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PROGRAM FOR GOOD SLEEP

BBTi Manual for Patients

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What is Insomnia?

The word *insomnia* means "inability to sleep" and generally refers to difficulty getting to sleep, staying asleep or getting back to sleep. Insomnia usually results in feeling unrested in the morning and tired during the day. Insomnia may be short or long lasting. When insomnia has existed for longer than 3 months, it is considered "chronic".

Insomnia is a symptom, not a diagnosis. There are many causes of insomnia. Thus, it is important to have a reasonable working diagnosis of what kind of insomnia you have before effective treatment can be initiated.

Insomnia can be caused by pain, hot flashes and other underlying medical conditions such as asthma, allergies, bowel problems, urinary problems, and heart failure. Various medications can disturb sleep such as non-sedating antidepressants (eg: Wellbutrin, Prozac), stimulants (eg: Ritalin, Dexedrine), prednisone, and beta-blockers (eg: metoprolol). Most psychiatric conditions including anxiety, depression, PTSD and OCD are associated with sleep disturbances.

Sometimes symptoms of "insomnia" consisting of frequent awakenings and non-restorative sleep are the presenting symptom of another underlying sleep disorder such as *Obstructive Sleep Apnea* or *Periodic Limb Movement Disorder*. A sleep study or *polysomnogram* (PSG) is required to evaluate your sleep and determine if there is an underlying sleep disorder.

Circadian rhythm disorders usually present with insomnia. People with *Delayed Sleep Phase Syndrome* have a delayed biological clock. They may be considered a "night owls" and like to stay up late and sleep-in late. When they try to go to sleep at an earlier and more conventional time, they may have trouble falling asleep. "Larks" or people with *Advanced Sleep Phase Syndrome* may feel like they are waking up too early and unable to return to sleep.

Patients with *Restless Legs Syndrome* have great difficulty falling asleep because they cannot get their legs comfortable or keep them still. They are constantly moving around in bed and often have to get up and walk around before they can return to bed and fall asleep.

Some patients are excessively sleepy during the day because of an underlying sleep disorder. Consequently they are often falling asleep during the day. Napping during the day can sometimes make it harder to fall asleep at night and lead to symptoms of insomnia.

Types of Insomnia

Insomnia lasting less than 3 months is called *Short-term Insomnia Disorder*. Other names for this are *Acute Insomnia* or *Adjustment Insomnia*. Insomnia lasting longer than 3 months is called

Chronic Insomnia Disorder. This includes insomnias such as *Psychophysiological Insomnia* (PPI), *Inadequate Sleep Hygiene*, *Paradoxical Insomnia* (Sleep State Misperception), and *Idiopathic Insomnia.*

PPI is one of the more common forms of Chronic Insomnia Disorder and often contains many elements of Inadequate Sleep Hygiene. Paradoxical Insomnia is where you feel you are sleeping much less than objective measurement shows. This is likely due to you being aware of being awake a lot during the night and not being aware of the time in which you are asleep. Coupled with feeling tired the next day, you may significantly underestimate the amount of sleep you are getting. Patients with Paradoxical Insomnia usually have PPI or Idiopathic Insomnia. Idiopathic Insomnia usually refers to people who have had insomnia their whole life. Insomnia may be congenital in these people and therefore is less likely caused by the issues that contribute to PPI. However, even if it is congenital, it can be aggravated by poor sleep habits and hygiene. Therefore it is still worthwhile for these people to follow the Program for Good Sleep to see what benefit they can achieve. In summary it helps to look at Chronic Insomnia Disorder as if it is PPI for the purposes of this program.

Psychophysiological Insomnia

As the name suggests, Psychophysiological Insomnia consists of psychological and physiological factors that interfere with the ability to sleep. The physiological factors are sometimes obvious like pain, restless legs or hot flashes. Sometimes they are not so obvious like an underlying sleep disorder such as *Obstructive Sleep Apnea* or *Periodic Limb Movement Disorder*. If an underlying sleep disorder is suspected then a referral for a sleep disorder consultation and *polysomnogram* is required to objectively evaluate your sleep. In addition to these physiological factors, if you are tired and have to push yourself to get through the day, you may have an "adrenalin hangover" at the end of the day due to hyperarousal of the sympathetic nervous system. This can make it harder to fall asleep. Even when you fall asleep your body may still be physiologically in "fight or flight" mode which may cause lighter and more fragmented sleep.

If you are currently dealing with significant amounts of anxiety, depression or severe stress, then these issues need to be addressed in order to be successful at resolving your Insomnia. However, the primary psychological component of PPI has to do with conditioning. When you go through a period of time in your life during which your sleep is significantly disturbed, if this goes on long enough (and sometimes it does not take long at all) you may become conditioned to sleep that way. This may continue even after the original factors that caused the insomnia have resolved or significantly improved. We can call this "conditioned insomnia". You have may developed a habit of thinking, worrying, planning, problem solving, or just spending long periods of time in bed awake. Watching the clock and feeling anxious or frustrated about your inability to sleep can also make sleep worse. Ultimately, you may become conditioned to associate the bed with mental activity, alertness and frustration rather than relaxation and sleep.

The classic example of this kind of insomnia is in the new mother who immediately learns to sleep with "one ear open" to listen for the needs of her precious new-born baby. She may become so

vigilant during the night that she not only hears the baby when it cries, she is aware of everything else going on such as her bed partner's heavy breathing, the house creaking, or the dog walking down the hall. Unfortunately, long after the baby is old enough to leave home, the mother is often still sleeping this way. She has become conditioned to be a light and vigilant sleeper. The good news is that once we understand what we are dealing with, we know how to change conditioning.

