AIDA

International Association for the Development of Apnea

AIDA1
INTRODUCTION TO FREEDIVING

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CHAPTER 01

INTRODUCTION TO AIDA1

Introduction to freediving

Millions of people around the world enjoy snorkelling. Many of them will also take a big breath and dive down for a few brief moments to have a closer look at a colourful coral, a shy turtle – or just for the fun of it. That is where freediving begins. If you read this manual it is very likely that you have taken that big breath already many times before. In fact freediving is a very common activity and by far more than an extreme sport as it is often depicted in the media.

Everybody can learn freediving

Freediving does not require superhuman abilities and is not a privilege of a chosen few. To be able to freedive you need to learn a set of skills, such as relaxing your body and mind, making best use of your fins and how to equalise your ears, to mention just a few. All the required skills for freediving are taught step by step in the AIDA Freedive Education System – from beginner to professional level.

Prerequisites

The AIDA1 Freediver Course is designed to be an introduction to freediving, suitable for the complete beginner. It helps you to develop basic skills, knowledge and safety procedures necessary to enjoy freediving safely and within the limits of your experience. This course is for recreational freediving only.
To enrol you must be able to swim at least 100m non-stop without fins and snorkel.

Freediving = Apnea

In certain countries, freediving is also referred to as “apnea”, which derives from the Greek word “apnoia” and literally translated stands for “without breathing”.
Technically, freediving starts when you **hold your breath in water**. The importance of this simple definition cannot be overstated. All safety procedures that you will learn become valid in the very moment a person is doing a breath hold in water. Obviously this is the case in open water, but it is equally important to keep this in mind when holding your breath in swimming pools, or even in your bathtub.

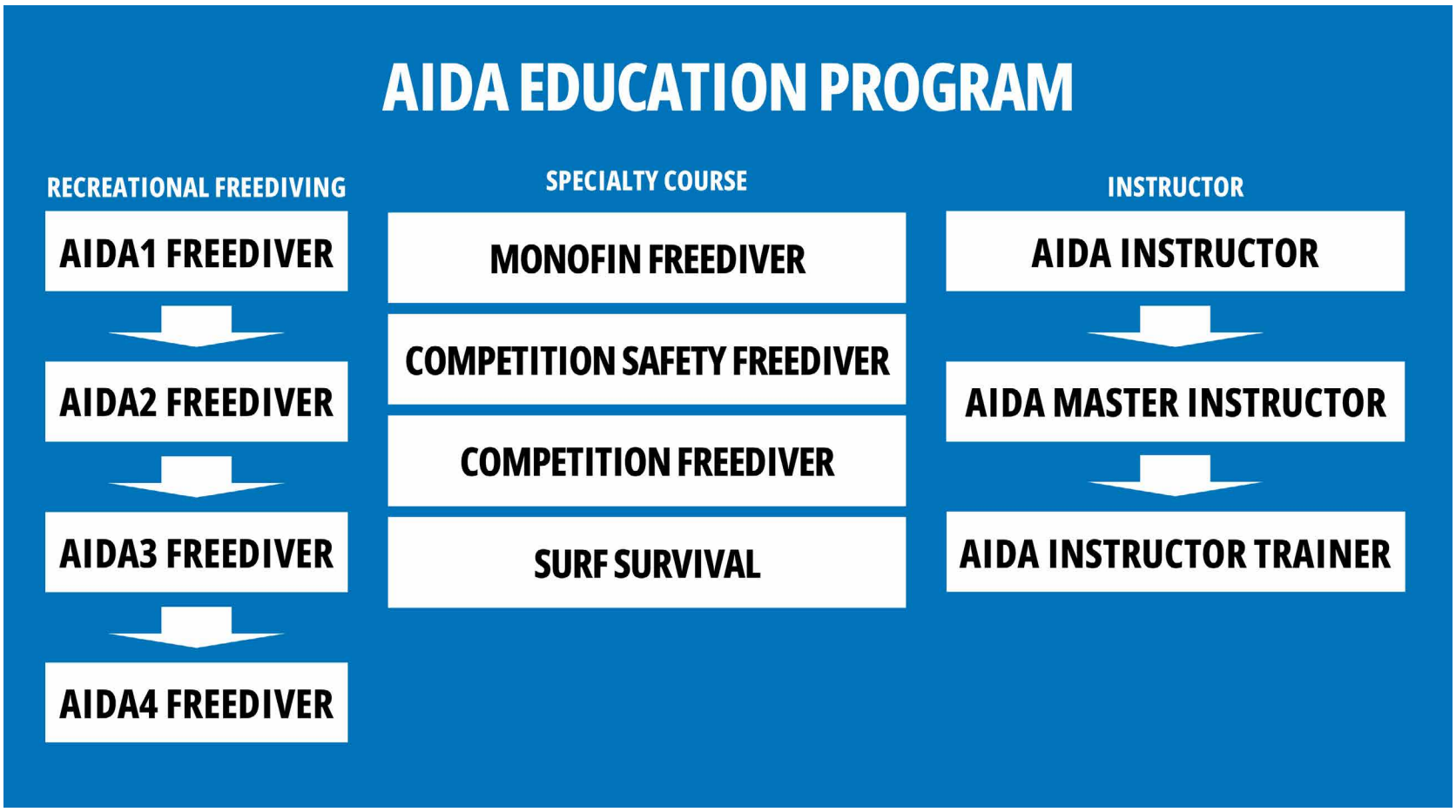
1.1 AIDA International

The Acronym “AIDA”

Established in 1992, AIDA stands for the French term “**A**ssociation **I**nternationale pour le **D**éveloppement de l’**A**pnée”, the international association for apnea development. The organisation was initially French and it is now based in Zürich/Switzerland.
AIDA is committed to paperless administration as much as legally possible. The organisation thus uses the website www.aidainternational.org as its major means of communication.

Non-profit organization

The national AIDA organizations largely rely on volunteer work to organise meetings, courses and competitions. You can find your national AIDA organization through the official AIDA website.



Freediving education program

The goal of the AIDA Education Program is to share the knowledge and skills to enjoy freediving in a safe and responsible way. It caters for absolute beginners as much as for advanced freedivers and takes you through a comprehensive, professional qualification structure all the way to AIDA Instructor level.

The AIDA Education Program is kept on top of this rapid development by regular revision and adaptation to the latest research in order to remain the standard of worldwide freediving Education since its inception in 1992.

Freediving safety standards

Best practice in safety standards is obviously the most important part of AIDA Freedive Education. Competition rules and education programs always follow the latest safety standards, which cannot be compromised. It is well possible that you

will have encounters with freedivers, spear fishers or snorkelers that enjoy their freediving in a completely different way from what you are taught by your AIDA Instructor. Different knowledge and opinions of these - sometimes very experienced - water(wo)men does not qualify them as incapable, but it shows how quickly modern freediving evolves!

Freediving competitions & world records

AIDA oversees all official freediving competitions as well as records. Trained and certified AIDA Judges implement and supervise the application of all valid safety standards on various levels – from a small local competition to the yearly AIDA World Championships.

AIDA Judges oversee competitions and record attempts

1.2 The AIDA1 Freedive Course

Freediving can be learned

Freediving does not require superhuman abilities and is not a privilege of a chosen few. To be able to freedive you need to learn a set of skills, such as relaxing your body and mind, making best use of your fins and how to equalise your ears, to mention just a few. All the required skills for freediving are taught step by step in the AIDA Freedive Education System – from beginner to professional level.

Learn the basics

The AIDA1 Course has been developed to give you a first taste of modern freediving: You will be introduced to the basic knowledge of freediving, and you will learn a few introductory skills on land, in the pool, or even in the open water.

Not only for divers

The greatest advantage for beginner freedivers is to feel comfortable in water, to allow it to carry you, and to be able to “let go”. Being comfortable in water is of course related to how much time you already spent in water, be it as a scuba diver, a surfer or a swimmer – the more, the better.
The AIDA1 Course does not need to be done in open water. Any pool is a good place to experience weightlessness in and under water.

Be a safe freediver

Freediving is a very safe if – and that is a very important “if” - you stick to a few basic but crucial rules. The most important ones are:

- **Always freedive with a buddy**
- **Relax before you hold your breath**
- **Be correctly weighted**

The main goal of the AIDA1 Course is to properly learn and apply these rules. Higher-level follow-up courses will then build up on these basic techniques to take you deeper into water and deeper into the experience of yourself.

