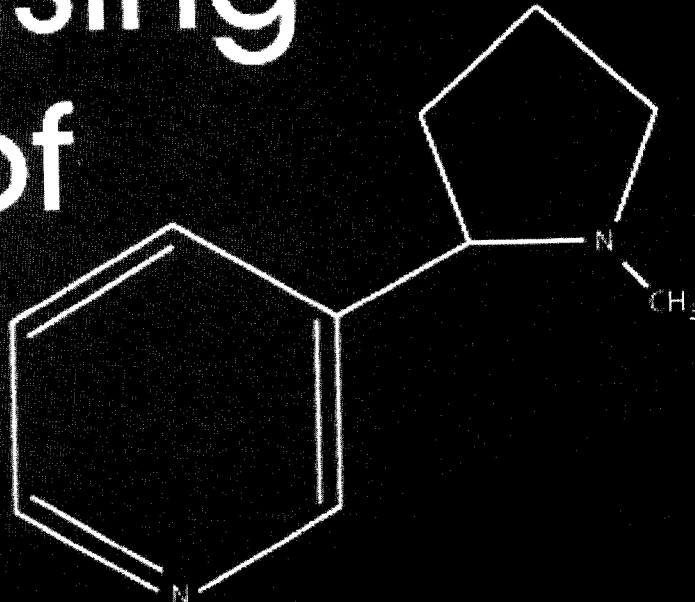


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10 Surprising Benefits of Nicotine



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10 Surprising Benefits of Nicotine

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You know nicotine has got a bad reputation, right? But did you know that reputation is largely unfounded?

In fact, some evidence suggests that nicotine alone isn't that addictive, and that it is the other chemicals found in tobacco smoke, coupled with the behavioural aspects that make smoking as addictive as it is.

(Possibly this is the reason why NRT is so ineffective - some studies find that smokers who use NRT have the same relapse rates as those who did not use NRT: source (https://hcc.musc.edu/object_includes/archive/research/programs/prevention/February%202012%20Journal%20Club%20Article.pdf)).

Nicotine by itself is actually viewed as the least harmful of all the compounds found in cigarette smoke, and what's more nicotine may actually have medicinal benefits for a number of conditions.

Professor Polosa pointed out at the 1st Global Forum on Nicotine 2014 that:

"Nicotine is not the reason for smoking-related disease:

- officially it is not a carcinogen
- it does not cause lung cancer
- it has minimal effect on cardiovascular disease"

(You can watch the very interesting video of his talk here (<https://www.ecigarettdirect.co.uk/ashtray-blog/2014/11/10-experts-benefits-of-e-cigs-on-video.html>)).

With all this in mind, we've been digging into possible benefits of nicotine. Needless to say, given the topic, some of them are very controversial, but I still think you'll find these 10 positive effects of nicotine very interesting!

1) Nicotine and Parkinson's Disease

Way back in 1966, Harold Khan, an epidemiologist at the National Institutes of Health, began looking at health-insurance data on 293,653 veterans who had served in the U.S military between 1917 and 1940.

Unsurprisingly, he found there was a higher mortality rate for smokers, who were prone to numerous illnesses such as lung cancer, emphysema, heart disease etc.

What was surprising, however, was that non-smokers were three times as likely to develop Parkinson's disease than smokers.

Initially, Khan's results were thought to be an anomaly due to smokers dying young from other smoking related illnesses before they reached the age at which Parkinson's typically begins to develop.

But follow up studies, such as Kessler and Diamonds (1970) (<https://aje.oxfordjournals.org/content/94/1/16>) investigation of Baltimore residents with Parkinson's disease, confirmed that Khan's conclusion was true.

It soon became apparent to neuroscientists that it was the nicotine molecule that was responsible for the prevention of Parkinson's disease. This molecule could regulate other receptor systems in the brain, primarily the dopamine neurotransmitter.

Dopamine plays a number of roles in the human brain - it regulates attention, reward-seeking behaviours such as gambling, drug addiction, and most importantly (in the case of Parkinson's disease) movement.

