

Chapter 9

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Physical Recovery

Physical recovery is the layer of healing associated with the chemical and physical changes that occur within the body and mind once use of nicotine ends.

What's important from our standpoint isn't the science associated with the neuro-chemical chain reactions that begin within the body once use ends, but the symptoms those changes "may" generate. And the key word is "may."

While physiological cessation changes within the brain are real, the majority of nicotine cessation symptoms are self-induced. Most symptoms can be diminished, corrected or eliminated. Need proof?

Have you ever been so tired that you slept for ten to twelve hours? Nicotine reserves at less than 3%, why didn't withdrawal awaken you?

Have you ever been so sick that you went a day or more without using? How?

And how did the single-session traveling hypnotist give us a day or two of total cessation calm and bliss before reality hit home?

While every attempt is different, why does a physician's warning that smoking's damage is now so profound that "it is time to either stop or die" so often result in a symptom-less recovery?

I'm increasingly convinced that nearly all recovery symptoms are the result of self-induced fears and anxieties, correctable blood sugar issues, caffeine overdose, or the need for a medication adjustment or treatment of a hidden condition that appears after ending use of one or more of the thousands of chemicals present in tobacco.

The primary anxiety culprit is a prefrontal cortex (the large thinking lobe just above our eyes) filled with thousands of old dopamine pathway generated use memories. The greater our need at the moment before use, the more profound wanting's satisfaction, and the greater that memory's influence upon us.

Not understanding that our mind's priorities teacher had been hijacked, we invented scores of explanations as to why that next nicotine fix was so important.

The common thread between extended sleep, illness, hypnotism and standing on the verge of death is a higher priority.

Whether the higher priority is biological, a subconscious suggestion or a death threat, in each case both the lure of old use memories and the appeal of our use explanations was, at least briefly, totally overcome.

No Need to Read About Symptoms Now

If your own personal resolve and understanding is at this moment sufficient to suppress nearly all symptoms, why fill your prefrontal cortex with symptom suggestions? Why load the recovering junky mind with ammo that can both defend or destroy if, as yet, there is no foe to oppose?

It's okay to skip the balance of chapter for now. It will be here later if needed. But should you proceed with reading it now, as you read each symptom ask yourself this, how can this symptom be minimized, corrected or avoided?

Neuronal Re-sensitization

Exactly how and why the brain diminishes the number of active nicotinic-type acetylcholine receptors (down-regulation) after nicotine use ends is still poorly understood. What we do know is that once use ends, that we temporarily have far too many active receptors.

Early recovery can bring us face-to-face with physical evidence of nicotine's influence upon the brain's hard-wired priorities control center. Again, in terms of withdrawal, it is normal to notice that the brain's desire circuitry is temporarily out of whack.

But once nicotine's arrival ends, the brain works its "butt off" to diminish the number of active receptors and restore sensitivities. Almost as quickly as you notice your sense of smell and taste being enhanced, brain command and control sensitivity restoration is occurring too.

SPECT stands for Single Photon Emission Computed Tomography. It is a scan during which a radioactive substance is put into the bloodstream and followed via pictures as it works its way through the body.

A camera capable of detecting gamma radiation is then rotated around the body, taking pictures from many angles. A computer is then used to put the images together and create a picture of activity within a specific slice of the body or brain.

A 2007 study used SPECT scans to follow dynamic changes in acetylcholine receptor down-regulation binding during smoking cessation. It compared those findings to receptor activity inside the brains of non-smokers.¹ It found that within four hours of ending nicotine use that acetylcholine receptor binding potential had already declined by 33.5 percent.

The good news is that binding potential has already rebounded by 25.7% within ten days of ending nicotine use, and then "decreased to levels seen in non-smokers by around 21 days of smoking cessation."

We don't need to put radiation into our bloodstream or do a SPECT scan of our brain to know that the de-sensitized period felt and sensed during recovery is temporary, normal and expected.

1 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.

It's enough to know that what we are sensing and feeling is happening inside a brain that's working hard to readjust to functioning without nicotine. Why fear your brain's healing? Savor it.

Symptoms

WARNING: The following symptoms relate to cold turkey nicotine cessation only. They are not intended for those using Chantix, Champix, Zyban, Wellbutrin, nicotine replacement products (NRT) or any other cessation product. Regardless of cessation method, immediately consult your health care provider or pharmacist if experiencing any symptom causing concern, including changes in thinking, mood or behavior.

WARNING: The list of symptoms below is NOT MEDICAL ADVICE but simply an outline of documented cold turkey recovery symptoms.

IMMEDIATELY contact our physician should you experience any condition or symptom that causes you CONCERN or ALARM, including continuing depression.

Within reason and common sense, if going cold turkey it is fairly safe to blame withdrawal for most effects felt during the first three days, but not always. Pay close attention to what your body is telling you and if at all concerned contact your doctor.

While reviewing the symptoms below, keep in mind that I am not a physician. I am a nicotine cessation educator. The below information is intended to support not replace the relationship that exists between you and your doctor.

Do not rely upon any information in this book to replace individual advice from your physician or other qualified health care provider.

Every recovery is different. The variety and intensity of effects experienced during recovery varies from person to person, and even between each person's own cessation experiences.

Over the years we've seen thousands of new ex-users surprised to find that they experience few symptoms, if any, while others were confronted with multiple symptoms.

By understanding some of the symptoms, how frequently they occur and how long they last, it may be possible, in some instances, to minimize their impact by action or thought.

As we just learned, brain dopamine pathway sensitivities can take up to 3 weeks before fully restored. Although physical withdrawal symptoms normally peak within the first 3 days, a 2007 study reviewed all symptom studies and found that recovery symptoms has passed with 2 weeks for most but not all. The study found that if symptoms remain "slightly elevated" beyond 2 weeks that they should fully resolve within 3-4 weeks.²

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.

Even so, within 2 weeks the ongoing process of restoring and fine-tuning natural sensitivities reaches a point where most begin experiencing confidence building glimpses of the full flavor of life beyond.

A serious concern with symptoms lists such as this is that "smokers with higher levels of perceived risk may find it more difficult to stop and remain abstinent due to higher levels of anticipated or experienced withdrawal symptoms."³

As mentioned, they provide a "junkie-mind" looking for relapse justifications a rich source of fuel for accentuating or highlighting something that may otherwise have remained minor, secondary, suppressed or ignored. But how can we not notice symptoms?

If we have a toothache at the same time as a headache, the one that will receive the most attention and focus is the one generating the greatest pain or discomfort. As soon as the discomfort from our primary concern falls below that of our secondary concern, our focus immediately shifts to what was our secondary concern.

We do the same type of primary/secondary refocusing with the effects of withdrawal and layers of recovery. Sometimes we don't even notice a particular symptom until a prior one subsides.

Although the intensity of each remaining effect is likely far less significant than the one preceding it, the mind of the uneducated recovering drug addict is impatient. And some are actually on the lookout for that perfect excuse to relapse and get their drug back.

Upon decline of initial symptoms (if any), recovery remains continuous yet at times may be so gradual that - like trying to watch a rose bud open - it almost becomes impossible to notice change.

Reading symptom lists such as this may tend to cause the mind to look for and expect symptoms to occur. In fact, mental expectations are capable of generating physical symptoms. This phenomenon - known as psychological or functional overlay - is very real.

Few starting home will experience the majority of the symptoms listed below. So why even share this list? You may very well experience one or more symptoms. Knowing how often they occur and how long they normally last offers potential to diminish anxieties, thus increasing your chances of success.

This list is shared to alert you to symptoms commonly seen and to hopefully motivate you to communicate with your doctor regarding any symptom, whether listed or not, that's causing you ongoing concern.