1.3 AIDA Instructor

Diverse backgrounds of freedive instructors

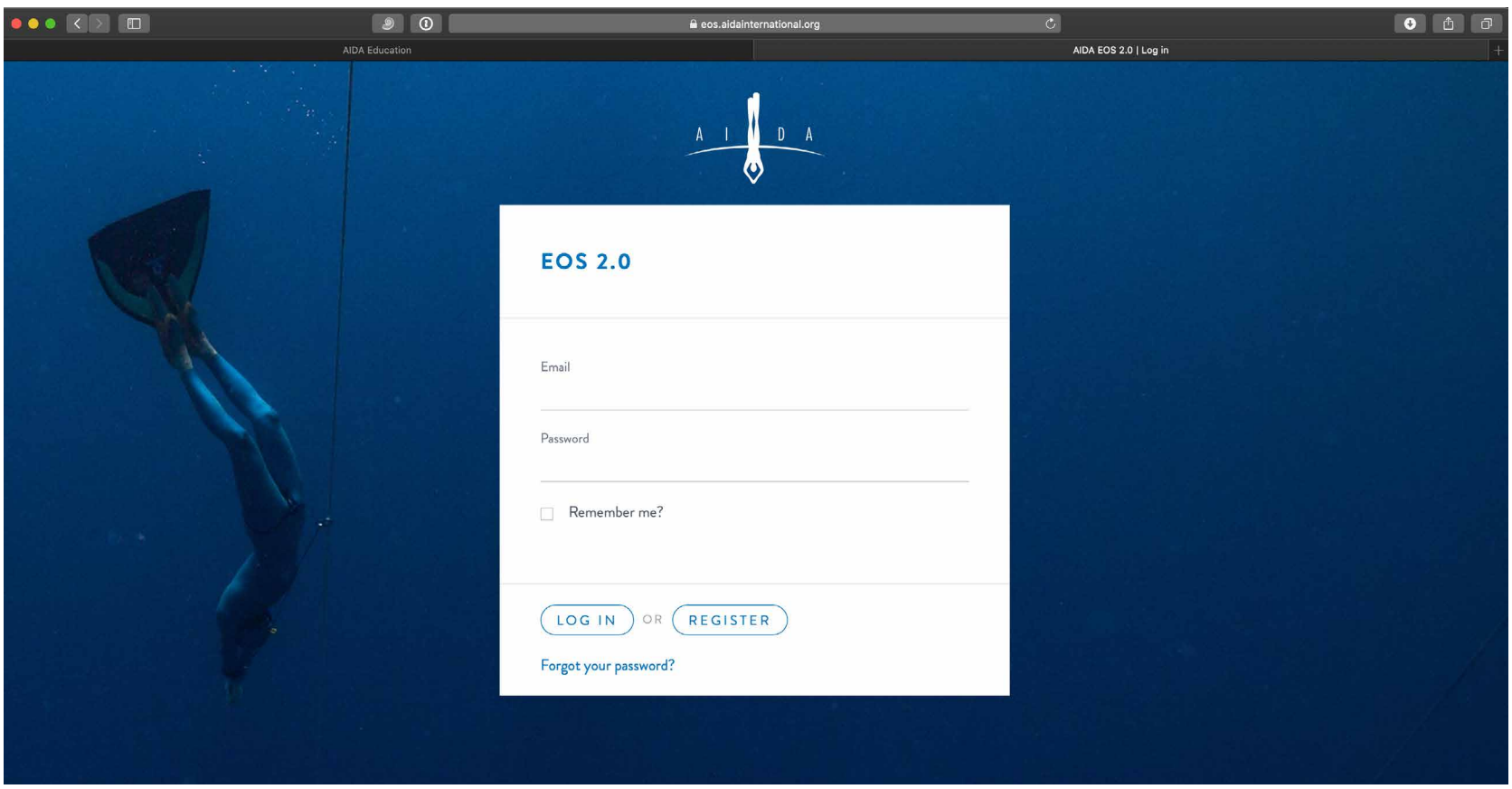
For most AIDA Instructors, teaching freediving is not what they do for life, but what they live for. They offer training on a club basis, mostly in pools, sometimes in lakes or the sea – freediving is so diverse that you can find an AIDA Instructor almost everywhere on the planet. Only a few instructors actually make their living from teaching and thus, live and work in a place where open water freediving is possible on a daily basis.

Standardised education

Since its inception in 1992, AIDA developed a comprehensive set of standards and guidelines how to teach freediving. The AIDA Education System is growing and constantly evolving due to over twenty years of teaching experience, competition results and record surveillance, combined with the latest research in the field of water related science.
The AIDA Education System gets reviewed and updated regularly.

Athlete ≠ Instructor

While the Instructor's performance and experience as an athlete can be a plus, the best athlete is not self-evidently the best coach or instructor. Encountering obstacles in one's own education and training helps the AIDA Instructor later to understand the needs and problems of his/her students.



AIDA Education Online System (EOS)

Registration with AIDA / EOS

Your instructor handles your registration with AIDA International and you will receive an automatically generated message to the email-address you have supplied to your instructor. This message contains a link to EOS, the AIDA **E**ducation **O**nline **S**ystem, in which you mention some personal data, including your postal address.

1.4 Paperwork

Before starting your AIDA Course you will need to provide some important paperwork to your instructor. This way AIDA makes sure that you are fit for and aware of the risks of freediving.

Medical statement

Download here

The AIDA Medical Statement states potential reasons for not making it possible for you to freedive. It is similar to the list of questions used in scuba diving. All questions ticked NO means you are set to start your freedive course. Any answer ticked YES means you will have to provide written medical clearance by a qualified doctor. For this, ask your doctor to use the designated part of the form. Be honest about your medical condition and mention previous minor surgeries or mild cases of asthma. In case you are embarking to a remote island to do your AIDA Course, please make sure that you are in possession of any needed paperwork BEFORE you leave your home.

The medical statement must be filled in, signed and handed in to your AIDA Instructor at the beginning of the course.

Liability release (where applicable)

Download here

In many countries you will have to hand in a signed AIDA Liability Release prior to any in-water activity. This form is to emphasise that freediving is an absolutely safe activity as long as you follow the rules indicated and taught by your instructors. AIDA Courses have a perfect safety record in more than 20 years of teaching, and we would like to keep it that way. This waiver says that you have understood that you are the most important part of freediving safety.

CHAPTER 02

FREEDIVE BREATHING CYCLE

Here is an important fact about breathing in freediving: It is overrated! There is no magic breathing technique that will give you a *safe* breath-hold of several minutes. The word “safe” is a very important one in this context. The still young history of freediving is overflowing with discoveries and teachings of spectacular breathing patterns, but experience and modern science shows that they all have one thing in common: They are unsafe for beginners.

In this chapter you will learn how to achieve great results in the safest way. The key to a long breath hold can be summarised in one word: **relaxation.**

Oxygen (O_2) saturation

At any given time of resting your blood is fully saturated with Oxygen. Being fully saturated with Oxygen at any given time leads us to a striking conclusion: The preparation for holding your breath has nothing to do with “oxygenating the body”! Instead, the last phase before a breath hold is about physical and mental relaxation and focus. The more relaxed you are physically and mentally, the less Oxygen you are using. This is what enables you to hold your breath safely for an extended time.

The breath hold cycle

Every breath hold is a cycle of four phases:

1. **Relaxation Phase**
2. **One Full Breath**
3. **Breath-Hold**
4. **Recovery Breathing**

These four phases will be explained step-by-step in this chapter. You can try out everything as you read, and then go into your first full breath hold cycle. Feel free to explore in the dry while lying down on your bed or on a yoga mat.

Belly vs. chest breathing

We differentiate between two ways of breathing: The more common way of breathing is happening in the upper part of the chest and is consequently called *chest breathing*. The more unknown other part of breathing is happening below your chest and expands your belly on every inhalation. It is thus also called *belly breathing*. Use belly breathing whenever you can!

