

Tobacco in Australia

Facts & Issues

Relevant news and research

6.4 Pharmacological effects

Last updated January 2023

Research:

Gao, X, Zhang, M, Yang, Z, Niu, X, Zhou, B, Chen, J et al. (2022). Nicotine addiction and overweight affect intrinsic neural activity and neurotransmitter activity: A fMRI study of interaction effects. *Psychiatry Clin Neurosci*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36468828>

Truman, P. (2022). Editorial: The role of monoamine oxidase inhibition in smokers: Toward understanding their potential effects in reinforcing nicotine dependence. *Front Neurosci*, 16, 1094549. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36478880>

Ding, Z, Li, X, Chen, H, Hou, H, & Hu, Q. (2022). Harmane Potentiates Nicotine Reinforcement Through MAO-A Inhibition at the Dose Related to Cigarette Smoking. *Front Mol Neurosci*, 15, 9252. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35832393>

Leone, FT, & Evers-Casey, S. (2022). Tobacco Use Disorder. *Med Clin North Am*, 106(1), 99-112. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34823737>

Hasselblad Lundstrom, N, Holgersen, NK, & Haastrup, MB. (2021). The effect of smoking on the plasma concentration of tricyclic antidepressants - a systematic review. *Acta Neuropsychiatr*, 1-24. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34497000>

Franklin, TR, Jagannathan, K, Spilka, NH, Keyser, H, Rao, H, Ely, AV et al. (2021). Smoking-induced craving relief relates to increased DLPFC-striatal coupling in nicotine-dependent women. *Drug Alcohol Depend*, 221, 108593. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/33611027>

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>

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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>.

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:

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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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