



February 1, 2023

The Honorable Carlos Del Toro
Secretary of the Navy
c/o Molly Papermaster, Special Assistant

Via e-mail: molly.papermaster@navy.mil

Dear Secretary Del Toro:

Thank you in advance for your time. I'm writing on behalf of People for the Ethical Treatment of Animals—PETA entities have more than 9 million members and supporters globally—to inform you that we've obtained public records confirming that the University of Wisconsin–Madison (UW-Madison) has “terminated” two U.S. Navy–funded decompression experiments on sheep years ahead of schedule, following our initial June 8, 2022, letter to you on this matter.¹ This development is detailed in a Military.com exclusive published today.² **Based on the information presented below, we urge the Navy to fully ban the conducting and funding of all decompression sickness/illness (DCS/DCI) and oxygen toxicity experiments using *any* animals at any institutions, given the extreme cruelty of these tests and their irrelevance to human physiology.**

‘Terminated’: Navy-Funded Sheep Decompression Tests at UW-Madison

Per public records obtained by PETA, in one Navy-funded decompression experiment at UW-Madison initially approved from August 11, 2020, through August 10, 2023,³ two healthy sheep were placed in a hyperbaric chamber for behavioral and equipment monitoring. A UW-Madison internal investigation found that on October 11, 2021, “the compressor for the chamber was not working” and that the animals inside the chamber had shown “signs of discomfort” and were then euthanized.⁴ This experiment—and a separate Navy-funded decompression experiment at UW-Madison initially approved from June 2, 2021, through June 1, 2024, examining survival rates and cardiopulmonary

¹Pons S, Balsam MJ. Letter from PETA to the Honorable Carlos Del Toro, the Secretary of the Navy. June 8, 2022. Accessed January 13, 2023. <https://www.peta.org/wp-content/uploads/2022/08/2022-06-08-letter-to-usn-re-dcs-tests.pdf>

²Toropin K. Navy Ends ‘Gruesome’ Testing on Sheep After PETA Protests. Military.com. February 1, 2023. Accessed February 1, 2023. <https://www.military.com/daily-news/2023/02/01/navy-ends-gruesome-testing-sheep-after-peta-protests.html>

³UW-Madison Institutional Animal Care and Use Committee Protocol Number V00: V006375. Accessed January 13, 2023. <https://www.peta.org/wp-content/uploads/2023/01/uw-madison-iacuc-V006375.pdf>

⁴UW-Madison School of Veterinary Medicine Animal Care and Use Committee Closed Session [Minutes]—October 12, 2021. Accessed January 13, 2023. <https://www.peta.org/wp-content/uploads/2023/01/uw-madison-iacuc-closed-session.pdf>

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function in sheep subjected to long-term exposure of hyperbaric air⁵—were *both* “terminated” on July 19, 2022, well ahead of schedule. This action follows the Navy’s decision to pull its funding for similar decompression experiments on sheep at UW-Madison in 2010, following a criminal investigation launched in response to a petition filed by PETA and Alliance for Animals,⁶ for which a court-appointed special prosecutor reported that “[t]he Department of the Navy has pulled its grant and the [decompression] research using sheep has stopped. In reviewing the more recent literature, it appears that the efficacy of these types of studies is now in question.”⁷

Non-Animal Research Tools Are Superior to Using Animals

The management of detrimental effects from DCS/DCI or oxygen toxicity in humans (and other diving and nondiving animals)—ranging from slight or severe pain to paralysis or even death—are relatively well established.^{8,9,10} While the mechanistic triggers of these symptoms are still active areas of research, using animals in experiments as models for DCS/DCI or oxygen toxicity in humans is inhumane and ineffective. For example, meaningful evaluation of gas diffusion dynamics in live animals—regardless of how similar their physiology is perceived to be to that of humans—is challenging due to the inherent complexity of the system under study, in which even the most subtle movements, such as breathing, can (and too often do) produce spurious results.¹¹

Instead, it is more prudent to fully replace such animal tests with human-focused tools that allow for replicable and iterative collection and analysis of large quantities of data, which in turn are crucial for meaningful inference. An example of such a tool is the combined “biomimetic *in vitro* tissue phantom and a three-dimensional computational model, comprising a hyperplastic strain-energy density function to model tissue elasticity,” investigate key areas of gas diffusion dynamics, and develop more accurate dive algorithms.¹² Further relevant non-animal research methods are detailed in our initial June 8, 2022, letter to you,¹³ to which Rear Admiral Bruce Gillingham replied on August 8, 2022.

⁵UW-Madison Institutional Animal Care and Use Committee Protocol Number V006315.

Accessed January 13, 2023. <https://www.peta.org/wp-content/uploads/2023/01/uw-madison-iacuc-V006315.pdf>

⁶State of Wisconsin Circuit Court. Dane County. Brief in Support of Petition to Circuit Court Judge for Relief Pursuant to Wis. Stat. § 968.02(3). Injunction Relief 30704. March 16, 2010. Accessed January 13, 2023.

<https://www.peta.org/wp-content/uploads/2022/10/UW-sheep-decompression-brief-031610.pdf>

⁷State of Wisconsin Circuit Court. Dane County. Report and Determination by Special Prosecutor. Case Number 10CV1398. May 19, 2011. Accessed January 13, 2023. <https://www.peta.org/wp-content/uploads/2022/05/final-report-of-special-prosecutor.pdf>

⁸Pollock NW, Buteau D. Updates in decompression illness. *Emerg Med Clin North Am.* 2017. 35(2):301-319. doi: 10.1016/j.emc.2016.12.002

⁹Tal D, Shachar-Bener H, Hershkovitz D, Arieli Y, Shupak A. Evidence for the initiation of decompression sickness by exposure to intense underwater sound. *J Neurophysiol.* 2015;114(3):1521-9. doi: 10.1152/jn.00466.2015

¹⁰Cronin WA, Khan K, Hall AA, Bodo M, Mahon RT. The effect of the perfluorocarbon emulsion Oxycyte™ in an ovine model of severe decompression illness. *Undersea Hyperb Med.* 2021;48(1):25-31. doi:10.22462/01.03.2021.3

¹¹Walsh C, Stride E, Cheema U, Ovenden N. A combined three-dimensional *in vitro-in silico* approach to modelling bubble dynamics in decompression sickness. *J. R. Sc. Interface.* 2017;14:2017065. doi: 10.1098/rsif.2017.0653

¹²*Ibid.*

¹³Pons S, Balsam MJ. Letter from PETA to the Honorable Carlos Del Toro, the Secretary of the Navy. June 8, 2022. Accessed January 13, 2023. <https://www.peta.org/wp-content/uploads/2022/08/2022-06-08-letter-to-usn-re-dcs-tests.pdf>

Request for Action

In view of these facts, we renew our request that the Navy take immediate action to ban the conducting and funding of all DCS/DCI and oxygen toxicity experiments on *any* animals at any institutions. Such tests, long abandoned by many of our allies,¹⁴ will not help U.S. military scientists and medical practitioners gain answers to pressing questions, whereas shifting to cutting-edge, human-relevant research methods would be directly applicable to human patients.

You can contact me at MaggieW@peta.org. Thank you for your consideration of this important issue. I look forward to your reply.

Sincerely yours,



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¹⁴BBC News. UK Navy to end goat experiments. February 6, 2008. Accessed January 13, 2023.
<http://news.bbc.co.uk/1/hi/7230867.stm>