But don't allow this symptoms lists such as this one to sell you on the belief that beginning your journey home will be horrible or intense. Instead, relax, dump irrational fears, maintain a positive attitude, and keep your reasons for wanting to break free in the forefront of your mind. Also, abandoning unrealistic victory standards such as "stopping forever." Instead, adopt a totally do-able standard such as celebrating after each hour, challenge or day of freedom and healing.

3 Weinberger AH, et al, Relationship of perceived risks of smoking cessation to symptoms of withdrawal, craving, and depression during short-term smoking abstinence, Addictive Behaviors, July 2008, Volume 33(7), Pages 960-963.

Avoid needless symptoms by eating smaller and healthier portions of food more frequently, by not skipping meals, by sipping on some form of natural fruit juice for the first three days, and if a big caffeine user, by considering a modest reduction of up to one-half of normal daily caffeine intake. Get plenty of rest while following these simple rules, and this adventure home could turn out to be the most deeply satisfying personal experience of your entire life!

As mentioned, some withdrawal symptoms have roots in the absence of nicotine, and the time needed for the mind to physically adapt to functioning without it. The brain isn't just down-regulating the number of receptors associated with dopamine pathway stimulation. It is resuming full control of all neuro-chemicals that were influenced by nicotine.

While it may take science decades to untangle, measure and quantify all cessation sensitivity interplays, researchers are already cataloging subjective symptom reports from tens of thousands who have attempted cessation. As with the SPECT scan, they're also using brain-imaging studies and other non-invasive exams to discover how the brain is physically altered by nicotine's absence.

Homeostasis is defined as "the ability or tendency of an organism or cell to maintain internal equilibrium by adjusting its physiological processes."⁴ It's the body's tendency to return home.

Our enslaved mind had no choice but to adapt and learn to function within a sphere of nicotine normal. Once nicotine's arrival ends, the brain's grand design will cause it to re-adjust, as maintaining homeostasis is a critical part of our ticket home.

Anxiety

Whether dealing with heroin dependency, alcoholism or nicotine addiction, anxiety is a common recovery symptom seen with nearly every drug of addiction.⁵ Recovery anxiety can have many sources.

Most obvious, nicotine is no longer stimulating dopamine pathways, resulting in declining levels of background or tonic dopamine, thus elevating wanting. That wanting will from time to time be teased by thousands of old replenishment memories, each sharing the false message that the way to end wanting is to use more nicotine. One study suggests that much of the underlying current of anxiety felt during the



Photo by National Cancer Institute

4 Homeostasis. The American Heritage Science Dictionary. Retrieved July 12, 2008, from Dictionary.com website: <http://dictionary.reference.com/browse/homeostasis>

5 Hall SM, The abstinence phobias: links between substance abuse and anxiety, The International Journal of the Addictions, September 1984, Volume 19(6), Pages 613-631.

first seven days may in part be the product of a mind preoccupied with risk of relapse.⁶

Remember, it is impossible to fail so long as no nicotine enters the bloodstream. And contrary to the primary message of thousands of use memories, recovery is the only path home. Thinking and dreaming about nicotine use do not cause relapse. Use does.

The primitive limbic mind has been fooled into believing that using nicotine is as important as eating food. It may see ending use as danger, almost as though trying to starve yourself to death. A deep internal belief in this falsehood can generate substantial anxiety.

We can also generate, fuel and feed anxieties on purpose. An addict could easily sabotage his or her own recovery by purposefully focusing on the negative, allowing emotions to fester and build. The plotting junkie mind can then intentionally explode and crash their emotions in hopes of creating sufficient chaos to justify relapse.

Now for the good news. Any undercurrent of anxiety associated with receptor re-sensitization will peak within 72 hours. By then, nicotine's half-life guarantees that you'll reside inside a nicotine-free body. By then, you may begin noticing that both background anxieties and brain function are starting to improve.

Oh, you may still feel disconnected and foggy for a while (as discussed below) but overall brain function is now on the mend.

While simple to sit here writing about the benefits of dumping needless anxiety generating fears, and about how there's no need to be afraid of coming home after years or even decades of chemical captivity, I sincerely appreciate that it's easier said than done.

For some, emptying the mind of nicotine may briefly feel like an emotional train wreck. If so, it's wreckage that's quickly cleared, as the brain works around the clock to restore homeostasis.

If we remain 100% nicotine-free for just 72 hours, unless in the grips of self-induced fears and anxieties, we should begin noticing the underlying current of anxieties begin easing off. By then, billions of brain neurons are basking in nicotine-free, oxygen rich blood serum. Yes, as early as 72 hours and homeostasis sensitivity re-adjustments should begin bearing fruit.

Early healing is rapid. Slow, deep breathing while intentionally working to relax and reassure a frightened mind may help diminish anxieties. It also can't hurt to use physical activity or exercise to stimulate blood circulation.

As reviewed in [Chapter 6](#), keep an eye on caffeine intake as caffeine intoxication can foster anxieties. Keeping an eye on sugar intake can have a calming effect too. Also, eating small portions of healthy foods more frequently should help stabilize blood sugars and prevent you having to deal with anxieties associated with the onset of hunger induced wanting, urges and craves.

⁶ Brown RA, et al, [Anxiety sensitivity: relationship to negative affect smoking and smoking cessation in smokers with past major depressive disorder](#), Addictive Behaviors, Nov-Dec 2001, Volume 26(6), Pages 887-899.

A 2001 study by Ward entitled "Self-reported abstinence effects in the first month after smoking cessation" may be the most detailed withdrawal symptom study ever. It provides fascinating recovery symptom insights.⁷

The Ward study found that, on average, anxieties peak on day one (within 24 hours), and that, for most, return to pre-cessation levels within two weeks.

Irritability (anxiety's aftermath) peaks at about 48 hours, while restlessness peaks at 72 hours. According to the Ward study, both should return to near pre-cessation levels within two weeks.

Anger

On average, anger peaks at about 48 hours (after 2 days) and within 72 hours is beginning to return to near pre-cessation levels.

Adrenaline stimulation was a non-addictive but now missing element of our nicotine high. The rational mind can use anger to invoke the body's fight or flight response, thus stimulating an adrenaline release.

Anger may also reflect the boiling point of anxiety driven fears, or a normal emotional phase of any significant sense of loss.

The good news is that it only takes a couple of days of recovery patience to begin sensing improvement. Look for ways to vent frustrations that won't cause needless hurt to family, loved ones, friends, co-workers or pets.

Walk, run, vent into a pillow, find a punching bag, bend a piece of steel, or bite your lip if need be. Share your feelings with your family, friends or other support network. And be sure to let all you spend significant time around know that you've stopped using, as irrational behavior could lead them to believe you're on drugs.

Impatience

Whether impatience is an independent recovery symptom, or simply an expected result associated



Photo by National Cancer Institute



Photo by National Cancer Institute

⁷ Ward, MM et al, Self-reported abstinence effects in the first month after smoking cessation, Addictive Behaviors, May-June 2001, Volume 26(3), Pages 311-327.

with anxiety, anger and restlessness, is subject to debate. What isn't debatable is the fact that as nicotine addicts we were each conditioned by our dependency to be extremely impatient when it came to satisfying wanting, urges and craves.

As active users, we were each in full control in responding to and quickly satisfying those early urges announcing that it was once again time for more. Satisfaction within 10 seconds if slave to inhaled nicotine, we didn't need patience.

Increasingly, neither do users of snuff, chew or dip. Nicotine delivery engineering is mastering the science of using alkaline pH buffering and abrasives to shorten the time needed for nicotine to penetrate oral mouth tissues and enter the bloodstream.⁸

Nicotine laden smoke would travel into our mouth and throat, past our larynx (housing our vocal cords), down four inches of trachea or windpipe, and then branch into our left and right lungs via our two main bronchial tubes.

Once inside each lung, smoke descended down ten smaller bronchial tubes before striking an estimated 240 million thinly walled air sacs called alveoli.⁹ Here nicotine passed through each alveoli membrane and into the bloodstream's pulmonary veins.

