SportEx physiology students experience hyperbaric exposure

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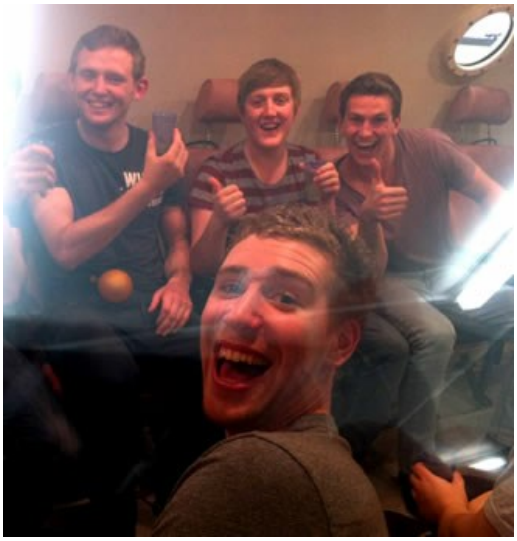
Forty three students who are registered on the Environmental Physiology module participated in a practical demonstration of hyperbaric exposure on 26 of January 2012. The facilities where the students had the chance to experience the effects of high pressure were located in the Wirral and there was some travelling involved. The trip was supported through CLAD module innovation funding.

We set off from Birmingham early in the morning and after a 2-hour drive we arrived at the **Hyperbaric Treatment and Training Services** (HTTS) facility. Students first attended a lecture on the clinical applications of hyperbaric exposure and they were given information on the physical challenges that a diver faces in the water. We were then taken to an area where a hyperbaric chamber was ready to takes us for a "dry dive". There was some waiting for the students because the chamber is only big enough to accommodate 10 people at a time but there were opportunities for everyone to see the panel where pressure is controlled, play with Doppler signals of blood flow in arteries (the signal sounds different after exposure to depth) and to talk with the staff of the facility.

Inside the chamber students were taken down to a depth of 30 metres. During this time they had the opportunity to learn about equalising pressure to their ears and to witness the effects of pressure on volume. A canister filled with air, a few inflated balloons, a tennis ball and a squash ball were all compressed flat at this depth. At 30 metres helium is also added to the air of the chamber and that provided some entertainment, especially when the lecturer said "I hope I don't talk like that in Monday's lecture" in a very squeaky voice. 30 metres is also considered the point where nitrogen narcosis starts to happen. Nitrogen narcosis influences cognitive function and some of the students who experienced it gave some really funny answers to questions on a test they were asked to take whilst at depth.

The dial shows that the chamber has been pressurised to a pressure equivalent to 30 metres



All giggly at 30 metres down

Two students could not go in the chamber because of safety concerns. One was going to fly in a plane the next day and another had a vigorous exercise assessment planned for that evening, which are both dangerous after exposure to a hyperbaric environment. Two other students who went in the chamber failed to equalise their ears and had to be removed from the chamber at a depth much less than the 30 metres that was the target. However, these students had the opportunity to spend some time at the control panel and observe the demonstrations from the portholes of the chamber.

We headed back in heavy traffic and made it back to Birmingham at 6 pm. It was a long day but one that was enjoyable, good for bonding and provided some hands-on experience of the theory that is covered in lectures.

Inside the chamber but still "on the surface"

Students are watching the control panel as the chamber is taken down to 30 metres

Students using Doppler to listen for "bubbles" in the blood

Group photo at the end of the day

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