2.1 Relaxation Phase

The *relaxation phase* is the time before your breath hold.
As your physical and mental relaxation gets deeper and deeper, you will notice that also your breathing gets calmer. The more relaxed you become, the less air you need. Your body will always breathe the exact right amount of air in and out according to the current state of activity. There is no need to interfere with that perfectly balanced mechanism.

Belly breathing

Apply belly breathing at all times during the relaxation phase.

Relaxation exercise

A *relaxation exercise* is a form of mental training, a process of a few brief moments up to several minutes where the mind is kept focused on a task that is physically relaxing. This way both goals of the relaxation phase are achieved: The mind is kept from wandering by focusing on the task at hand, and as a consequence the body in fact gets gradually more relaxed.

> **Example Relaxation Technique: "Body Scan"**
> Lay down on your back, hands apart, palms facing up, legs apart. Close your eyes. Imagine yourself in complete darkness. Then you find that little light and guide it to shine on the big toe of your right foot, it gets warm, heavy and soft, and you allow it to sink down towards the ground. You shine the light onto then next toe and feel how it sinks down to the ground, warm, heavy and soft. You move the light from toe to toe.. etc.
>
> You instruct yourself through every muscle group of your body until reaching the face, especially the neck, eye-lids, eye-brows, eye-balls, jaw, lips and tongue.
> Gently bring your mind back to the exercise when you catch it wandering or worrying.
> Final instruction: **Feel the whole body as one.**

2.2 One Full Breath

Comfortable, focus on relaxation

The *one full breath* is a long and deep inhalation to fill our lungs with as much air as possible. The focus remains on relaxation. It makes not much of a difference if we can access the very last bit of our lung capacity but pay for that with the build up of a lot of tension.

Breathe in slowly

Filling the lungs completely takes time. You can try this yourself: Inhale as much air as you can in one second. You will notice that only the chest expands and you can only access a part of your lung volume. So, again, take your time. Top freedive athletes allow themselves up to one minute to fill their lungs completely. Of course you do not need to go that far, but go as slow as you comfortably can. You will notice that you will slow down even more after a few repetitions.

There can be only one

As the name says, you take *only one full breath*. Remind yourself that your body's saturation with Oxygen was already at its maximum even before you started your relaxation phase. Taking more breaths does not mean storing any more Oxygen – there is no space for more tea in a cup that is already full.

Two stage full breath

Start your one full breath with an *exhalation* that reaches a little bit deeper than it naturally would. This way it will be easier for you to feel the air flowing deeply into your belly once you start inhaling.

> **Stage one: belly breathing.** Keep filling your belly, feel how it is expanding softly and steadily. Take your time and keep your total relaxation. Only when your belly is full, then you switch to stage two.
>
> **Stage two: chest breathing.** Keep inhaling in a steady flow by expanding your chest. Keep your relaxation also in this phase and make sure that only the muscles on the side by your ribs are active. Become aware of keeping your shoulders and neck soft, while you go on inhaling into your chest until you feel comfortably full.

There is no gain in pushing in the last bit of air into your lungs if this happens at the sacrifice of your relaxation.
After finishing the one full breath, shut your throat the same way to keep the air in your lungs. This allows you to let go of any tension that you built up during inhaling.

Two steps, one full breath

2.3 Breath Hold

While holding your breath in water you will always keep your air in your lungs until surfacing.

Relaxation

The first moments of a breath hold are very blissful and quiet - not even the sound of breathing is disturbing the silence. Put an unnoticeable smile on your face and enjoy it! If you have not yet done so, now is a good time to resume your relaxation exercise. Check your body, muscle by muscle – you might detect tension you have built up unnoticed.

CO_2 build up

We breath because we need Oxygen to survive. But there are two other mechanisms, which regulate our breathing and try to resume our breathing in a breath hold long before we are running low on Oxygen.

First, breathing is a habit. We are used and very well trained to breathe. Most likely the first thing that you will notice after holding your breath for a while is a *thought* in your head which might say something like “hang on, I used to breathe at this moment, I think it’s about time to resume that!”
Secondly, you feel the build up of Carbon Dioxide (CO_2) in your body. During a breath hold the CO_2 level in our body will rise. After some time it will reach a level that is noticeable to us and we get what we would call “the urge to breathe”.
Even if you have held your breath before, it is quite unlikely that you have ever felt or experienced a lack of Oxygen. Under normal circumstances, the urge to exhale CO_2 is much more noticeable during a breath hold. In this course you will start to create an awareness of rising CO_2 levels.

Contractions

At a certain point into your breath hold you might start to feel a first contraction of parts of your breathing muscles. This is your body trying to resume to breathe to exhale the accumulated CO_2. Again, it does not mean that you are low on Oxygen! Allow the contraction to happen and stay relaxed, so that the muscles can release the tension and become soft again. See **this video**.

Mind game

Your mind is simply not used to *not* breathing. Despite better knowledge, your mind will come up with all sorts of reasons and excuses why you cannot go on holding your breath *right now*. It is maybe because you are not perfectly relaxed, or your *one full breath* was not actually that full, or today is a bad day in general. Whatever reasons your mind comes up with in order to stop that breath hold right now, you can convince yourself that you can deal with it! You are not low on Oxygen, you can go on holding your breath, despite all your thoughts or opinions about the current situation.

2.4 Recovery breathing

As we learned earlier, your breath hold does not end when you surface; it ends when you have resumed breathing!

Safety concept

Recovery breathing is a safety concept. It is the technique how to breathe in order to properly finish a breath hold. What you need now is to inhale fresh Oxygen.
Make it a habit to end *every* breath hold with *recovery breathing*!

Relaxed passive exhalation

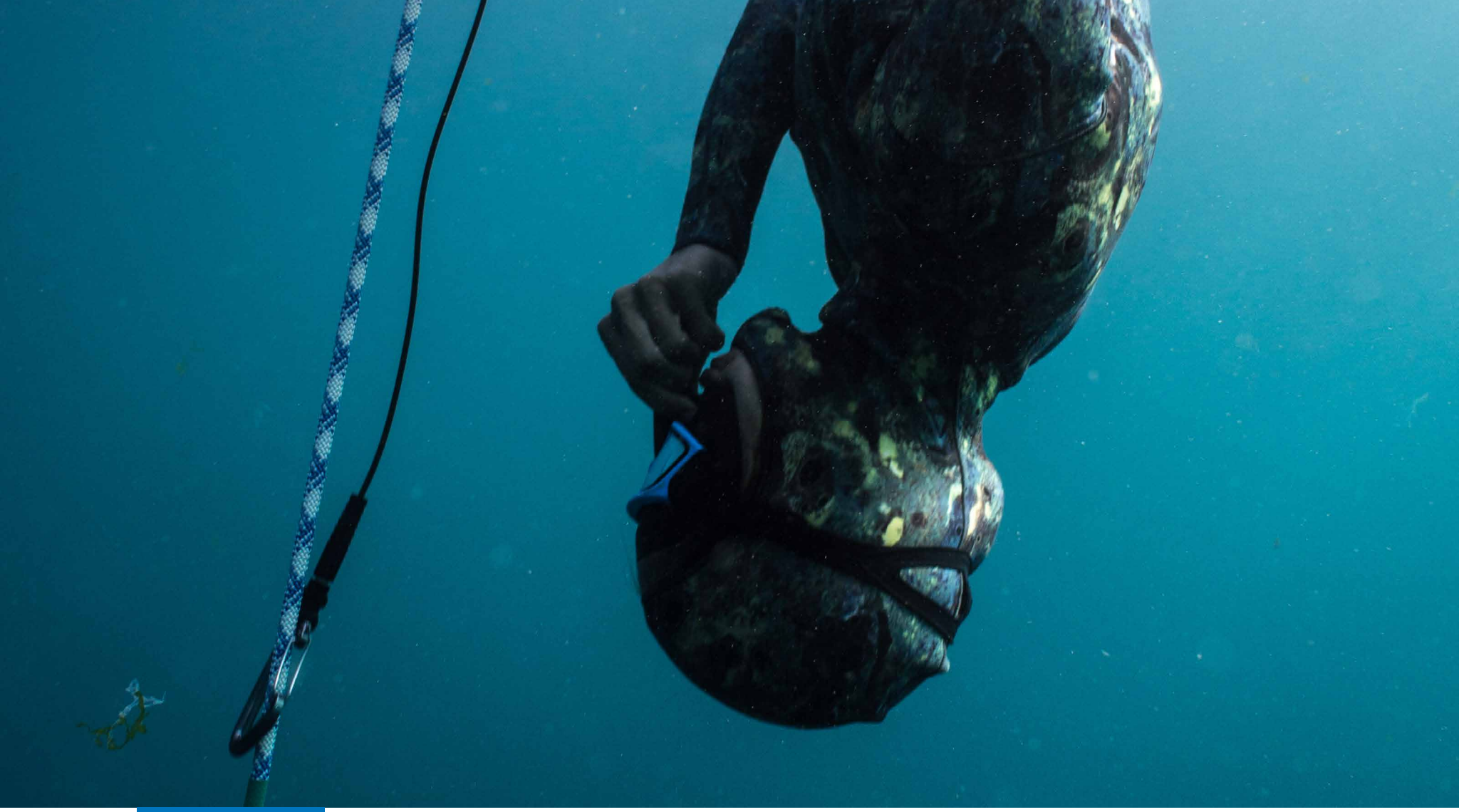
As you always surface with all your air still in your lungs – remember, a freediver never exhales during the dive – the first exhalation is nothing more than opening your airways and letting the air flow out from your lungs.

