Chapter 9: Physical Recovery

Consider Skipping This Chapter for Now

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

What's important from our standpoint isn't so much the science associated with the actual physiological changes which occur, but the symptoms those changes may generate. And the keyword is "may."

For while neurochemical and tissue healing changes are very real, the majority of objective nicotine cessation symptoms are self-induced. Most 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? But how?

And how does the single-session traveling stop smoking hypnotist cause a day or two of total cessation calm and bliss before relapse?

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 quit or die" so often result in a near symptom-less recovery?

Could it be that most recovery symptoms are the result of some combination 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 only after ending use of the thousands of chemicals present in tobacco?

The primary anxiety culprit is the prefrontal cortex.[1] The large thinking lobe just above our eyes, it senses mid-brain dopamine fluctuations and is hard-wired to the brain's fire alarm, the amygdala.

Our cortex is filled with thousands of old nicotine use memories. The greater the need for replenishment in the seconds prior to use, the more profound wanting's satisfaction, and the more vivid and durable the use memory that was recorded.

Not understanding that our mind's priorities teacher had been hijacked, or that our thousands of durable nicotine replenishment memories were tied to nearly every aspect of daily life and as real as steel prison bars, we invented scores of explanations as to why that next nicotine fix was so important.

So, what's the common thread in not experiencing symptoms during extended sleep, an illness, following hypnotism, or when told that we're standing at death's door? 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 scores of use explanations were, at least briefly, somehow, totally consumed.

Recommend Skipping Balance of Chapter Until Needed

If your own personal resolve and understanding are at this moment sufficient to suppress most symptoms, why fill your prefrontal cortex with page after page of symptom suggestions?

Why load the recovering junky-mind with weapons that can destroy it, when, as yet, there's no foe to oppose?

In fact, unless experiencing and concerned about a specific symptom, I recommend that you skip the balance of this chapter for now. It'll be here later if needed. But should you proceed with reading it now, as you do, ask yourself this, can this symptom be minimized, corrected, or avoided?

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1. Aoyama Y et al, Prenatal Nicotine Exposure Impairs the Proliferation of Neuronal Progenitors, Leading to Fewer Glutamatergic Neurons in the Medial Prefrontal Cortex, Neuropsychopharmacology, January 2016, Volume 41(2), Pages 578-589.

Symptoms

WARNING: This review is NOT intended as medical advice but simply an outline of documented cold turkey recovery symptoms. It is not intended for those using NRT, e-cigs, Chantix, Champix, Zyban, Wellbutrin or any cessation product. Regardless of cessation method, contact your health care provider or pharmacist IMMEDIATELY if experiencing any symptom causing your or your loved ones concern, including changes in thinking, mood or behavior.

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 in many brain regions 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, unless experiencing a higher priority, it's entirely normal to notice that the brain's desire circuitry is temporarily out of whack.

But once nicotine's arrival ends, the brain begins working its butt off to diminish the number of active receptors and restore natural sensitivities. Almost as quickly as you begin noticing that your sense of smell and taste is enhanced, brain command and control sensitivity restoration is happening 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 finding 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 natural binding 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 sensed during recovery is temporary, normal, and expected.

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 a healing brain? Savor it.

Symptom Basics

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 which follow, 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 vary 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 often 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 pass 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]

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 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 with 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 the decline of initial symptoms (if any), recovery remains continuous, yet at times may be so gradual that - like trying to watch a rosebud 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 the 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 a symptoms list such as this one to sell you on the belief that beginning your journey

home will be horrible or intense. Instead, relax, strive to dump irrational fears, maintain a positive attitude, and keep your reasons for wanting to break free at the forefront of your mind.

Also, abandon 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.

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.

Try to get plenty of rest while following these simple rules, and this adventure has the possibility of becoming 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's resuming full control of all neurochemicals 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.

