

Botanical/Nutritional Protocols For Insomnia and Other Sleep Disorders

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Adequate amounts of sleep and good quality sleep are not just important, they are vital to good health, emotional balance and longevity. Lack of sleep and poor quality sleep have been linked to increased risk of heart disease, hypertension, obesity, insulin resistance, work-related injury, impaired focus and concentration, immune suppression and HPA axis depletion. For some people, sleeping is easy, they seemingly can fall asleep anytime or anywhere, on trains, planes, waiting in the doctor's office or in school (I am talking about ease in falling asleep, not narcolepsy). Other people can usually fall asleep easily, but when under stress have difficulty sleeping. Still others have a chronic problem with either falling asleep, staying asleep, reaching a REM (rapid eye movement) state where dreaming occurs, early waking or achieving delta sleep.

Sleep disorders are generally divided into two broad categories, the first, dyssomnias, includes insomnia, excessive sleeping, narcolepsy, sleep apnea/hypopnea and restless leg syndrome. The most common of these is insomnia, which is defined as a prolonged or abnormal inability to sleep. Orthodox medicine broadly characterizes insomnia as either acute or chronic. Acute insomnia is defined as difficulty sleeping that lasts between one night and up to a few weeks. The causes of this type of insomnia can be due to stressful situations, acute illness or pain, drug withdrawal, circadian rhythm disturbances such as jet lag and exposure to noise or light.

Chronic insomnia can be caused by medical/psychiatric conditions such as anxiety disorders, depression, dementia and chronic pain. Life changes such as pregnancy, menopause and aging can also cause chronic insomnia as can a large number of medications and recreational drugs including steroids, beta blockers, stimulant antidepressants, amphetamines, decongestants, nicotine, caffeine, alcohol, ecstasy and cocaine.

Other sleep disorders such as circadian rhythm disorders, restless leg syndrome, sleep apnea/hypopnea and periodic limb movement disorder (PLMD) can also contribute to chronic insomnia as can poor sleep hygiene and irregular sleep habits.

Orthodox treatment of insomnia for many years focused on the use of benzodiazepine tranquilizers such as triazolam (Halcion®), temazepam (Restoril®), flurazepam (Dalmane®) and lorazepam (Ativan®). Side effects from benzodiazepines include daytime drowsiness and dependence. For insomnia caused by depression, antidepressants such as trazodone, amitriptyline or doxepin are used. In the 1990s benzodiazepine receptor antagonists were introduced. These medications include zolpidem (Ambien®) and zaleplon (Sonata®) and they are considered superior to the older benzodiazepines, with less likelihood of dependence and grogginess upon waking. The newest medications for sleeplessness include Rozerem® (ramelteon) which selectively binds to the suprachiasmatic nucleus (SCN) and is believed to help reset the body's "internal clock". According to the manufacturers, this medication can be used long-term without dependency issues. This is not to say it does not have the potential for adverse effects, it does and they include somnolence, fatigue and dizziness. Another newer sleep medication is Lunesta® (eszopiclone) which is also non-narcotic and, according to studies, reduces sleep latency, helps maintain sleep, and unlike many sleep aids, does not lose efficacy over long periods of time. Pregnant women cannot take this drug and side effects include dizziness, loss of coordination and withdrawal symptoms when use of the medication is discontinued.

Over-the-counter medications for insomnia are primarily antihistamines which can work for some people, but they also can cause daytime grogginess, dry mouth and eyes, dizziness, constipation, urinary retention, poor memory and confusion. Behavioral therapies for insomnia include biofeedback, hypnosis, meditation, relaxation training and cognitive-behavioral therapy (this includes stimulus control, sleep restriction therapy and relaxation training). This last technique has been shown to be especially useful for stress-induced and learned/behavior-induced insomnia.

More recent research on narcolepsy and insomnia has found that hypothalamic peptides known as orexins have significant effects on wakefulness and sleep promotion. A total lack of orexinergic function can cause narcolepsy and blocking of orexin OX(1) and OX(2) receptors has been shown to induce somnolence in rats, dogs and humans. This research is interesting as some herbs, especially adaptogens (possibly nootropics and nervines as well) help to re-regulate the hypothalamus, which may explain their benefits for insomnia.

