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HOW TO OVERCOME SNORING AND SLEEP APNEA

Breathe, Sleep and Live Easily

By Hoe Bing Lo - B BioMed Sci (Hons)

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All readers should always consult their own local qualified health professional about any questions, concerns and before taking any action in regard to their health or lifestyle because individual needs vary widely. Advances in medicines and other research occur daily and may change what is regarded as best practice.

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Foreword

by: **Hoe Bing Lo - B BioMed Sci (Hons)**

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Hello, my name is Hoe Bing Lo and I am a biomedical scientist. To be totally correct I am actually a neuroscientist. As such my interests lie within the realm of the human mind.

I was approached to write this book on apnea because of my background in biomedical science and the fact that I have just completed sleep apnea in my current medical studies.

The purpose of this book is to inform you and to help make you a health detective who has the capability to analyze your own situation and make changes that will impact your life, and so that you understand what your doctor or other medical professional tells you.

My goal is to be as factual as possible and to give you more information than you usually get from doctors. It is a fact that sleep apnea is considered by the medical profession as an incurable disease. Those who figure out the ‘cure’ are called lucky and, as such, are dismissed without further thought.

Due to my interest in the brain I found that a lot of mental problems are related to sleep fragmentation and the inability to get a restful night’s sleep. During the course of our discussion I will lead you through some of the breakthrough treatments that allow anyone to train their brain to become more effective and more directed.

You will hear more about this brain entrainment technology as we continue along. If you just cannot wait till the end then you may head over to www.the-adhd-specialist.com/brain-technology.html

All the information included in this ebook is, to the best of my knowledge, accurate at this moment. Always do your own due diligence in health matters.

Having said that, happy reading and best of all by the end of it all - happy sleeping!

No medical advice is offered here, just information to help you have much better sleep and an even better life. As with any medical condition, always consult a qualified person that you trust and know to be good in the area.

Welcome to better sleep and greater productivity.

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Part-I: Introduction

1. Snoring, Sleep and Sleep Apnea- An Overview

Snoring

Snoring in your sleep at night is a common and frequent occurrence for many people. Most people who snore do not have any serious medical condition. Snoring does not often wake the snorer up. Their snoring disturbs their bed partner’s sleep more.

Most snoring is benign but very severe snoring can predispose us to more serious sleeping disorders. The good news is that snorers can reduce their risk of these serious diseases when their snoring, and/or sleeping disorders are diagnosed and treated.

There are many treatments available for snoring, sleep apnea and other sleeping disorders.

Sleep

Sleep is an active, organized process essential for life. It supplies the physical and emotional renewal necessary for your survival. The body relaxes nerves and muscles during sleep. That revitalizes them to carry on the biological processes inside the body. The whole process resembles recharging a battery.

Our sleep pattern depends on our circadian rhythm, the body clock that keeps us on regular 24-hour cycles and determines the quantity and quality of our sleep. This rhythm requires us to sleep for certain period regularly. The amount of necessary sleep may be different in different individuals, but it needs to be

free of any disruption. Research shows that 8 hours of sleep a day is optimum for most people while some can sleep less because they condition their brain to achieve highly effective sleep.

Deprivation of sleep may lead to several physical and mental disorders. Sleep is a crucial part of our survival. Most people need uninterrupted sleep for at least 8 hours each day. Unchecked sleep disorders need quick medical attention and diagnosis as they could become fatal.

Sleep Apnea?

Apnea is from Greek; ‘Ap’ - “without” and ‘nea’ - “breath”. Sleep apnea means ‘cessation of breath’ and may occur twenty to sixty times within each hour.

If you are unable to breathe properly at night and wake up gasping for breath, you may have sleep apnea. It is diagnosed by monitoring your breathing as you sleep. The presence of the cessation of breathing for more than 10 seconds occurring more than a few times during sleep is indicative of sleep apnea.

Sleep apnea consists of apnoeic episode from 10 to 90 seconds where you stop breathing. You might have many episodes in each hour of your night.

Most people don’t know there’s a problem, so they don’t seek treatment!

Part-II: Understanding Snoring and Sleep Apnea

2. What Happens When You Snore?

Snoring is when a sleeping person emits loud, hoarse or harsh sounds during sleep.

Snoring *may* develop into Obstructive Sleep Apnea (OSA). People that snore have a higher than average chance of developing symptoms of major ailments like heart diseases and high blood pressure especially if they have the major risk factors; excessive body weight, smoking and high alcohol consumption.

There may be several reasons for snoring.

It mostly occurs when the airflow from your nose or mouth to the lungs become turbulent because of narrowing in your nose, mouth or throat which causes air in the tissues of the airway to vibrate.

Too much relaxation of your throat muscles may cause narrowing in the airway, disturbing the airflow and vibrating the soft palate and uvula. The soft palate and uvula can knock the back of the throat and produce sounds.

When you are awake, the throat muscles hold the tissues in the back of the mouth in place so snoring does not occur when you are awake. The state of wakefulness is also accompanied by restoration of the muscle tone which makes it almost impossible to snore while you are awake. (The exception is when someone tries to create the sound of snoring.)

Snoring can severely affect the quality of sleep. The louder the snoring, the worse your sleep quality.

You can do a few things to avoid snoring.

Weight plays a big role, just like in sleep apnea. Try to lose weight if you are overweight.

Avoid taking alcohol and other sedatives at bedtime.

Different people have different sleeping postures. Experiment a little and find one that is both comfortable and prevents you from snoring. You might find that a simple change in posture is all that is required.

3. Types of Sleep Apnea?

There are three types of Sleep Apnea:

Obstructive Sleep Apnea

This is the most common type of sleep apnea and occurs when your airway collapses during sleep and becomes blocked by your tonsils, tongue, uvula (the hanging tissue at the back of your throat), your throat muscles or some fatty tissue in the throat.

Your brain gets signals that your breathing is blocked and you wake.

