before the race start.

Wetsuit

Some suits come prepared with connection points for a pull-belt, but if not these can be easily added. Take a piece of flexible cord and use scissors to insert it around the lowest point of the zipper, which is usually the strongest fabric-type part of a wetsuit. Tie the cord forming a loop and anchor it to the wetsuit using neoprene glue.



Photo: Adding your own connection points to a wetsuit

This will allow you to skip the unnecessary pull-belt. If the wetsuit doesn't feature pockets you can easily sew them in by using left-over neoprene and then gluing the seams shut.

If you use a watch and a wetsuit with long arms, cut away ca 3-4 cm of the wetsuit (depending on the size of the watch) to make it easier to "cab-down" the wetsuit during a race.



Photo: Cutting the sleeve to help facilitate "cabbing-down" the wetsuit

As mentioned before, cutting the wetsuit above the knees or elbows will have positive impact on your running technique but impact negatively on your possibility of keeping warm, and decrease the overall buoyancy.



Paddles

If you feel strong and think you can maintain a good technique, you can cover the holes on the paddles to increase the pull-power during the swim stroke. The paddles can also be used for writing up the length of the different race stages.



Photo: Paddles with swim and run stages attached

Remember to add an extra strap at the bottom which will stabilise the paddles when swimming in rough conditions. This strap will also allow you to run with it regularly or reversed on-top of your hand, or to be connected to your pull-belt.

Shoes



Photo: Drilling holes in the soles

The big issue with the shoe is how much they will drag and affect your swimming and how fast they drain the water when running. Most swimrun shoes will drain water to a

sufficient level, but this process can be improved. One way is to drill holes in the sole or side which hill help release water faster. The downside is that it can allow for sand or small stones to enter. If you plan to swim without shoes it's suggested to use elastic laces with a quick-lock function. These laces will not absorb much water and help

facilitate a fast way of taking the shoes on and off.

The quick-lock will prevent the laces from untying themselves while running.



Photo: Elastic lases with quick-lock function

Pull buoy

The pull-buoy is excellent in helping the swimrunner reach an optimal swim position in the water and most foam-material can be cut and shaped into many forms contrary to the hard plastic type. This is optimal if you want customize your own. To firmly secure the pull-buoy many swimrunners use two elastic cords to attach it around the thigh, which will help your inner thigh muscles rest while swimming not having to clamp onto the pull-buoy. To add foam pieces to your existing pull-buoy is easy. All you need is a heat gun to heat up the material and to then just press the pieces together while still hot.



Photo: A customised hydrodynamic lightweight foam pull-buoy



Neoprene cap

A neoprene cap is only needed for really cold water. Some caps feature a chin strap which can be cut since most races will force you to wear a race cap which will hold down the neoprene cap anyway.



Photo: A neoprene cap with a strap vs. one without

It's also possible to cut small holes in the neoprene cap to allow for some ventilation and cool-down effect from the water.

Swimrun racing is fun and a great way to explore new environments. As the sport is growing, so are the options to swimrun around the world. Challenge yourself to a swimrun adventure in another country and why not combine it with a nice vacation? There are some really cool races that can be recommended, who offer unique environments, historical settings and varying landscapes. In the next chapter you will find 15 races that you can consider doing.



A SWIMRUN RACE BUCKET-LIST

1. The Rockman Swimrun

Why: Challenging, steep and majestic scenery

Where: Stavanger, Norway

Total distance	Total swim	Total run	Swim/run ratio
38 km*	6 000 m	32 km	16 %

Link: www.rockmanswimrun.com

2. Åland Swimrun

Why: Rough, exposed and adventurous

Where: Åland, Finland

Total distance	Total swim	Total run	Swim/run ratio
51 km	10 000 m	41 km	20 %

Link: www.swimrun.ax

3. Breca Loch Gu Loch Swimrun

Why: Nessie, Scottish lochs and bagpipes

Where: Scotland, UK

Total distance	Total swim	Total run	Swim/run ratio
56.5 km	7 000 m	49.5 km	12 %

Link: www.brecaswimrun.com



^{*}The distances are rounded off since it's impossible to specify exact meters in swimrun racing

