

UAF scientists featured in prominent journal with bear hibernation research

by [dermotcole](#) Dermot Cole

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When black bears emerge from hibernation and their body temperature returns to normal, it takes them up to three weeks to return to their usual metabolic rate, according to a new paper published today by UAF scientists and colleagues from Stanford in the prestigious journal Science.

Their body temperature doesn't drop much during the winter, but surprisingly their metabolism slows to about 25 percent of normal, the study says.

The paper by Øivind Tøien, John Blake and Brian Barnes of UAF and Dale Edgar, Dennis Grahn and H. Craig Heller of Stanford says that the most of the "metabolic suppression" during hibernation is not connected with temperature.

Bears lower their internal temperature from about 98.6 to 91.4 degrees Fahrenheit during the five to seven months they spend hibernating.

"The pronounced reduction and delayed recovery of metabolic rate in hibernating bears suggest that the majority of metabolic suppression during hibernation is independent of lowered body temperature," the study says.

The Washington Post quoted Barnes as saying one key area for research is understanding how bears lower their metabolism for so long, a question that is important for the study of strokes in humans.

"If we can uncover the way hibernators turn down their demand for oxygen, you can imagine developing a therapy . . . to put someone in stasis, a protected state," Barnes said. "That would give you more time. It would expand the 'golden hour' where it's critical to reach medical care to a golden day or a golden week."

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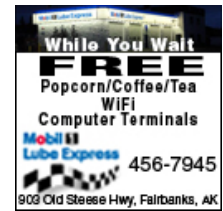
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I know some couch potatoes that can do this in about ten minutes while balancing a pizza box on their stomachs.

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