Quick full inhalations

After the passive exhalation, a quick inhalation follows, just as if you would say “hope” on a big inhale. This quick inhalation will not fill up your lung completely, but a big enough quantity of fresh air will enter your body.
This “hope” inhalation is followed by another passive exhalation – just let the air flow out from your lungs again.

Repeat 3 times or more

Repeat this sequence of quick inhalations and passive exhalations at least three times. Do more of them if you feel like it.



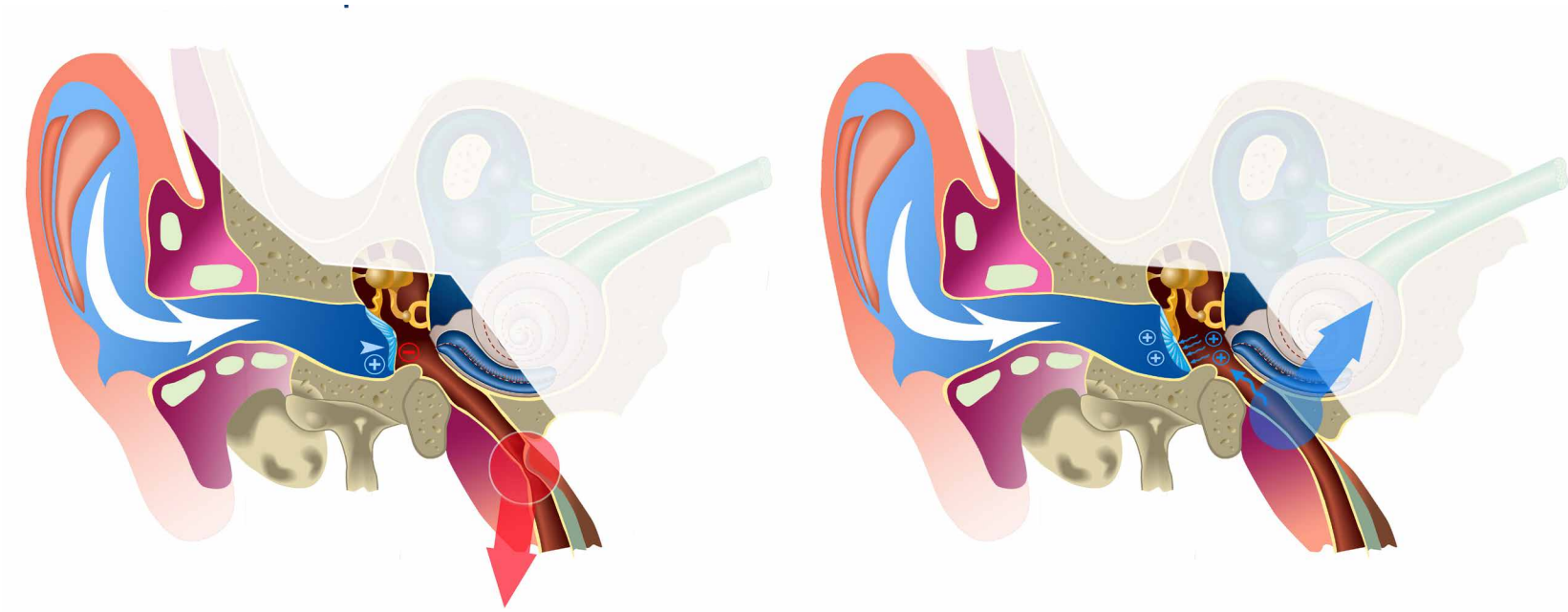
CHAPTER 03

EQUALISATION

If you tried to reach the bottom of a swimming pool without equalisation, you would feel discomfort or even pain in your ears and forehead. It can hurt your ears very quickly, even only one meter deep, so it is not advised to actually try this! What you would feel is the build up of *pressure*.

3.1 Equalisation Technique

There are several techniques to equalise the rising environmental pressure while we descend in water.
The easiest one is equalizing the *mask*: Gently exhale through your nose into your mask. Make sure that you only allow enough air into the mask to equalise it, but that no air escapes from your mask as you equalise. After all, you want to keep as much air in your lungs as possible.
There are two techniques for equalising the *middle ears* and *sinuses*: The Valsalva and the Frenzel manoeuvre. Sinuses equalise together with the (middle) ears, as both are connected with each other.