The Sleep Questionnaire

The *Sleep Questionnaire* is used to help your physician determine what kind of insomnia you may have and screen you for other possible underlying sleep disorders that may be contributing to reduced sleep quality. If you are initiating this program on your own, you are invited to complete the *Online Sleep Disorder Questionnaire*. The online questionnaire will generate a report for you with links to more information on the conditions that may be affecting your sleep. This may also be shared with your physician.

Diagnosis of Psychophysiological Insomnia

The diagnosis of PPI is based on a history of difficulty initiating, maintaining and/or returning to sleep often associated with a habit of thinking worrying, planning or problem solving in bed. Daytime symptoms include increased fatigue and sleepiness with reduced motivation, productivity, concentration and memory. It is often triggered by an event such as childbirth, painful illness or injury, or a stressful event. It can coexist with other medical, psychiatric or sleep disorders that may also be affecting your sleep and treatment for these conditions may need to be optimized. If there is significant pain, anxiety, depression, restless legs, etc., then these conditions need to be controlled satisfactorily before you should expect complete success at managing your insomnia. Even after all of these other issues have been controlled or resolved, your insomnia may persist because you have been conditioned to become a poor sleeper. This form of conditioned insomnia usually responds to the Program for Good Sleep. The Program is designed to help you re-condition good sleep.

If the insomnia symptoms began after an obvious simple trigger like childbirth, then a Polysomnogram may not be necessary. However, if there is a history compatible with a possible underlying sleep disorder such as snoring or pauses in breathing (possible *Obstructive Sleep Apnea*), repetitive twitching or movement (possible *Periodic Limb Movement Disorder*), or a *Parasomnia* like talking or walking in your sleep, then a Polysomnogram is required to rule out other conditions contributing to poor sleep.

Although people with insomnia are tired from lack of sleep, they are not usually very sleepy. If you are significantly sleepy during the day, then this raises the possibility of another underlying sleep disorder and a Polysomnogram should be performed. It would still be worthwhile to follow the non-pharmacological measures to improve your sleep while you await the results of further investigation. However, sleep restriction should be avoided.

Management

To successfully manage Psychophysiological Insomnia you need to manage the underlying psychological and physiological factors contributing to poor sleep.

The psychological factors are primarily related to conditioning. Many of the recommendations in this Program are focused on the conditioning of good sleep. For example, maintaining a regular sleep schedule, using a relaxation technique to fall asleep and return to sleep, setting an alarm, getting out of bed if unable to sleep, are all recommendations that help condition good sleep. Some of these recommendations may also be considered good *Sleep Hygiene*. Many people with insomnia are already familiar with sleep hygiene and you may believe that you have already tried the recommendations in this Program. What is important for you to understand is that this Program goes beyond sleep hygiene. What we are doing is "sleep conditioning".

In addition to addressing insomnia conditioning, if there are other psychological issues, these need to be addressed as well. It takes energy to cope with day to day issues big or small. Fatigue makes it harder to cope. "Molehills turn into mountains" more easily due to difficulty coping. A person with fatigue can become overwhelmed more easily even with minor problems which then can lead to feelings of anxiety and depression. Insomnia can aggravate existing depression and anxiety by causing fatigue. Learning strategies to manage your insomnia can help you feel more empowered and hopeful for improvement in how you feel. If you are suffering severely and feeling desperate, there is a place for the short term use of a sleeping pill to help you cope with day to day issues. At the same time you will be following the sleep program to train yourself to become a good sleeper. Once you are sleeping well and feeling rested, you may no longer need the sleeping pill. Then you can follow the *Sleeping Pill Withdrawal Protocol* to wean off of it. Sometimes anxiety and depression are major contributing factors to your insomnia and must also be treated at the same time using cognitive behavioral therapy (CBT) or anti-depressant medication.

Managing the physiological (physical) factors that contribute to PPI is also important in order to be successful at achieving restorative sleep. If nighttime pain is significantly interfering with the ability to sleep, then it needs to managed. If a Polysomnogram shows a significant underlying sleep disorder contributing to poor sleep, then this condition needs to be treated. Good sleep hygiene also needs to be followed such as winding down before bed to allow the adrenalin to wear off, avoiding TV and computer the last hour to remove the stimulating effect on the brain, avoiding caffeine after 4 pm and preferably after 12 noon, and avoiding alcohol within 2 hours of bedtime. It is also important to have a comfortable bed and a cool, dark, quiet environment to sleep in.

The Program

The program is based on the principles of conditioning. It is important to note that conditioning requires consistency. This is true whether you are training a dog, a child or yourself. Your success at training to become a good sleeper will require consistent effort. The program takes a few

months to work your way through. However, most people notice significant improvement in the first month. The first 2 weeks are usually the most difficult because of the "hoops you must jump through" to change your conditioning. However, if you invest in the process, it usually pays off.

There are 2 main strategies used in this program:

- Conditioning
- Sleep restriction

There are 3 phases to the program:

- Consolidate sleep through sleep restriction and the 4 habits outlined below.
- Lengthen sleep until you are getting enough to feel rested.
- Wean off any sleep medication that you may be on.