Obstructive sleep apnea can lead to excessive daytime sleepiness and even narcolepsy (sudden lapse of consciousness), which can be dangerous. The continual deprivation of oxygen during episodes increases the risk of heart attacks, strokes, and other cardiovascular problems.

2. Central Sleep Apnea (CSA)

This is a less common form. Your breathing muscles stop temporarily when communication to or from your brain is interrupted.

The symptoms are like obstructive sleep apnea but there are usually some others such as changes in your voice, body weakness, numbness of body parts and difficulty in swallowing.

Central sleep apnea, like obstructive sleep apnea, causes extreme sleepiness and lack of concentration during the day, irritability, heart diseases and high blood pressure.

Ondine’s curse is an after-effect where you continue to have difficulty breathing easily while sleeping.

Some people living in high altitudes or who have suffered severe heart attacks or brain injuries and have Central Sleep Apnea may even experience apnoeic episodes while they are wide-awake.

3. Mixed Sleep Apnea

This is a combination of both obstructive and central sleep apnea, due to both improper functioning of brain and blockade of your airways.

3. Who Gets Sleep Apnea?

Sleep apnea can occur in anybody, in any age group, and of any sex.

However, occurrence of any type of sleep apnea has been more prevalent in the following:

More middle-aged men than middle-aged women suffer from sleep apnea. Some middle-aged women have it during menopause and some women start snoring during pregnancy. It is thought that this might cause the disorder later.

Overweight people may develop Obstructive Sleep Apnea. The risk is higher if you are gaining weight rather than if you maintain a stable body weight. Many obese people suffer from this disorder.

Loud snorers develop sleep apnea.

The normal preconception is that sleep apnea occurs only in middle-aged and elderly persons. This is not true and sleep apnea can occur in toddlers.

Infant Sleep Apnea occurs when the baby is unable to breathe while sleeping for around ten to twenty seconds or more due to lack of regular airflow through mouth and nose. If the apnea is due to blockages in airways, it is obstructive sleep apnea. However, if there is no normal breathing, it may be a central nervous system problem.

Normally, sleep apnea in infants begins at thirty-seven weeks or roughly nine months. When such a baby suffers breathing problems in sleep for no apparent reason, it is ‘Apnea of Infancy’. ‘Apnea of Prematurity’ is when the baby is younger than nine months and suffers breathing problems.

The normal symptoms of sleep apnea in infants is stoppage of breathing in sleep and change of skin color to bluish or pale and muscles becoming sloppy. Sometimes the baby may breathe noisily while sleeping.

Newborn babies and young children may develop obstructive sleep apnea because of adenoids or large tonsils. Sometimes small children who snore may also develop obstructive sleep apnea. Some children may have symptoms of central sleep apnea where the brain can't send signals to the muscles to breathe while sleeping. Slow, improper breathing leads to high carbon dioxide levels in blood and lungs. Some cases occur at birth, other instances are due to cerebral damages and tumors.

It is possible to get a clear idea of the type of sleep apnea by polysomnography tests at a sleep laboratory.

Sleep apnea suffered by older children and adolescents may re-occur in adulthood.

It is true that elderly people sleep less at night. They get up frequently and often do not have sound sleep at night. However, they do take many daytime naps. Such naps compensate for less night sleep, but cannot meet to the quality of night sleep. Senior citizens sleep lightly and are rarely into deep slumber.

Normal healthy senior citizens may sleep less than they slept in their youth. However, if they feel excessively sleepy during the day, they may suffer from sleep disorder.

Sleep apnea in senior citizens may include around thirty apnea events in a single night – each of ten seconds or more, with five to six events per hour.

Such mild sleep apnea does not require specific treatment if they have enough rest during the day. The rule is that if it doesn’t cause problems, then it is fine.

Lack of mental alertness and excessive daytime drowsiness are the main symptoms of sleep apnea in senior citizens. Frequent apnea events at night lower the quality of their night sleep. Sharp drops in oxygen levels in their blood takes a toll on functioning of the brain and its alertness.

Problems with sleep apnea in the elderly are the same as in younger adults. Serious sleep apnea may pre-dispose to other cardiovascular ailments and need to have a proper and full diagnosis at sleep centers. They can then undergo testing and follow necessary treatment. Somnoplasty (removal of uvula with heat energy) is effective in reducing snoring. Other methods of treatment assure full recovery to senior citizens.

Regular exercise, a healthy diet, and an optimistic outlook go a long way in treating sleep apnea in senior citizens as with any other age group.

Patients with high blood pressure risk having sleep apnea.

Sleep apnea has some genetic underpinning. If a close relative or sibling in your family has the disorder, you have a higher chance of developing it at some stage of your life.

Allergy sufferers have been linked to an increased incidence of sleep apnea.

The normal physical build and associated body weight of people from Western countries is larger than that of Asian countries. Probably because of this, the incidence of sleep apnea is higher in people of Western countries.

Central Sleep Apnea is more common in heart patients and occurrence of the disorder is as high as the severity of the heart attack.

The most common type of sleep apnea, obstructive sleep apnea is common in elderly people. It is now being studied whether this type of sleep apnea is different in middle-aged people and elderly persons.

4. What Causes Sleep Apnea?

OBSTRUCTIVE: The blockages or obstructions could be due to obesity, adenoids and large tonsils (particularly in children), irregular physical structure (larger tongue or uvula or narrow airways, etc) or weak muscles.

Asthma or chronic obstructive pulmonary disease (COPD), allergies, excessive stress and constricted sleeping position may also contribute.

CENTRAL: This may be due to neurological disorders, strokes, neurodegenerative diseases, surgical complications or even radiotherapy.

