UAF research into hibernating species yields clinical application

FAIRBANKS, Alaska (KTVF) - At the University of Alaska Fairbanks (UAF) Dr. Robert Coker is the principal investigator on a project translating discoveries in the study of hibernating arctic animals into clinical care.

“There’s a lot to learn from hibernating species. Many animals hibernate, and despite the fact that they might be asleep for a few months to several months, they preserve their lean tissue mass, or more importantly their skeletal muscle, as well as their physical function,” said Coker.

The same benefits of this biological phenomenon do not occur in humans.

“We’ve done some studies in bed rest in humans, especially elderly individuals, and just the exact opposite happens. In other words if an older person stays in bed a little bit too long or bed rest is unanticipated, it can have very detrimental consequences” said Coker.

Coker’s work involves the use of nutrient based formulas to attempt to mitigate muscle loss and preserve human bodily function in a way similar to hibernating animals.

“Older people... we don’t absorb nutrients like we did when we were younger. We don’t process them quite as well. So we’ve got to overcome that. You might say 'what’s the magic potion?'” said Coker.

In a UAF study, Fairbanks volunteers taking a specialized formula once a day were able to not only retain but demonstrate a small increase in skeletal muscle over the course of a month.
“With this, we provide the essential amino acids -- a profile of amino acids that’s uniquely designed for older individuals,” said Coker.

This treatment produces similar beneficial health effects as in hibernating species, who are able to salvage the amino acids they need to preserve skeletal muscle despite the fact that they’re sleeping for six months.

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