It is important to note that getting off your sleep medication is the last step, not the first step. Otherwise, you will go into withdrawal, make your sleep worse and prevent yourself from experiencing and re-conditioning better sleep.

There are 4 essential habits to learn in this program:

- winding down to allow the "adrenalin" to wear off before going to bed
- setting an alarm so the you know what time to get up without looking at the clock
- using relaxation as a technique to fall asleep and to return to sleep
- getting out of bed if unable to sleep so that the bed is associated with sleep and not with being awake or frustrated.

In addition to these 4 habits, in order to optimize the results of the Program, you should follow good *Sleep Hygiene*.

Conditioning

The main strategy of this program is to practice behaviours that help "condition" you to associate the bed with good sleep. To achieve this, you also need to extinguish behaviors that are associated with poor sleep. Thus, it is important that you not do anything else in bed but sleep or sexual activity. You should not be reading, thinking, worrying, planning, problem solving or even lying awake in bed for long periods of time because these behaviours will just reinforce the bed as a place to do those things. You should go to bed primarily to sleep and nothing else. Obviously, that is easier said than done and there are a number of things that can help you be successful at this.

Many people have a habit of reading or watching TV in bed to help them fall asleep. Although you may think that these behaviours are helping your sleep, you are also interfering with optimal sleep. Just like aiming 45 degrees to the side of the golf green may help to correct for the consequences of a bad slice, this may not be the most effective way of playing golf. If you are reading this document, then whatever you are doing now is probably not working well enough. Clearly you need to do something significantly different if you expect a significant positive change in your sleep. Reading and watching TV may help you relax and distract your mind from thoughts

that keep you awake. However, reading is a wakeful activity that reinforces the bed as a place to be awake. The more time spent reading in bed at night, the more you are reinforcing the bed as place to be awake. TV's, computers, tablets, and cell phones are all bright flashing lights that suppress melatonin, delay sleep onset and stimulate the brain. Even if you fall asleep, you may not sleep as well as if you follow the strategies outlined below. The Program will discuss more effective strategies to help you distract your mind and fall asleep.

Sleep Restriction

One of the most powerful and natural ways to immediately improve your ability to sleep is with "sleep restriction". If, for example, you typically go to bed at 9 pm, take 2 hours to fall asleep, wake up 4 times and take 15 minutes to return to sleep each time (total of one hour awake during the night), wake up finally at 6 am but do not get out of bed until 7 am, you would have spent 10 hours in bed but only have slept 6 hours. That means there are 4 hours per night that you would be in bed awake, reinforcing the bed as a place to be awake and reinforcing the habit of insomnia. Essentially, you would be "practicing insomnia" 4 hours a night and that could be why you are so good at it.

Right away we can decrease the likelihood of you being in bed awake by reducing your time in bed to the number of hours we think you can sleep. In this example you appeared to have the ability to sleep about 6 hours. Therefore, there is not much point in you being in bed much longer than 6 hours otherwise you are "diluting" your sleep. The more time you spend in bed awake, the more you are reinforcing the bed as a place to be awake. In this example you would restrict your time in bed to 6.5 hours. This would give you the opportunity to improve your sleep by 30 minutes and reduce the amount of time spent in bed awake by 3.5 hours. The best way to do this for most people is to go to bed later so that you are more biologically sleepy when you try to sleep.

What time would you like to get up in the morning if you could have a good sleep? In this example, it might be 6 am. You would get up in the morning at 6 am, and go to bed 6.5 hours before that time which would be 11:30 pm. In this example, if you go to bed at 9 pm, you are setting yourself up for "failure". When you start going to bed at 11:30 pm, you are much more biologically sleepy based on the 24 hour sleepiness biorhythm in your body. This extra sleepiness essentially "bulldozes" you into sleep and "bulldozes" you through the night, naturally filling in the "holes" and "gaps" in your sleep.

Going to bed later seems counterintuitive when your goal is try and get more sleep. Think of this as an "investment" in becoming a good sleeper. The application of "sleep restriction" is a very powerful strategy. If you can do it, it usually works. What we are doing is "stacking the deck" physiological speaking, in favor of you not being able to stay awake during the night, long enough to experience "success" at sleeping well. After a few weeks of sleeping well you start to feel more confident in your ability to sleep. After a few weeks of confidence in your ability to sleep, you start to think of yourself as a good sleeper again. At this point, you have changed your conditioning to that of a good sleeper. Once you are a good sleeper, you should be able to

gradually advance your bedtime routine 30 minutes at a time until you are getting enough sleep to feel rested.

If you are unable to fall asleep or to return to sleep during the night, it is important that you do not stay in bed awake for long periods of time because this is reinforcing the bed as a place for being awake. When this happens, you are essentially "practicing insomnia". If you cannot fall asleep within an estimated 20 minutes (estimated because you should not look at the clock), you need to get out of bed, go into another room and do something relaxing until you start to feel sleepy, or 30 minutes goes by, whatever happens first. Then you go back to bed and repeat your relaxation technique to fall asleep. No one likes getting out of bed when they are tired. However, if you do not consistently get out of bed when unable to sleep, you will continue to be tired because your insomnia will not get better. If you get out of bed consistently when you cannot sleep, then you will learn to associate the bed with sleeping and more quickly train yourself to become a good sleeper.