There are many causes behind occurrence of sleep apnea. Some are:

- The throat muscles and tongue relax a lot more than normal when you are asleep. Uvula, fleshy tissue at the back of your throat also relaxes during your sleep. Such obstructions could also be due to certain aberrations in tissues of your esophagus and throat walls. Normally in sleep apnea the sufferer is totally oblivious to the problem. They may wake up due to lack of oxygen because they have stopped breathing but then drift back to sleep straight away. This happens throughout the night and even though sufferers are unaware of that they wake up at night, it can severely affect their performance during the daytime.
- Large tonsils and adenoids obstruct free flow of air through the nose and throat. This factor is the major cause for sleep apnea in children.
- Abnormal facial structure may end up obstructing air flow making it easier to develop sleep apnea.

- Weight gain predisposes to sleep apnea. When you gain weight you gather many more deposits of fatty tissue in your body. Such fatty deposits of tissue in your throat naturally narrow the airways. You may snore more and louder and have many disturbances in your sleep.

Inactivity and obesity seem to be interlinked. Physically inactive people tend to gain the most weight and thus tend to have more deposits in their tissue thus predisposing to a higher risk of sleep apnea.

Sleep apnea lowers the level of leptin, a hormone in the body that suppresses appetite. On the other hand, it increases Ghrelin, a hormone that increases food intake and plays an important role in regulation of the body weight. It causes an imbalance between necessity and consumption of food. As a result, more pounds pile on. So it is possible for sleep apnea to reinforce the weight gain thus creating a vicious cycle.

Many a times, doctors refer people having problems of obesity to a sleep specialist. This illustrates the strong link between obesity and sleep apnea.

- Age is another important cause for sleep apnea. With age, you lose some amount of muscle mass and its elasticity. Hence, they sag and could block your airways leading to congestion and breathing problems.
- Alcohol and drugs relax muscles of your breathing system and may cause sleep apnea in susceptible individuals.

- Smoking is another risk factor. It is not entirely known how smoking might cause sleep apnea but suffice to say that there is restructuring of the lung surface which makes smokers prone to sleep apnea. Second hand smokers are also at risk.
- Nasal congestion due to allergies may increase the chances of having apnoeic episodes.
- Different diseases of thyroid glands like hypothyroidism, or neuromuscular diseases like acromegaly, or Down’s syndrome, Marfan's syndrome, post-polio syndrome cause breathing problems, more acute during the night leading to sleep apnea. Vocal chord paralysis and amyloidosis may also lead to sleep apnea.
- Your genes play an important role in causing sleep apnea. But there is much debate as to how much the environment plays a role. Your family might be predisposed to being physically larger, it might be the size that contributes to the sleep apnea rather than the actual sleep apnea itself.

Although snoring is not a direct indication with sleep apnea, it has been implicated. Regular snorers inhale lot of air while snoring and it causes the inner soft tissue in your throat to lengthen. Overtime, this stretching may lead to obstruction of air movement.

When you have problems breathing at night due to any particular reason, you are unable to inhale oxygen and exhale carbon dioxide. This affects the balance of oxygen and carbon dioxide in your body and brain tries to restart your breathing by awakening you. When you awaken, activation of your throat and tongue muscles takes place enlarging your airway. Such awakening is

necessary to save your life; however, your sleep is disturbed and you feel drowsy the whole day through.

5. What are the Symptoms of Sleep Apnea?

You may be unaware that you have sleep apnea.

Sufferers may feel sleepy during the day and be unable to concentrate on their work. Some may fall asleep at their workplace or even while talking with someone. The symptoms of sleep apnea appear so gradually that you may not realize that there is a problem for some time.

Common symptoms of Sleep Apnea

- You experience frequent breathlessness during sleep at night. You are unable to have a sound sleep and you wake up around ten to twenty times every hour, gasping for breath. When you have obstructive sleep apnea, some tissue of your throat, nose, or uvula relax more while you sleep. This produces a sagging of muscles, which then block your windpipe and you cannot take in or breathe out air. Consequently, you wake up panting for breath.
- Your bed partner hears your loud snoring and frequent gasps for breath during your night sleep. It is common for the partner to uncover the problem because they are unable to get a good night's sleep.

People with obstructive sleep apnea often let out other abnormal sounds during their night sleep. Your bed partner can hear choking noises with loud breathing pauses. Sometimes the choking sound may be loud. This is when obstruction of your airway suddenly clears and air gushes in and out suddenly.

Excessive daytime sleepiness is an indicator of sleep apnea. Due to many interruptions in your night sleep, your brain is unable to get rest at a stretch at night. As there is a sharp drop in air supply, your brain wakes up to awaken you so this arousal removes the obstruction and you breathe in air. Hence, you are rarely fresh in mornings and doze off during the daytime, anywhere and at anytime. You might doze off while you are driving (which could prove to be dangerous) or at your workplace.

Morning headaches are an offshoot of disturbed sleep at night. You feel as if you have not slept at all. You feel confused and dizzy in the mornings.

You are tired the whole day through and are uninterested in doing anything. You lack concentration and are restless.

Some of you may experience heartburn in the mornings. This is due to a slight increase in circulating acid in your body as your digestive system is not rested through the night.

You may perspire more while sleeping at night.

You find it hard to concentrate and thus lose interest in many things.

You lack any sexual drive and are constantly tired, and fatigued.

Young children with sleep apnea experience retractions of the chest when chest muscles constrict a lot while they are asleep.

If you have sleep apnea, you may experience an increase in your blood pressure levels, which worsens the condition of high blood pressure in hypertensive patients.

Your heartbeats may be irregular and at times, the heart beat rate slows down considerably. This is mainly due to lack of oxygen supply when obstructions block the path of free airflow through your nose, throat, and uvula. The count of red blood cells may also increase considerably due to the lack of oxygen.

Your brain lacks enough rest and is prone to memory lapses. You forget things easily and are not mentally as sharp as before.

You become irritable and go into bouts of depression. Many changes in your personality come to the fore. You become moody and need much prodding to do simple jobs.

Some advanced cases of sleep apnea develop changes in their complexion.