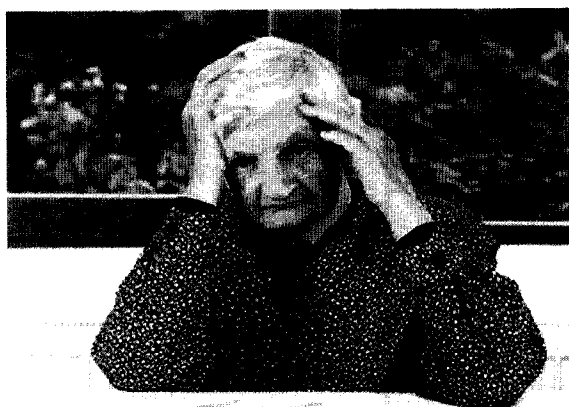
Based on these emerging findings, Maryka Quik (https://www.salon.com/2013/12/29/sciences_obsession_the_search_for_a_smart_pill/) used nicotine to treat monkey's with Parkinson's and the results were remarkable.

After eight weeks, the monkeys had half as many tremors and tics. Additionally, the monkeys who were also being treated with the standard drug for Parkinson's, L-dopa, had reduced dyskinesias (the side effect from the drug) by as much as 35%.

Since then, many studies (<https://onlinelibrary.wiley.com/doi/10.1002/mds.25028/abstract;jsessionid=679C4C8F6B5ADDFD28376B908CE99DC0.f02t04?deniedAccessCustomisedMessage=&userIsAuthenticated=false>) have come to the conclusion that nicotine has the potential to protect against ongoing degeneration by slowing down or halting the neuronal damage that stems from Parkinson's disease.

Further studies (<https://www.michaeljfox.org/foundation/news-detail.php?nicotine-patches-to-stop-parkinson-disease>) on the effect of nicotine in those with Parkinson's disease should give us more understanding of how it actually works in the future.

2) Nicotine in Protecting Against Alzheimer's



(<https://www.ecigarettedirect.co.uk/ashtray-blog/wp-content/uploads/2014/11/alz.jpg>) No cure has not yet been found for this awful disease, but nicotine shows promise in delaying the onset of Alzheimer's disease as well as mitigating the associated symptoms due to its neuroprotective effect (source (<https://www.telegraph.co.uk/news/2403642/Nicotine-could-help-Alzheimers-sufferers-boost-their-concentration.html>)).

A study (<https://www.gwern.net/docs/nicotine/2012-newhouse.pdf>) of people diagnosed with mild cognitive impairment (an onset for Alzheimer's) over six months found that those treated with nicotine demonstrated statistically significant improvement on their reaction time, memory and attention.

Newhouse, the author of the study, concluded:

"It [nicotine] seems very safe even in non-smokers... in our studies we find it actually reduces blood pressure chronically. And there were no addiction or withdrawal problems, and nobody started smoking cigarettes. The risk of addiction to nicotine alone is virtually nil."*

*(If you are confused about the nicotine addiction claim, check out this article (<https://www.ecigarettdirect.co.uk/ashtray-blog/2014/02/nicotine-electronic-cigarette-addiction.html>) which discusses the evidence for nicotine addiction when nicotine is separated from tobacco compounds.)

3) Nicotine as a Treatment for Ulcerative Colitis

Ulcerative colitis is chronic inflammatory bowel disease, similar to that of Crohn's disease. But although they affect similar areas of the body, they react very differently to the effects of smoking, with symptoms becoming much more severe for those with Crohn's disease but vastly improved with ulcerative colitis.

Ulcerative colitis is typically a disease of non-smokers and ex-smokers and evidence (<https://www.biomedcentral.com/content/pdf/1479-5876-9-129.pdf>) suggests it is the anti-inflammatory properties of nicotine in tobacco smoke that could be cause.

In clinical studies where transdermal nicotine was given to patients suffering from ulcerative colitis, significant improvements in the condition were observed (source (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2014383/>), source (<https://www.nejm.org/doi/pdf/10.1056/NEJM199403243301202>), source (<https://onlinelibrary.wiley.com/doi/10.1046/j.1365-2125.1999.00039.x/full>)).

Additionally, none of the subjects had recognizable withdrawal symptoms after six weeks of treatment with nicotine.

4) Enhancing Memory with Nicotine



(<https://www.ecigarettdirect.co.uk/ashtray-blog/wp-content/uploads/2014/11/brain.png>)

"To my knowledge, nicotine is the most reliable cognitive enhancer that we currently have, bizarrely."

Jennifer Rusted (<https://www.scientificamerican.com/article/will-a-nicotine-patch-make-you-smarter-excerpt/>), professor of experimental psychology at Sussex University in Britain. Tweet this quote! (<https://twitter.com/share?text=Nicotine+is+the+most+reliable+cognitive+enhancer+that+we+currently+have+-+Jennifer+Rusted&via=thesmokersangel&related=thesmokersangel&url=https://ow.ly/EtnCR>)

One study (<https://www.sciencedirect.com/science/article/pii/S019745809190102P>) on the affect of nicotine in young and aged monkeys, showed significant improvement in matching-to-sample tasks as well as their retention.

