Stop Smoking Recovery Timetable

Watch a short video on how to quit smoking

WARNING: The below recovery benefits timetable reflects averages and norms. It is intended for cold turkey quitters only. E-cigarettes and quitting products such as NRT, Chantix, Champix or Zyban can generate their own symptoms and/or side effects, and may delay withhdrawal or otherwise inhibit restoration of natural brain neuron function or sensitivities.

Do not rely upon this recovery timetable as it relates to any behavioral change or symptom if using any quit smoking product. Regardless of quitting method, contact your physician or pharmacist IMMEDIATELY if you or a family member become concerned about any symptom, or any change in thinking, mood or behavior.

The body's ability to mend is beauty to behold!

Within ...

20 minutes	Your blood pressure, pulse rate and the temperature of your hands and feet have returned to normal.
8 hours	Remaining nicotine in your bloodstream has fallen to 6.25% of normal peak daily levels, a 93.75% reduction.
12 hours	Your blood oxygen level has increased to normal. Carbon monoxide levels have dropped to normal.
24 hours	Anxieties have peaked in intensity and within two weeks should return to near pre-cessation levels.
48 hours	Damaged nerve endings have started to re-grow and your sense of smell and taste are beginning to return to normal. Cessation anger and irritability will have peaked.
72 hours	Your entire body will test 100% nicotine-free. Over 90% of all nicotine metabolites (the chemicals nicotine breaks down into) have passed from your body via your urine. **Symptoms** of chemical withdrawal have peaked in intensity, including restlessness. Unless use cues have been avoided, the number of cue induced crave episodes experienced during any quitting day **have peaked** for the "average" ex-user. Lung bronchial tubes leading to air sacs (alveoli) are beginning to relax in recovering smokers. Breathing is becoming easier and your lung's functional abilities are improving.
5 - 8 days	The "average" ex-smoker is down to experiencing just **three cue induced crave episodes per day**. Although we may not be "average" and although minutes may feel like hours when normal **cessation time distortion** combines with the **body's panic response**, it is unlikely that any single episode will last longer than 3 minutes. Keep a clock handy and time the episode to maintain an honest perspective on time.
10 days	The "average" ex-user is down to encountering **less than two crave episodes per day**.

10 days to 2 weeks	Recovery has likely progressed to the point where your **addiction** is no longer doing the talking. Blood circulation in your gums and teeth are now similar to that of a non-user.
2 to 4 weeks	Cessation related anger, anxiety, difficulty concentrating, impatience, insomnia, restlessness and depression **have ended**. If still experiencing any of these symptoms get seen and evaluated by your physician.
2 weeks to 3 months	Your **heart attack risk** has started to drop. Your **lung function** has noticeably improved. If your health permits, sample your circulation and lung improvement by walking briskly, climbing stairs or running further or faster than normal.
21 days	The number of acetylcholine receptors, which were **up-regulated** in response to nicotine's presence in the frontal, parietal, temporal, occipital, basal ganglia, thalamus, brain stem and cerebellum regions of your brain have now substantially down-regulated. Receptor binding has returned to levels seen in the brains of non-smokers (**2007 study**).
3 weeks to 3 months	Your **circulation** has substantially improved. Walking has become easier. Your chronic cough, if any, has likely disappeared. If not, get seen by a doctor, and sooner if at all concerned, as a chronic cough can be a sign of lung cancer.
4 weeks	Plasma suPAR is a stable inflammatory biomarker that helps predict development of diseases ranging from diabetes to cancer in smokers. A **2016 study** found that within 4 weeks of quitting smoking, with or without NRT, that suPAR levels in 48 former smokers had fallen from a baseline smoking median of 3.2 ng/ml to levels "no longer significantly different from the never smokers' values" (1.9 ng/ml)
8 weeks	Insulin resistance in smokers has normalized despite average weight gain of 2.7 kg (**2010 SGR, page 384**).
1 to 9 months	Any smoking related sinus congestion, fatigue or shortness of breath has decreased. **Cilia have regrown** in your trachea (windpipe) thereby increasing the ability to sweep dirt and mucus out of your lungs. Your body's overall energy has increased.
11 months	Smoking decreases the thickness of the brain's outer layer, the cortex. Smoking induced cortical thinning is associated with poor decision making, risk taking, a lack of impluse control, early dementia, and nearly 14% of Alzheimer's cases worldwide. According to a **2015 study**, it takes 0.9 years (10.8 months) without smoking to recover from the cortical thinning effect of each pack-year of smoking. Congratulations, your cortex is growing thicker and the quality of your thoughts, decisions and actions has improved.
1 year	Your excess risk of **coronary heart disease, heart attack and stroke** has dropped to less than half that of a smoker.
5 years	Your risk of a subarachnoid hemorrhage has declined to 59% of your risk while still smoking (**2012 study**). If a female ex-smoker, your risk of developing diabetes is now that of a non-smoker (**2001 study**).
5 to 15 years	Your risk of **stroke** has declined to that of a non-smoker.
10 years	Your risk of being diagnosed with lung cancer is between 30% to 50% of that for a continuing smoker (**2005 study**). Risk of death from lung cancer has declined by almost half if you were an average smoker (one pack per day). Risk of cancer of the mouth, throat, esophagus and pancreas have declined. Risk of developing diabetes for both men and women is now similar to that of a never-smoker (**2001 study**).

12.5 years	Fifty percent of the lost thickness of the brain's outer layer -- the cortex -- has been restored in a 30 pack-year ex-smoker (**2015 study**).
13 years	The average smoker lucky enough to live to age 75 has 5.8 fewer teeth than a non-smoker (**1998 study**). But by year 13 after quitting, your risk of smoking induced tooth loss has declined to that of a never-smoker (**2006 study**).
15 years	Your risk of coronary heart disease is now that of a person who has never smoked. Your risk of pancreatic cancer has declined to that of a never-smoker (**2011 study** - but note a 2nd pancreatic study making an identical finding at 20 years).
20 years	If a female, your excess risk of death from all smoking related causes, including lung disease and cancer, has now reduced to that of a never-smoker (**2008 study**). Risk of pancreatic cancer has also declined to that of a never-smoker (**2011 study**).
25 years	Congratulations, if a 30 pack-year ex-smoker, the thickness of your brain's cortex has been fully restored to that of a never-smoker (**2015 study**). Multiply the number of pack-years you smoked by 0.9 to determine the number of years it will take to fully restore your cortex.

So long as we stop our self destruction in time!

Primary sources for this recovery benefits timetable are: (1) U.S. Department of Health and Human Services, The Health Consequences of Smoking: A Report of the Surgeon General, 2004; (2) Hughes, JR, Effects of abstinence from tobacco: valid symptoms and time course, Nicotine and Tobacco Research, March 2007, Volume 9(3), Pages 315-327; (3) O'Connell KA, et al, Coping in real time: using Ecological Momentary Assessment techniques to assess coping with the urge to smoke, Research in Nursing and Health, December 1998, Volume 21(6), Pages 487-497; and (4) Mamede M, et al, Temporal change in human nicotinic acetylcholine receptor after smoking cessation: 5IA SPECT study, Journal of Nuclear Medicine, November 2007, Volume 48(11), Pages 1829-1835.