Inside the bloodstream, nicotine was pumped over to our heart where between beats it collected in the left atrium. The next beat would pump it through the left ventricle before being ejected upward into the aorta.

There, it branched and traveled up to our brain via either the carotid or vertebral arteries. A small molecule, it easily passed through the brain's protective blood brain barrier.

The amount of nicotine from that first puff would be sufficient to occupy up to 50% of our brain's nicotinic-type acetylcholine receptors. Activating these receptors would trigger a burst of dopamine, which would elevate background or tonic dopamine, while simultaneously generating an "aaah" wanting relief sensation.

When smoked, the entire journey takes less than 10 seconds. If sucked, chewed or dipped, the oral nicotine user's impatience is satisfied in a minute or two, depending on the brand's pH buffers or added abrasives.

Is it any wonder that we nicotine addicts have very little patience when it comes to satisfying recovery related wanting, urges, craves and anxieties?

So, how do we develop the patience to navigate the 3 days needed to move beyond peak physical withdrawal, the up to 3 minutes needed to outlast a cue induced crave episode, or the duration patience needed to allow new nicotine-free memories time to bury old replenishment memories?

We do so by staying focused on here and now, just one moment and challenge at a time.

8 Benowitz NL, Systemic absorption and effects of nicotine from smokeless tobacco, Advances in Dental Research, September 1997, Volume 11(3), Pages 336-341.

9 Ochs M et al, The number of alveoli in the human lung, American Journal of Respiratory and Critical Care Medicine, January 1, 2004, Volume 169(1), Pages 120-124.

Inability to Concentrate or Foggy Mind

According to the Ward study, the feeling that our concentration is not as good or that our mind now lives in a fog is experienced, to one degree or another, by almost two-thirds during recovery. The return of clearness of mind and concentration may seem ever so gradual but within two weeks most begin experiencing concentration levels very close to those of never-smokers.

As explained in detail in [Chapter 6](#), poor concentration, focus and an inability to think clearly is often associated with low blood sugar. Nicotine force-fed us stored fats and sugars, allowing us to skip meals without feeling hungry.



Photo by National Cancer Institute

If we continue attempting to skip meals after ending use, we should expect our blood glucose level to decline and our concentration to suffer. It is not necessary to eat more food but to learn to spread our normal daily calorie intake out more evenly over the entire day.

Women would be well advised to put a very small amount of fuel into their stomach about every three hours and men at least every five.

As reviewed in [Chapter 6](#), unless diabetic or our health care provider recommends otherwise, consider drinking some form of natural fruit juice during the first 72 hours. Cranberry is excellent. Not only will it aid in helping stabilize blood sugar, it is acidic and will slightly accelerate elimination of the alkaloid nicotine.

If concentration concerns persist, consider reducing or avoiding alcohol, as alcohol reduces brain oxygen and impairs concentration. Brisk walks, other physical exercise or slow deep breathing may help enhance focus by increasing oxygen to the brain.



Remember, life-giving oxygen is a vastly healthier brain stimulant than destroying brain gray matter through smoking,¹⁰ or damaging learning and memory via nicotine.¹¹

10 Brody, AL et al, Differences between smokers and nonsmokers in regional gray matter volumes and densities, Biological Psychiatry, January 1, 2004, Volume 55(1), Pages 77-84.

11 Pickens LR et al, Sex differences in adult cognitive deficits after adolescent nicotine exposure in rats, Neurotoxicology and Teratology, July-August 2013, Volume 38, Pages 72-78; Ernst M, et al, Smoking history and nicotine effects on cognitive performance, Neuropsychopharmacology, September 2001, Volume 25(3), Pages 313-319.

Sadness & Depression

WARNING - *The following depression discussion is not medical advice. It is a general overview for those going cold turkey, not for those using any cessation medication or product. Regardless of method, seek emergency medical attention if you, your family or your caregiver notice agitation, depressed mood, or changes in behavior that are disturbing or alarming, or if you develop suicidal thoughts or actions.*

The above warning is necessary in part because the meaning of the word "depression" can vary greatly. Like the vague word "crave" ranging from a barely noticeable urge to full-blown panic, the word depression can range from a short period of normal and expected sadness to full-blown clinical long-term (chronic) depression with suicidal thoughts, planning or attempts.

Let's briefly overview depression generally before focus upon sadness or depression associated with ending nicotine use. First, the good news for those experiencing pre-cessation depression.

While evidence that adolescent nicotine use contributes to causing depression continues to build,¹² researchers report no difference in either short-term (less than 3 months) or long-term recovery success rates (greater than 6 months), between smokers with a history of depression and those without.¹³



Photo by National Cancer Institute

According to the U.S. National Institute of Mental Health (NIMH), we all occasionally feel sad or blue but normally such feelings pass within a couple of days. There are many types of depression and no one single cause. It likely results from a combination of factors including psychological, biochemical, environmental and genetic.

The NIMH states that symptoms of depression may include persistent sadness, anxiousness or "empty" feelings, feelings of hopelessness and/or pessimism, feelings of guilt, worthlessness and/or helplessness, irritability, restlessness, loss of interest in activities or hobbies once pleasurable including sex, fatigue and decreased energy, difficulty concentrating, remembering details and making decisions, insomnia, early morning wakefulness, or excessive sleeping, overeating, or appetite loss, thoughts of suicide, suicide attempts, persistent aches or pains, headaches, cramps or digestive problems that do not ease even with treatment.¹⁴

12 Iniguez SD, et al, Nicotine Exposure During Adolescence Induces a Depression-Like State in Adulthood, Neuropsychopharmacology, December 17, 2008 [Epub ahead of print]; also see, Goodman E, et al, Depressive symptoms and cigarette smoking among teens, Pediatrics, October 2000, Volume 106(4), Pages 748-755; and also Boden JM, et al, Cigarette smoking and depression: tests of causal linkages using a longitudinal birth cohort, British Journal of Psychiatry, June 2010, Volume 196(6), Pages 440-446.

13 Hitsman B, et al, History of depression and smoking cessation outcome: a meta-analysis, Journal of Consulting and Clinical Psychology, August 2003, Volume 71(4), Pages 657-663.

14 U.S. National Institute of Mental Health, Depression, Internet article last reviewed April 3, 2008, accessed July 19, 2008.

The American Psychiatric Association's DSM-IV manual (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition) provides standards for diagnosing depression.

What are the symptoms of major clinical depression? Before reviewing them, do NOT use the following list to attempt to self diagnose yourself, as the DSM-IV standards have other depression definitions too, which include many, many qualifiers. It's why we have highly trained mental health professionals such as psychiatrists.

Generally, under DSM-IV standards, a person must exhibit at least 5 of the following 9 symptoms for at least two weeks in order to be diagnosed as having "major depressive disorder" or MDD: (1) feeling sad, blue, tearful; (2) losing interest or pleasure in things we previously enjoyed; (3) appetite much less or greater than usual, accompanied by weight loss or gain; (4) a lot of trouble sleeping or sleeping too much; (5) becoming so agitated, restless or slowed down that others begin noticing; (6) being tired without energy; (7) feeling worthless or excessive guilt about things we did or didn't do; (8) trouble concentrating, thinking clearly or making decisions; (9) feeling we'd be better off dead or having thoughts about killing ourselves.

Even if a person exhibits 5 of the above 9 symptoms, the symptoms cannot indicate a mixed episode, must cause great distress or difficulty in functioning at home, work, or other important areas and may not be caused by substance use (e.g., alcohol, drugs, medication).

Even if a patient otherwise meets the DSM-IV criteria to be diagnosed with depression, they are excluded and denied the diagnosis if their depression is a normal reaction to the death of a loved one (the "bereavement exclusion") or induced by alcohol or drug use.