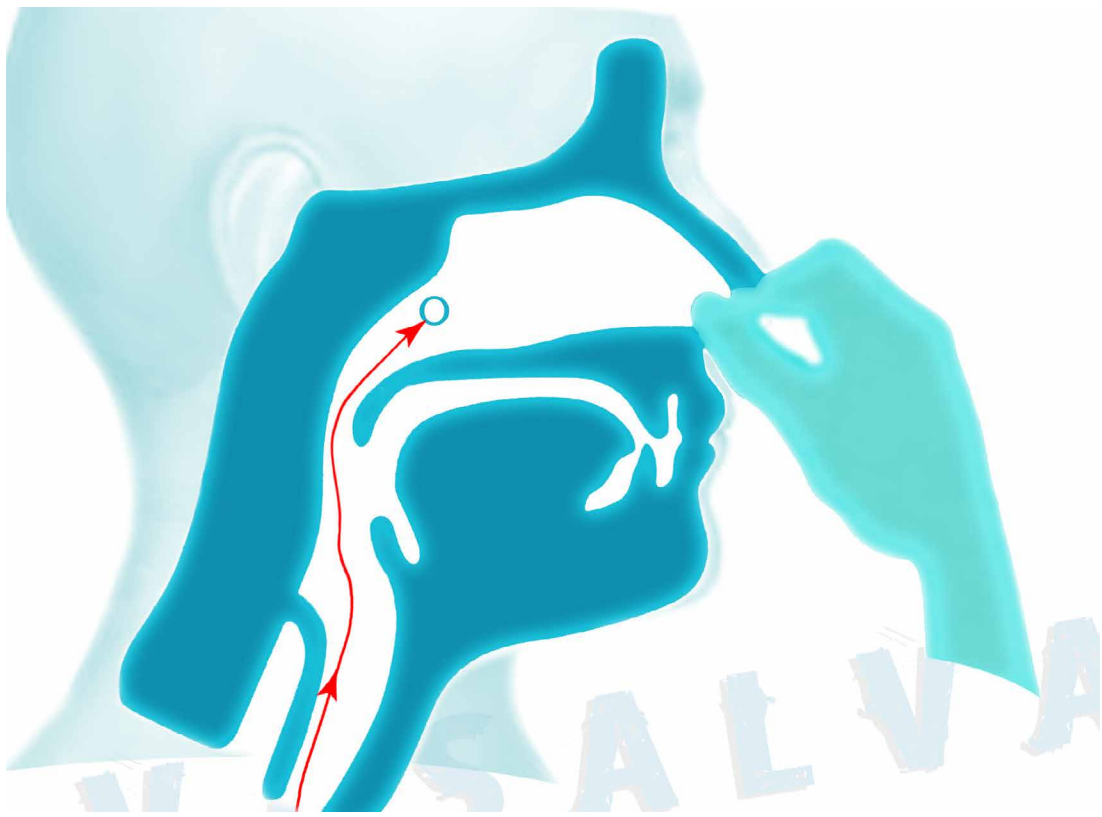


Ear drum of an equalised ear

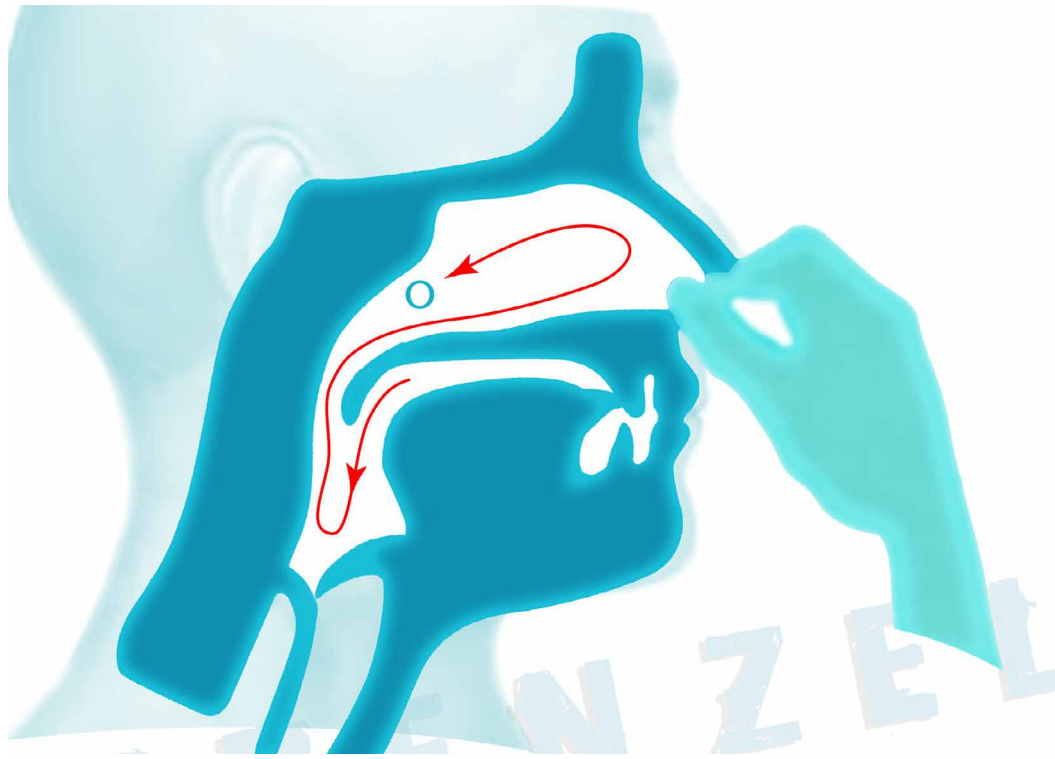
Valsalva manoeuvre

With the mouth closed and the nose pinched, you exhale through your nose. As the air cannot escape out of your nose, it will automatically be moved through your Eustachian tubes into your middle ears. Your ears will make a “popping” noise – this is an equalisation.

This technique is very popular with scuba divers, as air supply is not an issue. As you will progress as a freediver you will prefer to use the more efficient Frenzel technique.



Schematic of the Valsalva manouvre



Schematic of the Frenzel technique

Frenzel technique

In broad strokes, the Frenzel technique works like this: Pinch your nostrils, then place your tongue at the roof and back of your mouth and move the back of your tongue gently upward as when starting to swallow. This moves the air up into your middle ear as well, resulting in the same popping sound in your ears.
If you can equalise your ears without any abdominal or thoracic movements, then you are doing Frenzel.

Practice equalisation

During your equalisation exercises, make sure that your head and neck are completely relaxed. You can slightly tilt your head forward to ease relaxation and equalisations. Most importantly, use *only* the muscles that should be active in your chosen technique. All other muscles need to stay relaxed during the whole equalisation manoeuvre.
The more often you train your equalisation, the easier it gets. Equalise 500 times a day, while sitting on the bus, reading a book or walking home from work.

Other techniques

There are many other equalization techniques, most famously the “hands free” technique, also called BTV (Béance Tubaire Volontaire, French for Voluntary Tubal Opening, VTO). This advanced technique can also be learned, but is not part of the AIDA Education System.

Using a mirror to check equalisation technique

3.2 Facilitate Equalisation

Clean technique

Equalisation should be easy! When you are sick and congested, then equalisation will be more difficult or slow. In the worst case, simply no air will flow through the Eustachian tubes to your middle ear and/or into your sinuses. Wait a few days until the congestion is gone and resume practicing.

Any equalization technique works best when you stay completely relaxed while equalizing. Pulling faces, or rising shoulders are a signal of too much activity in places of your body where there should not be any.

Outer ear filled with water

Make sure that you outer ear is filled with water while diving. Any air trapped between your eardrum and a hood can make equalisation hard or even impossible.

Equalise frequently enough

Equalise when you feel the rising pressure but never wait until the pressure becomes painful to your ears.

Slow down

Slow down your descent if necessary. It is ok to hold on to the diving line to slow down or stop your descent. Wait, relax for a moment, and then resume your descent only after a successful equalisation. Do not resume your descent if you cannot equalise.

Dive healthy

If you are sick and/or congested, wait until your airways are clear before going back to water. As soon as your equalisation works effortlessly again on dry land, it will also work in water.

Avoid decongestant medication

Decongestants work for a few days during which you will feel ok to dive. However, after a few days the medication stops working and you will feel sick again, taking you much longer to restore your health.

Stretching before diving

You can stretch your neck and jaw muscles before your dive session. Your AIDA Instructor will guide you through a gentle stretching exercise for doing so. Keep this relaxation of your mind and body while you freedive. The more relaxed you are, the easier equalization becomes for you.

Stretching the neck can help with equalisation

CHAPTER 04

BASICS OF SAFETY IN FREEDIVING

4.1 The Buddy System

Every year we lose dozens, maybe hundreds of snorkelers and spear fishers to the sea. No one knows the exact figures, we even do not know what the victims exactly did, because they broke – knowingly or not – the first and most important rule in freediving:

Always freedive with a buddy!

The buddy system is the basis of safe freediving.

First level of safety: You!

It is the main goal of the AIDA Education System to create safe freedivers. From the absolute beginner to the deep diving athlete – your reasonable and educated behaviour is the first and most important safety system in freediving. Conservative freedives, correct weighting, correct choice of gear, good freediving technique, finding the best spot for a freedive session or judging the conditions correctly – these are a few of the many skills that make you a competent and thus safe freediver.

Second level: The buddy team

Every breath-hold dive has two participants: The freediver and the buddy. There is no exception to this rule - freediver and buddy are two sides of the same medal. Your level of buddying has to be on par with your freedive skills. Every AIDA Course aims at making you a more competent freediver and simultaneously developing your buddy skills to the same level.

Take buddying as seriously as your own dives

Take your buddying as seriously as your freediving. This approach is the foundation of every efficient buddy team. To do so you always need to know what your buddy wants to do next in order to prepare yourself accordingly. For this it is essential to establish efficient and continuous communication within the buddy team.

4.2 Loss of Motor Control (LMC)

Despite all safety precautions it is possible that you might become low on Oxygen during or after a dive. This can be the case when you are breathing too much before holding your breath: Hyperventilation is not storing more Oxygen in your body, but it does lower its level of Carbon Dioxide. It is the rising level of CO_2 that will trigger your desire to end the breath hold. Holding your breath with an artificially low level of CO_2 thus delays these signals and you might become low on Oxygen.

Hypoxic fit after surfacing

Loss of Motor Control, or LMC, is a hypoxic fit that occurs after surfacing if Oxygen levels are too low. A LMC happens only after a dive. It is not the same as a black out, it can be described as the red zone of low Oxygen before falling unconscious.