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

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Anxiety & Irritability

Anxiety

Whether dealing with heroin dependency, alcoholism, or nicotine addiction, anxiety is a common

recovery symptom seen with nearly every drug of addiction.[1]

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 and backward 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 first seven days may in part be the product of a mind preoccupied with the risk of relapse.[2]

There, remain mindful that failure is impossible 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 or dreaming about nicotine use does 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 beginning to improve.

While you may still feel disconnected and foggy for a while (as discussed below), and you're likely to continue to experience cue induced crave episodes (see Chapter 11 - Subconscious Recovery), 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 (the body's equilibrium or normal).

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 stream of anxiety 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 will begin bearing fruit.

Anxiety Reduction

As reviewed in Chapter 6, watch your caffeine intake as caffeine intoxication can foster anxieties. And keep an eye on sugar intake as cutting back a bit can have a calming effect too.

Eating smaller portions of healthy foods more frequently should help stabilize blood sugars and prevent having to deal with anxieties associated with the onset of hunger-induced wanting, urges, and craves.

Try this. Take a slow deep, deep breath and then ever so slowly exhale. Feel it? Slow, deep breathing while striving to relax and reassure a concerned mind can aid in diminishing anxiety. And it goes without saying that physical activity and exercise will cause prolonged deeper breathing while stimulating blood circulation.

Accept the fact that you're anxious for withdrawal and recovery to end. It's normal. Now, picture where your healing is gradually transporting you, to a calm, chatterless, and quiet mind that begins experiencing entire days without once thinking about wanting to inhale, chew, or suck nicotine.

A newer anxiety reduction technique is art therapy, the use of painting, drawing, sculpting, or clay modeling. Harvesting the mind's creative juices, it forces surfacing of memories, feelings, and emotions.[3]

Anxiety and Irritability Duration

A 2001 study by Ward entitled "Self-reported abstinence effects in the first month after smoking cessation" may be the most detailed withdrawal symptoms study ever. It provides fascinating recovery symptom insights.[4]

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.

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2. 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.
3 . Abbing A et al, The effectiveness of art therapy for anxiety in adults: A systematic review of randomized and non-randomised controlled trials, PLoS One, December 17, . 2018; 13(12)
4 . 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.

Anger & Impatience

Anger

According to the Ward study, 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 can also reflect the boiling point of anxiety-driven fears, or a normal emotional phase of any significant sense of loss (see Chapter 10 - Emotional Recovery).

And never use anger or an argument as a sick ploy to get your drug back, allowing an addict to blame someone else. Remember the four words that can end almost any argument: "You are exactly rights," without adding any ifs, ands, or butts.[1]

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 every person you spend significant time around know that you've stopped using, as irrational behavior could lead them to believe that you're on drugs or having a breakdown.

Impatience

Whether impatience is an independent recovery symptom, or simply an expected result associated 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 super 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 a 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 substantially shorten the time needed for nicotine to penetrate oral mouth tissues and enter the bloodstream.[2]

Nicotine laden smoke or vapor 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.[3] 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 or vaped, 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 5 minutes before a cue-induced crave episode peaks in intensity, or the duration patience needed to allow new nicotine-free memories and time to bury old replenishment memories?

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

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1. Russell D, 4 Words That Can Stop Any Marital Argument, https://www.achievementcenteredtherapy.com/4-words-that-can-stop-any-marital-argument/ Accessed 06/19/20
2. Benowitz NL, Systemic absorption and effects of nicotine from smokeless tobacco, Advances in Dental Research, September 1997, Volume 11(3), Pages 336-341.
3. 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.

Concentration

Inability to Concentrate or Foggy Mind

According to the Ward study, the feeling that concentration is not as good or mind fog is experienced by almost two-thirds during recovery. The return of clearness of mind and concentration may seem ever s o 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, an inability to focus, or to think clearly are often associated with low blood sugar. Nicotine force-fed us stored fats and sugars, allowing us to skip meals without feeling hungry. Normal people can't do that.

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 also reviewed in Chapter 6, unless diabetic or our health care provider recommends otherwise, consider sipping on 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 accelerate removal of the alkaloid nicotine from your bloodstream.

