

Aluminium and its likely contribution to Alzheimer's disease

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A world authority on the link between human exposure to aluminium in everyday life and its likely contribution to Alzheimer's disease, Professor Christopher Exley of Keele University, UK, says in a new report that it may be inevitable that aluminium plays some role in the disease.

He says the human brain is both a target and a sink for [aluminium](#) on entry into the body – "the presence of aluminium in the human brain should be a red flag alerting us all to the potential dangers of the aluminium age. We are all accumulating a known neurotoxin in our brain from our conception to our death. Why do we treat this inevitability with almost total complacency?"

Exley, Professor in Bioinorganic Chemistry, Aluminium and Silicon Research Group in The Birchall Centre, Lennard-Jones Laboratories at Keele University, writes in *Frontiers in Neurology* about the 'Aluminium Age' and its role in the 'contamination' of humans by aluminium.

He says a burgeoning body burden of aluminium is an inevitable consequence of modern living and this can be thought of as 'contamination', as the aluminium in our bodies is of no benefit to us it can only be benign or toxic.

Professor Exley says: "The biological availability of aluminium or the ease with which aluminium reacts with human biochemistry means that aluminium in the body is unlikely to be benign, though it may appear as such due to the inherent robustness of human physiology. The question is

raised as to 'how do you know if you are suffering from chronic aluminium toxicity?' How do we know that Alzheimer's disease is not the manifestation of chronic aluminium toxicity in humans?

"At some point in time the accumulation of aluminium in the brain will achieve a toxic threshold and a specific neurone or area of the brain will stop coping with the presence of aluminium and will start reacting to its presence. If the same neurone or brain tissue is also suffering other insults, or another on-going degenerative condition, then the additional response to aluminium will exacerbate these effects. In this way aluminium may cause a particular condition to be more aggressive and perhaps to have an earlier onset - such occurrences have already been shown in Alzheimer's disease related to environmental and occupational exposure to aluminium."

Professor Exley argues that the accumulation of aluminium in the brain inevitably leads to it contributing negatively to brain physiology and therefore exacerbating on-going conditions such as Alzheimer's disease. He suggests that this is a testable hypothesis and offers a non-invasive method of the removal of aluminium from the body and the brain. He says the aluminium hypothesis of Alzheimer's disease will only be tested if we are able to lower the body and hence [brain](#) burden of aluminium and determine if such has any impact upon the incidence, onset or aggressiveness of Alzheimer's disease.

Professor Exley adds: "There are neither cures nor effective treatments for Alzheimer's disease. The role of aluminium in Alzheimer's disease can be prevented by reducing human exposure to aluminium and by removing aluminium from the body by non-invasive means. Why are we choosing to miss out on this opportunity? Surely the time has come to test the aluminium hypothesis of Alzheimer's disease once and for all?"

More information: "Why industry propaganda and political

interference cannot disguise the inevitable role played by human exposure to aluminium in neurodegenerative diseases, including Alzheimer's disease." *Front. Neurol.* [DOI: 10.3389/fneur.2014.00212](https://doi.org/10.3389/fneur.2014.00212)

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