So, why exclude drug induced depression but not depression related to ending drug use? Why is it normal to experience depression related to the loss of a loved one, but not when the loss is associated with ending a long and intense chemical relationship?

Normal sense of emotional loss - Sadness and depression are commonly seen in association with withdrawal from most addictive substances. During nicotine withdrawal, both temporary neuro-chemical de-sensitization and a normal psychological emotional loss can give rise to sadness and depressive-type symptoms.

Recovery reflects the end to a long and intensely dependent chemical relationship. As the brain restores sensitivities, physiological, psychological and emotional bonds are broken. Some degree of sense-of-loss sadness is normal and expected.

Should moods fostered by a healing brain or due to normal and expected sadness be classified as clinical depression and mental illness? "Probably not," says a leading U.S. expert.

Dr. Michael First is a physician and psychiatry professor at Columbia University Medical Center, and was an editor who helped write the DSM-IV standards.¹⁵ Dr. First did an interview with National

15 Columbia University Medical Center, Department of Psychiatry, [Michael First MD, Faculty Profile](#), updated 2005, viewed

Public Radio in April 2007.

During the interview he discussed a study he co-authored that sheds light on the question of whether or not the DSM-IV "bereavement exclusion" should extend to "other types of losses," where it is normal to expect temporary depression to be seen.

"For some people a very messy divorce, a loss of a job, suddenly, those can be just as traumatic as the loss of a loved one," said Dr. First. According to Dr. First, in order to fall under the "bereavement exclusion" for normal, expected and temporary depression, the depression has to "last less than two months and be relatively mild."



Photo by National Cancer Institute

"For instance it would not include symptoms such as suicidal ideation or severe slowing down in the way you talk. So it was a mild version of depression that occurred following a loss such as divorce and other things like that."¹⁶

Dr. First's 2008 study reviewed a national mental health survey and found that "25% of people who were diagnosed with major depressive disorder in the study looked just like the people who we would consider to have normal grief."¹⁷ "So it really raises questions about whether or not these individuals should be considered normal in the same way someone who has normal grief would be considered normal."

He was asked about treatment of those experiencing normal and expected sadness. "When a clinician makes a decision about whether to use psychotherapy or medication or some combination, the severity of the symptoms play an important role," he notes.

"And certainly if someone is felt to have a normal reaction to the loss of a loved one or a stressful situation, probably the clinician would err on the side of being less aggressive with respect to treatment." Although normal sadness might benefit from medication, Dr. First reminded listeners that "medications have side effects" and any potential benefits must be weighed against them.

Although recovery may feel like the death of a friend or



Photo by National Cancer Institute

July 24, 2008.

- 16 National Public Radio, All Things Considered, [The Clinical Definition of Depression May Change](#), April 3, 2007 www.npr.org; also see Wakefield JC, et al, [Extending the bereavement exclusion for major depression to other losses: evidence from the National Comorbidity Survey](#), Archives of General Psychiatry, April 2007, Volume 64(4), Pages 433-440.
- 17 Wakefield JC, et al, [Extending the bereavement exclusion for major depression to other losses: evidence from the National Comorbidity Survey](#), Archives of General Psychiatry, April 2007, Volume 64(4), Pages 433-440.

loved one, in truth it's an end to chemical captivity. While normal to feel a sense of loss, how do we know that what we're feeling is normal sadness and not full-blown major clinical depression?

Self-diagnoses can be dangerous. The best advice I can give is that if you sense you are experiencing depression that isn't lifting, or your family is noticing mood changes, get seen and evaluated as soon as possible by your medical provider or at the nearest emergency medical facility.

In regard to depressive type symptoms associated with cold turkey nicotine cessation, it may fall under the "bereavement exclusion" if symptoms are relatively mild and it doesn't last longer than two months.¹⁸

The more fundamental question is, "why" is sadness or depression a normal step in the emotional grieving process? What's the purpose of depression?

While the anger phase of emotional recovery is fueled by anxiety ([Chapter 10](#)), depression is emotional surrender. It reflects a wide spectrum of varying degrees of hopelessness, where anxieties often subside.

Psychiatrist Paul Keedwell suggests that depression is part of what it means to be human, that it's a defense rather than defect. Dr. Keedwell contends that depression forces us to pause and evaluate loss, to change or alter damaging situations or behavior, and that upon reflection and recovery we often experience greater sensitivity, increased productivity and richer lives.¹⁹



Photo by National Cancer Institute

While successful nicotine dependency recovery demands a degree of reflection, obviously not all depression falls within the "bereavement exclusion," is "relatively minor" in nature, nor improves within 60 days.

In the Ward "abstinence effects" study, 39% of smokers entering the study reported experiencing depression on the day before commencing recovery. By comparison, 19% of never-smokers in the control group were also then experiencing depression.

The percentage experiencing depressive type symptoms during recovery peaked at 53% on day three, and fell to 33% (6 points below their starting baseline) by day seven. Amazingly, only 20% of ex-smokers were reporting depressive-type symptoms by day twenty-eight, just one percentage point above the rate of non-smokers in the control group.²⁰

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- 18 National Public Radio, All Things Considered, [The Clinical Definition of Depression May Change](#), April 3, 2007 www.npr.org; also see Wakefield JC, et al, [Extending the bereavement exclusion for major depression to other losses: evidence from the National Comorbidity Survey](#), Archives of General Psychiatry, April 2007, Volume 64(4), Pages 433-440.
- 19 Keedwell, Paul, [How Sadness Survived, the evolutionary basis of depression](#), 2008, Radcliffe Publishing, ISBN-10 1 84619 013 4
- 20 Ward, MM et al, [Self-reported abstinence effects in the first month after smoking cessation](#), Addictive Behaviors, May-June

It was once thought that those with depression smoked in order to self-medicate. But as suggested by Ward's finding, researchers are now asking, "Which came first, nicotine addiction or depression?"²¹

We know that if nicotine replenishment is delayed, that an escalating sense of depression is part of each low felt between each nicotine fix, which is accompanied by increasing anxiety and frustration. We also know that youth who take up smoking report increased levels of anxiety, stress and depression, and that adults experience "enduring mood improvements" after stopping.²²

Hopefully, education and self-honesty will aid in more quickly putting any normal sense of loss blues behind you. If depressed while you were using, once through withdrawal, hopefully that will change for the better.

Zyban, Wellbutrin, Chantix and Champix - Keep in mind that the physician's depression treatment resources include not only counseling but scores of non-nicotine and non-addictive medications including Wellbutrin (whose active chemical is bupropion), which is marketed as the stop smoking pill Zyban.

Although long-term results from real-world cessation method surveys indicate that Zyban may be no more effective than attempting recovery without it,²³ it doesn't mean that bupropion does not benefit those experiencing depression.

I also want to briefly mention varenicline which is marketed in the U.S. as Chantix and elsewhere as Champix. Although we have no reported case or medical journal article discussing anyone stopping cold turkey having ever attempted suicide, on April 1, 2008 the U.S. Food and Drug Administration reported that:

"Chantix has been linked to serious neuropsychiatric problems, including changes in behavior, agitation, depressed mood, suicidal ideation and suicide. The drug may cause an existing psychiatric illness to worsen, or an old psychiatric illness to recur. The symptoms may occur even after the drug is discontinued."²⁴

I mention varenicline for two reasons. First, in arguments intended to help salvage varenicline from the FDA recall chopping block, Pfizer (the pharmaceutical company marketing varenicline) has come dangerously close to suggesting that depression in those stopping cold turkey can become so great that they too commit suicide. Nonsense!

2001, Volume 26(3), Pages 311-327.

21 Xu Z, et al, Adolescent nicotine administration alters serotonin receptors and cell signaling mediated through adenylyl cyclase, Brain Research, October 4, 2002, Volume 951(2), Pages 280-292; also Boden JM, et al, Cigarette smoking and depression: tests of causal linkages using a longitudinal birth cohort, British Journal of Psychiatry, June 2010, Volume 196(6), Pages 440-446.