The 4 Essential Habits for Conditioning Good Sleep

1. **Winding Down**

When you are tired in the morning after a poor night's sleep, it may feel stressful to push yourself to get out of bed and start your day. This causes the release of "fight or flight" hormones like adrenalin and cortisol. Pushing yourself to keep going throughout your day causes more and more of these stress hormones to be released. At the end of the day you may have an "adrenalin hangover" that makes it hard to fall asleep. Even if you fall asleep, your body may still be in "fight or flight" mode which could affect the quality of your sleep.

The first habit of this program is to take some time to wind down before bed to allow the "adrenalin" to wear off. You should take at least one hour to wind down doing something you find relaxing and enjoyable. Examples of relaxing activities include reading, listening to pleasant music or doing some kind of craft or hobby that is not frustrating. You should not be trying to "accomplish" anything. You should not be paying bills, answering emails, folding laundry or making lunches. You should not be watching a TV, computer, video game or your cell phone during this time as these are bright, flashing lights. The brightness suppresses your natural melatonin which can delay sleep onset. The flashing stimulates the brain to some degree. Even though you may fall asleep watching your screens and electronic devices, your nervous system may not be as relaxed and your sleep quality may not be as good. It is not enough to use blue light filters on your screen. Changing the colour of the light may reduce the impact on the biological clock but it does not stop it. In addition, the flashing will still tend to stimulate the brain and reduce sleep quality.

As mentioned before, a lot of people go to bed and think, worry, plan or problem solve in bed. To stop this is easier said than done. However, there are a couple of useful strategies to help you address this. If you find yourself with a lot of things you need to think about most nights in bed, then you need an opportunity to think about these things before bed. You should set aside

some “worry time” earlier in the evening before you wind down. This is when you will sit at a desk or a table (not the place you want to associate with winding down) and think about all the things that need thinking about, worry about things that need worrying, plan the things that need planning, problem solve the things that need problem solving and “take care of business.” Then you may want to write something down, make a list, put a note on a calendar, or journal to get something “out of your head”. You need to do whatever it takes so you can give yourself permission to “forget about it” for the rest of the night. Then, you take the next hour to wind down to allow the “adrenalin” to wear off, and to help “insulate your sleep” from what is going on in your life.

Another very important strategy for helping you turn your mind off is through the use of relaxation techniques and is discussed below in section 3.

2. Set an Alarm

It is critical to set an alarm every night (even on days off) for the time you want to wake up in the morning. This is important even if you are retired or typically wake up without an alarm.

Most people think of the alarm as something to wake you up. However, the main reason for using the alarm is to help you sleep. Setting the alarm takes away the responsibility of deciding when to get up in the morning

If you do not use an alarm or get up before the alarm, then every time you wake up during the night you have to decide whether to get up or try to return to sleep. In the process of making that decision (however subconscious this may be), you have to gather data. Typically you will open your eyes to see how much light is sneaking around the blinds or you will look at the clock to see the time. Then you have to process data. You may calculate how much time you have left to sleep. The closer it is to morning, the harder it is to return to sleep. Then you make decisions. “Should I get up?” “Should I go to the bathroom?” “Should I try to return to sleep?” All this thinking can ruin your sleep. You should get over your curiosity about time. You should recognise that you are not going to do anything differently based on knowing what time it is other than ruin your sleep.

The concept of using the alarm to help you sleep rather than to wake you up may seem a little counter-intuitive The bottom line is that if you want to resolve your insomnia, an alarm is critical to your success for three reasons.

The first reason is that it will help to reduce the number of awakenings you have during the night to see if it is time to get up, especially in the last hour or two of the night.

The second reason is that the alarm facilitates the protocol for returning to sleep during the night. When you wake up in the night, your body is still tired and wants to sleep. Typically it is your mind that is active and keeping you awake. If you repeat your relaxation technique and turn your mind off, it will help you return to sleep. It is important for you to train yourself so that as soon

as you become aware that you are conscious during the night, (assuming it is not the alarm waking you up) your job is to repeat the relaxation technique before any other thoughts gain a foot-hold in your mind and return to sleep. The goal is to practice this strategy consistently until it becomes an automatic reflex (like self defense). It should be noted that you usually need to be awake for at least 2 – 3 minutes to process the memory of being awake. The goal is to eventually train yourself to return to sleep so quickly, you may not even be awake long enough to process the memory of being awake.

The third reason for using the alarm is that it is the most effective way to train yourself to sleep longer. Once you are programmed to wake up after a certain number of hours of sleep, chances are that if you try to go to sleep earlier you will probably just wake up earlier. Similarly, if you try to sleep later in the morning you cannot. Thus, it can be very difficult to get more sleep. However, if you are trained to sleep until the alarm goes off, that anchors your sleep to the alarm. Then, when you start to go to sleep earlier and sleep until the alarm, you can actually get more sleep. Similarly, if you set your alarm later, you can sleep later.

When choosing an alarm, it should be something gentle like a clock radio. Not an obnoxious electric buzzer that will startle you awake and train you to dread the alarm going off. You should set the alarm, turn the clock away, and allow yourself to be off duty until the alarm goes off in the morning.

Using an alarm is like putting a cast on a broken leg. It helps to create the framework for healing. Once it is healed, you remove the cast. Once you are a good sleeper, getting as much sleep as you need to feel rested, and you are off all your sleep medications, then you can stop using the alarm if you want.