There are many other types of insomnia as well; to try to treat them as a generic condition invites poor results for the clinician and patient.

Long-sleep latency: Difficulty falling asleep is often caused by stress, persistent thoughts, noise, excessive light, muscle tension, over-excitement, stimulants or late eating. To enhance sleep, develop regular sleep habits, i.e., going to bed at a regular time each night. Do not eat within 3 hours of bedtime, avoid use of stimulants (coffee, tea, cigarettes, alcohol, chocolate, colas), avoid watching scary or anxiety provoking movies, do not exercise before bedtime and try to avoid arguments, if possible. Spend an hour before bedtime to take a relaxing bath, read a book, drink a cup of hot Chamomile (*Matricaria recutita*) or Sleepy Time tea, or make love with your partner (this seems to work better for men than women!).

A few minutes of deep breathing exercises, meditation or prayer can be more effective than over-the-counter sleep aids. Earplugs may be effective for reducing disturbing noise (highways, airports, noisy hot water pipes) and patients should be warned that any light (nightlights, LED clocks, streetlights) diminishes production of melatonin and can interfere with sleep. Eye covers, often available on airplanes, may be a helpful solution in situations where exposure to light is unavoidable. Passion flower (*Passiflora incarnata*) tincture (1.5-3 ml.) mixed in Chamomile tea can be effective for people who can't shut their minds off due to circular thinking or constant mental chatter. Fresh Scullcap (*Scutellaria lateriflora*) tincture (3-4 ml.) is a wonderful herb for people who are physically and emotionally stressed with resultant muscle tension. Anxiolytics and nervines can also offer benefits for stress-induced insomnia. A German study using a product made with 20% *Corydalis* (*Corydalis yanhusuo*) and 80% California Poppy (*Eschscholzia californica*) was useful for relieving stress-induced insomnia (Schafer, et al, 1995). Studies of the hormone supplement melatonin have had mixed results for insomnia, but studies (Hoebert, et al, 2009; Kayumov, et al, 2001; Smits, et al, 2003) show that children and adults with idiopathic delayed chronic sleep onset insomnia who took this supplement had substantial improvements with reduced sleep latency.

A significant problem that can lead to difficulty falling asleep is an irregular schedule. Swing-shift workers, physicians, nurses, pilots, stewardesses and active duty military personnel can have extremely erratic schedules that negatively affect circadian rhythms making falling asleep or staying asleep difficult. In one study (Morin, et al, 2005), a combination of Valerian (*Valeriana officinalis*) and Hops (*Humulus lupulus*) led to modestly reduced sleep latency and a feeling of being more rested by the end of the study. Calming or neutral adaptogens such as Eleuthero (*Eleutherococcus senticosus*), Ashwagandha (*Withania somnifera*), Reishi (*Ganoderma lucidum*), Schisandra (*Schisandra chinense*) or Jiaogulan (*Gynostemma pentaphyllum*) can also help moderate the effects of erratic sleep schedules. Melatonin has also been found to help sleep disturbances caused by erratic schedules and jet lag.

Deficiency insomnia: In this type of insomnia the patient is exhausted, asthenic, often pale with HPA axis hypofunctioning. In other words, the patient does not have the energy (Qi, blood, Jing) to adequately rest and get good sleep. Many sufferers of CFS experience yin insomnia, they may sleep on and off 12-14 hours per day, but the quality of this sleep is so poor that the result is they feel exhausted. Nervines and adaptogens are the primary herbs for deficient insomnia. Nervines such as Fresh Oat extract, St. John's wort, Chamomile, Lemon Balm, Hawthorn, Lavender and Linden flower are of benefit.

Stimulating adaptogens such as Asian Ginseng (*Panax ginseng*), American Ginseng (*Panax quinquefolius*), Rhodiola (*Rhodiola rosea*) or Holy Basil are also very useful. Rather than acting as stimulants, herbs such as Ginseng help deficient insomnia patients to achieve a deep, restful sleep. Diagnostic signs indicating deficiency (yin) insomnia include dark areas under the eyes, a quivering tongue, contracting/dilating pupils and other signs of metabolic hypofunctioning (hypothyroid, depression, etc.).