22 Parrott AC, Cigarette-derived nicotine is not a medicine, The World Journal of Biological Psychiatry, April 2003, Volume 4(2), Pages 49-55.

23 Doran CM, et al, Smoking status of Australian general practice patients and their attempts to quit, Addictive Behavior, May 2006, Volume 31(5), Pages 758-766, also see Ferguson J, et al, The English smoking treatment services: one-year outcomes, Addiction, April 2005, Volume 100 Suppl 2, Pages 59-69 [see Table 6]; also Unpublished 2006 U.S. National Cancer Institute Survey of 8,200 quitters, as reported in the Wall Street Journal, Page A1, February 8, 2007.

24 U.S. Food and Drug Administration, FDA Patient Safety News, New Safety Warnings About Chantix, Show #74, April 2008.

Varenicline is what's termed a partial agonist. It stimulates dopamine pathways via the same nicotinic-type acetylcholine receptors that nicotine would have occupied, while at the same time blocking nicotine's ability to occupy the receptor and induce stimulation.²⁵

But receptor stimulation by varenicline is significantly less than with nicotine (35 to 60%).²⁶ This reduced level of stimulation may be insufficient to keep some having certain pre-existing underlying disorders (such as depression or other mental health disorders) from experiencing the onset of serious depression and/or behavioral changes.

The problem is that varenicline's elimination half-life is 24 hours.²⁷ It means that even if the user realizes that the medication is affecting mood or behavior, that even if they stop taking varenicline immediately, that they'll only reduce its influence by half after a full day without it.

So long as varenicline's stimulation blocking effects remain present, could it be that for some small percentage of users, that the only way they see to bring their suffering to an end is to contemplate ending life itself? It's only a theory. We don't yet know.

The National Institute of Health maintains the www.PubMed.gov website, which indexes and allows searching of the summaries (abstracts) of nearly all medical journal articles and studies.

My June 14, 2012 search of the term "smoking cessation" returned 22,042 papers, while a search of "suicide" identified 56,345. But when the two terms were combined into a single search ("smoking cessation" + suicide) only 61 papers were returned, and nearly all were associated with cessation medications.

I could not locate a single research paper documenting that anyone going cold turkey had ever attempted suicide. Not one.

Those going cold turkey do not use chemicals that prevent their dopamine pathway receptors from being stimulated naturally. Nor is there any chemical preventing their brain from rapidly re-sensitizing receptors and down-regulating receptor counts to levels seen in non-smokers. As an avenue of last resort, even if they were to begin feeling the effects of untreated major depression, there was no chemical preventing stimulation.

What we know with certainty is that smokers attempt to stop smoking in order to save and extend their life, not end it.

If feeling overwhelmed by feelings of depression and sadness get help immediately! Go to the nearest emergency medical facility if necessary.



Photo by NIH

25 Pfizer, [Chantix Full Prescribing Information](#), May 2008, www.Chantix.com

26 Coe JW, et al, [Varenicline: an alpha4beta2 nicotinic receptor partial agonist for smoking cessation](#), Journal of Medicinal Chemistry, May 2005, Volume 48(10), Pages 3474-3477.

27 Pfizer, [Chantix Full Prescribing Information](#), May 2008, www.Chantix.com

Why allow treatable depression to bring you to the brink of relapse? Why allow it to serve as an excuse for continued use when chronic nicotine use likely contributed to causing it?²⁸ Instead, put a physician on the team!

Given proper treatment, there is absolutely no evidence to suggest that anyone with a mental health condition - including chronic depression - cannot succeed in gaining freedom from nicotine.

Loneliness or Feeling Cooped Up

Akin to the "sense of loss" felt with depression, loneliness is natural anytime we leave behind a long-term companion, even if a super-toxin. It's time to gift ourselves a new companion, a healing and healthier "us!"

Climb from the deep, deep rut we once called home and taste the flavor of nicotine-free life.

Many of us smokers severely limited the activities we were willing to engage in, either because they were too long and interfered with our ability to smoke nicotine, or because our body could not muster the stamina needed to do them.

Carbon monoxide's four-hour half-life robbed our blood of the ability to deliver enough oxygen so as to allow the moderate to heavy smoker to engage in prolonged periods of vigorous physical activity.

Lonely? Get to know the gradually emerging you. Be brave, climb from dependency's ditch and head in directions once avoided. If able, consider pushing your body a bit harder than normal and sampling the healing within.

One of the most satisfying aspects of recovery can be exploring life as an ex-user. Climb out, look around, savor and enjoy.

Insomnia

Nicotine is a nervous system stimulant known to affect subconscious thought. Some evidence suggests it alters EEG monitored brain waves during sleep,²⁹ and diminishes the percentage of deep REM sleep (our high quality sleep), while increasing REM dream imagery.³⁰



Photo by National Cancer Institute

28 Sobrian SK, et al, Prenatal cocaine and/or nicotine exposure produces depression and anxiety in aging rats, Progress in Neuropsychopharmacology & Biological Psychiatry, May 2003, Volume 27(3), Pages 501-518.

29 Zhang L, Power spectral analysis of EEG activity during sleep in cigarette smokers, Chest, February 2008, Volume 133(2), Pages 427-432.

30 Page F et al, The effect of transdermal nicotine patches on sleep and dreams, Physiology and Behavior, July 2006, Volume 30;88(4-5), Pages 425-432; also see Underner M et al, Cigarette smoking and sleep disturbance (article in French), Rev Mal Respir. June 2006, Volume 23(3 Suppl), Pages 6S67-6S77.

Our sleep's sense of "nicotine normal" can become disrupted and "sleep fragmentation" is not unusual. Gradually, new or pre-nicotine sleep patterns emerge. Over time we may find that we don't need nearly as much sleep as we did while using, or we may find that our body requires more.

Take a close look at caffeine intake if sleep is disrupted. Nicotine somehow doubles the rate by which the body eliminates caffeine.³¹ During recovery, with no nicotine in the bloodstream to accelerate caffeine elimination, if we continue to consume the same amount of caffeine, we should expect to find twice as much circulating in our bloodstream.

If you normally drink a cola before going to bed imagine now feeling the effects of two. If you can handle doubling your normal caffeine intake without disrupting sleep, then this isn't an issue. But if not, or if a heavy user, consider a reduction of up to one-half of your normal caffeine intake to avoid over-stimulation.

Relaxation through mind clearing and slow deliberate breathing can help induce sleep. Mental relaxation can be as simple as slowly clearing our mind of all other thoughts by focusing exclusively on a single object or color.

If sleep continues to be fragmented or is affecting your health, safety or performance, turn to your physician or pharmacist for assistance. There are many sleeping aids available. Don't allow sleep disruption to become another lame excuse to sabotage recovery and destroy your freedom.

Chest Tightness

Although rarely mentioned in symptom studies, it isn't unusual to hear chest tightness complaints during early recovery.

Whether arising from tension, stress, depression or somehow related to coughing, lung healing, or lung disease, be extremely careful as chest tightness can also be a sign of more serious health problems, including life threatening heart conditions.

If at all concerned, pick up the phone and contact your doctor. If tightness is related to anxiety or tension, it may benefit from relaxation exercises, a warm shower, slow deliberate breathing or moderate exercise.

Sore Mouth or Throat

Study results are mixed on whether recovery actually causes sore throats. Years of tobacco use clearly damaged and irritated tissues. Powerful toxins numbed them to tobacco's daily assaults.

As tissues re-sensitize and heal they may feel temporarily irritated. If so, ice or cool liquids may provide soothing, and cough drops may generate moisture and temporary relief from minor discomfort.