A more recent study on humans concluded that nicotine enhanced prospective memory - that is remembering things for the future, such as to charge your e-cigarette battery when you get home from work 📌 (source (<https://www.nature.com/npp/journal/v31/n7/full/1300965a.html>))

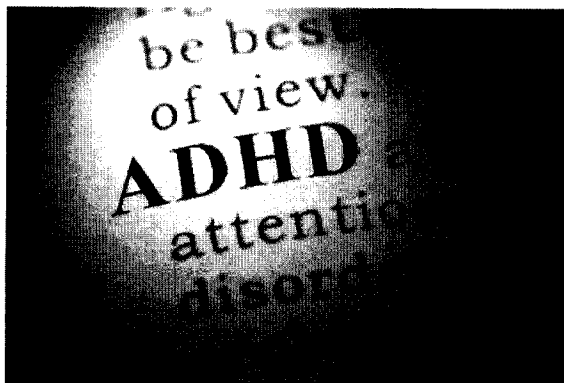
Yet another study (<https://www.ncbi.nlm.nih.gov/pubmed/20414766>) found positive effects of nicotine on response time, attention, short-term memory and working-memory.

5) Nicotine Lessens Symptoms of Tourette Syndrome

Many studies have shown that nicotine can reduce tic severity (source (<https://brain.oxfordjournals.org/content/128/6/1292.short>)) and frequency (source (<https://www.ncbi.nlm.nih.gov/pubmed/1643197>)) and improved behaviours related to inattention (source (<https://www.sciencedirect.com/science/article/pii/S0924933803001810>)) in patients with Tourette's. The reduction in these involuntary movements have been associated with nicotine's ability to turn off certain nicotine receptors in the brain.

The author of one study concluded that "not only was the nicotine patch effective, but a much smaller dose of the medication haloperidol could be given" (source (<https://www.sciencedaily.com/releases/2001/09/010918134808.htm>)). There was also no evidence of nicotine withdrawal in any of the subjects.

6) Controlling ADHD with Nicotine



(https://www.ecigarettdirect.co.uk/ashtray-blog/wp-content/uploads/2014/11/Fotolia_62897203_XS.jpg) Attention Deficit Hyperactivity Disorder (ADHD) is the most common behavioural disorder in the UK, affecting around 2-5% of children. It leads to problems with attention, restlessness and impulsiveness.

There is no cure for the disorder, but could interventions using nicotine patches help ADHD?

Quite possibly. Studies have shown that nicotine can alleviate the symptoms of ADHD by increasing an individual's alertness, reducing muscle activity (and thus restlessness/impulsiveness), calming the patient and elevating their mood (source (page since removed), source (<https://www.ncbi.nlm.nih.gov/pubmed/8741955>)).

Of course, no one is suggesting children take up smoking or vaping, but some studies are hoping to develop better treatments which have similar benefits to nicotine (source (<https://www.uvm.edu/~uvmpr/?Page=article.php&id=1031>)).

7) Nicotine's Affect on Schizophrenia

Schizophrenia is a serious mental health disorder which causes hallucinations, delusions and altered behaviour in patients.

Smoking is common among those suffering from Schizophrenia, with patients being up to 20-35% more likely to smoke than the general population, possibly because patients smoke as a form of self-medication.

Clinical studies (<https://web.as.uky.edu/Biology/faculty/cooper/Bio401G/nicotineSchiz.pdf>) have backed this up, suggesting that the ability of nicotine to raise the dopamine levels in the brain reduces the negative symptoms of Schizophrenia as well as increase their capability to communicate with people and improve their concentration.

Furthermore, nicotine has been shown to improve task performance on patients with Schizophrenia. This has been contributed to nicotine's ability to enhance working memory and selective attention (source (<https://www.sciencedirect.com/science/article/pii/S0006322304000630>)).

8) Nicotine for the Relief of Depression



(<https://www.ecigarettdirect.co.uk/ashtray-blog/wp-content/uploads/2014/11/dep.jpg>) Smoking to improve one's mood has been a controversial subject, but one study conducted in 2006 confirmed that nicotine led to a significant decline in depression and an improvement in symptoms of depression (source (<https://psychcentral.com/news/2006/09/12/nicotine-as-an-antidepressant/258.html>)).