Jerky movements of limbs and head

A clear indicator that your buddy suffers from LMC, are jerky movements with the limbs or the head. This is why a LMC also often referred to as “Samba”. A light LMC will just last a few seconds and will mainly induce light uncontrolled eye and/or head movements, while severe LMC can affect your whole body and leads to an inability to maintain your airways out of the water.

Supporting a freediver that suffers from Loss of Motor Control (LMC)

Last warning signal

A LMC may or may not result in a full black out. The cause of a LMC is a lowered level of Oxygen in your blood that has reached the point where normal cell function cannot occur. This means the metabolism is disturbed and normal functioning is reduced, hence the jerky movements and lack of responsiveness.
After recovery from a LMC, you may not be aware of what just happened. Trust your buddy, he or she will tell you.

Stop diving for the day

As a consequence of a LMC you should stop freediving for the rest of the day.

Find out why it happened

It is of utmost importance to find out why you suffered from a LMC. There may be many reasons: Hyperventilation, stress, feeling unwell or bad finning technique just to mention a few. Most likely it is even a combination of several of these reasons. If you cannot point out for sure why you suffered from LMC, seek coaching from an AIDA Instructor.

Rescuing a freediver that suffers from a Black Out (BO)

4.3 Blackout (BO)

Loss of consciousness

A Black Out or BO is the loss of consciousness caused by lack of Oxygen (O_2) towards the end of a breath hold or immediately after.

Hypoxia

During a dive you may have used up Oxygen until the point where there is not enough left for the body to function normally. At this point your brain enters into a state of “survival mode” and you fall unconscious. The brain gradually shuts down all processes that are not needed for immediate survival.

Brain damage?

There is absolutely no benefit in blacking out. This must be clearly stated to oppose certain believes that training “to the edge” creates the greatest results. It does not.
To hold your breath to a significantly lowered Oxygen saturation is probably associated with a mildly increased cell death in the brain well before blacking out. In every situation that affects our brain negatively (like heading a football, being drunk or even sneezing), the significance of the damage is a question of dose. Repeatedly experienced black outs will certainly have negative consequences and must be avoided.

Stop diving for the day

After suffering from a black out, a freediver should stop diving for the rest of the day to allow the body to fully recover from the incident.

Find out why it happened

As after a LMC, it is very important to find out the reason(s) why you suffered from a black out. Seek coaching from an AIDA Instructor if you cannot clearly point out what went wrong. Once you found the reason, change your freediving behaviour accordingly in order to avoid the same incident to happen again.

4.4 Rescue of a Freediver

Support in LMC

If your buddy suffers from Loss of Motor Control (LMC):

- **Gently hold the freediver so his/her airways are out of the water**
- **Remove facial equipment if needed**
- **Reassure and coach him through his/her recovery breathing**
- **Remind him to stop diving for the rest of the day**
- **Check for any injuries as a result of the LMC**

Rescue of a blackout: The SAFE-rule

If your buddy suffers from a black out (BO), you will act SAFE:

Surface: Get the freediver to the surface
Airways: Hold him so the airways are out of the water
FE: Remove all **F**acial **E**quipment (mask, goggles, nose clip)

Slower is faster, do every step correctly without haste. Then follow up with:

Blow – Tap – Talk (cycle for Max 10-15s or until regaining consciousness)

Rescue of an unconscious freediver

This is how to approach the **SAFE** rule and the **Blow – Tap – Talk** cycle:

Surface: Approach the unconscious diver from behind. Your right arm slides under his/her right arm to his/her face. Shut his/her mouth with your palm and secure his/her mask with your fingers. The left hand holds the back of his/her head. Keep the head straight in line with the body axis – no tilting back or forth.
Now ascend and bring the victim to the surface. End your ascent whenever possible next to a floating device or, if in a pool, next to the edge.
Airways: Once the airways (nose and mouth) are above the water line, they have to stay there.
Remove all **Facial Equipment** (mask, fluid goggles or nose clip) now.

Blow – Tap – Talk (BTT-Cycle): Blow on the skin below the eyes to dry the skin and signal thus to the unconscious body that there is now air to breathe. **Tap** alternatively both cheeks of the unconscious freediver with your open hand. This is not a hard slap, but should still be executed with enough strength. **Talk** to the still sub-consciously active mind of the victim: Tell him to breathe in and use the first name of the victim. For example “Peter, breathe in!” in a very directive tone.

Repeat the **BTT-Cycle**. If the victim does not resume breathing within 15 seconds or earlier, give up to five rescue breaths with the victims nose pinched and the head tilted back to open the airways.

If the victim still does not resume breathing:

- **Call for help**
- **Start CPR (cardiopulmonary resuscitation)**
- **Evacuate to the nearest medical facility**

These are the basic steps of a rescue.

AIDA strongly recommends that you follow a complete first aid course as conducted by many specialised agencies. This will be particularly useful if you intend to continue your AIDA Education. Note that your instructor, as a fully qualified professional rescuer, has to update his/her rescue training every two years and must regularly practice these safety skills.

4.5 Risk Reduction

As a safe freediver, LMC and BO are unacceptable outcomes for your dives. Your main goal is to reduce all circumstances that lead to ending a dive in a hypoxic state to an absolute minimum by applying best practice of freediving as follows:

Always freedive with a trained buddy

There is simply no excuse to omit the first rule of freediving: Always freedive with a buddy. If there is no buddy available it means no freediving for you. Being under water without a buddy is not freediving, it is being irresponsible.

Relaxation

Mental and physical relaxation means to preserve your energy. The more relaxed you are, the safer and more enjoyable freediving becomes.

Recovery breathing

Always perform recovery breathing. Make it a habit that a dive is not over after surfacing, but after finishing at least three correct recovery breaths. This way you train your body to do it automatically in case of an emergency (e.g. in a hypoxic state).

Hydration

Stay well hydrated. Being physically active while swimming wrapped in a wetsuit makes us sweat. Also through “immersion diuresis” (effects of pressure changes on the kidneys – see AIDA3 Freediver Course) we lose a certain amount of liquid while freediving. In a tropical environment, the heat from the sun combined with the high water temperature may constitute another cause of fluid loss.

Correct weighting

There is a rule of thumb to weight yourself correctly: You should not sink from the surface when exhaling forcefully. Your head might go under water, but you should then stay there. Always do this “exhale check” before you start a snorkelling or freedive session!

By correctly weighting yourself, you save energy while freediving and buddying. Also, you will not be “over weighted” in a case of emergency.

Snorkel out

Take the snorkel out of your mouth before you descend. This is probably the easiest difference to spot between a trained freediver and an untrained snorkeler who takes a casual breath-hold dive. In case of a black out the snorkel is an open water pipe to the victim’s airways, making an effective rescue much more challenging and complex.

Bring a float

Grab hold of something as soon as you reach the surface. If no freedive buoy is available, two life vests wrapped together or a lifebuoy from the boat can be used. While a float is of course essential in an open water training session, it is also very practical and a great safety device in a fun freedive session e.g. on a reef.

4.6 Freediving and Scuba

Allow enough time between scuba diving and freediving. After diving with compressed air (scuba), the body has accumulated a certain amount of Nitrogen. When directly moving over to freediving, the quick pressure changes of freedives can then cause decompression sickness (DCS).

No fly sign

If you are using a dive computer, wait until it clears you to fly before freediving.

Freediving after SCUBA diving

If you do not use a dive computer, the following two rules of thumb will give you a conservative estimation how much time you need to allow before flying or freediving:

- **At least 12 hours after one scuba dive before freediving**
- **At least 24 hours after multiple scuba dives before freediving**

SCUBA diving after freediving

The amount of Nitrogen you accumulate while recreational freediving is quite small, but existing. If you are going to scuba dive after freediving, your dive computer has no information about this residual Nitrogen in your system and might give you readings that are not conservative enough to be absolutely safe.
At the moment there are no conclusive studies on how much time is safe to allow for scuba diving after freediving. However, the scientific community recommends a minimum of 12 hours if you want to scuba dive after freediving.

Do not accept air from a scuba diver

When freediving do not accept air from a scuba diver underwater. Despite it being a popular diver joke to offer you the “octopus” to take a breath: Say “No t(h)anks”.
The first breath of compressed air entering your lungs underwater switches your diving mode from freediving to scuba diving and you consequently have to end your dive as a scuba diver. If your mind cannot follow that switch, you put yourself in great danger.