31 Swanson JA, et al, The impact of caffeine use on tobacco cessation and withdrawal, Addictive Behavior, Jan-Feb 1997, Volume 22(1), Pages 55-68.

But as a site of other more serious diseases, if mouth or throat pain or discomfort persists, the smart move is to get seen and have it medically evaluated.

Coughing, Mucus or Nasal Drip

According to the Ward study, roughly 60% in recovery reported coughing on day two, 48% by day seven, 33% by day fourteen, and 15% by day twenty-eight.³² Consider making an appointment to have a thorough check-up if still coughing after having stopped smoking for one month.

A chronic cough can be a warning sign of disease, including lung cancer. A thorough examination that includes a simple chest x-ray can bring piece of mind.

Get seen immediately should a cough ever produce blood in sputum.

Cilia are microscopic hair-like projections that line nasal passages, our windpipe (trachea) and bronchial tubes. Cilia inside lung bronchial tubes linking air sacs (alveoli) to our windpipe oscillate in unison at a rate between 5 to 11 cycles per second.³³ They act as a wave-like broom or slow moving carpet that sweeps secreted mucus, containing trapped contaminants, up and out of our lungs.³⁴

Tobacco toxins inflict extreme damage and near total destruction of a smoker's cilia. It results in roughly 50% developing a chronic cough (chronic bronchitis), as inflamed bronchial tubes and lungs fight to expel trapped mucus containing pathogens, toxins and particulate.

The good news is that within three days of commencing recovery our cilia begin regenerating and within six months they've fully recovered.³⁵ They will soon be engaged in cleaning and clearing gunk from the lungs.

Years of tar build-up are loosening. Some will be spit out in phlegm or mucus but most will be swallowed. Mucus and coughing are common, yet according to the Ward study many experience neither.

Clearly, healing lungs benefit from fluids to aid with cleansing and healing. Although the "8 x 8" water drinking rule is under attack for not having any studies to back it (drinking 8 ounces of water 8 times daily),³⁶ "absence of evidence is not evidence of absence."

Ice can sooth and moisten healing tissues. Cough syrups or decongestants may also bring temporary relief from coughing or irritation. But, again, do not hesitate to get seen should your cough persist.

32 Ward, MM et al, Self-reported abstinence effects in the first month after smoking cessation, Addictive Behaviors, May-June 2001, Volume 26(3), Pages 311-327.

33 Selwyn DA, et al, A perfusion system for in vitro measurement of human cilia beat frequency, British Journal of Anaesthesia, January 1996, Volume 76(1), Pages 111-115 [4.6 cycles per second]; also see, Clary-Meinesz C, et al, Ciliary beat frequency in human bronchi and bronchioles, Chest, March 1997, Volume 111(3), Pages 692-697 [11 cycles per second].

34 Stannard W, Ciliary function and the role of cilia in clearance, Journal of Aerosol Medicine, Spring 2006, Volume 19(1), Pages 110-1155.

35 Spitzer, J, Smoking's Impact on the Lungs, 2001, WhyQuit.com, Joel's Library.

36 Valtin H, "Drink at least eight glasses of water a day." Really? Is there scientific evidence for "8 x 8"? American Journal of Regulatory, Integrative and Comparative Physiology, November 2002 Nov, Volume 283(5), Pages R993-1004.

Although destroyed lung air sacs can never be replaced, those not yet destroyed clean up nicely. And many ex-smokers see a significant increase in lung function within six months.³⁷

I couldn't run 200 feet while still smoking and thought I'd never do so again. With early emphysema, it isn't like I'm some big runner now. But I do run-walk a few hundred feet at a time at least weekly and I'm not nearly as winded when the running stops and the walking phase starts.

I thought I'd destroyed these lungs beyond repair. Sometimes it's wonderful being wrong.

Bad Breath or Nasty Tastes

Your healed sense of smell and taste may find the horrible odors and tastes rising-up from healing lungs or oozing from tobacco marinated gums and mouth tissues disgusting.

Guess what? This is what it was like inside your mouth every day while still using. It was just that our senses were so dulled by tobacco toxins that we couldn't notice.

Picture layer after layer of cells slowing dying and being replaced. Depending upon how long, frequently and intensely we used tobacco, it could take significant time for these tastes and odors to fully dissipate.

Time, oxygen rich blood, and fluids will keep mouth, nasal, throat and respiratory tissues on the road to maximum recovery. Brushing a bit more frequently and mouthwash should help control odors released from slowly healing tissues.

Bleeding Gums

Gum bleeding is not unusual during recovery. Aside from the impact of brisk brushing that attempts to whiten tar stained teeth, our gums are feeling the impact of tobacco and nicotine-free living.

Surprisingly, like never-users, the ex-user's gums are more prone to bleeding, not less. Nicotine is a vasoconstrictor that actually constricts and diminishes blood flow. It's thought that this may account for smokers having thicker gum tissues.³⁸

According to a 2004 study, the gingival (gum) blood flow rate is "significantly higher at 3 days" into recovery. Within 5 days the liquid sticky plasma proteins normally released by healthy gums have significantly increased, and within 2 weeks are comparable to those of non-smokers.³⁹

But if it takes a bit of bleeding to begin gradually reversing the risk of experiencing 240% greater

37 Buist AS, The effect of smoking cessation and modification on lung function, The American Review of Respiratory Disease, July 1976, Volume 114(1), Pages 115-122.

38 Villar CC et al, Smoking influences on the thickness of marginal gingival epithelium, Pesqui Odontol Bras. Jan-March 2003, Volume 17(1), Pages 41-45.

39 Morozumi T et al, Smoking cessation increases gingival blood flow and gingival crevicular fluid, Journal of Clinical Periodontology, April 2004, Volume 31(4), Pages 267-272.

tooth loss than a non-smoker,⁴⁰ so be it. Call your dentist if at all concerned about gum bleeding.

Headaches

No study has yet identified headaches as a significant recovery concern. While the Ward study notes a slight day-three increase, it also provides evidence that recovery may actually reduce headaches.

It found that 33% of smokers reported having headaches immediately before commencing recovery. Interestingly, those reporting headaches peaked on day three (72 hours) at 44%, dropped to 17% on day seven, and declined to a low of just 11% by day fourteen.⁴¹

Ward's finding of greater incidence of headaches in active smokers is supported by other studies, which suggest nicotine, a known vasoconstrictor, as a primary culprit.⁴²

Vasoconstriction is the narrowing of blood vessels with restriction or slowing of blood flow, caused by contraction of the vessel's muscular wall.⁴³

Among smokers, once nicotine's arrival ends, brain blood-oxygen and carbon monoxide levels are restored to normal within twelve hours.

Should a day three headache occur, keep in mind that according to the U.S. National Institutes of Health, "the most common type of headache is a tension headache. Tension headaches may be due to tight muscles in our shoulders, neck, scalp and jaw. They are often related to stress, depression or anxiety."⁴⁴

Relaxation and slow deep breathing, rest, mind clearing with thought focusing exercises, a warm bath or shower, or physical exercise may help relieve tensions and bring relief. Aspirin and a host of other over-the-counter headache medications are available.

Nausea

Nausea is "an uneasy or unsettled feeling in the stomach together with an urge to vomit. Usually it isn't serious and benefits by avoiding solid foods for at least six hours."⁴⁵

The Ward study found that 16% reported nausea on day one, as compared to 2% at pre-cessation baseline. The rate dropped to 11% on day three, 16% on day seven, 9% at two weeks, and 4% on day

40 Krall EA, Smoking, smoking cessation, and tooth loss, Journal of Dental Research, October 1997, Volume 76(10), Pages 1653-1659.

41 Ward, MM et al, Self-reported abstinence effects in the first month after smoking cessation, Addictive Behaviors, May-June 2001, Volume 26(3), Pages 311-327.

