Travel notes

Destination Croatia (Plomin Luka), Rebreather Project, replication of a dive (duration and depth) performed in a hyperbaric chamber.

The project originates in collaboration with HBT-Voyager and monitors dives using Rebreather, initially in a hyperbaric chamber (already carried out in April in Ravenna) and then in the sea. Same depths and same duration but two very different conditions! The pressure which the divers undergo is the same both in the hyperbaric chamber and in the sea (6 BAR) but the very different component is undoubtedly the water! By means of a 4 chamber cardiac ultrasound scan, the study monitors possible gas bubbles in the heart. In view of previous studies, we can expect a greater number of bubbles in the dives performed under sea water as opposed to those in the chamber, but this time the variable factor will be using the closed circuit of a rebreather instead of the traditional open circuit.

While waiting for the results, Massimo Pieri (Research Area Supervisor, DAN Europe) told us about the wonderful experience reported below.

“As soon as we reach the diving location we plan the working day with the people in charge of the group. The usual briefing on postdive tests takes place during the boat trip. The divers are already familiar with these tests, yet each new appointment has their utmost attention.
They also complete the paperwork related to the DAN Europe DSL research forms and the informed consent forms.
Once we arrive at the exact dive location, the divers’ concentration is entirely on preparing for the dives. While they are underwater we start preparing the necessary equipment. Everything works perfectly! After 74 minutes, as per the timetables, the divers start resurfacing. Smiling faces, everything going as per schedule!

Our job begins, reminding the divers to prepare themselves and to proceed towards our station 25/30 minutes after resurfacing. The range of our recording is between 30 to 45 minutes post dive, nothing can go wrong during this interval and all the divers need to be monitored.
A minute is by definition, a short period of time but maintaining a correct window signal for monitoring bubbles while on a boat, with full light conditions, requires great effort from us for the entire duration of the tests. Also, with the support of Doctor Danilo Cialoni, we have had to monitor the ultrasound lung comets (ultrasound artefacts which indicate the possibility of pulmonary edema).
We all felt much more relieved at the end of the tests, certain that we had contributed to further safety of our beloved sport… Diving. With great enthusiasm and satisfaction from all the divers participating in this research, we said good-bye, looking forward to the next time we would work together again”.