

Hormone in bones could boost memory

Tom Whipple Science Editor

A hormone produced in the bones could one day be used to combat forgetfulness in older people.

Osteocalcin is made by bone cells and its levels decline naturally as we age. By boosting it in old mice to the levels found in younger ones, however, researchers showed that the animals could learn as well as they did in their youth. Scientists now want to see if the same could be true in humans.

If successful, it would help tease out some of the mystery surrounding the hormone. When it was first investigated, scientists assumed that it was related to bone formation but mice engineered to be lacking in it were found to have normal skeletons.

Gerard Karsenty, from Columbia University in New York, noticed that while their bones were strong their brains were not. "They never rebelled or tried to bite or escape," he said. He called them "stupid".

Professor Karsenty began to look into whether the bones were having effects on the brain. In a paper in the journal *Experimental Medicine*, he demonstrated that in a series of tests the older mice given regular boosts of the hormone appeared to regain their youthful vigour, at least when it came to memory. Past work of his has found it boosts muscles as well.

"Of course, we need to do more research to translate our findings into clinical use for humans," he said. Unlike other treatments which are effective in mice but sometimes fail to translate to humans, this intervention has the advantage that it is a hormone we already make. "It's a natural part of our body, so it should be safe," he said.

Times 4.9.17