

Dog's breakfast could put Alzheimer's on the leash

YES, you can teach an old dog new tricks — if you feed it a diet designed to protect aging brains from the ravages of Alzheimer's disease, claim US researchers.

The good news — for people and pooches — comes from a three-year study of 70 elderly beagles fed a diet rich in antioxidants such as vitamins C and E, with fruit and vegetables.

Carl Cotman of the University of California at Irvine and his colleagues found that not only did the diet protect canine memory and learning skills, it reversed the loss of some mental abilities.

"I have to say the data really startled us," Professor Cotman reported yesterday at the American Association for the



Leigh Dayton

Science writer at the Leading Edge Conference in Seattle

Advancement of Science conference in Seattle.

In Australia, more than 160,000 people have been diagnosed with the debilitating disease. Because the cost of caring for sufferers will rocket as the population ages, delaying the onset of Alzheimer's by even five years would mean a significant saving.

Professor Cotman's team studied older beagles because they suffer a decline in memory similar to the pre-Alzheimer's stage in humans. The beagles thrived on a diet enriched with acetyl-L-carnitine, alpha-lipoic acid, modest doses of vitamins E and C and 1 per cent fruit and vegetables — and they were able to accomplish tasks normally only done by much younger dogs.

For instance, in one test the dogs had to find the odd one out among several objects. When the objects were similar, the dogs began to fail — but this could be reversed by diet.

"That was the astonishing part," said Professor Cotman. "We can basically improve learning and memory in these aged animals so they can do much

more complicated tasks, and make many fewer mistakes."

In addition, the team found the enriched diet reduced the accumulation of the beta amyloid a protein that builds up to form clumps in the brains of humans with Alzheimer's.

The new findings complement human trials that suggest antioxidants can cut the incidence of Alzheimer's, and fit neatly with other research announced at the meeting about the role of fats in the development of the disease.

Dr Mark Mattson of the US National Institute on Aging told delegates that changes in two fats, cholesterol and ceramide, in the brain cells of people who died with Alzheimer's triggered a "neurogenerative cascade" leading to the disease.

He suggested his group's discovery might explain why antioxidants such as vitamin E seem to delay the onset of Alzheimer's.

Vitamin E reduces the levels of ceramide and cholesterol, said Dr Mattson, resulting in "a significant decrease in the number of neurons killed".

Also at the meeting, Dr Benjamin Wolozin of the Loyola University School of Medicine reported new work showing that cholesterol-lowering drugs called statins delay Alzheimer's symptoms by slowing the production of the brain-clogging beta amyloid.

In fact, research may soon produce improved therapies and lifestyle recommendations that will keep humans, as well as beagles, mentally frisky into old age.