The Hyperbaric Centres of the DAN Europe Network – Serbia

The Hyperbaric Centres DAN Europe relies on in case of emergency have been chosen around the world for their outstanding technical specifications, the training of their medical personnel and 24/7 availability.

We begin this review with Serbia, where Prof. Alessandro Marroni has recently gone to coordinate the organisation of the 38th Congress of the European Underwater and Baromedical Society (EUBS) and of the 8th DAN Day, which are to take place simultaneously in Belgrade on September 11- 16 2012.

Serbia has represented an important link between Eastern and Western Europe. It is situated in the centre of the Balkan Peninsula, in the southeast of the European continent. The north of Serbia borders with Central Europe, but because of its position and climate, it can be considered for all intents and purposes a Mediterranean region.
Belgrade, the capital of Serbia, is one of the oldest cities in Europe. Strategically situated in the point of confluence of the two Sava and Danube rivers, it is internationally known as the "Gateway to the Balkans" and the "Door to Central Europe". The three DAN Europe Network hyperbaric centres managed by the Centre for Hyperbaric Medicine are located in Baniza at the Orthopaedic Institute; in Belgrade, in the department of Histophysiology of the University Policlinic and in Vrnjacka Banja, in a spa complex.

Mile Zaric can be considered the deus ex machina of Serbian Baromedicine. In 1993 he decided to boost the progress of hyperbaric medicine in his country by activating multi-seat chambers with the most ample therapeutic capacity. A mechanical engineer and owner of plastics industries, the inventor of special seals and pneumatic lifting systems for which he holds the patents, Zaric was also an expert diver, and in that capacity knew of the opportunities offered by hyperbaric medicine in therapy. This was in the aftermath of the war, with many wounded people, also affected by traumas and amputations risking infections because of the pharmaceutical embargo: hyperbaric therapy could surely help. Mile Zaric bought a multi-person Comex chamber and began his work, more humanitarian than commercial. Then, in 1994, the collaboration with Dr. Nicola Dekleva gave a huge push to hyperbaric medicine, when a symposium was held with attending speakers of international renown, sharing knowledge with over 400 attending Serbian doctors. In the same year the first Hyperbaric Centre opened in the Baniza Orthopaedic Hospital, which in 1996 also gained the sponsorship of the Health Insurance Fund. From that moment it was an uphill struggle until 1997, with the constitution of the Baromedicine School at the Medicine Faculty of Belgrade University of which Prof. Alessandro Marroni has been the international coordinator.

Initially, the students of the School, already graduated and specialised in medicine, came from Serbia and Montenegro but it aimed at internationality. Unfortunately, the war abruptly interrupted the activities of the School which wasn't able to start fully functioning until 2007, but this time with the international characteristics which it aimed at from the start. The Serbian students have been joined by ones from Macedonia, Greece, Turkey and Bulgaria. An international e-learning system is shared with the University of Stellenbosch in South Africa. In the meantime, the Baniza Hyperbaric Centre had been working around the clock, with more than 60 patients a day. A second Centre was starting to prove necessary, and this was inaugurated in Belgrade in 2008 in the Histophysiology Department of the University Policlinic. The third Hyperbaric Centre was opened last year in Vrnjacka Banja whilst a fourth will be inaugurated within 2012. "We have worked a lot on the divulgation of hyperbaric medicine in Serbia, through the School of Baromedicine, conventions and courses and even with a specialised magazine– Mile Zaric says with pride – that's why doctors are very collaborative, because they know the importance of hyperbaric medicine. In

many countries we witness the sad state of this branch of medicine, generally due to ignorance on the issue starting with that of GPs and up to the highest levels of specialisation".

Mr. Zaric, how did your diving lead you to the field of hyperbaric medicine?
I started diving when I was 16, for fishing. At 22 I bought a regulator, cylinders and compressor. I have always been an engineer by profession and I have never seen hyperbaric medicine as a new opportunity for income, but decided to fund it and use it to help my fellow countrymen who had undergone amputations during the war and were often developing infections because of the pharmaceutical embargo.

What type of chambers do you use in your hyperbaric centres?
In Belgrade we have a 12-place Haux hyperbaric chamber, in Baniza we use a 13-place Comex chamber and a 12-place Haux hyper/hypobaric chamber, whilst in Vrnjacka Banja a 12-place Haux chamber is in operation. The centres also have individual hyperbaric chambers which are used for non-complicated cases or when we have patients that prefer individual treatment (e.g. sportsmen).

We also have a mobile hyperbaric chamber which is currently in southern Serbia on the border with Macedonia. For laboratory experimentation and research we use two small hyperbaric chambers which the Physiology Institute of Belgrade University has made available to the Centre for Hyperbaric Medicine.

Do you have many patients?
In the three centres we deal with 300 patients a day.

What are the most common pathologies?
In 70% of cases, they are pathologies relative to diabetes complications; after that come, in order of importance, infections, gangrene, decompression pathologies and carbon monoxide intoxications.

Experimentally, and completely for free, we have begun offering hyperbaric therapy to children with autism and those with cerebral palsy. The results obtained so far with more than 50 autistic children are very encouraging, with parents reporting constant and progressive improvements.

Fortunately there aren't many diving emergencies, but divers can come to our hyperbaric centres for pressure and oxygen tolerance tests. It's a free service; you just have to contact the hyperbaric centre directly.

How many people work in your three hyperbaric centres?
Currently we employ 55 people, 12 of whom are doctors. We will soon have specialised technicians and nurses from the Baromedicine School, which will shortly provide trained professionals for these roles too.

When will the next international Baromedicine School course be held?
Certainly after the EUBS Congress which will be held in Belgrade in September 2012.

Are you often contacted by divers?
Fortunately there aren't many diving emergencies, but divers can come to our hyperbaric centres for pressure and oxygen tolerance tests. It's a free service; you just have to contact the hyperbaric centre directly.

EUBS Meeting & DAN Divers Day to be held next September in Belgrade

The 38th Annual Scientific Meeting of the European Underwater and Baromedical Society (EUBS) will take place in Belgrade (Serbia), from September 11-16, 2012 We invite you to visit the EUBS 2012 website. There you can check the preliminary programme and register for the meeting.

We also invite you to the 8th DAN DIVERS DAY, a recreational diving medicine symposium and a EUBS meeting satellite event. Participation is free of charge.