

globin dissociation half-lives. Since total oxygen dose may be an important determinant of outcome,<sup>3,8</sup> it is possible that the NBO group in this study did relatively better because of the higher administered oxygen dosage.

An important drawback to the study is the fact that the investigators achieved only 46% follow-up at 1 month. While this rate is comparable to previous studies, it raises the possibility that patients lost to follow-up might have done significantly better or worse than those captured. If so, the true outcomes could differ from the reported outcomes.

Readers should also remember that these findings may not apply to pregnant women, children and burn victims, and that the methodological problems described above raise minor concerns about the study conclusions.

### Clinical bottom line

This study is compatible with the bulk of previous literature. It suggests that most patients can be managed with NBO and that HBO does not improve neuropsychological outcomes after CO poisoning — especially in severely poisoned patients like the ones studied. Emergency physicians who manage CO poisoned patients without a hyperbaric facility will take comfort from these findings; however, it is still possible that some subgroups do benefit from HBO, and it may be prudent for physicians to collaborate with local hyperbaric facilities to establish protocols for dealing with specific patient groups.

## COMMENTARY

# The non-utility of HBO for CO poisoning?

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The optimal time window for HBO after CO poisoning has yet to be determined, but the current standard is within 6 hours of exposure, and benefit seems most likely if treatment is started much earlier, although this is not known. In the Scheinkestel study, most patients had severe poisoning and the median time to treatment was over 7 hours. Based on severity and time to treatment, much CNS damage could have occurred prior to the administration of HBO. In other words, many of these patients may have been (rela-

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tively) beyond help, therefore unable to benefit from the treatment administered. In addition, most of the patients in this study were depressed and suicidal. Such patients score poorly on the neuropsychological tests used to evaluate outcomes, and this may have influenced the study results.

Current recommendations of the Undersea and Hyperbaric Medical Society (UHMS) and European Committee for Hyperbaric Medicine are that hyperbaric oxygen is indicated for patients who experience neurological or cardiac symptoms after CO exposure. These recommendations will likely not change based on this single study.

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