Excess insomnia: In this type of insomnia the patient tends toward type A behavior, often exhibiting hypertension, anxiety, irritability, restlessness or agitation. The primary herbs indicated for this type of insomnia include nervines, sedatives, and anxiolytic agents. The nervines would mirror those indicated under Yin insomnia, with the addition of Passion Flower for patients who experience difficulty calming their minds. The sedative herbs I often use include Hops, California Poppy, Valerian, Gambir spines and Zizyphus seed.

The anxiolytic herbs that I use include St. John's wort (*Hypericum perforatum*), Motherwort (*Leonurus cardiaca*), Kava (*Piper methysticum*), Blue Vervain (*Verbena hastata*), Chinese Polygala and Pulsatilla. Other herbs that may be of benefit include hypotensive agents such as Olive leaf (*Olea europaea*), Mistletoe (*Viscum album*), Chrysanthemum flowers (*Chrysanthemum morifolium*), Du Zhong (*Eucommia ulmoides*) and Linden flower. Antispasmodic herbs such as Scullcap, Kava, Black Haw (*Viburnum prunifolium*), Kudzu, Black Cohosh and Lobelia (*Lobelia inflata*) are effective for reducing chronic muscle tension and bruxism.

TCM Insomnia Patterns

In TCM, Shen (mind/consciousness) is stored in the heart. There are three main types of deficiencies that can lead to disturbed shen with insomnia:

Liver yin deficiencies can cause a lack of stored blood (in the liver) which is needed to nourish the heart and shen. Symptoms of this pattern include anger, palpitations, dizziness, dry eyes and mouth, irritability and insomnia. A TCM formula for liver yin deficiencies with insomnia is Suan Zao Ren Tang (sour Jujube decoction) which contains Suan Zao Ren/Zizyphus (*Zizyphus spinosa*), Poria, Zhi Mu/Anemarrhena, Chuan Xiong/Ligusticum and Licorice. Other herbs used for this include Ye Jiao Teng (*Polygonum multiflorum*) and White Peony (*Paeonia lactiflora*).

Spleen and heart deficiency prevents the spleen from making blood and the deficient heart cannot control the blood or store shen. Symptoms of this pattern include excessive dreaming, easy waking, tiredness, long sleep latency, impaired memory and a pale complexion. A traditional formula for this pattern is Gui Pi Tang (restore the spleen decoction) which contains Red Ginseng, Astragalus, Atractylodes, Poria, Zizyphus seed, Longan fruit, Saussurea root, honey-fried Licorice, Dang Gui and honey-fried Chinese Polygala.

Kidney and heart deficiencies prevent the Chinese kidney from nourishing the heart due to lack of jing. Symptoms of this pattern include poor memory, dark circles under the eyes, a red quivering tongue, a thready, quick pulse, palpitations, fatigue and insomnia. A traditional formula for this pattern is Tian Wang Ba Xin Dan (Emperor of Heavens special pill to tonify the heart) which contains Unprocessed Rehmannia, Ginseng, Tian Men Dong/Asparagus, Mai Men Dong/Ophiopogon, Figwort root, Dan Shen/Salvia miltiorrhiza, Fu Ling/Poria, Chinese Polygala, Dang Gui, Schisandra, Biota seed, Zizyphus seed, Platycodon and Cinnabar*. Bai Zi Ren/Biota seed (*Platycladus orientalis*) can also be used as a simple for insomnia due to deficient heart and kidney.

* Cinnabar is a mercury ore and its use should be avoided. The formula can be made without Cinnabar.

