

Chamber Test

Liberal vs. Conservative

When it comes to dive computers, the terms liberal and conservative have nothing to do with politics, but everything to do with how your computer's algorithm calculates no-decompression limits (NDLs).

The algorithm is your dive computer's program. It's a mathematical formula that uses real-time measures of your depth, gas mix, time at depth and, in some cases, other data to calculate how long you can safely stay beneath the surface. The algorithms used in all these dive computers are designed to help you avoid decompression sickness (DCS) and they all have remarkable safety records, but at the same point on the same dive, they can provide dramatically different NDLs. Nobody can tell you which, if any of them, is "right" because the only way to guarantee you'll never experience DCS is to never dive.

But we do know this: Less time spent breathing compressed air at depth means less nitrogen in your system and therefore less potential for DCS. Conservative algorithms, therefore, calculate shorter NDLs for a given depth and time than more liberal ones. It's up to you, the user, to decide which degree of liberalism or conservatism fits your comfort level as a diver.

THE DETAILS

The graphs track the no-decompression limits displayed by each computer during our dive profiles. The higher the placement on the chart (indicating more minutes allowed at depth), the more liberal the computer; the lower the placement (indicating fewer minutes allowed at depth), the more conservative the computer.

The dive profiles used to create this year's Liberal vs. Conservative graphs replicate a typical four-dive day in paradise, and they include a 60-minute surface interval between Dive 1 and Dive 2; a 120-minute surface interval/lunch break between Dive 2 and Dive 3; and another 60-minute surface interval between Dive 3 and Dive 4. Adjustable computers were run in their most liberal settings and all were set to air, or 21 percent oxygen.

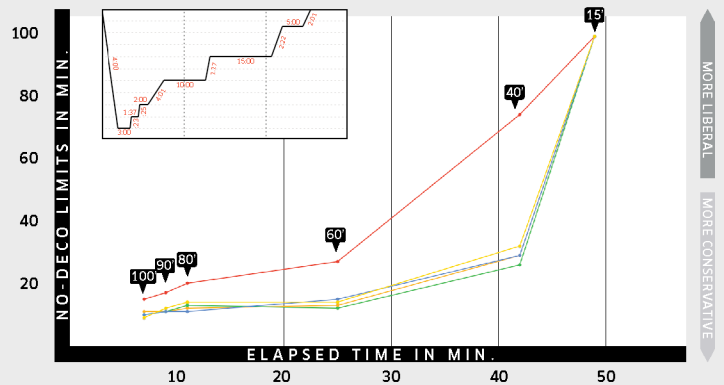
SPECIAL THANKS

To Karl Huggins, program manager at the USC Catalina Hyperbaric Chamber, and his staff for their contributions to data-collecting and analysis in the making of the Liberal vs. Conservative chart.

Dive 1

MAX DEPTH: 100 ft.
TOTAL DIVE TIME: 51:06

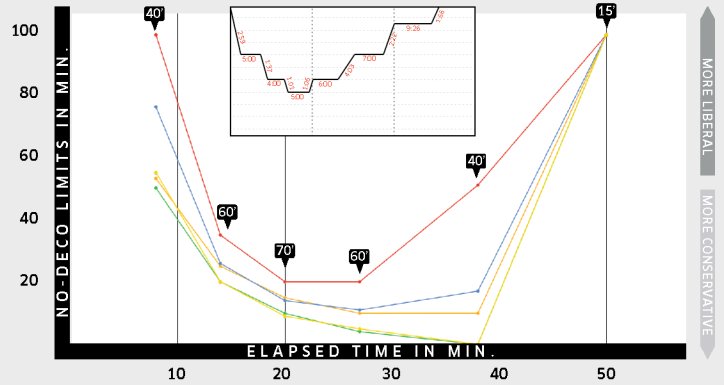
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- N2ITION
- PUCK, NEMO EXCEL
- GALILEO SOL, GALILEO TERRA
- COBRA 2, VYPER 2, D4



Dive 2

MAX DEPTH: 70 ft.
TOTAL DIVE TIME: 51:30

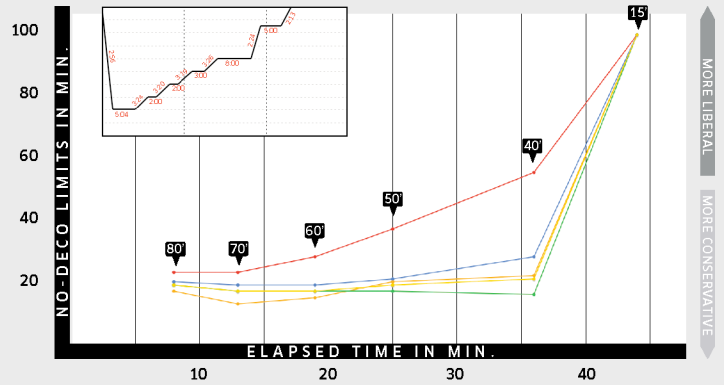
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- N2ITION
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- COBRA 2, VYPER 2, D4



Dive 3

MAX DEPTH: 80 ft.
TOTAL DIVE TIME: 46:06

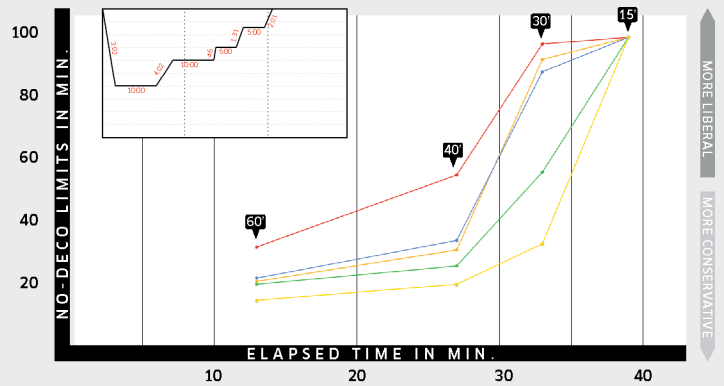
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- N2ITION
- PUCK, NEMO EXCEL
- GALILEO SOL, GALILEO TERRA
- COBRA 2, VYPER 2, D4



Dive 4

MAX DEPTH: 60 ft.
TOTAL DIVE TIME: 41:22

- COMPUMASK, XRI, XR2, DATA-MASK, VEO 100 Nx, VEO 250
- N2ITION
- PUCK, NEMO EXCEL
- GALILEO SOL, GALILEO TERRA
- COBRA 2, VYPER 2, D4



MORE LIBERAL
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