CHAPTER 05

FREEDIVING DISCIPLINES

Within AIDA there is a total of eight freediving disciplines. Reminder: In some parts of the world, “freediving” is coined with the term “apnea”. Due to AIDA’s French origin the term “apnea” is used frequently. See this video about the disciplines.

5.1 Static Apnea (STA)

Breath hold face down in water

A breath hold performed face down in a pool or confined water is called static apnea (STA). It is a popular competitive discipline as much as an important form of training.

Most accessible training form

While it is often allowed to do static training in pools, the usage of fins and suits frequently are not. This makes static training in water the most accessible form of training. Furthermore, there are many forms of dry static training. “Static” is thus a very versatile tool to work with on a daily basis.

Mind game

Holding your breath for an extended time is as much a physical task as it is a mental game. Your mind does not like to stop working and it has a hard time doing nothing. But that is exactly what we ask our minds to do during a static breath hold: Stopping to think, and not wasting any energy on unneeded activity.

5.2 Dynamic Apnea (DYN, DNF)

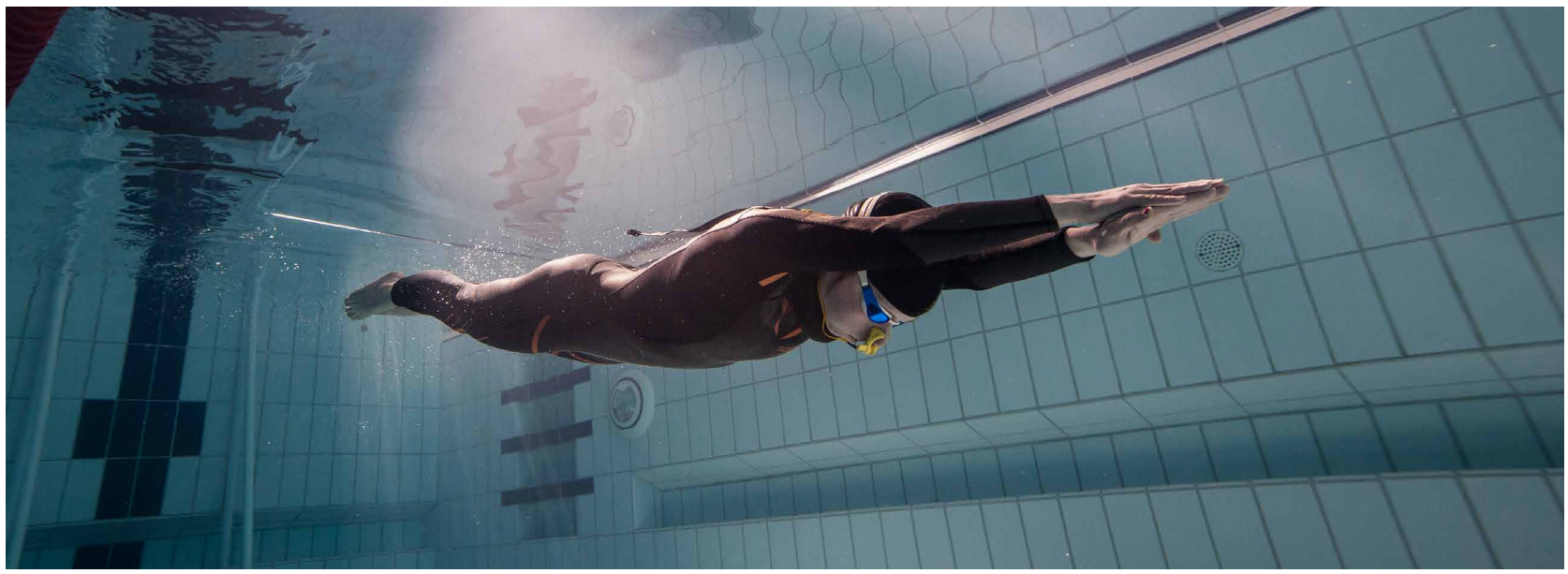
Horizontal distance covered on one breath

Dynamic apnea (DYN) is about the horizontal distance covered under water on one breath. Like STA, dynamic apnea is introduced in the AIDA2 Course.
This discipline is mostly done in pools. It is also possible to perform dynamic apnea in any confined water, such as a sheltered beach, or a lagoon. As long as there are no waves, no currents and reasonable visibility, dynamic can be performed almost anywhere.

Freediver performing dynamic (DYN) with a monofin

Dynamic with fins: DYN

There are two forms of dynamic apnea in AIDA: With fins or without. In a competition, monofin and bi-fin divers compete with each other in the same category called dynamic with fins (DYN).



Freediver during dynamic no fins (DNF) freediving

Dynamic no fins: DNF

The other form of dynamic apnea is performed without fins, with the abbreviation DNF (dynamic no fins). With the use of arms and legs you propel yourself in an extended breaststroke movement. DNF is a very demanding discipline from a technical standpoint. DNF is not taught in the AIDA Courses, but your AIDA Instructor will provide you with additional training possibilities if you wish so.

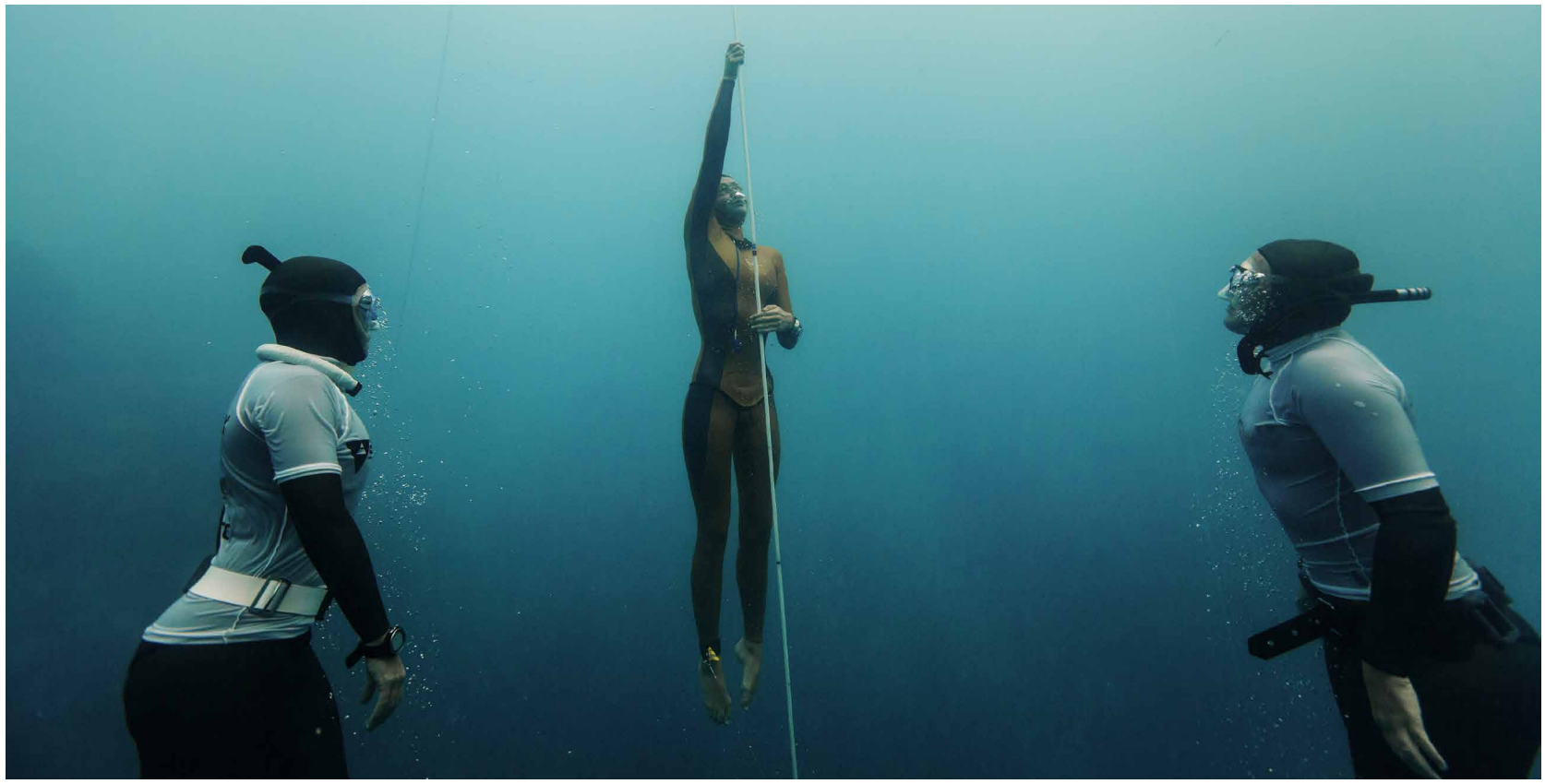
Important training discipline

Dynamic apnea is an important general training discipline in order to work on your body posture, finning technique, CO_2 tolerance and so forth. For many freedivers with limited or no access to open water this discipline is their main activity "between trips".