3. Relaxation to fall asleep and to return to sleep

One of the primary issues that most people with insomnia have is the inability to control their thoughts when they are trying to fall asleep. The use of use a “relaxation technique” to help you “turn your mind off” is the primary strategy for controlling this. Relaxation is like “self defense” for insomnia. It is important whether you are having trouble falling asleep initially or returning to sleep during the night.

There are 4 reasons why relaxation is a critical technique for those who want to resolve insomnia. To begin with, relaxation helps you turn your mind off so you can fall asleep quicker. Second, if you go to sleep with “stuff” on your mind, “stuff” will “fuel” your dream content and disturb your sleep. Stressful thoughts are more likely to result in stressful dreams. Anxious thoughts are more likely to result in anxious dreams even though the content may be completely different than what you were thinking about as you fell asleep. However, if you go to sleep with pleasant, relaxing thoughts, you are more likely to have pleasant, relaxing dreams and sleep deeper. Third, when you practice relaxation every night when you go to bed, you will get good at it. Fourth, if every night you fall asleep doing a relaxation technique, you will learn to associate relaxation with falling asleep. When you wake up in the night, your body is still tired and wants to sleep.

Typically it is your mind that is active and keeping you awake. If you repeat the relaxation technique and turn your mind off, it will help you get back to sleep, especially if you have become conditioned to associate relaxation with falling asleep.

Ironically, if you make the mistake of only practicing relaxation when you have trouble falling asleep, you run the risk of learning to associate relaxation with trouble falling asleep! Therefore, it is very important that you do relaxation every night, even if you normally do not have trouble falling asleep at the beginning of the night. This is so that you can learn to associate relaxation with falling asleep. It is all about conditioning.

The easiest way to learn a relaxation technique is to use a relaxation app on your smart phone or tablet. This is something that you listen to with your eyes closed and with permission to fall asleep while you are doing it. It is not a video that you watch. You are not looking at your phone. You can go to your App Store and search on "relaxation technique". You want something with a "voice" on it that will guide you step by step through a relaxation exercise and teach you how to relax. It is not enough just to listen to pleasant music, pod casts or nature sounds because these will not teach you how to relax. After 1 – 2 weeks you should be able to memorize the principles of the technique and learn how to do it on your own in your own way. You can emphasize the parts you like, leave out the parts you don't, and mix a match different techniques to create your own. Initially you will have to guide yourself through your own relaxation technique. Eventually you can just "relax" without having to think about how to do it. It is important that you understand that relaxation is a critical skill that you need to learn to do on your own without the app. Relaxation is not optional if you want to become a good sleeper.

It is also worth acknowledging that relaxation often does not come that naturally to people with insomnia. This may be one of the reasons why they are more prone to insomnia. For example, some people are athletic and they can pick up a golf club or a tennis racket and learn to play the sport fairly easily. Others will take longer and may never be as good as those that are athletic. If you are not athletic, it does not mean you cannot learn to play well enough to enjoy the sport. You may just not be as good as others. It is similar for relaxation. Anyone can learn how to relax but some will find it easier than others. Some people have great difficulty with relaxation. Those people may need to see a psychologist for custom relaxation training.

Herbert Benson was a Harvard physician who in 1975 coined the term "The Relaxation Response". Essentially, this is the physiological response that occurs in your body when you remember what it feels like to relax. The whole purpose of a relaxation or mediation technique is to essentially guide the body to experience and remember this feeling.

For those that believe they cannot do a relaxation technique, it can be illustrative to recall a very frustrating or aggravating experience that you may have had in the past. Did you notice that just by thinking about it again that you start to feel tense, aggravated or upset? Just about anyone can recall an aggravating experience from the past and re-experience it in the present. Similarly, if you were to recall a relaxing experience, you could re-experience that. It is just something that you have to practice to get good at.

Some patients may have misconceptions about what relaxation is and may be resistant to doing it. It is important that you understand it is just a way to control your thoughts and relax the muscles of your body. It is a skill you can learn like hitting a golf ball or driving a car. This skill does not put you to sleep. Relaxation is a technique that you use to keep your mind "out of the way" while you are waiting for sleep to happen naturally.

4. Getting out of bed if unable to sleep

It is important that you not stay awake in bed for prolonged periods of time reinforcing the bed as a place to be awake and practicing insomnia. If you are unable to fall asleep at the beginning of the night or unable to return to sleep during the night within an estimated 20 minutes, you need to get out of bed. Go into another room and do something relaxing (like reading) until you feel sleepy or 30 minutes has gone by, whichever comes first. Then you return to bed and repeat the relaxation technique to fall asleep. This process is repeated as required until the alarm goes off.

BBTi Program Summary

Once you have practiced all of the habits listed above until you can do them reflexively and without effort, you have likely trained yourself to become a good sleeper. The program can be summarized as the following:

- Take an hour to wind down before bed (no technology).
- Set an alarm
- Do a relaxation technique until you fall asleep.
- If unable to fall sleep in an estimated 20 minutes, get up until you feel sleepy (no technology) or 30 minutes have gone by (estimated) and then return to bed and repeat the relaxation technique.
- When you awake in the night, repeat the relaxation technique.
- If unable to return to sleep in an estimated 20 minutes, get up until you feel sleepy (no technology) or 30 minutes have gone by, and then return to bed and repeat the relaxation technique.
- Repeat until the alarm goes off.
- Follow good Sleep Hygiene

Once the habits are learned, the program is simple and requires no thinking. Although it is simple, it is not always easy. It is kind of like golf. All you have to do is hit that little ball into that little cup with that big stick 18 times. It seems simple enough but difficult to do well. It takes time, practice and coaching to get good at it. Some will find it easier than others. However, with consistent and diligent practice you can learn to play golf. It is similar for your insomnia. With consistent and diligent practice every night, you can learn to be a good sleeper.