Those of you who grind your teeth at nighttime are prone to sleep apnea, though it is not wholly established.

Sleep apnea patients often sleep as soon as they hit the pillow at night. Of course, certain exceptions also complain of insomnia.

Most of the time, those of you with sleep apnea do not remember any disturbances of your sleep at night. Although you wake up tired and exhausted, you are unable to recollect your gasps for breath or snoring. It is therefore essential to consult the doctor if you have any of the symptoms of sleep apnea.

6. What are the Effects of Sleep Apnea?

If you are able to breathe normally and are not ill or over-stressed, you can have a comfortable, undisturbed sleep.

However, when you have sleep apnea, no oxygen enters your lungs during the episode. Hence, carbon dioxide levels in your body rise high and you awaken gasping for breath due to compensatory drives from your brain.

It affects both men and women, but is more common with middle-aged men, and women in menopause.

Although sleep apnea can affect anybody including children, normally it is more common in overweight men above forty. Some females also suffer from such disorders.

If you are unable to sleep well at night, or do not feel fresh in the morning, wake up with headaches, and feel sleepy throughout whole day then the possibility of sleep apnea should be checked.

If you have undiagnosed obstructive sleep apnea and undergo any surgery, you are at high risk of not breathing - anesthesia and other pain relievers could be harmful or even fatal. They tighten your already constricted airways and affect your lungs and heart.

Your overall body mechanism suffers.

You may not realize that you wake many times during the night because of your snoring and apnoeic events.

You may suffer daytime symptoms like sleepiness, tiredness and lethargy.

Short term memory is affected and you may make more mistakes.

Sleep apnea can be very disabling, causing you to fall asleep while driving, watching television or even while talking.

Some people become irritable and have behavioral changes that end with a visit to the psychiatrist. Others think it is related to age and think no more about it.

A decrease in sexual drive is common too.

You run greater risks of high blood pressure with resultant heart attacks and strokes.

Sleep apnea was thought to be associated with Sudden Infant Death Syndrome in babies but the association is not well defined.

Young children with sleep apnea disorder show stunted growth. They lack concentration, are restless and hyperactive at times.

A major effect of sleep apnea is increase in body weight and obesity. You put on more fat and are prone to many other syndromes like Prader-Willi syndrome, Marfan syndrome and hypothyroidism.

Obstructive sleep apnea puts pressure on the esophagus which affects normal functioning of your digestive system, so you experience gastroesophageal reflux and feel some heartburn.

Many women suffer from menstrual problems due to their sleep apnea disorders.

Medical studies stress the close relationship between snoring and death in sleep. The frequent breathing gaps may lead to strokes and heart attacks which can be fatal when your body’s system can’t coordinate its functions.

Snoring also leads to morning headaches, lack of sexual drive, and sometimes results in loss of hearing. Despite all this, many snorers are unaware of the possible consequences of their snoring and so they do not seek medical help.

Part-III: Treatment of Snoring and Sleep Apnea

7. How is Sleep Apnea Diagnosed?

Diagnosing Sleep Apnea is not a simple task. There are many different types of sleep disorders, so you need to consult a sleep specialist who analyzes your problem and diagnoses the exact nature of the disorder.

If your partner tells you that you are having repeated episodes of waking suddenly or apnea events, it’s probably worth checking it out. Your bed partner can maintain a dairy with details of disturbances and maybe even an audio record of your gasps, snores, pauses, and choking sounds at night.

Once you know about the problems, consult a doctor or a sleep specialist. You have to provide full information about your sleeping patterns, disturbances, audio records of breathing problems and the written diary to help the doctor diagnose your ailment. The doctor may also inquire about your family history regarding sleep disorders. This diagnosis is not a simple process.

Sleep Recording Test

Polysomnography test (PSG) detects sleep disorders. This is normally done at a sleep center or a sleep laboratory within a hospital. You go to sleep as usual at night at the center or the hospital. The center-staff monitor your sleep throughout the night recording your breathing, heart rate, brain activity, muscle activity, eye movement, oxygen levels in your blood, amount of air movement through your lungs, and disturbances in regular airflow through your nose, throat, and air pipes. Computerized monitors record the number of apneas and

hypopneas in a single night. A sleep specialist analyzes the recordings the next morning.

You can conduct this painless test at home too. A technician comes to your home to help you wear a special monitor for the night. This records your heart rate, movement of air through lungs and breathing muscles, oxygen levels in blood and disturbances in breathing patterns. The next morning the technician comes to take the reports to your doctor.

The laboratory tests are much more accurate than the home test.

At times, on the advice of the sleep specialist or your doctor, you need to undergo further tests with specialist physicians. Such tests are by pulmonologists, neurologists, sleep technicians, general physicians, and others.

You may have to take a single test or all of them.

Sleep Strip

Sleep Strip is an inexpensive device to diagnose your sleeping disorder. A small strip is placed over your nose before going to bed. The battery-operated temperature sensors on the strip record every minute disturbance in your breathing during your total night’s sleep. Your doctor can decipher these disturbances when he reads the test results. The results will show the total number of apneas and hypopneas (decreases in breathing) for every hour.

Multiple Sleep Latency Test (MSLT)

The Multiple Sleep Latency Test detects the degree of your daytime sleepiness and associated sleep apnea. It determines the rate of falling asleep at different

times of a single day. While conducting the test, you get numerous opportunities to sleep during the daytime, while the normal trend is to stay awake. The time you take to fall asleep at every opportunity is carefully noted.

Normal persons without any sleep disorders need an average of ten to twenty minutes to fall asleep. However, if you have sleep apnea, you will fall asleep within five minutes. This disorder needs immediate medical attention.

Other Tests

Doctors also conduct a detailed checkup of your throat, nose, and mouth for thickening of tissues. They identify or detect larger tonsils, or deformities in the uvula. The soft palate at the back of your throat may also present irregularities, which needs medical attention.