Pool operators quite often do not permit fins, wetsuits or even masks in the pool during public hours. If you want to train in a pool for the first time, make sure you ask about the local regulations. In many places, however freediving or apnea clubs with dedicated training hours can be found. Ask your AIDA Instructor about local freediving clubs, where you can find fellow freedive buddies and a fun group to train with.

Lifeguard is NOT a buddy

Remember that you need a dedicated and qualified buddy to do in-water apnea training in a pool (STA, DYN, DNF), there is no exception to this rule. **A lifeguard on duty does not qualify as a buddy.**



Coming up from a dive by pulling the dive line: Free immersion (FIM)

5.3 Free Immersion (FIM)

Pulling yourself down and back up a line

In free immersion you pull yourself down and back up the dive line without the use of fins. Competitive FIM is often performed without wearing fins, however during an AIDA Course, FIM-dives are performed with fins due to safety reasons.

Good as warm-up

Free immersion is a vital part of every open water freedive session. It is the most relaxed way to start your session by slowly pulling yourself down to a comfortable depth. By doing so you can spend time under water without exerting yourself while giving your body and mind time to switch into “freedive mode”.

5.4 Constant Weight (CWT, CNF)

Swim down and back up using the same amount of weight

This is probably the most known discipline of freediving. In this discipline you swim down and back up along a dive line, using the same amount of weight. Hence it is called constant weight (CWT).

Left: Constant weight with fins Right: Constant weight no fins

Constant weight with fins: CWT

Constant weight freediving can be performed with fins or without. In competition, freedivers using bi-fins or monofins share one category called CWT.

Constant weight no fins: CNF

Diving to depth without using fins is called constant weight no fins, in short CNF. As this form of freediving is often depicted as the purest form of freediving it gets a lot of well-deserved media attention.

Grab the rope only to turn

Both disciplines CWT and CNF share the rule of grabbing the rope only once, and that is when you turn at depth. However you are allowed to glide along the dive line, using one hand to “feel” the rope to keep your orientation.

Freediver on a sled performing a dive in variable weight (VWT)

5.5 Variable Weight (VWT)

Descend with weight or sled

In the simplest form of variable weight (VWT) a freediver descends holding a weight in his/her hand. The weight is attached to the dive line and will be stopped at the targeted depth. More sophisticated setups use a weighted sled to which the freediver holds on to during descent.

Ascend without weights

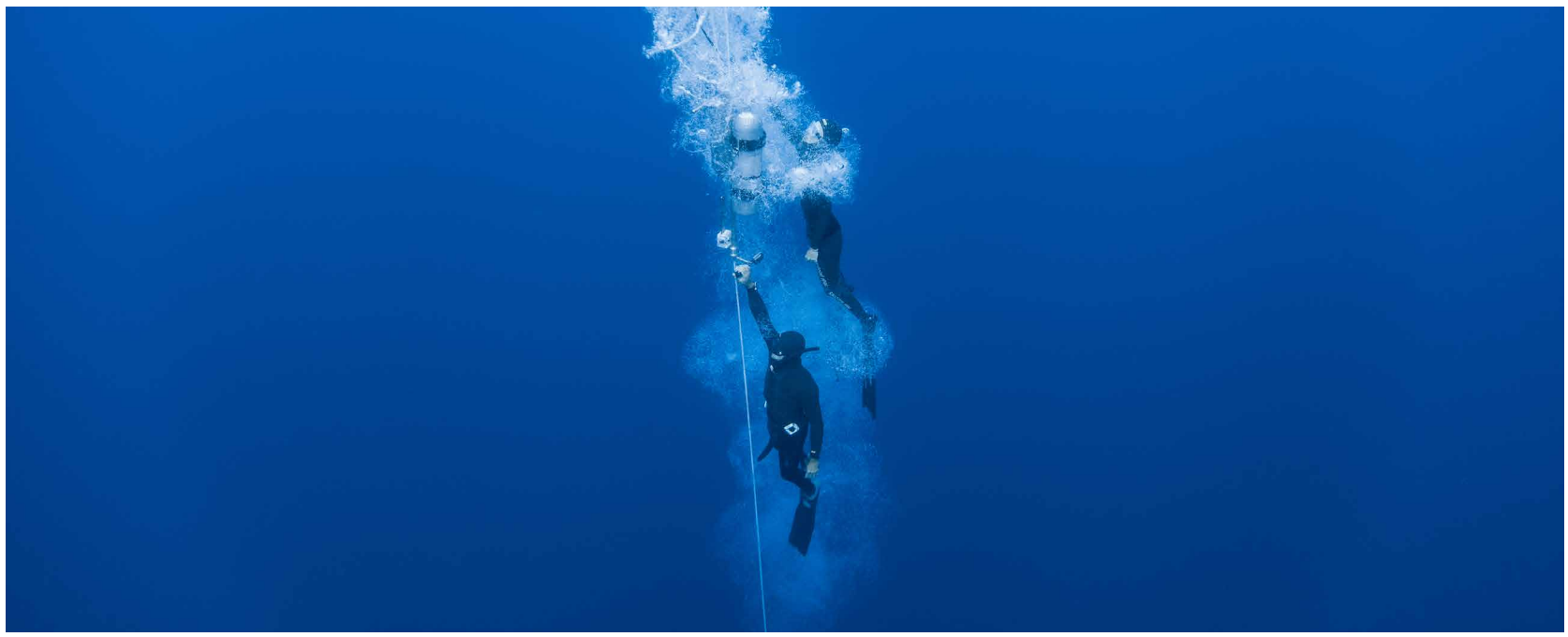
After reaching the targeted depth, you ascend using your own propulsion. In VWT you commonly use no weight belt to offset the buoyancy of your freedive suit, which makes your ascent easier.

Ascend swimming and/or pulling on the line

You can pull on the rope or use your fins to get back to the surface. Also a combination of both means of propulsion is possible.

No competition discipline

Variable weight is a great tool in advanced freediving to adapt to depth. VWT is also done for pure pleasure or for record attempts, but there are no AIDA ratified competitions in this discipline due to the risk factors involved.



Freediver deploying a lift bag during a no limits dive (NLT)

5.6 No Limits (NLT)

Descend on a weighted sled

In no limits freediving (NLT) the freediver descends by holding on to a weighted sled.

Ascend using lifting device

At the target depth, the freediver will often use compressed air to fill a lift bag by opening the valve of a tank attached to a sled. Any other lifting devices are allowed as well. The propulsion of the lifting device gets the athlete back up and close to the surface. He or she will then let go of the lifting device and ascend slowly in a controlled way along the dive line for the last meters.

No competition discipline

This discipline has been made popular by the movie “Le Grand Bleu” (The Big Blue). Unlike depicted in the movie there are no competitions in NLT anymore, as the discipline has serious risk factors to be considered. Record attempts have to be approached carefully and in a controlled environment, supervised by experts. The development of a functioning NLT-setup is a task that takes a maximum amount of experience. Furthermore, it takes years of adaption for the human body to handle the extreme depths that must be reached for today’s NLT records.
However, done under the supervision of an experienced instructor, NLT to moderate depths is great fun and safe.

CHAPTER 06

FREEDIVER CODE OF CONDUCT

Mind your surroundings

Mind your long fins

Mind marine life

Do not remove anything from the sea / Do not leave anything in the sea

Mind the dive site

Be a role model

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