Dementia News
Updating you on research

New discovery provides additional avenue for the development of treatments in Alzheimer’s disease

84 year old Nobel Laureate Professor Paul Greengard has discovered another avenue that could be explored in the hope of preventing the progression of Alzheimer’s disease. A key feature of Alzheimer’s disease is the build-up of protein plaques in the brain. These plaques are thought to contribute to the death of brain cells. Professor Greengard’s discovery showed that a chemical implicated in the formation of these plaques is triggered by a signal from another chemical. He found that interrupting the interaction between these two chemicals reduced the amount of plaques formed in the brains of mice expected to develop Alzheimer’s disease. More promising is the fact that a drug used to treat cancer in humans is capable of disrupting the interaction between the chemicals, however it is not yet effective at operating within the brain.

This represents a step forward from previous methods which had been focused on disrupting the function of the chemical implicated in the formation of plaques. This chemical, in its healthy form, plays an important role in other components of brain health. Because previous attempts to disrupt this chemical’s function have not been selective in identifying faulty forms of the chemical, previous approaches have normally failed to improve the condition of people with Alzheimer’s disease.

For more information click on the links below:
Press Link: New York Times
Journal Link: Nature

In the news

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Brain exercise helps delay onset of dementia

A recent study has found that participating in activities that promote cognitive stimulation helps to delay the onset of dementia, but that this may come at the expense of more rapid deterioration after onset. The brain is thought to have an innate ability to reorganise its resources to adapt to changes in its structure and the environment. It is thought that cognitively stimulating activities assist the brain to adapt to the loss of brain cells caused by injury or by diseases such as Alzheimer’s.

The 1,157 participants in this study completed questionnaires on their participation in certain activities that promote cognitive stimulation and were tested for cognitive performance. Those participants recording higher participation in cognitively stimulating exercises tended to have a longer delay before the onset of dementia and their symptoms of cognitive decline progressed at around 50% of the rate found in those who recorded less participation. However, when individuals who had been more actively involved in cognitively stimulating exercises began to experience symptoms of dementia, their decline was much more rapid than those who had not been highly involved in cognitively stimulating activities.

Although the study was limited by the measures used (people were simply asked to recall how much cognitive activity they had undertaken in previous years), the findings indicate that while mental activity might not be able to prevent Alzheimer’s disease, it may help to hold off the symptoms of the disease for a longer period of time.

For more information click on the links below:
Press Link: [ABC News](http://abcnews.go.com)
Journal Link: [Neurology](http://www.neurology.org)

Big head helps to reduce the impact of lost brain cells

Researchers have found an association between the circumference of a person’s head and their ability to adjust for loss of brain cells. They compared 270 people with Alzheimer’s disease and found that for people with the same percentage of brain loss, those with larger brains (as estimated by the size of their head), showed less decline in cognitive ability.

The research team from Munich University in Germany suggest that the findings may be linked to the brain reserve hypothesis. This theory argues that the brain has an inherent ability to compensate for the loss of brain cells caused by injury, or by diseases such as Alzheimer’s. Importantly, this ‘reserve’ may be the reason that some people who have brain changes associated with dementia have few or no symptoms. However, as with head sizes, brain reserve is thought to differ from one person to the next, and theories suggest that engaging in mentally challenging activities over many years might help to boost this reserve. When damage to the brain exceeds a certain threshold, or is located in specific areas however, no amount of brain reserve can prevent loss of function and cognitive ability.

For more information click on the links below:
Press Link: [BBC News](http://www.bbc.com)
Journal Link: [Neurology](http://www.neurology.org)
**Vitamin B deficiency associated with loss of brain mass**

A chemical called homocysteine has been found to be associated with loss of brain mass when present in high levels in the brain. One factor associated with the regulation of this chemical is the level of B vitamins in the body. Researchers at Oxford University examined the effect of taking B vitamin supplements on the rate of loss of brain mass in 168 people with mild cognitive impairment. They found that over the two year study period participants taking B vitamins had, on average, less loss of brain mass than those taking a supplement without B vitamins.

While the results appear promising, further research is needed. Participants took supplements containing three forms of vitamin B – folic acid, vitamin B6, and vitamin B12 – and it is unclear which forms were contributing to this effect. Researchers believe that those taking the vitamin B supplement decreased their level of homocysteine, resulting in the decreased loss of brain mass. However, they are unable to be certain that homocysteine is not itself a marker for deficiencies of other vitamins.

For more information click on the links below:
- Press Link: [University of Oxford Press Release](#)
- Journal Link: [PLoS ONE](#)

**Quality Dementia Care Summit held in Sydney**

Earlier this month Alzheimer’s Australia brought together 23 members of the newly established Consumer Dementia Research Network (CDRN) for a very successful 2-day summit on Quality Dementia Care. Members of the network, including people with dementia and family carers from across Australia were set the task of identifying and prioritising areas where there is strong research evidence that could be used to improve the quality of dementia care. The priorities included person-centred care, advanced care planning, support for carers, timely diagnosis, non-pharmacological approaches to behaviour management, and palliative care. These priorities will be used as the basis for establishing $3.3 million of knowledge translation projects over the coming year. Members of the CDRN will be involved in all stages of the implementation of projects from planning and design to participation and review.

The summit also provided an opportunity for Sue Pieters-Hawke to formally launch the Quality Dementia Care Initiative, of which the consumer network is a component, at Bupa’s residential care facility in Mosman, Sydney. The Initiative is supported by the J.O. and J.R. Wicking Trust, Bupa Care Services, and the Dementia Collaborative Research Centres as part of the Australian Government’s Dementia Initiative.

For more information click on the links below:
- Press Link: [Australian Ageing Agenda](#)
- Numbered Publication: [Consumer Involvement In Dementia Research: Alzheimer’s Australia’s Consumer Dementia Research Network September 2010](#)