The doctor might take measurements of your chest, circumference of your neck and total body mass. An EKG test determines your heart rhythms.

Learning about sleep apnea and its associated symptoms (as you are doing by reading this) helps with the prognosis as you are better aware of triggers and can better manage the problem with the help of your local practitioner.

Depending on the sleeping disorder, your doctor may advise treatments like surgeries, Nasal Continuous Positive Airway Pressure, reducing your weight, changing your sleeping positions, or other effective methods to control your sleeping disorders. These try to remove blockages in your airways to help you breathe better at night.

6. How is Sleep Apnea Treated?

Medications do not provide any relief but there are many different treatments for sleep apnea. Each of them is applicable for different types of sleep apnea. Treatments differ from individual to individual.

Most devices are more effective in obstructive sleep apnea than with central sleep apnea. However, you need to choose the one that suits your symptoms to get the best results.

You need assistance and guidance from your sleep specialist to set up and utilize the machine properly.

The major complaint with the machines is that they are noisy; instead of you snoring, the machine rumbles.

Continuous Positive Airway Pressure (CPAP)

This treatment is effective for both obstructive and central sleep apnea with most sleep apnea patients. However, you need to wear a mask on your nose or insert a device into your nostrils while you sleep at night. This treatment is case specific and is difficult to administer on young children who will not readily accept the mask.

The mask connected to a machine ensures a continuous flow of air through your nostrils. Your airways do not close as air pressure from the machine keeps them open.

Initially you might have difficulty adjusting to the machine, the airflow may cause soreness of your throat and the mask could bother your nose. But, with

time and usage, you might overcome this and it can help to cure your sleep apnea.

CPAP medical devices need Food and Drug Administration (FDA) approval and you need a doctor’s prescription to get one. This small machine has a stretchable tube connecting it to a mask that you wear over your nose or mouth. Air blows at a prescribed pressure through your airway passage to prevent any apnea events.

CPAP machines have different features and you can choose the one that suits your needs and your lifestyle the best. Insurance coverage is available on some CPAP machines. You can rent some machines first, use it and then purchase it if you are satisfied.

The different features and accessories of a typical CPAP machine includes:

- Capacity to adjust to different altitudes
- Convert for different currents
- Able to increase air pressure when sensing the need
- Direct current functioning through battery systems
- Inbuilt heated humidifier
- A carrying case

A CPAP machine monitors your air utilization and keeps a record of the number of apnea events on a small thin card so your doctor can check the effectiveness of your treatment. You can download your recordings at your

sleep clinic, mail your card to the clinic, or send information through a special telephone modem. The doctor can even prescribe changes in treatment without you having to visit the clinic. Isn't technology wonderful?

Bi-Pap

Although CPAP may cure some moderate to severe cases of sleep apnea, a more invasive form - Bi-PAP - is indicated in extreme cases. This machine blows in air at different pressures for inhaling and exhaling. When you inhale air, you draw air at a higher pressure from the machine, but when you exhale you draw air at a lower pressure.

Oral Positive Airway Pressure (OPAP)

This is a dental appliance, which allows movement of air through it. This acts as an alternative for those who are uncomfortable with masks and other gear. Oral appliances may be the best alternatives to CPAP machines but, like the CPAP treatments they do not suit everyone. It is a personal choice.

Oral appliances provide an alternative for moderate to severe obstructive sleep apnea patients who are uncomfortable with CPAP machines. They keep your jaw at the proper position while you sleep. Such correct positioning prevents any blocking of airways and subsequent sleeping disorders such as sleep apnea. The appliance also regulates functioning of your throat, tongue, and palate muscles.

Anterior mandibular positioners (AMPs) are one of the most common oral appliances used.

Remotely controlled mandibular positioners (RCMPs) are specific devices fitted on you to check effectiveness in controlling your sleep apnea problem. This trial appliance has a stepping motor which either brings forward or pushes your lower jaw according to directions of a technician. These adjustments continue through your night’s sleep to control your breathing problems.

They are a godsend for some people but don’t address the root cause. In other words, if your problem is because you are overweight, these temporary solutions help alleviate the symptoms but you must address the cause and not just mask the effects.

Whether you decide to go with CPAP machines or oral appliances, always consult your doctor to work out a long term strategy for ‘curing’ your sleeping disorder.

Surgery

Surgical treatments enlarge the airways by removing growths, tissues, tonsils, adenoids, nasal polyps, or other obstructions and deformities, This helps sleep apnea patients to breathe normally during the night.

The success rate of surgery is quite high in children, although elders may need few surgeries to get complete relief from their breathing problems.

This information is *not* sufficient for you to base your decision on whether to opt for surgery. This is just good background knowledge. Please do your own due diligence and discuss with your doctor before making such a big decision. All surgeries carry an element of risk.

I do not believe that surgery is the answer in most cases. There are many side effects later down the track and surgery is a highly invasive treatment.

The common surgeries performed are:

Laser-Assisted Uvulopalatoplasty (LAUP)

This simple surgery removes tissue from the back of the throat. This helps in relieving snoring. However, the success rate for sleep apnea through this surgery is low.

Tracheostomy

Tracheostomy was once the only cure for sleep apnea. Surgically a tube passes into your windpipe through a hole in your neck. Now, this surgery is only used

for severe sleep apnea patients and is associated with high morbidity (undesirable side effects).

Radiofrequency Ablation

Radio waves generated from an electrode heats up, hardens and then reduces the excess tissue in your airways. This simple treatment is over within half an hour and is considered quite effective. You hardly feel any pain and any complication is easily dealt with by the use of medications. This is radiofrequency volumetric tissue reduction of the palate or tongue.

This treatment is effective for mild obstructive sleep apnea patients. After this, snoring and daytime sleepiness is less in most of the patients.

Mandibular Myotomy

Maxillary or maxillomandibular advancement (MMA) moves the lower and upper jawbones. This in combination with genioglossis (chin and tongue) advancement can help with sleep apnea.