The 3 phases of becoming a good sleeper

1. **Consolidating Sleep**

The goal is to reduce the amount of time you spend in bed awake so that you are not reinforcing the bed as a place to be awake and "practicing insomnia". This is called *Sleep Restriction.* Your physician will use your completed *Sleep Questionnaire* to determine your average total hours of sleep per night including light sleep and naps. You will not be napping during the sleep program. Your physician will recommend restricting your time in bed to the number of hours you can sleep plus an extra 30 minutes. It is important that you do not underestimate your sleep so that your sleep is not restricted to an unnecessary degree. It is important not to guess how much sleep you get based on how tired you feel in the morning. Your physician will do the math based on the average time you go to bed, how long it takes to fall asleep, how often you wake in the night, how long it takes to return to sleep, and what time you wake up finally in the morning. Your physician will rarely restrict you to less than 6 hours in bed and never less than 5 hours.

If you usually have trouble falling asleep or returning to sleep, your physician will suggest you go to bed later and set your alarm for the time you usually want to wake up in the morning. Once you are sleeping well for at least a week to establish the conditioning of good sleep, then you will gradually advance your bedtime routine 30 minutes at a time until you are getting enough sleep to feel rested.

If you usually do not have trouble falling asleep or returning to sleep during the night but your final awakening is too early in the morning, then your physician may have you set your alarm for the time you usually wake up to force you to start waking up with the alarm. Once you are programmed to sleep until your alarm goes off, then you will gradually delay your alarm 30 minutes at a time until you are getting enough sleep to feel rested.

2. **Lengthening Sleep**

Once your sleep is consolidated and you are sleeping well, the second phase is to lengthen your sleep until you are getting enough to feel rested. To be considered to be "sleeping well", three conditions have to be met:

1. You are falling asleep within 20 minutes (estimated because you are not looking at the time).
2. When you wake up during the night you return to sleep in 5 - 10 minutes using your relaxation technique
3. You are waking in morning with the alarm, not before the alarm.

If you are waking up before the alarm it usually means that on some level you are still keeping track of time and waking up after your usual, insufficient number of hours of sleep. If you go to bed earlier at this point you are likely just to wake up earlier after the same number of hours of sleep. However, if you can train your brain to "wait" for the signal of the alarm to wake up, this

will anchor your sleep to the alarm. Then when you start to go to bed earlier, you will sleep to the alarm and actually get more sleep.

Although it may take a few weeks, once you can "sleep well" for at least a week to establish the conditioning of good sleep, then you can go to bed 30 minutes earlier. Once you are actually sleeping 30 minutes longer (not just lying in bed awake 30 minutes longer) for at least a week to establish the conditioning of sleeping longer, then you can go to bed another 30 minutes earlier and so on until you are getting enough sleep to feel rested.

In the less common scenario where you had to set your alarm earlier, once you are sleeping well, you may delay your alarm 30 minutes at a time until you are waking finally at the time you want to. Then, if you need more sleep to feel rested, you can start going to bed earlier.

3. **Weaning off sleeping pills.**

To be successful at weaning off hypnotic medication it is important that your sleep is consolidated and consistent. In addition, you need to be good at the 4 essential sleep habits. These habits will become more critical when you start to reduce your sleep medication. You also need to make sure you have lengthened your sleep until you are getting enough to feel rested. If you are still tired and pushing yourself to get through the day, the resulting "adrenalin hangover" at the end of the day will make it hard to sleep without the tranquilizing effect of the sleeping pill. However, once you are getting enough sleep to feel rested, you no longer have to push yourself to get through the day. Then, you no longer have an adrenalin hangover at the end of the day that you need to tranquilize with a sleeping pill in order to be able to fall asleep. At this point, it is fairly easy to get off the sleep medication and you are ready to follow the *Sleeping Pill Withdrawal Protocol.*

In the Sleeping Pill Withdrawal Protocol, you reduce the medication gradually by ½ pill at a time. Even reducing the pill by ½ may result in some withdrawal effects making it more difficult to fall and stay asleep. If you experiences poor sleep during this withdrawal process you could undermine your good sleep conditioning and end up with insomnia all over again. To prevent this from happening, you will also go to bed 2 hours later for the first 5 nights to increase your biological sleepiness. This extra sleepiness will counteract the reduced sleepiness from medication withdrawal so that you will continue to be a good sleeper and not upset your sleep conditioning. Because you will be feeling fully rested before you start this process, getting 2 hours less sleep should not be too difficult. You were probably much more sleep deprived and fatigued prior to starting the program.

After 5 nights of going to bed 2 hours later, as long as you are still sleeping fairly well, you will now start going to bed 30 minutes earlier every 1 – 2 nights until you are back to getting the full number of hours of sleep you need to feel rested. After a couple of weeks to recover from this period of sleep deprivation, you repeat the process, reducing by 1/2 pill each time until you are completely off of all your sleep medication.

Addressing other health problems that are affecting your sleep

When treating Psychophysiological Insomnia you also need to address any other psychological or physiological factors that are interfering with your ability to sleep.