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,[1] or damaging learning and memory via nicotine.[2]

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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.

I'm not a doctor. I have no medical training. I'm a nicotine cessation educator. While I share basic recovery information, it usually reflects averages from studies. Call and get seen ASAP if you or loved ones are concerned about any symptom. Call 911 immediately if having thoughts of harming yourself. If reluctant do so, at least tell a friend or type "suicide hotline" into any search engine and call now.

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

While evidence continues to build that adolescent nicotine use can contribute to causing depression,[1] 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.[2]

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.[3]

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 of 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 helped write the DSM-IV standards.[4] Dr. First did an interview with National Public Radio in April 2007.

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

"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, 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."

"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."[5]

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."[6] "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 mediation 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 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 is dangerous. The best advice I can give is that if you think that 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 or may not fall under the "bereavement exclusion," depending on whether symptoms are relatively mild and it doesn't last longer than two months.[7]

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 a 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.[8]

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 the group's 39% 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.[9]

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?"[10]

We know that if nicotine replenishment is delayed, an escalating sense of depression is felt, which is often 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.[11]

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, your mood 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,[12] 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 had no reported case or medical journal article discussing anyone stopping cold turkey having ever attempted suicide prior to Chantix, 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."[13]

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!

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.[14]

But receptor stimulation by varenicline is significantly less than with nicotine (35 to 60%).[15] This reduced level of stimulation may not be sufficient to prevent 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.[16] It means that even if the user realizes that the medication is affecting their 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 extremely small percentage of users, that the only way they see to bring their suffering to an end is to contemplate ending life itself? We don't 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 blocking and 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.

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

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?[17] Instead, put a skilled physician on the team.

Given proper treatment, there is absolutely zero 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 sample 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 refuel, or because our body couldn't 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, sample the healing within by pushing your body a bit harder than normal.

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

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Sleep & Insomnia

Sleep

Nicotine is a nervous system stimulant known to affect subconscious thought. Some evidence suggests it alters EEG monitored brain waves during sleep,[1] and diminishes the percentage of deep REM sleep (our high-quality sleep) while increasing REM dream imagery.[2]

Smokers also take longer to fall to sleep, have shorter sleep duration than ex-smokers and never-smokers,[3], and up to 80% of smokers habitually experience sleep disturbances.[4]

During withdrawal and cessation, our sleep's sense of "nicotine normal" can become disrupted, and "sleep fragmentation" is not unusual.

Gradually, a new sleep pattern emerges or our pre-nicotine sleep pattern returns, with aging thrown in. 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.

Insomnia

Insomnia is when we have trouble falling or staying asleep. It is experienced by up to 42% during early recovery.[4]

The good news is that while recovery increases the likelihood of difficulty falling to sleep, it is generally not associated with increasing the risk of relapse. [5]

Take a close look at caffeine intake if sleep is disrupted. Nicotine somehow doubles the rate by which the body eliminates caffeine.[6] 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 caffeinated 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.

Turn the tide and table if having trouble not thinking about wanting to smoke or vape. Use the moments when your conscious and subconscious are nearest to encourage your subconscious to switch teams. Invite it to help accelerate letting go by seeing the insecticide nicotine and all that comes with it as the enemy, to begin sharing your dream of ending its grip upon your priorities, thinking, sleep, and life.

Relaxation through mind-clearing and slow deliberate breathing can help induce sleep (see exercises at Chapter 11, Relaxation Crave Coping). Mental relaxation can be as simple as slowly clearing our mind of all other thoughts by focusing exclusively on a single object or color, or our favorite person, activity, or place.

Are you able to listen to your favorite music for 30 to 60 minutes while dozing off? Many smartphones come with a radio app that allows you to select when the radio will turn-off. The earphone cord acts as an antenna. Studies have shown that "music may be effective for improving subjective sleep quality in adults with insomnia symptoms."[7]

A 2020 study found that 30 minutes of afternoon or evening moderate exercise can improve sleep and reduce the time needed to fall to sleep during early withdrawal, especially among smokers reporting greater withdrawal severity.[8]

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.