Such surgeries involve cutting a portion of the jaw where it meets the tongue. After reattaching the tongue, the obstruction is shifted thus allowing better movement of air.

The downside of this procedure is that it may bring about changes to your facial features. This surgery is executed by experienced surgeons and should be given a lot of thought before proceeding.

Uvulopalatopharyngoplasty (UPPP)

This removes tissue and uvula (the soft hanging tissue at the end of your mouth) from the back of your throat. This method works for some while follow up surgery is necessary for others. It increases the total width of your throat, restricts excessive muscular action from closing the airway and trims the palate to ensure smooth flow of air through your windpipe.

This is normally only provided to severe obstructive sleep apnea patients. You need a lot of time to recover from this surgery and there may be some complications. Your doctor will discuss all this with you before you decide.

Genioglossus and Hyoid Advancement

This is similar to UPPP. This surgery uplifts your throat and brings the muscles of your tongue forward. This clears the airway and may relieve you of your breathing problems.

Diathermy Palatoplasty

This removes extra tissue from the back of your throat. You can surgically remove deposits of fatty tissue in your tonsils, soft palate, or a large tongue, and uvula and increase the airway. This simple operation only requires local anesthesia. Post surgical pain is to be expected.

Other Surgeries:

Removing tonsils and adenoids by surgery offers some relief to children with sleep apnea. However, the apnoeic condition may return in adulthood suggesting that the tonsils are not the main culprit.

You can have excess body fat surgically cut out to gain relief from sleep apnea. Not a good thing to do but is most definitely an option. Obviously if you just suck the excess fat out it does not address the underlying problem, e.g. over eating, emotional imbalance, toxic overload etc.

22. Will Snoring Remedies Work for You?

There are many remedies on the market, each effective to some degree which varies for different people.

In some people, snoring is brought on by allergies. Individuals can react very severely to common triggers such as pollen, tree cutting, cut grass, winter cold dry air, smog and a whole host of indoor allergens including cat fur, house dust mites, and just a general lack of fresh air. Snoring in these people is most commonly due to nasal congestion because of the airway reacting to the allergen, causing an increase in mucus and, thus, narrowing of the airways.

Some snoring sprays contain agents that just numb your airway muscles. This numbing affects the extent to which your airways can vibrate with respect to your breathing effort. In essence, your muscles are almost paralyzed and you stop snoring.

A word of caution: - although your snoring is gone, the underlying narrowing of your airway is still the same. This means that the snoring sprays only provide temporary relief. Over the long term, they usually lose their effectiveness and become useless. So, when you shop for a snoring remedy, you need to ensure that the remedy you have chosen will treat the underlying cause and not just cover up the symptoms.

A visit to the sleep clinic can help you identify the exact problem. The sleep specialists can identify the root cause of your sleep disorder and associated snoring. It is the same procedure as diagnosis of sleep apnea. Most likely, you will need to spend a night at the clinic where your breathing, heart activity,

brain activity, snoring and other associated sleep symptoms are monitored. The doctor will then provide some guidance as to the best course of action.

Snorers who suffer from nasal congestion usually find relief in nasal strips, nose sprays, nose drops, and other nasal support devices. Nasal strips and septum devices open airway blockages in obstructive sleep apnea patients.

Nasal strips are bands of plastic within adhesive pads. These bands elongate when you place them across your nose. Such elongation widens your nasal passage allowing free air movement throughout the night. These prescription-free strips are easily available from your local chemist.

Nasal drops reduce nasal secretions, effectively widening the nasal passages.

Anti-snoring pills work by reducing mucous and other body secretions in your throat and nose. They lessen congestion and ease your breathing, thus reducing snoring.

The Pillar System is another snoring remedy. It has three small polyester inserts which harden and support the throat palate. This reduces vibration and, as a result, snoring. This is the same as the Palatal Restoration Procedure. As with any therapy that invades the body, some people find this procedure uncomfortable and cumbersome.

A preferable therapy is the use of aromatic oils like Marjoram oil. There are many different types of aromatic oils and some companies offer them with a jet diffuser which helps disperse the oil into a fine mist thus allowing the aerosolized oil to work its way deeper into your airways.

The aromatic oils are very effective at reducing snoring when you apply a few drops on your neck or under your nose. It is important to note that very careful

and judicious use of such oils is advised. It is important for you to source high quality oils that are pure and natural. There are many cheap aromatic oils on the market that have filler oils that may provoke an allergic response. Many people have been put off aromatic oils because of this very reason. Make sure you know the quality of the oil before purchasing.

Price is usually a good indicator. For a 15ml bottle of excellent aromatherapy oil you are looking to pay anywhere between \$35 to \$50 dollars. Some rare oils cost even more but they should last you 3-6 months minimum. Also make sure the company you purchase from has a jet diffuser that will aerosolize the oils. If they don't, the usual candle method to heat up the oil may suffice.

Some people have reported snoring relief by simply keeping an open bottle of aromatherapy oil near their bedside. This is not advisable as the open air will change the chemical structure of the oil leading to change in its effectiveness. Sometimes, the open bottle of oil can even change and become an allergen. So, take care, and make sure the oils are kept pure and used in the intended form.

There is much more about aromatherapy oils but I'll have to leave it for the next book!

24. Snore Balls and Other Simple Solutions

A simple, old-fashioned solution for snoring is to sew or otherwise attach a tennis ball to the back of your nightwear. When you lie on your back, the ball rotates in the middle of your back and you feel uncomfortable. As a result, you shift to your belly or lie on one side. This prevents your jaws from opening, you breathe normally and sleep peacefully.

Another technique is to wear a cloth belt, with a tennis ball in it, at night. The ball will be in the middle of your back and prevent you from sleeping on your back.