Psychological factors may include underlying anxiety, depression or excessive stress. It may be helpful to see a psychologist or go on an antidepressant medication if anxiety or depression symptoms are significant issues. Stress management strategies from a councillor or a stress management program will be helpful if excessive stress is a significant problem.

A common physiological factor that can aggravate insomnia is pain. You need to sleep to heal and recover from day-to-day wear-and-tear. If pain is affecting your sleep, then it will prevent your body's ability to heal and reduce your pain. Night time pain control to help you sleep will promote healing and ultimately reduce your need for night time pain control. It is best to try not to use pain medication during the day in order to do things that pain tells you not to do. Otherwise, you will cause increase damage to your body, more night time pain, and interfere with your body's ability to heal your pain. Depending on the cause of your pain, using pain medication to function during the day is a slippery slope that will often result in you becoming dependant on pain medication because it may aggravate the underlying painful condition. If you can mange to avoid the things that aggravate your pain during the day, It may be possible to sleep better and heal more.

Restless legs are another physiological factor that can affect sleep. Caffeine, alcohol, some ove-the-counter sleep aids and most antidepressants and major tranquilizers will aggravate restless legs. More information about this can be found in the link for *Restless Legs Syndrome.*

Medications such as stimulants, certain asthma medication, certain beta blockers and prednisone will affect sleep. Many of the newer antidepressant medications are activating and may be best taken in the morning.

A number of medical conditions such as hot flashes, asthma, bowel disease, urinary problems or heart failure may also have night time symptoms that aggravate your sleep. Make sure you bring these symptoms to the attention of your physician.

In addition, your sleep may be aggravated by an underlying sleep disorder like *Obstructive Sleep Apnea* or *Periodic Limb Movement Disorder*. Your physician may suspect an underlying sleep disorder based on your *Sleep Questionnaire.* If you have not been given the sleep questionnaire by your physician, you are invited to complete the *On-line Sleep Disorders Questionnaire*. This will provide you with a report you can share with your physician as well as links to more information about the underlying sleep disorders you may have. If your physician suspects that you have an underlying sleep disorder, they will refer you for a consultation with a sleep disorders physician and a *polysomnogram* (sleep study) at your local sleep lab.

Follow-Up and Fine Tuning the Program

The program takes a few months to work your way through. Most people notice significant improvement in the first month. The first 2 weeks are often the most difficult because of some of the "hoops" you need to jump through to train yourself to become a good sleeper. It is helpful if you complete a *Sleep Log* every day and follow the *Program For Improved Sleep*.

The sleep log will help your physician determine how you are doing with the program. Once you are sleeping well for a week (and it may take a few weeks to achieve this) then you can start going to bed 30 minutes earlier or setting your alarm 30 minutes later. Once you are sleeping 30 minutes longer for at least a week (and it may take a few weeks to achieve this) then you can increase your sleep time another 30 minutes. You will repeat this until you are getting enough sleep to feel rested. Once you are getting enough sleep to feel rested, then you can follow the *Sleeping Pill Withdrawal Program* if you are on sleep medication and ready to stop.

Problem Solving Ongoing Sleep Issues

Difficulty Initiating Sleep – make sure you are taking enough time to wind down before bed (not in bed), avoiding screens, using relaxation to fall asleep, and going to bed late enough so that you are biological sleepy.

Difficulty Maintaining Sleep – make sure you are not looking at or thinking about the time during the night, and that you are using an alarm so you is not waking to see if it is "time to get up yet"; try to avoid thinking you need to go to the bathroom every time you wake up; avoid creating a habit of waking up to eat, drink, smoke or take medication to return to sleep.

Difficulty Returning to Sleep – use relaxation to return to sleep; train yourself so that your first thought when you wake in the night is to automatically repeat the relaxation technique to return to sleep before any other thoughts gain a foothold in your mind.

Waking before the alarm – make sure you are going to bed late enough or setting the alarm early enough; make sure you are using the alarm and not looking at the time or thinking about the time during the night; make sure you are using relaxation to return to sleep; Make sure you are treating this awakening the same as all the other awakenings with the same expectation of returning to sleep; make sure you are not prejudicing your expectation of returning to sleep by anticipating you will be getting up soon.

Re-evaluate all the co-morbidities with your physician that may be interfering with your sleep. Make sure you are following all the sleep hygiene habits including not napping during the day, taking an hour to wind down, not using screens during this time, setting an alarm, using relaxation to fall asleep (even if you are not having trouble falling asleep initially), using relaxation to return to sleep, getting up if unable to sleep and not using screens when you get up. You should not be getting up to eat, smoke or take sleep medication because that will reinforce the behavior of waking up in the night.

When to get a referral for CBTi

The first line of treatment for PPI is BBTi which is the behavioral part of CBTi. If you are having trouble making progress with the program, it may be because you are not following all the components consistently enough. You should work with your physician on fine turning the program. If insomnia persists despite you and your physician's best efforts at fine tuning the behavioural program for at least 8 weeks, there may be other psychological issues that need to be addressed. A referral to a psychologist trained in CBTi could be helpful to evaluate your insomnia in more detail. In particular the psychologist will look for underlying *dysfunctional beliefs* and self-defeating attitudes about your sleep. These beliefs and attitudes may contribute to a degree of anxiety that can aggravate your insomnia and undermine the process of conditioning good sleep.