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Hunger & Appetite

Cessation weight gain and weight control were covered in Chapter 6. Here, our focus is upon two sensations commonly labeled as withdrawal symptoms: an increase in appetite and hunger.

Although often used interchangeably, hunger is the body's physical need for food, whereas appetite reflects the desire we feel for it.

Hunger

Common hunger symptoms include feelings of stomach emptiness, stomach contractions that may be accompanied by growling or rumbling sounds, abdominal discomfort, pain ("hunger pangs"), and a need for fuel induced by a drop in the level of glucose (sugar) in the blood passing through the hypothalamus in the brain.[1]

A drop in blood sugar can result in difficulty concentrating, irritability, light-headedness, faintness and/or dizziness.[2]

One of recovery's greatest challenges is learning to listen to our bodies. Once use ends, nicotine is no longer controlling refuelings by activating our body's fight or flight response, which in turn pumped stored calories from our liver into our bloodstream.

Once use ends, we need to recognize the need to eat prior to experiencing full-blown hunger pangs. Having rarely experienced true hunger, we also need to relearn when it's time to stop eating, even if not yet feeling full, and develop the self-control to do.

As for eating, satiety or fullness is the opposite of hunger. It's the "quality or state of being fed or gratified to or beyond capacity."[3] Satiety hormones (CCK, GLP-1, and PYY) are released by the GI-tract.[4] They signal the brain's satiety center, located in the hypothalamus, that we've eaten enough and are full.

Unfortunately, it can take up to twenty-minutes after eating before the digestive system turns food to glucose, causing GI-tract satiety hormones to signal the brain, and the desire to eat diminishes and then stops.[5]

"If you have this 20-minute disconnect, you always have that moment of 'I can have just one more'. How many times is it that you then sit down after the meal and you feel like you've eaten way too much?" asks Professor Zane Andrews, a food neuroscientist.[6]

Appetite

Primarily psychological, like conditioned nicotine use cues, an increase in appetite can be triggered by the sight, smell, taste, or thoughts about food, or by a specific activity, location, person or time. Increased desire or food cravings are accompanied by the flow of saliva in the mouth and gastric juice in the stomach. The stomach wall also receives an extra blood supply in preparation for its digestive activity.[7]

Again, quoting Professor Andrews, "As humans, we very rarely eat because our brain is telling us to eat. That's only really when we're starving. We eat because we come home at a certain time and that's when we have dinner. We eat because we're out with our friends, because we're at family gatherings. We have all these conditions, cues and learned associations with food intake."[6]

"We have that learned association to sit in front of the TV and eat. We go to the movies and we have a learned association to eat popcorn and soft drink. Or you sit down at home and watch TV, and you feel like some lollies or chips." "We're overriding those satiety cues based on cultural expectations or social norms," he contends.

Nicotine's stimulant effects and metabolism issues aside, nicotine also decreased appetite by activating acetylcholine receptors within the hypothalamus.[8] Although the frequency and intensity vary from person to person, an increase in hunger and appetite is common following nicotine cessation.[9] The good news is that a 2017 study found that an increase in appetite was not associated with an increased risk of relapse. [10]

The obvious question becomes, once nicotine use ends, how long does an increase in appetite last?

As reviewed, appetite is primarily a conditioned response. Hopefully, we'll never relapse and our enhanced sense of smell and taste, and our metabolic and hypothalamic changes, are permanent. Isn't the more important question, how will you respond? Will your eating habits and patterns change so that daily calorie consumption becomes greater, less, or remains unchanged?

There, if concerned about weight gain, findings from short-term studies can be rather demoralizing. But what about longer-term studies?

