

# Tobacco in Australia

## Facts & Issues

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### Relevant news and research

#### 6.4 Pharmacological effects

Last updated October 2020

#### Research:

Wang, C, Huang, P, Shen, Z, Qian, W, Wang, S, Jiaerken, Y et al (2020). Increased striatal functional connectivity is associated with improved smoking cessation outcomes: A preliminary study. *Addict Biol*, e12919. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32436626>

Ryu IS, Kim J, Seo SY, Yang JH, Oh JH, et al. Repeated administration of cigarette smoke condensate increases glutamate levels and behavioral sensitization. *Front Behav Neurosci*, 2018; 12:47. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29615877>

Karelitz JL and Perkins KA. Tobacco smoking may delay habituation of reinforcer effectiveness in humans. *Psychopharmacology (Berl)*, 2018. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29777289>

Grundey J, Thirugnasambandam N, Amu R, Paulus W, and Nitsche MA. Nicotinic restoration of excitatory neuroplasticity is linked to improved implicit motor learning skills in deprived smokers. *Front Neurol*, 2018; 9:367. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29892258>

Faulkner P, Ghahremani DG, Tyndale RF, Helleman G, and London ED. Functional connectivity of the raphe nuclei: Link to Tobacco withdrawal in smokers. *Int J Neuropsychopharmacol*, 2018. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29924326>

Claus ED, Moeller BC, Harbour D, Kuehl PJ, McGuire M, et al. Use behaviors, dependence, and nicotine exposure associated with ad libitum cigar smoking. *Tob Regul Sci*, 2018; 4(1):548-61. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29516029>

Chiamulera C and West RJ. What role does dopamine really play in tobacco addiction? *Addiction*, 2018. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29766605>

Advocat C, Comaty J, and Julien R, *Julien's primer of drug action*. 13 ed New York: Worth Publishers; 2014. Available from: <http://www.ncbi.nlm.nih.gov/nlmcatalog/101666863>.

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McKim W and Hancock S, *Drugs and behaviour: An introduction to behavioural pharmacology*. 7 ed  
New York: Pearson; 2013.

Barret S, Bolieau I, Okker J, Pihl R, and Dagher A. The hedonic response to cigarette smoking is proportional to dopamine release in the human striatum as measured by positron emission tomography and [11c] raclopride. *Synapse*, 2004; 54:65–71. Available from:  
<https://www.ncbi.nlm.nih.gov/pubmed/15352131>

### News reports:

Williams A. New insights into nicotine's effect on reward pathways. *Medical Xpress*, 2018. Available from: <https://medicalxpress.com/news/2018-05-insights-nicotine-effect-reward-pathways.html>

Williams A. Scientists develop new tool to study nicotine receptors. *Medical Xpress*, 2018. Available from: <https://medicalxpress.com/news/2018-03-scientists-tool-nicotine-receptors.html>

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