Menopausal insomnia: Women going through menopause often wake up in the middle of the night (2-4 a.m.), sometimes due to hot flashes or night sweats, but often for no apparent reason. Motherwort combined with Passion Flower is very useful for this type of insomnia. It can be mixed with Chamomile tea. A more comprehensive treatment may include hormone balancing herbs such as Black Cohosh, Chaste Tree (*Vitex agnus-castus*) Licorice (*Glycyrrhiza* spp.) and Shatavari (*Asparagus racemosus*) as well as the cardio-nervine Night-Blooming Cereus (*Selenicereus grandiflorus*). Aromatherapy with Lavender (*Lavendula officinalis*) essential oil was found to help alleviate peri-menopausal insomnia (Chien, et al, 2012).

Insomnia caused by pain: Over-the-counter painkillers (NSAID's) can be very effective for mild to moderate acute pain. These medications or stronger narcotics are problematic for long term chronic pain management as they have many significant side effects associated with continual usage. Herbs may offer some relief of pain and inflammation which interfere with sleep. Useful analgesics include Jamaica Dogwood (*Piscidia piscipula*), Indian Pipe (*Monotropa uniflora*), Black Cohosh and Corydalis. Antiinflammatory herbs that I frequently use include St. John's wort, Meadowsweet (*Filipendula ulmaria*), Willow (*Salix* spp.), Turmeric (*Curcuma longa*), Bupleurum (*Bupleurum chinensis*), Boswellia (*Boswellia serrulata*) and Ginger (*Zingiber officinalis*). Meditation, deep breathing exercises and laughter all increase endogenous endorphins and can also be adjuncts to treatment.

Age-related insomnia: As we age sleep disturbances can become more profound. Lavender essential oil (as aromatherapy) was found to benefit sleep in studies done in elder care facilities. The patients who were exposed to Lavender had decreased sleep latency and improved sleep quality. It is common for our older people to be on multiple medications (5-8 per patient is common), check to be sure none of their medications are interfering with sleep. Adequate exercise is important, even more so as we age, and nervine tonics along with adaptogens may also be helpful for this population.

Sleep hypopnea: Is caused by obstructed airways (usually with loud snoring) that interferes with breathing and causes blood oxygen levels to drop, which prevents a person from going into deep (delta stage) sleep. While not as severe as sleep apnea it prevents the restorative sleep that occurs in a delta state and people with this condition are more likely to have issues with hypertension, obesity, fibromyalgia, CFIDS and exhaustion.

Sleep apnea: Is the cessation of breathing while sleeping. To be diagnosed as having this condition the apnea must last at least 10 seconds and be repeated at least 30 times per night. This serious health problem needs to be diagnosed at a sleep center. Sleep apnea/hypopnea not only leaves its sufferers feeling exhausted, they are at increased risk of myocardial infarction, hypertension, increased appetite (which causes obesity), immune and HPA axis depletion and depression. In addition, their cognitive function and motor skills are greatly impaired, putting them at greater risk of automobile or work-related injuries. Losing excess weight is a very important step in treating sleep apnea/hypopnea.

Breathing machines with a positive airflow can control sleep apnea/hypopnea, allowing patients to get adequate sleep, to dream and wake up feeling refreshed. These machines can take some getting used to, but the minor discomfort is greatly overshadowed by its benefits. For some people who cannot acclimate to these machines, dental devices which push the lower jaw forward and open breathing passages may provide relief. Avoid sleeping on your back as it can worsen snoring and breathing problems. Sleeping on your side with a contoured pillow may help some people with mild apnea or hypopnea to sleep better. Herbs play only a minor role in treating sleep apnea/hypopnea. Although I have seen many products which claim to stop snoring (often associated with this condition), I have yet to see any evidence that they work. Sedatives are contraindicated in this situation and only nervines and mild adaptogens used in conjunction with a breathing machine are recommended.

Daytime hypersomnia: Is a condition characterized by excessive daytime sleepiness. This can occur occasionally due to irregular sleep cycles, a new baby, mononucleosis, pain or depression. It can also be chronic due to sleep apnea/hypopnea, psychotropic medications, hypothyroidism, restless leg syndrome or brain injury. In many cases while the person may be getting an adequate number of hours of sleep, their sleep quality is poor. Sleep studies are necessary to help determine the underlying cause. In an interesting case report, hypersomnia was found to be associated with a vitamin D deficiency and supplementing vitamin D alleviated the hypersomnia (McCarty, 2010).