4. Côte Vermeille Swimrun

Why: Exceptionally sunny, heritage and stunning steep landscape

Where: Côte Vermeille, France

Total distance	Total swim	Total run	Swim/run ratio
26.5 km	4 000 m	22.5 km	15 %

Link: www.swimruncotevermeille.com

5. ÖtillÖ Swimrun Main Race

Why: The original, most competitive and toughest 1-day race

Where: Stockholm, Sweden

Total distance	Total swim	Total run	Swim/run ratio
74.5 km	9 500 m	65 km	13 %

Link: www.otilloswimrun.com

6. Costa Brava Swimrun

Why: The Mediterranean, mediaeval fortifications and Pyrenean peaks

Where: North of Barcelona, Spain

Total distance	Total swim	Total run	Swim/run ratio
20 km	3 500 m	16.5 km	17 %

Link: www.swimruncostabrava.cat



7. Stockholm Archipelago Ultraswimrun Challenge

Why: 6-day adventure, unaided and the toughest swimrun there is

Where: Stockholm, Sweden

Total distance	Total swim	Total run	Swim/run ratio
265 km	65 km	200 km	25 %

Link: www.ultraswimrun.com

8. Allgäu Swimrun

Why: Authentic, alpine foothills and warmheartedly atmosphere

Where: Allgäu, Germany

Total distance	Total swim	Total run	Swim/run ratio
27 km	3 500 m	23.5 km	13 %

Link: www.allgaeu-swimrun.com

9. Azores Swimrun

Why: The Atlantic, volcanoes and mystical islands

Where: Faial Azores, Portugal

Total distance	Total swim	Total run	Swim/run ratio
18 km	3 300 m	14.7 km	18 %

Link: www.swimrunportugal.com



10. California Swimrun

Why: Surfing, beaches and it's in California!

Where: California, USA

Total distance	Total swim	Total run	Swim/run ratio
15 km	3 000 m	12 km	20 %

Link: www.californiaswimrun.com

11. Wiory Swimrun

Why: Wild nature, animals and mountains

Where: Kielce, Poland

Total distance	Total swim	Total run	Swim/run ratio
33.2 km	5 200 m	28 km	16 %

Link: www.goswimrun.pl

12. Torpedo Swimrun

Why: Great, white, sharks

Where: Cape Town, South Africa

Total distance	Total swim	Total run	Swim/run ratio
16 km	4 000 m	12 km	25 %

Link: www.torpedoswimrun.com



13. Midnight Swimrun

Why: Midnight sun, into the wild and home of Santa Clause

Where: Äkäslompolo, Finland

Total distance	Total swim	Total run	Swim/run ratio
29.9 km	4 300 m	25.6 km	14 %

Link: www.midnightsunswimrun.com

14. Kamennogorsk Swimrun

Why: Culture, sophistication and massive nature

Where: North of Sankt Petersburg, Russia

Total distance	Total swim	Total run	Swim/run ratio
42 km	6 000 m	36 km	14 %

Link: www.swimrun.me/en

15. Cheers Swimrun

Why: Food, family atmosphere and the Borromean Islands

Where: North of Milano, Italy

Total distance	Total swim	Total run	Swim/run ratio
37.4 km	11 000 m	26.3 km	30 %

Link: www.swimruncheers.it



"There is always a way to succeed"



Photo: The finish at Landsort after 6 days of swimrunning, SAUC 2016



About the author

Niklas started swimrunning already in 2008 and did his first ÖtillÖ race in 2009. Niklas is the founder of Ultraswimrun (USR), co-founder of World of Swimrun (WoS) and currently the only one in the world to have finished the +265 kilometre multiday Stockholm Archipelago Ultraswimrun Challenge (SAUC).



Apart from swimrunning, Niklas is also pursuing his PhD at the Karolinska Institute and works as an investigator at the Public Health Agency of Sweden

