



Scientific American Mind, May 2009

**Avoiding Sugar Key to Ending Senior Moments**

**Lowering blood sugar levels may thwart forgetfulness**

*By Nikhil Swaminatha*

Senior moments, those pesky instances of not so total recall—forgetting where we left our keys or what we did last weekend—are a subtle but significant part of the aging process. Another effect of growing old: rising blood sugar levels, which typically take off in our late 30s or early 40s as our bodies become less adept at metabolizing glucose in the bloodstream. Now a study has linked these rising levels with momentary forgetfulness, pinpointing exactly where in the brain the aging process acts—a finding that could help the elderly ward off memory lapses.

The nature of senior moments led scientists to believe they stem from disruptions in the hippocampus—an area that, among other roles, acts as the brain’s “save” button, allowing us to retain new information. Using functional MRI, researchers looked at the effects of increased blood glucose in the hippocampus of 181 subjects aged 65 or older with no history of dementia. They found that elevated levels impaired function of a section of the hippocampus called the dentate gyrus, which is a “hotspot” of age-related impairment, according to study author Scott Small, a neurologist at Columbia University.

Blood glucose is not alone in selectively affecting dentate gyrus performance. A 2007 study co-authored by Small shows that exercise improves its function in both mice and humans. The newer research, he points out, suggests that these positive effects may actually result from the influence of regular exercise on the body’s ability to break down glucose. Psychiatrist Mony de Leon of New York University explains that the new study “may be showing a very fundamental aging process that might have some reversibility built into it.” If you correct the glucose intolerance, he says, you may be able to forget about forgetfulness.