A 2019 study followed 5,809 men between the ages of 40 to 69 for up to 4 years. First, let's put aside the 3,014 who were either never-smokers or who continued smoking. What about the 2,795 who had stopped smoking for up to 4 years? Interestingly, 25% (697) actually lost weight, 54% (1,522) had no cessation weight change, and 21% (576) gained weight.[11]

As for shorter studies, a second 2019 study followed 348 smoking patients, 161 (46.2%) of whom achieved continuous abstinence for 1 year. "Of those 161 patients, 104 (64.6%) maintained their initial weight or had a weight change of no more than 5% in relation to their baseline weight, whereas the remaining 57 (35.4%) had a weight gain of more than 5%, 18 of those patients showing a > 10% increase over their baseline weight."[12]

The study's conclusion? "Weight gain is not necessarily associated with smoking cessation, and smokers who are motivated to quit should be informed of that fact."

Brain dopamine sensitivity needs 2 to 3 weeks to readjust to nicotine's absence. While normal to attempt to satisfy wanting for nicotine with extra food, the extra pounds can be demoralizing.

Instead of creating new eating cues, why not instead generate a healthy dopamine surge such as felt after taking a slow deep breath, while drinking a nice cool glass of water, or an accomplishment "aaah" sensation following yard work, a walk, or when crossing off another item on your to-do list.

Learning to minimize hunger while developing healthy appetite cues, discovering how activity and food choice modify health and weight, this is life, this is what humans do.

A journey from daily poisoning our body to wanting it to be as healthy as possible, what an extraordinary turnaround.

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Headaches & Nausea

Headaches

Actually, headaches, along with nausea and vomiting, are more commonly associated with nicotine overdose.

While the Ward study notes a modest increase in headaches on day-three, no study has yet identified headaches as a significant abrupt nicotine cessation recovery concern. In fact, the Ward study suggests that just one week of remaining smoke-free may actually reduce headaches.

It found that 33% of smokers reported having headaches immediately before commencing recovery. 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.[1]

Ward's finding of a greater incidence of headaches in active smokers is supported by other studies, which suggest nicotine, a known vasoconstrictor, as a primary culprit.[2]

Vasoconstriction is the narrowing of blood vessels, with restriction or slowing of blood flow, caused by contraction of the vessel's muscular wall.[3]

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

Should a headache occur, according to the U.S. National Institute 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."[4]

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

Two specific diet changes can also trigger headaches: "fasting and the relatively mild reactive hypoglycemia that can follow large carbohydrate ingestions."[5]

Other potential recovery-related causes include headaches related to coughing strains, strenuous exercise, alcohol use, or carbon monoxide poisoning (too many cigarettes too fast).
Headaches can also indicate life-threatening conditions requiring immediate medical attention such as a brain tumor, brain aneurysm, or concussion. Don't hesitate to call your health care provider and get seen if concerned or headaches persist.

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."[6]

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 twenty-eight.

Take heart, 37% of Chantix and Champix users report nausea, and in some cases it's severe.[7]

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Breath, Taste, Bleeding Gums and Mouth Ulcers

Bad Breath or Nasty Tastes

Your healing senses of smell and taste may find the aromas and flavors being released from healing lungs or oozing from toxin marinated gums and mouth tissues disgusting.

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

Picture the consequences upon taste buds and olfactory bulbs after years of daily inhaling thousands of tobacco chemicals, hundreds toxic to tissues, and scores capable of causing cancer. Is it any wonder that this deadly cocktail dulled, inflamed, damaged, mutated, pickled, or killed all it touched, including speech, thyroid, and cilia cells?

Amazingly, repair of smell and taste perception begins immediately upon cessation and often becomes noticeable within 7 days[1].

A three-pack-a-day smoker, shortly after breaking free I started noticing a metallic taste that lingered for more than a month. Picture layer after layer of cells slowing dying and being replaced. Depending upon how long, often, and intensely we used tobacco, it could take significant time for nasty tastes and odors to fully dissipate.

But a metallic taste can also be a symptom of more serious health conditions, too. Like putting a new battery in a smoke detector, enhanced senses of smell and taste can act as alarms warning us of sensations previously missed. If at all concerned, don't hesitate to call or email and share what you're noticing with your health care provider.