A still simpler method is to put a tennis ball in a sock and pin it to the shirt you wear at night in such a way that it stays in the middle of your back. Some people put the ball into a sling across their back so, whenever they roll in their sleep, the tennis ball creates enough discomfort that they shift their weight to the side.

Your aim is to prevent yourself from sleeping on your back.

There are other devices which prevent you snoring. There are neck collars, chin and head straps, and other mouth devices to prevent your facial and throat muscles from relaxing and sagging. Whenever you snore, these devices give you some pain and you wake up. This slowly reduces your snoring. However, these devices wake you up when you snore so your nighttime sleep is still going to be fragmented.

The Lifestyle Modification Method

The most effective remedy against obstructive sleep apnea is through lifestyle modification. If you are a heavy drinker and smoker, cutting back will help. If you take sedatives to sleep, try to sleep naturally on your own.

Research shows that shedding unwanted pounds will do more for your apnea than any other lifestyle modification.

You can really be almost disease free simply by maintaining your health through a balanced lifestyle. You need to eat a balanced and healthy diet with lots of fresh fruits and vegetables, proteins, whole grains, milk and milk products, and less poultry, meat, and eggs.

Couple such a regime with regular exercise and you are on top of the game.

Smoking

Smoking is a stimulant which can cause your brain cells to over-react. Some people are so sensitive that having a smoke before bed causes insomnia.

In one sentence, *smoking is a no-no*. If you have trouble quitting, have tried therapy, done the rounds of psychologists, tried neurolinguistic programming, behavior modification and still cannot quit, then I suggest brain entrainment, coupled with subliminal technology. You can get the details at www.the-adhd-specialist/brain-technology.html

Besides, smoking is harmful in itself and leads to many health disorders. Hence, quitting smoking ensures better health and, consequently, some relief from sleeping disorders. Also, if you have small children, your smoking might

well be pre-disposing them to cardiovascular disease later in life. This is regardless of how careful you are, because smoke residues are persistent and can leave molecules in curtains, carpets and even your clothing.

I’m not saying smokers are bad people, it is more the tobacco companies fault ☺. What I am saying, is that smoking harms many more people than just the smoker and should be eliminated from society in general. That is a personal opinion and you are most certainly entitled to your own.

Alcohol, Drugs, and Sleeping Pills

Alcohol greatly reduces the firmness of your muscles. When your breathing muscles sag due to alcoholic intake, you are unable to breathe properly as they block your airway. Drugs and sleeping pills may have the same effect.

Alcohol has been given some good press, but only for red wine. It is okay if you drink no more than 2 standard drinks per day. Any more and the protective effect, if any, is overshadowed by the increased risk of cardiovascular disease. My advice is moderation.

Allergies and Infections

This is the simplest, yet in a way, also the most complex. If you know what triggers your allergy - stay away from it. If you do not know, then perhaps it is time to find out.

I have a food intolerance audio that is helpful. Although it is on food, it is also useful for other triggers. You can get this free recording from <http://www.the-adhd-specialist/food-intolerance-audio.html>

Nutrition and Exercise

Obstructive sleep apnea is a common occurrence in obese people and unfortunately the rate of obesity is climbing worldwide.

I really should write a healthy lifestyle book to explain all the ins and outs of healthy eating and living, but a simple solution to the obesity problem is simply cultivating and maintaining healthy eating habits and coupling that to regular exercise.

This is a very short guide but should steer you the right way.

Nutrition

The following tips can improve your eating habits:

Your meals should consist of lots of fresh green vegetables, fruits, whole grains and lean proteins to provide sufficient nutrition to your body. Snacks should consist of fruits or, if you are really *going for it*, vegetables such as celery sticks and carrot sticks – they’re fantastic.

An easy way to divide up your meals to see if you are getting enough vegetables is to simply to look at your plate. Does it have at least half green, leafy vegetables with other colored vegetables around it?

Eat red meat sparingly, around 50g per meal maximum is best. Fish, especially deep sea fish, five times a week is great for essential fatty acids and lean protein.

It is better to eat three to five smaller meals rather than loading up yourself up with two or three meals a day.

Breakfast is the most important meal of the day but you should stay clear of heavy carbohydrate meals. Eggs are a great source of protein or, if you feel that eggs are a bit heavy, then a protein shake made from high quality whey protein isolate is desirable.

The emphasis is on quality.

Drink at least eight to ten glasses of water every day. The more water, the better – except not half an hour before meals and 2 hours after meals. The logic is simple. Anytime you eat and then drink afterward, it dilutes the acid in your stomach, slowing your digestion.

Reduce your cholesterol by simply eating fruits, vegetables and lean protein sources. Cold meats are generally no good, bacon is out of the question. Here is an interesting fact; low-fat items are often high-sugar items. If you take low fat and high sugar, your body is thrown into a frenzy. Many biochemical switches are rapidly turned on and off by the crazy fluctuation in sugar levels and that predisposes you to diabetes. Not to mention that the unused sugar can easily turn to fat and stored by your body anyway.

You should take in minimum quantities of salt, added sugar (as in jellies and jams, desserts, candy, alcohol, sodas, chocolate drinks, and caffeine).

It is always better to chew your food well and eat slowly in moderate quantities. Chew 20 times for every mouthful of food.

Fad diets only provide temporary weight reduction and you gain back the weight plus some more as soon as you are off the diet. Diet is spelled ‘DIE

with a T’ so, *please*, look after your lifestyle and your weight will take care of itself.

Note that the suggestions here are potent and will work for most people. In some circumstances, you may have an overly acidic body or a ‘toxic waist’. In such conditions, it may be necessary to undergo a rigorous cleanse and rejuvenation process to help the body to shed the unwanted pounds.

The media has conditioned most of us to think that fat is bad for us. However, the truth is that fat provides a buffer against harmful chemicals and toxins. When the body cannot eliminate the toxins, due to a decrease in cellular energy, fat is the most effective way to store and buffer the toxins.