This is thought to be due to nicotine stimulating areas of the brain, resulting in the release of serotonin and dopamine, two chemicals lacking in people who have depression.

Observations have shown that those prone to depression are twice as likely to be smokers and are less likely to succeed in quitting, possibly due to these therapeutic effects of nicotine.

9) Nicotine's Potential in Combating Obesity

It has long been observed that smokers tend to have a lower body weight than non-smokers, although, of course, the negative affects of smoking far outweigh the benefits of weight loss.

However, research onto the effect of nicotine on the brain, have given hope that drugs could be developed that help smokers quit without gaining weight, as well as to combat obesity in non-smokers.

One study found that mice reduced their food intake by almost half and lost up to 20% of their body fat when treated with nicotine (source (<https://www.abc.net.au/science/articles/2011/06/10/3240145.htm>)). Additionally, nicotine has appetite-suppressing effects which lead to decreased food intake and weight (source (<https://www.sciencemag.org/content/332/6035/1330.short>)).

10) Nicotine in Delaying the Onset of Arthritis



([https://www.ecigarettdirect.co.uk/ashtray-blog/wp-](https://www.ecigarettdirect.co.uk/ashtray-blog/wp-content/uploads/2014/11/Fotolia_56616100_XS.jpg)

[content/uploads/2014/11/Fotolia_56616100_XS.jpg](https://www.ecigarettdirect.co.uk/ashtray-blog/wp-content/uploads/2014/11/Fotolia_56616100_XS.jpg))

The anti-inflammatory quality of nicotine may also prevent joint inflammation and delay the onset of arthritis (source (<https://www.biomedcentral.com/content/pdf/ar2728.pdf>)).

A recent study on 11,000 older Australian men found that those who smoked were up to 51% less likely to need surgery to replace hips and knees damaged by arthritis, even when weight and obesity was taken into account.

The authors of the study believe this could be down to nicotine stimulating "the activity of the cells found in joint cartilage, which could help lessen the severity of osteoarthritis" (source (<https://news.health.com/2011/07/08/smoking-arthritis-joint-replacement/>)).

Conclusion

Maryka Quik who has conducted numerous notable studies on the effect of nicotine on the brain, made a valid point:

<https://www.ecigarettdirect.co.uk/ashtray-blog/2014/11/10-benefits-of-nicotine.html>

"The whole problem with nicotine is that it happens to be found in cigarettes" she said (https://www.salon.com/2013/12/29/sciences_obsession_the_search_for_a_smart_pill/). "people can't disassociate the two in their mind, nicotine and smoking."

Tweet this quote! (https://twitter.com/share?

text=The+whole+problem+with+nicotine+is+that+it+happens+to+be+found+in+cigarettes+-+Maryka+Quik&via=thesmokersangel&related=thesmokersangel&url=https://ow.ly/EtnCR)

Nicotine by itself may have great future medical potential for treating and controlling numerous disease's and health ailments. However, don't take this as an excuse to increase your nicotine consumption, there are still adverse side effects associated with nicotine as it is a stimulant, such as effects on the heart, it's vasoconstrictor properties and increasing the speed in which tumours grew.

Update: As pointed out by Roly Gate in the Facebook comments below - "It might be noted that the only significant health impact nicotine has *in humans* is to lower the blood pressure, which may possibly be a negative in uncommon cases of patients with blood pressure issues. Any other impact is not confirmed in humans, and is only seen in research modelling or animals. Example: propensity to enlarge tumours. We have a vast data resource on the effects of chronic nicotine consumption without smoke in humans that is so large, even the word 'vast' is not sufficient to describe it. Effects such as association with enlargement of tumours cannot be seen in humans. This is a proven conclusion and not subject to any debate: it would be impossible to make a case that nicotine promotes tumours or tumour growth in humans."

I encourage you to read his very well written and in-depth comment regarding this.

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Great article, thank you Emily. The arthritis related studies were eye-opening; I didn't know that nicotine's anti-inflammatory effects went "bone-deep" (so to speak). Had a look around for some studies with human subjects but no luck so far. Will post back here if I come across any. ☺

REPLY ([HTTPS://WWW.ECIGARETTEDIRECT.CO.UK/ASHTRAY-BLOG/2014/11/10-BENEFITS-OF-NICOTINE.HTML?REPLYTOCOM=470152#RESPOND](https://www.ecigarettdirect.co.uk/ashtray-blog/2014/11/10-benefits-of-nicotine.html?replytocom=470152#RESPOND))

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