Time, oxygen-rich blood, and plenty of fluids will keep mouth, nasal, throat, and respiratory tissues on the road to maximum recovery. Brushing a bit more often 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 and frequent brushing that attempts to whiten tar stained teeth, our gums are experiencing the blessings of tobacco and nicotine-free living.

Surprisingly, like never-users, the ex-user's gums are more prone to bleeding, not less. One study found that 4 to 6 weeks after smoking cessation that "bleeding on probing with a constant force probe increased from 16% of sites to 32% of sites, despite improvements in the subject's oral hygiene."[2]

Nicotine is a vasoconstrictor that actually constricts and diminishes blood flow. It's thought that this may account for smokers having thicker gum tissues.[3]

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.[4]

But if it takes a bit of bleeding to begin gradually reversing the risk of experiencing 240% greater tooth loss than a non-smoker,[5] so be it. Call your dentist if at all concerned about gum bleeding.

Mouth Ulcers or Canker Sores

According to the Mayo Clinic, "canker sores, also called aphthous ulcers, are small, shallow lesions that develop on the soft tissues of your mouth or at the base of your gums. Unlike cold sores, canker sores don't occur on the surface of your lips and they aren't contagious."

Although normally not a concern as they quickly resolve without treatment, a bit of caution is warranted as a mouth ulcer that doesn't resolve could indicate mouth cancer.

Canker sores can be painful but they're not cancerous (malignant). If you have any sore in your mouth that doesn't heal within a week or two, have it examined by a physician as soon as possible. Don't delay (read Sean Marsee's shocking story at WhyQuit to see delay's potential consequences).

Joel Spitzer has conducted 325 two-week (13-day) stop smoking clinics involving more than 4,500 participants. According to Joel, "Sores in the mouth are a common side effect that is experienced by people after quitting. When I say common, I don't mean everyone gets them. Usually, if I have a group of 30 or so people, one or two will get the symptom and it usually happens in the second week after quitting." [6]

Although few studies have addressed them, a 2003 nicotine patch study found that roughly 1 in 10 participants experienced mouth ulcers within one to two weeks of quitting.[7]

All living cells convert dioxygen (O_2) into toxic intermediates, including hydrogen peroxide. "In the mouth, there is a special need for defense against hydrogen peroxide, because hydrogen peroxide is not only formed by bacteria colonizing the mucous membranes but also by the cells of the salivary glands. In saliva, the most important part of this defense is salivary peroxidase, which detoxifies hydrogen peroxide ..." [8]

A 2015 study examined the relationship between salivary peroxidase, aphthous ulcers, and stress. It found that "decreased levels of peroxidase were found in individuals' with aphthous ulcers, while the same was increased when no lesions were found and also on a lower stress scale."[9]

Joel has an alternative explanation. "The way I had it described to me sometime back in the late '70s,

was that certain anti-toxins were produced in the mouth in response to chemicals in cigarettes. When people would quit smoking, it took time for the body to know to stop producing the anti-toxins, and with these self-produced anti-toxins having nothing to work on, they themselves became primary irritants."

Authorities list a number of other potential causes, including accidentally biting the inside of your cheek or a sharp tooth, hard food, hormonal changes, eating certain foods (including chocolate, spicy foods, coffee, peanuts, almonds, strawberries, cheese, tomatoes, and wheat flour) and toothpaste containing sodium lauryl sulfate.[10]

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Sore Throat, Coughing, Quitter's Flu, Chest Tightness

Sore Throat

Results are mixed as to whether cessation actually causes sore throats. Years of tobacco use clearly damaged and irritated tissues. Powerful toxins numbed them to tobacco's daily assaults.

A 2003 study found that while 19.7% (25/127) reported sore throats during the first week of recovery, 9.4% (12 of 127) reported that the sore throat that they had immediately prior to quitting vanished during the first week.[1]

As tissues heal and nerves re-sensitize 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.