Again, if you really have burning questions please go to www.the-adhd-specialist.com/contactus.html and send in your questions. I will answer them one way or another.

Exercise

Exercise is equally important in maintaining good health. A sedentary lifestyle is dangerous, period. You should make exercise a part of your daily routine and include your children in the exercise regime to build the relationship, as well as keep them healthy from a young age. Losing excess weight should be a gradual process and exercise is an excellent way to achieve that ideal weight.

A Few Exercise and Weight-loss Tips

You can either exercise for half an hour each day continuously, or split that into ten-minute sessions. Take your age and physical condition into consideration and, if you have any doubts, consult your doctor.

Most people quit because they feel intense pain after the second and third day of exercise. Some are in agony straight from day one and decide it is all too hard. My advice is to start really, really, really slowly. Do 10 minutes of walking and then, the next day, increase that to 11. As you gain more confidence, increase it further. You will find that, if you exceed your threshold, you quickly develop muscle pain.

If that happens, don't stop exercising. Instead, lower the intensity but continue with some exercise. If you persist pass the fifth exercise session, your body will adjust and you will be thrilled to exercise.

You can always start off by doing simple stretching and cardiovascular exercises. It is better not to strain; just develop an effective exercising schedule over a period of time. This reduces chances of injuries and sprains.

Walking is the best form of exercise. You can try walking to your workplace, or climbing stairs, or jog in the neighborhood park. You can try aerobics, swimming, or yoga.

Use your leisure time to cycle around your garden or join sports activities.

The adage ‘Healthy body healthy mind’ is spot on. With exercise you rebalance your body and your system functions more efficiently. You will find that you think better, perform faster and are able to keep going for longer. It also helps the mind to produce creative ideas and positive thoughts that will further enhance your health.

Use brain entrainment technology to give you a helping hand with your mental thought processes. Most of us have such negativity in our own internal conversations, it is a wonder that anything ever gets achieved. By fine tuning

your brain wave patterns and training it through the use of scientific brain entrainment technology, you will find that you think better and are able to maximize your potential.

I am known as the **ADHD specialist**, but my true specialty is understanding the way the brain functions and how to use technology to gain your own maximum potential.

Children, specifically, have a hard time - especially at school. If your child is overweight, he is likely to be the laughing stock at school. If a child is not performing academically, the teachers and parents become overly concerned and may rate him as ungifted.

My research has uncovered that many of the childhood problems are due to development of bad eating and exercising habits during early childhood. Sorry parents, most of you just don't know enough about food and exercise, yet mothers are supposed to be the nutritionist in the family. Also, the increasing toxic load on our bodies just makes it almost impossible to maintain a healthy balance.

So, the child goes into a rapid downward spiral, their self image crashes and their weight skyrockets. Even when the physical problems are eliminated, the child still has to contend with the deteriorating self image.

This is where brain entrainment can be particularly useful. Some children don't sleep well because of their inner thoughts, some because of self image issues, others because of fear, doubt and even guilt. You cannot even begin to imagine how a child feels when they let their parents down. It is probably on the same level as accidentally 'killing' one of their parents, it is that traumatic.

Add to that mix, the stress of parental demands for good behavior, good grades, good friends and you have a recipe for disaster.

Thanks to research, that is all easily changed. ‘Easy’ does not imply that you can do it half-heartedly. If you feel that you or your child needs a mental boost or even mental restructuring, I offer brain entrainment solutions that will literally jump-start your brain. For more information, head on over to www.the-adhd-specialist.com/brain-technology.html

Well, I wasn’t expecting to give out my secret there but now you have 3 different areas that can dramatically improve your situation; food, exercise and brain technology.

Next, let’s have a look at other lifestyle changes that could be helpful, particularly in sleep.

Other Remedies

Some people have forgotten how to sleep well. Yes, you read that correctly, forgotten how to sleep well. What happens is that your brain is trained in a certain way. If your sleep is constantly interrupted, it is difficult - if not impossible - to get a rejuvenative sleep, even if you removed the underlying cause of the disease.

There is most definitely hope with mental patterns and - you guessed it - brain entrainment.

I hear you ask, “Is this really necessary?” Well yes - and no. What do you want to get out of life? I function on 6 hours of sleep each day and have done that for the past few years.

How is that possible?

Well, consider this. Some people have been known to get by with only 15 minutes ‘quick sleep’ for every 3 hours worth of work. Now, that is truly amazing, but not recommended.

My message to you is that your brain is infinitely more powerful than any drug, medication or therapy that exists. Fine-tune your brain and you fine-tune your life.

About the Author

Hoe Bing is a biomedical science graduate from the University of Melbourne. He has also completed a Bachelor of Science with Honors during his 3 years of intensive study.

Completely fascinated by the power of the human mind, Hoe Bing went on to develop and integrate the world’s leading neuroscience research to develop his own **PRAM Success System**.

His latest pursuit in holistic medicine has added an additional punch to his already powerful system. By understanding the natural relationships between the body and the mind, he has designed specific brain entrainment programs to help people suffering from health ailments.

Currently undertaking further medical studies at the University of Melbourne, Hoe Bing serves as an advisor to various esteemed people such as the doctors from the Australasian College of Nutritional and Environmental Medicine, naturopaths, physiotherapist and various consumer-driven health groups.

Hoe Bing has a very strong focus on the ‘individuality factor’. Any client that he consults with comes out with a personally tailored program to strengthen areas of weakness while continuing to build on their current strengths.

Perhaps the most unique aspect of his consultations is that all aspects of his exploration is tied into neuroscience, and the solutions are brain-based and permanent.

His current passion is the pursuit of human health potential through ‘intense yet effortless’ brain programming.

This is how Hoe Bing described his own technology, "There is no substitute for persistence, but there is always a faster and more effective way. Nature dictates that flow occurs in areas with the least resistance. What I do is turn the areas of high resistance into areas of low resistance ... thus maximizing flow."

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