

The cure for suit squeeze is to introduce just enough air into the suit to permit the spaces to return to their normal volume—to equalize. A few suits, like Cousteau's "constant volume" model, are equipped to make this equalization process easy. In a suit with the usual face-seal, you can generally blow air into the suit via the place where the face mask laps over the seal. There is one problem in this method of handling suit squeeze: if you are in the inverted position, any excess air will go to the feet. If there is much of it, you might find yourself held upside down and heading for the surface. (The Cousteau suit has a relief valve at each ankle to take care of this hazard.)

External ear squeeze. As mentioned above, closing off the external ear canal can cause trouble very much like middle-ear squeeze. Ear plugs are bad business for this reason. Suits made of smooth rubber can occasionally seal over the external ear; but more often, external ear squeeze is just a part of a general suit squeeze as described above. Not only is there a bigger irreducible air space at that point, but the ear is a lot more delicate than the skin; so a suit squeeze can show up there even if it doesn't appear very noticeable elsewhere. The cure and cautions are the same.

This form of ear squeeze can damage either the canal lining or the drum or both. The usual result looks like a bunch of blood blisters; and if one of the blisters has burst, there will be bleeding from the external ear. In this case bleeding to the outside does *not* necessarily mean that the drum is ruptured, as it does in the middle-ear squeeze. However, the drum can rupture under this circumstance.

Miscellaneous. Squeeze due to external air spaces may show up occasionally in unusual forms. For instance, the concave undersides of snap fasteners on one type of scuba harness proved capable of producing extra nipples on many chests. And then there was the case of transient marital incapacitation which resulted from a misadventure with a "Convenience" provided on one type of rubber suit.

GAS DENSITY EFFECTS

Another direct effect of pressure which ought to be mentioned happens to have nothing to do with the "squeeze" mechanism. It concerns the way air behaves once it is compressed.

If you notice that breathing is more difficult at depth, this is not just your imagination at work. The number of molecules packed into a volume of gas is directly proportional to the absolute pressure, but the volume you breathe remains about the same. The air you breathe at 100 feet is about four times as dense (as heavy) as air at the surface. If you are