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.[2] A 2003 study found that 79% experienced coughing during the first week (100 of 127).[1]

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.[3] They act as a wave-like broom or slow-moving carpet that sweeps secreted mucus, containing trapped contaminants, up and out of our lungs.[4]

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.[5] 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),[6] "absence of evidence is not evidence of absence."

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

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 6 months.[7]

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.

Not to scare you but make an appointment and get a thorough check-up if still coughing after having stopped smoking or vaping for a month, or sooner if experiencing additional symptoms. This is the Centers for Disease Control's 2020 online list of the most common lung cancer symptoms:[8]

- Coughing that gets worse or doesn’t go away.

- Chest pain.
- Shortness of breath.
- Wheezing.
- Coughing up blood.
- Feeling very tired all the time.
- Weight loss with no known cause.
- Other changes that can sometimes occur with lung cancer may include repeated bouts of pneumonia and swollen or enlarged lymph nodes (glands) inside the chest in the area between the lungs.

Yes, a persistent 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.

Quitter's Flu

Actually, there's no such thing as "quitter's flu." If you type "quitter's flu" into a medical study search engine such as PubMed you'll discover that there are no journal articles mentioning it.

Coined online, it's a term referring to the collective flu-like effect of experiencing multiple recovery symptoms at the same time, such as a productive cough, sore throat, and possibly a headache.

What's critical to note, especially since coronavirus, is that having a fever, or feeling feverish, or experiencing chills is NOT a nicotine or smoking cessation recovery symptom.

Viruses and bacteria don't hibernate or go on vacation because we ended nicotine use. New ex-users get colds, the flu, and other life-threatening conditions too. If you think you have the flu, you need to get seen.

Chest Tightness

Although not mentioned in symptom studies, every once in a while a new ex-user will mention chest tightness.

Whether arising from tension, stress, depression, or somehow related to coughing, lung healing, hidden lung disease, or now missing bronchodilator cigarette additives, chest tightness warrants concern and attention.

Why? Because chest tightness may be a sign of an underlying life-threatening condition such as asthma, pneumonia, a pulmonary embolism, pleurisy, a heart defect, heart failure, or a heart attack.

It's very possible that what you're feeling was actually caused by years of inhaling tissue-damaging toxins, that stopping and healing are at last allowing you to feel what was already there. But not always.

The smart move? Listen to your body. If experiencing chest tightness, pick up the phone, call your doctor, get examined, and hopefully learn why.

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Constipation

A 2003 study found that one in six new ex-smokers developed constipation and that constipation became severe ("very or extremely constipated")for one in eleven. It found that constipation levels peaked at about two weeks.[1]

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.

According to the study, "Magnesium salts [epsom 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."[2]

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."[3]

Aside from more fiber, less fat, 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 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 get relief should constipation concerns arise.

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Fatigue

Physical Fatigue Not a Symptom

Is fatigue about feelings or abilities? Is it about feeling emotionally exhausted or about the performance of nerve driven muscles? Taber's Medical Dictionary provides two definitions of fatigue:[1]

1. An overwhelming sustained feeling of exhaustion and diminished capacity for physical and mental work.

2. The condition of an organ or tissue in which its response to stimulation is reduced or lost as a result of overactivity.

The majority of studies conclude that muscle fatigue is not a normal withdrawal symptom.[2] In fact, exercise-induced fatigue has been found to be a symptom of smoking.[3]

The body is shedding the effects of years of dependence upon an insecticide which, for smokers, was transported within a carbon monoxide cloud that robbed blood cells of their ability to transport oxygen. For us, exhaustion after trying to run or climbing stairs was normal.

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.

Cessation muscle weakness is not normal. If it occurs and persists get seen and find out why.

Cessation Fatigue

A series of recent papers have focused upon what they term "cessation fatigue." They define cessation fatigue as tiredness of trying to quit, a loss of motivation to continue, a loss of hope, as the exhaustion of self-control resources that increases the likelihood of relapse.[4,5]

In that, they assert that gradual loss of motivation is a "reaction to withdrawal but not a withdrawal symptom,"[4] does it even belong in this chapter?

