Attention deconcentration in freediving

Автор: N. Molchanova

Freediving is an extreme sport so it is highly important to estimate chances of successful dive adequately. To turn to the surface at the proper moment athlete has to keep an eye on his condition; he must consider different circumstances (current, thermal cline, sharks, penguins and so on); and react actively to situation changes (if there are high waves, give your snorkel to your buddy – let him swallow water instead of you – and breathe lying face-up preparing to dive).

Breath-hold diving induces the complex of specific interconnected physiological and psychological reactions. Physiological stress caused by objective metabolic changes and subjective feeling of empty lungs at the deep, can lead to a panic and lost of control. There was an incident when highly trained young man diving to 30 m all of a sudden forgot how to move his fins properly, and I had to dive to him to show the direction.

The purpose of psychological training is to teach diver to react quickly and in advance to the changes of external (increase of hydrostatic pressure) and internal (development of hypoxic and hypercapnic condition) environment, which demand to slow down metabolic processes. Consequently, the freediver prior to the dive has to have low psychophysiological tonus. Ideally it is hibernation – the astronaut's dream when organism is in so deep a stupor, it dares not to ask for any amount of energy. But while diving we have to move, and that means production and consumption of energy. The trick is to minimize energy consumption.

By changing your attitude to the situation you can control psycho-emotional stress caused by the feeling of danger. Instead of pursuing the goal depth it is always better to keep an eye on your organism condition – whether equalization goes well, whether you move relaxed enough to prevent lactic acid build-up – and turn to the surface in proper time if you feel discomfort. The perfect example is Martin Stepanek: at the Cyprus he announced 103 m and turned at 98. Love for yourself is more important than records.

At the same time individual properties of nervous system are significant. Freedivers with strong nerve tend to ignore diaphragm contractions, which indicate high level of carbon dioxide and low level of oxygen in the blood. "Ha! – they think – Contractions? So what? I've got will to win!" This kind of heroism leads to blackout.

For excitable persons it is highly important to lower anxiety prior to the dive. But it is difficult to achieve by conscious activity. Advice to calm down doesn't work: "They say me to calm down, then it's apparent I'm anxious. I have to calm down. But how can I calm down?" This attitude can only increase anxiety.

In ordinary state of mind a person is incapable to control his reflexes, but he can learn to achieve altered state of consciousness. The success of deep diving greatly depends on the ability to enter the altered state immediately before the attempt. Undoubtedly, every advanced freediver has his preferred methods, and in this article I share only my own experience.

Relaxed state easily can be achieved by specific technique, called attention deconcentration (AD). AD has been developed by Oleg Bakhtiyarov (Kiev, Ukraine) as the initial stage of psychological state management technique. AD means uniform distribution of attention on the whole perception field. AD is opposite to attention concentration when certain objects are distinguished from environment. Besides visual perception, attention can be distributed upon aural and tactile fields.

AD rarely arises spontaneously and involuntary. Modern life increasingly requires concentrating attention on certain specific tasks, while AD is somewhat a movement in opposite direction. Persistent stress factors often invoke firm AD state. So hunters and fighters of different styles readily catch the meaning of AD, since they've certainly experienced it already.

States close to AD can be achieved if person distributes attention on the field of vision periphery, i.e. focuses attention simultaneously on the regions above, below, on the left and on the right. Distribution of attention on the periphery requires voluntary efforts, since human visual apparatus is designed to detect objects in the central part of the vision field. There is useful deconcentration method when one imagines all objects are pictured on a transparent screen in front of him and concentrates attention only on the surface of the screen. This suspends spontaneous eye movements and focuses attention not on objects, but on fragments of vision field. If person performs the exercise correctly, his eyes do not "cling" to objects when he turns his head, but remain motionless relative to the head. This deconcentration type is called "planar deconcentration". Further explanations can be found in Bakhtiyarov's works.

AD induces peculiar feeling, resembling meditation, but without

detachment from reality. This state is the most desirable for diving: energy consumption is at the minimum level, and at the same time diver retains control over situation and is free from emotional reactions, which is especially important since emotions intensify oxygen utilization. Moreover, emotional reaction in critical situation can lead to the wrong decisions and panic. Another incident was when young freediver lingered for 30 seconds at 85 meters waiting for the sled to start moving upward, though he could spit upon it and start ascend on his own. But in that case he could has been hit by accelerating sled.

The initial stage of meditation to a greater extent inhibits activity of the left cerebral hemisphere, then of the right, thus suppressing verbal and logical mental functions and the sense of time. Simultaneously right hemisphere, responsible for the integral perception, starts to dominate. Perhaps this can explain frequent incidents of "time leaps", when freediver, retaining clear consciousness and space perception, experiences the feeling of momentary movement.

AD leads to "empty" consciousness or, in other words, to cessation of inner dialog – this permits to react more quickly and adequately.

Diving requires different kings of physiological activity: relatively intensive work for the first 15 m to overcome high positive buoyancy, then gradual decrease of efforts, and free falling without noticeable muscular activity from 30-40 m. After turning point: intensive strokes to overcome negative buoyancy, decrease of intensity from 30 m, and ascend without movements for the last 15 m.

Free falling is marked by detachment and total relaxing, necessary for effective equalizing. At the same time, ascend from great depth requires different state of organism. At the one hand, movements have to be powerful enough to overcome negative buoyancy; at the other hand it is necessary to relax to minimize oxygen consumption. To achieve that, it is essential to introduce third dimension of perception field – i.e. the distance between you and each visible object. There are few of them – only water and line – but it is possible to feel the thickness of water layer above and below you, in front of you and behind, and realize your position relative to the surface and the bottom of the sea. Planar AD turns into three-dimensional one, which is characterized by sudden rise of psycho-physiological tonus and is accompanied by intensive experience of union with environment.

Rising from the depth, it is important to constantly scan your condition to prevent shallow water black-out, which can occur without any discomfort sensations. Somatic attention deconcentration appears to be extremely useful in this situation. Somatic AD implies attention distribution on the whole volume of the body and allows noticing tiny changes of organism state.

There is one more kind of AD – aural attention deconcentration. It is not so effective in the water, but it helps preparing to the dive and not to be distracted by judge's countdown.

Combination of aural, visual and somatic AD gives integral perception of the world, harmonizes interaction with the environment, and allows noticing minute changes in organism. At the same time it accelerates decision making, which is held with minor conscious control.

N Molchanova