

The Deal With Seals

Breathing, we can all agree, is important. And lungs, we can all agree, are important for breathing.

Unless of course you're a harbor seal plunging over a thousand feet into cold, dark water that can crush a person with more than 30 atmospheres of pressure.

God gave the harbor seal collapsible lungs to deal with the pressure of deep dives into such inhospitable depths, while avoiding the bends (decompression sickness) when coming back up. As the seal expels the air from its lungs, its body begins constricting its blood vessels and slowing its heart rate from about 100 beats per minute to a mere 10. Protected by a thick layer of blubber and drawing from oxygen stored in the blood and muscles, a seal can hold its breath for up to 30 minutes at depths that would quickly prove fatal to any human.

And when it's time to surface? The whole process reverses while the seal goes back to breathing air like the rest of us.

Pictured: harbor seal
(*Phoca vitulina richardii*)



*Text by James Capo and Jeremy Lallier
Photography by James Capo*