The Place for Sleep Medication

There are 5 main indications for supplementing BBTi with sleep medication:

1. If you are having trouble coping and at your "wit's end" with fatigue, anxiety or depression, you may consider talking with your physician about starting on a sleep pill at the beginning of the program. If depression or anxiety appears to be the primary issue then initiating treatment with antidepressant medication may be appropriate. If symptoms of depression or anxiety seem to stem primarily from not having the energy to cope with day to day stressors, improving your sleep with a sleeping pill may provide a more immediate and practical effect for you.
2. Excessive daytime sleepiness (as opposed to fatigue) is not a typical symptom of insomnia and often suggests another underlying sleep disorder. A score of 12 or greater on the Epworth Sleepiness Scale should raise your suspicion. Double check the score to make sure you are actually sleepy and not confusing fatigue for sleepiness. It may take time to get an appointment for a referral to a sleep disorders physician and have a Polysomnogram performed to evaluate for this. In the meantime, if you are significantly sleep deprived from insomnia, a therapeutic trial of a sleeping pill could be useful. If you show an immediate improvement in your sleepiness, then clearly insufficient sleep was a significant contributing factor to your sleepiness. It would still be worth keeping the appointment with the sleep specialist while you continue to work on BBTi with the goal to train yourself to become a good sleeper, get enough hours of sleep to feel rested, and eventually wean off your sleeping pill.
3. If you are going to have a Polysomnogram or Home Sleep Apnea Test (HSAT), you are more likely to have trouble sleeping with the equipment on if you have insomnia. If you do not sleep, the results will not be very useful. A sleeping pill that does not supress respiration and confound the evaluation for sleep apnea, such as zopiclone, may be appropriate. Some people will worry that taking a sleeping pill will result in not evaluating your "usual sleep". You can be reassured that you are not having a sleep study to find out about your insomnia. Your physician already knows you have insomnia because you are awake when it is happening and you have already told them about it. However, you need to sleep to see if there is

anything else going on in your sleep. If you lie awake in the lab most of the night because of your insomnia then you will not learn anything new about your sleep.

4. If your are having a trial of CPAP at home, you may also be more likely to have trouble sleeping with the equipment on if you have insomnia to begin with. If you are having trouble sleeping with CPAP or thinking about giving up on CPAP due to your inability to sleep, then you should talk to your physician about a short term prescription for a sleeping pill.
5. If despite your best efforts, the BBTi program is not being effective by itself and you are clearly suffering from the effects of insufficient sleep, then a sleeping pill may be appropriate. A hypnotic is also worth considering if seeing a psychologist for CBTi has not been effective.

Hypnotic Medication

Medications used as hypnotics can be divided into 4 categories:

1. True sleeping pills such as zopiclone, zolpidem, lemborexant
2. Prescription medications with sedating properties such as trazadone, mirtazapine, amitriptyline
3. OTC medications with sedating side effects marketed as sleep aids such as dimenhydrinate, diphenhydramine
4. Other sedating substances such as melatonin, marijuana, 5-HTP

True sleeping pills are designed just for insomnia. They are quick acting, short acting and usually worn off by morning. Other than sedation, they usually have few side effects. These are unlikely to aggravate conditions like sleep apnea, restless legs or periodic limb movements in your sleep. Therefore, they are less likely to confound the results of a sleep study. Like any medication, they may lose their effectiveness over time. Physicians may be worried about the potential for abuse and addiction. However, this uncommon at the recommended dosages. The goal is to combine it with BBTi or CBTi so that you train yourself to become a good sleeper and eventually wean off this medication before it begins to lose it's effectiveness. Older sleeping pills in the benzodiazepine category like temazepam and lorazepam are not as short acting and higher dosages can have some affect on respiration and sleep apnea.

The problem with using medications for their sedating side effects is that these medications are not designed primarily for insomnia. They are usually long acting so there is significantly more daytime sedation. They may have more side effects such as dry mouth, constipation, sexual dysfunction and weight gain. They can aggravate other sleep disorders such as restless legs, periodic limb movements and sleep apnea. However, they can be used long term and there is less risk of abuse and addiction.

Over-The-Counter (OCT) sleep aids are antihistamines and anti-nausea medications that have sedating side effects. They are not designed for sleep. They can sometimes aggravate restless legs and periodic limb movements.

Melatonin is hormone naturally produced by your pineal gland that affects your biological clock. It is usually released into the blood stream about 2 hours before your body normally falls asleep.

It helps your body become physiologically ready for sleep. The natural amounts are much lower that the pharmacological dosages taken for sleep. However, the effect is usually mild. Because it is a hormone, it may have other effects besides those on the biological clock and sleep.

Substances like tryptophan and 5-HTP are precursors for serotonin and are mild enhancers of sleep. Marijuana and especially the derivative THC can help sleep. However, it can have other short and long term affects which may out way the benefits to your sleep.

Whenever you consider taking medication for sleep, you should discuss the pros and cons with your physician. In choosing a medication, it is recommended that you select one designed for the intended purpose. Antidepressants should be used when treating depression and anxiety. Anti-nausea medications for when you are treating nausea. Anti-allergy medications for when you are treating allergies. True sleeping pills should be considered when the primary disorder is insomnia. Using medications primarily for their side effects should be avoided.

If you have co-morbid anxiety or depression, then it makes sense to consider an antidepressant with a sedating side effect. If you just have insomnia, then it may be better to use a true hypnotic which is designed to have less daytime side effects. The goal is to train yourself to become a good sleeper and then wean off your sleep medication.