42 Payne TJ, The impact of cigarette smoking on headache activity in headache patients, Headache, May 1991, Volume 31(5), Pages 329-332.

43 National Institutes of Health and U.S. National Library of Medicine, Vasoconstriction, Medline Plus, Medical Encyclopedia, web page updated January 22, 2007, <http://nlm.nih.gov/MEDLINEPLUS/ency/article/002338.htm>

44 National Institutes of Health and U.S. National Library of Medicine, Headache, Medline Plus, Medical Encyclopedia, web page updated July 18, 2008, <http://www.nlm.nih.gov/medlineplus/headache.html>

45 National Institutes of Health and U.S. National Library of Medicine, Nausea and Vomiting, Medline Plus, Medical Encyclopedia, web page updated July 28, 2008, <http://www.nlm.nih.gov/medlineplus/nauseaandvomiting.html>

twenty-eight.

Take heart, 37% of Chantix and Champix users report nausea, and in some cases its severe.⁴⁶

Constipation

A 2003 study found that one in six new ex-smokers developed constipation and that for one in eleven the problem became severe ("very or extremely constipated"). It found that constipation levels peaked at about two weeks.⁴⁷

According to a 2006 study, nicotine interacts with digestive tract smooth muscle contractions (peristalsis). The digestive system needs time to adjust to functioning naturally without it. But constipation is correctable and we need not suffer.

"Magnesium salts are the first-line treatment for this problem. If they fail, neostigmine, an anticholinesterase with parasympathomimetic activity, appears remarkably effective in correcting this disorder."⁴⁸

Aside from adjusting to nicotine's absence, what other factors contribute to constipation? According to the U.S. National Institutes of Health (NIH) "the most common causes of constipation are poor diet and lack of exercise." Regarding diet, it's caused by "a diet low in fiber or a diet high in fats, such as cheese, eggs, and meats."⁴⁹

Aside from more fiber, less fats and increased activity, the NIH recommends plenty of water, juice or other liquids free of alcohol and caffeine, which may worsen constipation. "Liquids add fluid to the colon and bulk to stools, making bowel movements softer and easier to pass."

"As food moves through the colon, the colon absorbs water from the food while it forms waste products, or stool," explains the NIH. "Muscle contractions in the colon then push the stool toward the rectum. By the time stool reaches the rectum it is solid, because most of the water has been absorbed."

"Constipation occurs when the colon absorbs too much water or if the colon's muscle contractions are slow or sluggish, causing the stool to move through the colon too slowly. As a result, stools can become hard and dry."

Why extra fiber? "Fiber is the part of fruits, vegetables, and grains that the body cannot digest," says the NIH. "Soluble fiber dissolves easily in water and takes on a soft gel-like texture in the intestines. Insoluble fiber passes through the intestines almost unchanged. The bulk and soft texture of fiber help

46 Aubin HJ, et al, Varenicline versus transdermal nicotine patch for smoking cessation: results from a randomised open-label trial, Thorax, August 2008, Volume 63(8), Pages 717-724.

47 Hajek P, et al, Stopping smoking can cause constipation, Addiction, November 2003, Volume 98(11), Pages 1563-1567.

48 Lagrue G, et al, Stopping smoking and constipation, [Article in French], Presse Medicale, February 2006, Volume 35(2 Pt 1), Pages 246-248.

49 National Institutes of Health, Constipation, NIDDK, NIH Publication No. 07-2754, July 2007, <http://digestive.niddk.nih.gov/ddiseases/pubs/constipation/>

prevent hard, dry stools that are difficult to pass."

The NIH defines "constipation" as "having a bowel movement fewer than three times per week."

According to the NIH, "some people think they are constipated if they do not have a bowel movement every day. However, normal stool elimination may be three times a day or three times a week, depending on the person." Consult your physician or pharmacist and obtain relief should constipation concerns arise.

Fatigue Not a Symptom

The majority of studies conclude that physical fatigue is not a normal withdrawal symptom.⁵⁰ In fact, exercise induced fatigue has been found to be a symptom of smoking.⁵¹

The body is shedding the effects of years of dependence upon a stimulant. If anything, the body is working less not more. We actually experience a metabolism reduction. Our heart beats slower, our breathing becomes shallower and our body is no longer feeling the effects of, and working to expel, an endless stream of arriving toxins.

While early recovery may leave us feeling emotionally drained, physically we should soon be feeling much better with more energy than we've felt in years.

It is not normal to feel physically tired or fatigued. If it occurs, get seen and find out why.

Possible Medication Adjustments

As noted, tobacco, both oral and smoked, contains thousands of chemicals, some of which may have interacted with medications we were taking. "Often when people stop smoking they may find that medications that were adjusted for them while smoking may be altered in effectiveness," writes Joel.⁵²

"People on hypertensives, thyroid, depression, blood sugar drugs, and others may need to get re-evaluated for proper dosages."

"The first few days, it can be difficult telling the difference between 'normal' withdrawal symptoms and medication dosage issues," notes Joel. "But once through the first few days, if a person who is on medications for medical disorders finds him or



Photo by National Cancer Institute

50 Hughes, JR, Effects of abstinence from tobacco: Valid symptoms and time course, Nicotine & Tobacco Research, March 2007, Volume 9(3), Pages 3215-327.

51 Hughes JR, et al, Physical activity, smoking, and exercise-induced fatigue, Journal of Behavioral Medicine, June 1984, Volume 7(2), Pages 217-230.

52 Spitzer, J, Medication Adjustments, July 19, 2001, <http://www.fff.yuku.com/topic/23017>

herself having physical symptoms that just seem out of the ordinary, he or she should speak to the doctor who has him or her on the medications."

"Point out to the doctor that you have recently stopped smoking and started to notice the specific symptoms just after stopping, and that they haven't improved over time."

Don't think only in terms of new symptoms. Old symptoms can disappear. During a 2008 question and answer session before roughly 200 inmates in a woman's prison that had recently gone tobacco-free, one woman in the back raised her hand.

"Yes mam, your question." "I don't have a question but a comment," she replied. "I knew this policy change was coming so I stopped a month ago. At the time, I was on eight different medications for my heart, blood pressure, hypertension, cholesterol and breathing. Now I'm down to just two." A big cheer went up.

Key to quality and effective medical treatment is effective communication between patient and physician. Be sure to accurately describe any symptoms, when they were first felt, how frequently they occur, how long they last, what aggravates them and the medications you've been taking.

A complete picture will greatly aid our doctor in determining whether there is a need to increase, decrease, change or discontinue medications.

Possible Underlying Hidden Conditions

Stay alert for the possibility that medical conditions were being masked and hidden by your dependency.

The oral tobacco user introduces more than 2,550 chemicals into their body.⁵³ A burning cigarette gives off more than 4,000. A mini-pharmacy, these chemicals were capable of hiding a host of medical conditions, including some caused by tobacco use. One that could be noticed during the first 72 hours is difficulty breathing.



Photo by National Cancer Institute

***"Why am I having trouble breathing?"
"It's like I need to keep breathing in deep, breath after breath after breath."***

Rarely a day passes in overseeing our Internet sites ([WhyQuit](#), [Joel's Library](#), [Freedom](#) and [Turkeyville](#), our Facebook group) without arrival of an email inviting us to play Internet doctor.

53 U.S. Surgeon General, Reducing the Health Consequences of Smoking: 25 Years of Progress: A Report of the Surgeon General: 1989, Page 79.

Although well intended, I am a cessation educator who teaches recovery, including symptom possibilities.

I am not a trained and skilled physician, qualified to evaluate, diagnose and treat actual conditions. Even though the symptom being described may sound like normal recovery, how could I possibly know the actual cause? I'd be guessing.

Difficulty breathing or shortness of breath is not normal.

Still, such concerns are not uncommon. When I hear them, my initial thoughts are outrage and sadness. This could be a smoking induced breathing disorder that until now tobacco industry cigarette engineering had kept hidden from them.

