Nutrition and Diving

Decompression sickness can be defined as having several symptoms, and occurs following a drop in external pressure, usually after scuba diving with an aqualung, generated by the transformation into bubbles of inert gases dissolved in excess in the body. This transformation proceeds at the excessive speed of the variation of pressure, or if the diver does not stick to their planned decompression breaks.

Based on this definition, it is possible, in theory, to identify the causes which lead to decompression sickness. Whether it's the speed of resurfacing, or not having enough breaks, they can be regarded as determining factors in causing this medical problem. In reality, practical experience and medical practice teach us that these are not the only factors. It's not uncommon to hear of medical cases in which, despite the absence of any obvious errors, a problem emerged, in the same way that sometimes even serious errors are not necessarily followed by the classic symptoms that one would expect.

For these reasons, so-called additional factors come into play, that is to say pre-existing elements, which contribute to the development of a medical problem. Amongst these additional factors, let's remind ourselves, by means of example, factors such as dehydration, stress, tiredness, other medical conditions which may contribute to the development of illness, lack of sleep, cold and other symptoms. A medical problem could therefore arise with a combination of at least two of these factors, that is to say in the resurfacing phase and the combination of one or several additional factors.
The link between an additional factor and the emergence of medical complications could be identified in the phenomenon of oxidative stress. By oxidative stress, we mean an imbalance of the usual balance which exists inside an organism in between the aggressive activity of free radicals and the ability of the body to defend itself, or rather its anti-oxidant capacity.

Free radicals are extremely reactive metabolites which come from the process of transformation of oxygen, but also of other metabolic reactions, which do not have enough electrons in their peripheral orbit. In these conditions, these molecules, have an extremely short life span: within a few milliseconds, they have to react with a substance which produces electrons. To avoid that the free radical interacts with the cellular membrane causing damage to the cell, the organism contains antioxidant substances. These substances consist of elements which have the capacity to give electrons to free radicals before these interact with the vital parts of the organism. This is where the link with nutrition, is, or more generally, the link to lifestyle.

On the one hand, a healthy diet is enough to provide the organism with the appropriate antioxidant substances necessary for cancelling out the action of free radicals. On the other hand, a healthy lifestyle significantly reduces the production of free radicals and the resulting consumption of antioxydants.

Now let's look at a few aspects which can be part of a healthy lifestyle, which, as is obvious, not just for scuba diving.

1. **Nutrition.** Healthy eating is a key part of ensuring a healthy lifestyle. The rule to apply is not to allow one's body to waste energy fighting against foods which are bad for us. Then in turn you must apply the principles which go hand in hand with healthy nutrition. The following points are part of the WCRF rule book, one of the main international bodies dealing with nutrition.
   – Try to maintain a healthy weight throughout your life.
   – Physical activity everyday.
   – Limit your intake of foods containing too many calories.
   – Opt for vegetables, pulses, fruit and in particular, greens.

– Try to limit your intake of red meat. Avoid processed meats.
– Try to limit your alcohol intake. Limit your intake of salt and salty foods.
– Make sure your intake of essential nutrients comes only from food.
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2. **Supplements.** A healthy lifestyle should mean that supplements/vitamins aren't necessary. However, most of the time, this is not the case. For this reason, guidelines for using supplements are necessary: for example, they must be high quality, they must be used at the right time and stimulate organs which are tired or diseased.
3. **Hydration**. Proper hydration drains toxins which improves communication between cells. These are the most useful guidelines: drink at least 11 half glasses of water per day in between meals. This water should not be very high in minerals, that is to say with fixed residue 180° below 50mg/litre.
4. **Oxygenation**. It may seem banal to remind people to breathe, but it's worth spending a little time on two aspects of this: we must breathe in high quality air. It would not be a bad idea, for us all to learn some breathing exercises to practice everyday two, or three times throughout the day. Exercises which help us to use all our breathing muscles are particularly useful.
5. **Movement**. Regular exercise should be a part of everyone's daily routine, suited to our physique and taking into account any existing problems. Walking for 30 minutes everyday is ideal for staying in good shape. More exercise is required for those who intend to lose weight.
6. **Draining of toxins**. Our daily diet, and, more generally, stress, are just a few of the many sources of poison for our organs. Draining an organ means eliminating accumulated toxins. There are many products available, especially herbal products, which are ideal for draining single organs or the body in general.
7. **The workings of the intestine.** The intestine does not only reflect our emotions but also the general workings of our entire organism. It is the main point of exit to the outside. It should be able to work by itself. It represents an immunity barrier and a selective filter for foods and bacteria. It is maintained in a natural way, either with diet, or with flushing out periods. It is difficult for our body to function and react correctly if the intestine is not working properly.
8. **Emotional availability**. Health is also an expression of one's ability to relate to others, release one's emotions, get involved, put oneself to the test, to adjust, to accept, to accept oneself, to dream, to communicate, to love, to love oneself, to forgive, to forgive oneself. Given that we are talking about lifestyle in general, reminding ourselves that we are made up of both body and emotions, is never a waste of time, particularly in an article dedicated to a small proportion of the population making sacrifices for a hobby as beautiful as diving, often in search of those simple emotions which make life so enjoyable.