How did researchers diagnose cessation fatigue? By multiple times daily during the first two weeks having new ex-smokers rate, on a 1 to 10 scale, their response to the statement "I am tired of quitting smoking."

Some hours of withdrawal obviously more challenging than others, and recovery clearly lasting longer than any recovering addict wants, who wouldn't wish it over and done?
A longer eight-week 2018 cessation fatigue study found and framed the obvious in negative terms, that emotional exhaustion can predict relapse, that it's greatest during the first two weeks, before peaking and plateauing at about 6 weeks.[6]

Unfortunately, the study provides little additional useful information, as it failed to share actual raw data as to how many experienced tiredness at each study assessment point, and their tiredness ratings.

What's most needed is the study of those who reported feeling exhausted yet found ways to succeed. How did they keep their resolve strong long enough to transport them to Easy Street?

I submit that even if super tired of quitting, that it's impossible to fail so long as all nicotine remains on the outside. Imagine a sickness that answers exhaustion by inhaling a super addictive chemical and the army of toxins arriving with it.

What we know to be true is that the common thread between every ex-user who has ever failed is that they used.

Baby steps, just here and now, these next few minutes, reach for and breathe life into the reasons that motivated you to begin this amazing journey home. Reach for your dreams.

Just here and now, that next challenge if any, yes you can!

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Possible Medication Adjustments

As noted, tobacco, both oral and smoked, contains thousands of chemicals, some of which may have interacted with medications being taken. "Often when people stop smoking they may find that medications that were adjusted for them while smoking may be altered in effectiveness," writes Joel.[1]

"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 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 ma'am, your question?" "I don't have a question, Mr. Polito, 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.

The key to diagnosis and treatment of any medical condition is effective communication between patient and physician. Be sure to accurately describe any symptoms, when they were first felt, how often they occur, how long they last, what aggravates them, and any medications you've taken.

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

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Possible Underlying Hidden Conditions

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

Smokeless tobacco introduces more than 2,550 chemicals into the body.[1] A burning cigarette gives off more than 4,000. A mini-pharmacy, these chemicals are capable of hiding a host of medical conditions, including some caused by tobacco use. One that some quickly notice is difficulty breathing.

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

Rarely a day passes in overseeing our Internet sites (WhyQuit, Joel's Library, Turkeyville, or our YouTube videos) without the arrival of an email or message inviting us to play Internet doctor.

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 first thoughts are outrage and sadness. This could be a smoking-induced breathing disorder that until now tobacco industry cigarette engineering had kept hidden.

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).[2]

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.[3]

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 milligram of theobromine.[4]

The tobacco industry knows that cigarette smoking constricts lung bronchial tubes,[5] 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.[6]

Philip Morris argues that it is "unlikely" theobromine in cocoa added to cigarettes can produce "a clinically effective dose."[7] 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.[8]

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.[9]

Other possible once hidden health conditions include thyroid problems masked by iodine in tobacco,[10] chronic depression masked by nicotine,[11] and ulcerative colitis, also somehow suppressed, hidden or controlled by nicotine.[12]
Remember, nicotine is not medicine. It is a natural poison.

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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. 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 being free means. And the massive dependency lie we each lived is now vastly 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 to use 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. At the same time, the vast majority of daily subconscious use cues have been extinguished, and our emotional readjustment is also well underway.

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 grow fewer,

generally less intense, and shorter in duration (see Chapter 13, the comments of 72 ex-users).

Although nicotine assaults have ended and normal brain 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 make sure that nicotine never again travels those paths. There's only one way to guarantee that our mind's priorities circuitry never again places nicotine's importance on a par with food.

No nicotine today!

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2.

Freedom from Nicotine – The Journey Home

Originally released on January 1, 2009, the 4th revision was completed October 15, 2020. Individual book topics are shared below and a full 10.8MB 415 page PDF is available at **WhyQuit.com/FFN.pdf**.

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