

# Is androgen deprivation therapy for prostate cancer associated with dementia?

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Androgen deprivation therapy (ADT) is a mainstay of prostate cancer treatment. ADT has shown survival benefit in some patients but it also has been associated with some adverse health effects and a possible link to neurocognitive dysfunction.

A new study published online by *JAMA Oncology* uses an informatics approach with a text-processing method to analyze electronic medical records data to examine ADT and the subsequent development of dementia ([senile dementia](#), [vascular dementia](#), [frontotemporal dementia](#) and Alzheimer dementia).

Kevin T. Nead, M.D., M.Phil., formerly of the Stanford University School of Medicine, California, and now the University of Pennsylvania Perelman School of Medicine, Philadelphia, and coauthors used data from an academic medical center from 1994 to 2013. The final study group included 9,272 men with [prostate cancer](#), including 1,862 (19.7 percent) who received ADT.

The authors report there were 314 new cases of dementia during a media follow-up of 3.4 years with a median time to dementia of four years.

The absolute increased risk of developing dementia among those men who received ADT was 4.4 percent at five years, according to the results. Further analysis suggests men who received ADT at least 12 months had the greatest absolute increased risk of dementia. Men 70 or older who received ADT were the least likely to remain dementia free.

The report suggests several plausible mechanisms to explain an association between ADT and dementia in general, including that androgens have a demonstrated role in neuron health and growth.

Study limitations include using clinical text documentation and billing codes to determine a diagnosis of dementia. Because of its design, the study also cannot determine a causal association between the use of ADT and the risk of dementia.

"Our study extends previous work supporting an association between use of ADT and Alzheimer disease and suggests that ADT may more broadly affect neurocognitive function. This finding should be investigated in prospective studies given significant individual patient and health system implications if there are higher rates of [dementia](#) among the large groups of patients undergoing ADT," the study concludes.

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