But again, I'd just be guessing. Instead, I tell them it isn't normal, that they need to get seen by a doctor as soon as possible.

How wrong and damaging could guessing be? Shortness of breath can be caused by "lung disease, asthma, emphysema, coronary artery disease, heart attack (myocardial infarction), interstitial lung disease, pneumonia, pulmonary hypertension, rapid ascent to high altitudes with less oxygen in the air, airway obstruction, inhalation of a foreign object, dust-laden environments, allergies (such as to mold, dander, or pollen), congestive heart failure (CHF), heart arrhythmias, de-conditioning (lack of exercise), obesity, compression of the chest wall, panic attacks, hiatal hernia, or gastroesophageal reflux disease (GERD).⁵⁴

Possible hidden conditions aside, what are the odds of someone in the first few days of recovery developing pneumonia or noticing a hiatal hernia? Never-users develop hernias too. They also catch colds, the flu and get sick.

Remain mindful that a coincidental illness or other condition could occur during recovery.

Can cigarette engineering contribute toward hiding symptoms of early asthma or emphysema? Although disputed by the tobacco industry, it's reported that cocoa may cause cigarette smoke to act as a breathing nebulizer.⁵⁵

A chemical within cocoa, theobromine, is known to relax airway muscles and expand bronchial tubes. It's suggested that this might allow more nicotine-laden smoke to penetrate deeper and faster, resulting in a bigger hit or bolus of nicotine assaulting brain dopamine pathways sooner. In theory, this could keep the user loyal to their brand and coming back for more.

According to Philip Morris, maximum concentrations of cocoa can be up to 5%. Theobromine within cocoa accounts for 2.6% of its weight. If a cigarette contains 5% cocoa it also contains up to 1

54 National Institutes of Health and U.S. National Library of Medicine, Breathing difficulty, Medline Plus, Medical Encyclopedia, web page updated April 12, 2007, <http://nlm.nih.gov/medlineplus/ency/article/003075.htm>

55 ASH, Tobacco Additives, cigarette engineering and nicotine addiction, July 14, 1999, <http://old.ash.org.uk/html/regulation/html/additives.html>; as brought to my attention by Schwartz, L, "I'm an ADDICT! Hooray!" March 2, 2002, <http://www.ffn.yuku.com/topic/115>

milligram of theobromine.⁵⁶

The tobacco industry knows that cigarette smoking constricts lung bronchial tubes,⁵⁷ that theobromine relaxes bronchial muscles, and that in competition against theophylline, a chemical used in breathing nebulizers, theobromine compared favorably in improving breathing in young asthma patients.⁵⁸

Philip Morris argues that it is "unlikely" theobromine in cocoa added to cigarettes can produce "a clinically effective dose."⁵⁹ Once secret industry documents evidence ongoing industry monitoring of both cigarette cocoa and licorice extract levels for at least three decades. Licorice extract contains glycyrrhizin which some contend is another means by which cigarettes act as bronchodilators.

But Philip Morris says its research shows that licorice extract is "pyrolyzed extensively" (decomposed due to heat), by the up to 900-degree temperatures found in cigarettes.⁶⁰

Although additives have likely changed significantly since 1979, a Brown & Williamson report then documented that cigarette brands containing more than 0.5% cocoa included: Belair, Benson & Hedges, Camel Lights, Doral, Kool Super Lights, Marlboro Lights, Merit, Now, Salem Lights, Tareyton Lights, Vantage, Viceroy Lights and Winston Lights.

Brands then containing more than 0.5% licorice included: Belair, Benson & Hedges, Camel Lights, Marlboro Lights, Merit, Parliament, Pall Mall Lights, Salem Lights, Tareyton Lights, Vantage, Viceroy Lights and Winston Lights.⁶¹

Other possible once hidden health conditions include thyroid problems masked by iodine in tobacco,⁶² chronic depression masked by nicotine,⁶³ and ulcerative colitis, also somehow suppressed, hidden or controlled by nicotine.⁶⁴

Remember, nicotine is not medicine. It is a natural poison.

56 Philip Morris USA, TMA Presentation on Cocoa to the Department of Health, Carmines, October 18, 1999, Bates #2505520057

57 Hartiala J, et al, Cigarette smoke-induced bronchoconstriction in dogs: vagal and extravagal mechanisms, Journal of Applied Physiology, October 1984, Pages 1261-1270.

58 Simons FE, The bronchodilator effect and pharmacokinetics of theobromine in young patients with asthma, The Journal of Allergy and Clinical Immunology, November 1985, Volume 76(5), Pages 703-077.

59 Philip Morris USA, TMA Presentation on Cocoa to the Department of Health, Carmines, October 18, 1999, Bates #2505520057

60 Carmines EL, Toxicologic evaluation of licorice extract as a cigarette ingredient, Food and Chemical Toxicology, September 2005, Volume 43(9), Pages 1303-1322.

61 Brown & Williamson Tobacco Corporation, Cocoa & Licorice Contents of Competitive Hi-Fi Cigarettes, June 12, 1979, Bates #680224319

62 Vejbjerg P, The impact of smoking on thyroid volume and function in relation to a shift towards iodine sufficiency, European Journal of Epidemiology, 2008, Volume 23(6), Pages 423-429.

63 Covey LS, et al, Major depression following smoking cessation, American Journal of Psychiatry, February 1997, Volume 154(2), Pages 263-265.

64 Lakatos PL, et al, Smoking in inflammatory bowel diseases: good, bad or ugly? World Journal of Gastroenterology, December 14, 2007, Volume 13(46), Pages 6134-6139.

Celebrating Two Weeks of Healing!

As seen, nearly all symptoms of physical recovery resolve within two weeks. As for brain dopamine pathway function, yes, there's likely another week or so of ongoing fine tuning of the number of acetylcholine receptors needed to achieve balance and normalcy. But any remaining adjustment is minor in comparison to the healing completed.

While the body's physical readjustment is all but complete, the scars of use remain and deep tissue healing, cleansing and repair will be ongoing for years. For example, while our sense of smell and taste have mended, the after-effects of years of marinating tissues in thousands of tobacco chemicals may linger for weeks.

The beauty of two weeks is that our physical addiction is no longer doing the talking. Overall, we've progressed far enough that we begin sampling what it means to be free. And the massive dependency lie we each lived is now far easier to see.

While thousands of old nicotine replenishment memories continue to declare that use satisfies wanting, by two weeks the truth is becoming clearer. By now, increasing periods without wanting begin suggesting that the only path to bringing wanting to a permanent and lasting end is the one now traveled.

We've gifted ourselves a nicotine-free body. The body's readjustment period is nearly complete. By now, the vast majority of subconscious use cues have been extinguished, and our emotional readjustment is well under way. And, the number of wanting-free minutes each day continues to grow.

Yes, our body has adjusted to functioning without nicotine and we're standing on our own. Whether measurable or not, whether appreciated or not, with each passing day the challenges continue to grow fewer, generally less intense and shorter in duration (see [Chapter 13](#), the comments of 72 ex-users).



Photo by National Cancer Institute

Although nicotine assaults have ended and normal function has been restored, the scars of the paths and tracks taken by nicotine have been permanently burned and etched into our brain.

There's only one way to ensure that those paths and tracks are never traveled by nicotine again. There's only one way to guarantee that our mind's priorities circuitry is never again hijacked, so as to place nicotine use on a par with food. No nicotine today!

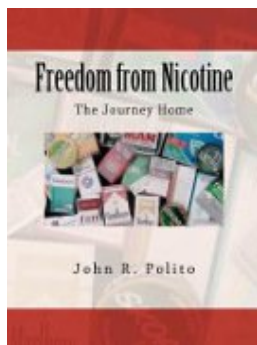
Breathe deep, hug hard, live long,

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