Restless Leg Syndrome (RLS): Is a condition where, especially at night, the legs feel uncomfortable with an internal itching or other uncomfortable sensations and an involuntary need to move the legs. It is a possible sign of iron deficiency, and occasionally calcium or magnesium deficiency. Other causes of RLS include familial (genetic) neurological disorders, degeneration of the vertebral discs, pregnancy (19% of pregnant women experience RLS during pregnancy), renal failure and some medications (SSRIs, lithium, tricyclic antidepressants, dopamine antagonists and possibly caffeine). Herbally, I would think of utilizing Scullcap (fresh tincture) along with Ashwagandha, Blue Vervain and Horse Chestnut (*Aesculus hippocastanum*) for this condition. Herbs that increase peripheral circulation such as Ginkgo (*Ginkgo biloba*), Blueberry (*Vaccinium* spp.), Prickly Ash (*Zanthoxylum clava-herculis*), Butcher's Broom (*Ruscus aculeatus*) and Lycium fruit (*Lycium barbarum*) may also reduce symptoms. In several studies, supplementing folic acid and iron has reduced RLS symptoms (Meletis & Zabriskie, 2008) as has supplemental magnesium (Hornyak, et al, 1998).

The second category of sleep disorders is called parasomnias. They include night terrors, excessive dreaming, sleepwalking, sleep eating, and problems associated with mental illness. In TCM these conditions would be associated with extreme disturbed shen.

Night terrors: Are extreme bad dreams where the sufferers, usually children, wake up terrorized, often crying, screaming, thrashing, with racing pulse, sweating and other signs of abject fear. Nervine/sedative herbs may be of benefit here (see overactive dreaming), but there are two things that I have seen work repeatedly. The first is the Bach Flower Remedy, Rock Rose. If this is unavailable, Rescue Remedy may work.

The second approach to this problem is teaching children to work with their dreams. When parents wake up a fearful child, they often comfort a child by saying, "it was only a dream". From a Cherokee perspective, this is a mistake, as we believe dreams are real. Many children also know that dreams are real. Telling a frightened child a dream isn't real does not help them, it disempowers them. It also tells them you don't know what you are talking about or that you are dishonest. By teaching children the powerful techniques of conscious dreaming they learn that unlike the "real world", in which they are small and powerless, in the dream world, they are strong and can be in control of their life. I clearly remember one case where a little boy was brought into my office by his mother. He hid behind her the entire interview, his mother described him as painfully shy, timid, and afraid of monsters, bugs, the dark, other children, unknown noises and just about everything else. While I made some suggestions for dietary changes (he was also afraid to eat unfamiliar foods), my protocol was simple. Replace half of his apple juice with Chamomile tea, making a 50/50 mixture. In this we put the Bach Flower Remedy Rock Rose. He could drink this as desired. More importantly, I told him about the Cherokee methods for fighting the monsters in his dreams. I could tell he wanted to believe it could help and help it did. A year later I hardly recognized him when I saw him and his mother at a local park. Not only had he grown, but now he was a happy, confident kid who told me he was no longer afraid of bad dreams because he "just beat up those silly old monsters".

Overactive dreaming: Most people wish they had better dream recall and were able to be conscious dreamers. A small number of people dream so actively and so powerfully, they actually wake up exhausted. I have had people tell me they are so active in their dreamworld that when morning comes, they feel emotionally and physically drained and ready to sleep. In a truly unusual case from 10 years ago, I had a female patient who had many sexual dreams every

night and was regularly woken up by her orgasms (four or five times per night). While to some people this might sound like a blessing, for her it had become a curse. For overactive dreaming I use nervine/sedative herbs such as Passion flower, Ye Jiao Teng stem, Zizyphus seed, Chinese Polygala, Mimosa bark (*Albizia julibrissin*) and Biota seed.

Herbs are an important part of many protocols for sleep disorders, but it is vitally important to use all resources available. Simply taking some Valerian, Passion Flower or a prescription sleep aid is rarely adequate to treat such a complex problem.

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