Hyperbaric Oxygen Therapy for Fractured cheekbone of Race Driver

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GMT McRae's oxygen cure

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Hyperbaric chambers are used to help stricken divers Rally driver Colin McRae is reputed to have used a pressurised oxygen treatment to speed his recovery from injury.

McRae suffered a fractured cheekbone in a horrifying crash during the Rally of Corsica, just a few weeks ago.

However, he could be fit to drive again in the San Remo rally on October 20 - and his hours spent lying in a tank breathing high pressure oxygen may have helped achieve this.

This therapy, called hyperbaric medicine, was first developed to help divers who had fallen prey to "the bends", a potentially fatal condition caused by ascending through the water too quickly.

The rapid rise cause large bubbles of nitrogen to form in the blood – if left untreated, these can kill.

Scientists discovered that by placing divers in a pressurised chamber and making them breathe 100% oxygen, instead of the 21% found in normal air, a cure could be achieved.

The increased pressure - up to three times atmospheric pressure, compresses the bubbles of nitrogen and forces some to dissolve back into the blood.

Other conditions

And the pure oxygen also seems to be able to flush out the nitrogen from the bloodstream.

However, in recent years, doctors have become more and more aware of the potential of hyperbaric medicine in other medical conditions.

Dr Stephen Watt, who treats patients at the Aberdeen Royal Infirmary, said that 100% oxygen delivered at above atmospheric pressure appeared to be able to reduce inflammation in certain damaged tissues – speeding up the healing process.

If the damage had been caused by an interruption of the proper blood supply, such as in the case of open wounds, burns or frostbite, some sessions in the chamber might be able to help.
Dr Watt said: "There is some evidence that oxygen interferes with this inflammatory process, and may help reduce some of the side effects – it will accelerate healing."

Much research has concentrated on applications in diabetes, where problems with the blood and oxygen supply to tissues can lead to ulcers which heal slowly, or do not heal at all.

One study looking at the recovery of facial bones after the insertion of implants found the normal recovery rate of 65 to 70% boosted to over 90% by hyperbaric therapy.

Poisonous

Oxygen may keep us alive, but it is not without its risks as a treatment, and 100% oxygen is actually poisonous, particularly at high pressures, which mean the body absorbs more.

So patients can only spend a few hours a time having treatment.

The treatment can take more than one form.

If the patient is quite ill, and needs supervision by a nurse, then it may take place in a large metal chamber in which the air is pressurised, and the patient given the extra oxygen by facemask.

There are also solo treatment chambers, which can be made out of perspex, and are completely filled with high-pressure oxygen.

However, Dr Watt says these may not be suitable for all patients - adding that the fire risk of large quantities of pressurised oxygen is not inconsiderable.

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