

Essential Oils for deep sleep

Essential oil is a concentrated hydrophobic liquid extracted from plants. It contains volatile chemical compounds which healing effects are ascribed to. Researchers have investigated a variety of health benefits attributed to these compounds and shown their big therapeutic implications.

Essential oils are among the undeniable natural remedies that help you to sleep thanks to their relaxing and soothing properties. They act in a holistic way and make it possible to restore our balance, which is essential for restorative rest and therefore our health.

If you are one of the 25% of Americans who experience acute **insomnia**, restless sleep, difficulty falling asleep, try a drug-free sleep solution, try essential oils.

Essential oils and sleep: which essential oil to choose?

Essential oils promote relaxation, and improve the quality of sleep. Our selection below will allow you to find the essential oil(s) that is adapted to your needs:

Noble camomile Essential oil (Roman camomile): soothing action, antispasmodic

Lemon Essential oil (Citrus Limonum): nervous calming

Geranium essential oil (Pelargonium asperum): balancing, relaxing, soothing

Fine lavender Essential oil (Lavandula angustifolia): muscle relaxant, anti-depressive, calming, rebalancing

Mandarin Essential oil (Citrus reticulata): relaxing action, sedative

Marjoram Essential oil (*Origanum majorana*): antispasmodic, rebalancing of the nervous system, sedative, used in particular against anxiety and hypertension

St. John's wort Essential oil (*Hypericum perforatum*): calming, reduces tension

Neroli essential oil – Orange blossoms (*Citrus aurantium*): sedative, antidepressant, soothing action, restores vitality and self-confidence, helps to fight stress and insomnia.

Orange essential oil (*Citrus sinensis*): sedative, nervous system rebalancing, spasmolytic, cardiac regulator, used in particular against insomnia and depression

Petit grain bigaradier essential oil (*Citrus aurantium*) calming, balancing, sedative, helps to fight against anxiety and anxiety, restless sleep, night awakening

Valerian Essential oil (*Valeriana officinalis*): calming, reduces tension, promotes sleep

How to use essential oils to sleep better

Diffusion: put 20 to 25 drops of essential oil into an electric diffuser and turn it On for 5 minutes before going to bed

Pillow mist: spray once or twice on your pillow before going to bed

Massage oil: put 4 to 10 drops of essential oil into a vegetable oil such as sweet almond, macadamia oil or St. John's wort macerate. Simply massage the solar plexus before going to bed. If you have the possibility to have your feet, back, legs and stomach massaged.

Bath (adult): mix 5 to 10 drops of essential oil with a

solvent (Solub HE, Neutral Base) or on Epsom salts (one glass) before adding them to the bath water just before going to sleep. Stay in the bath for 15 minutes and go to bed right away. For children's baths, limit essential oils to 5 drops.

A soft piece of fabric with essential oils: Take a piece of cloth and soak it with 10 drops of essential oil. Then slide the fabric into your pillow cover before going to sleep.

Synergies of essential oils to sleep like a baby

You can make the following essential oil blends and use them for the above applications:

lavender essential oil (5 drops) + Marjoram essential oil (5 drops)

essential oil lavender (5 drops) + essential oil Camomile (5 drops)

lavender essential oil (5 drops) + Orange essential oil (5 drops)

lavender essential oil (5 drops) + Petitgrain essential oil (5 drops)

Children's sleep – their favourite essential oils

Not sure which essential oil to choose for your child's sleep? Let him choose! Let him smell 3 or 4 essential oils and use the one he has chosen. He will naturally choose the one he needs. Generally children like the following essential oils:

Fine lavender Essential oil (*Lavandula angustifolia*): muscle relaxant, anti-depressive, calming, rebalancing,

Mandarin Essential oil (*Citrus reticulata*): muscle relaxant, sedative

Neroli essential oil – Orange blossom (Citrus aurantium): sedative, anti-depressant, soothing action, restores vitality and self-confidence, helps to fight stress and insomnia.

Orange essential oil (Citrus sinensis): sedative, nervous system rebalancing, spasmolytic, cardiac regulator, used in particular against insomnia and depression
essential oil Petitgrain bigaradier (Citrus aurantium) with calming, balancing, sedative action helps to fight anxiety, restless sleep, night awakening

Organic Relaxing Massage Oil

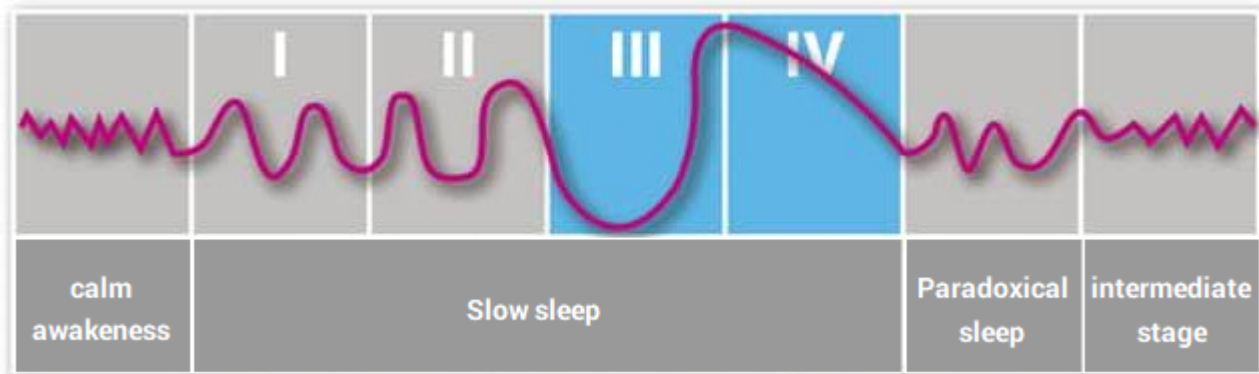
Relaxing massage oil will help to relieve your tension and make it easier to fall asleep. This composition contains a synergy of essential oils that provide immediate psychological relief and help to rebalance the nervous system. Relaxing massage oil can also be used against children's sleep disorders (restless sleep, nightmares).

Is deep sleep important?

Deep sleep can be defined as the phase of slow sleep that precedes the onset of REM sleep (Rapid Eye Movement Sleep). When sleep becomes deep, the frequency of brain waves decreases, as does body temperature, breathing frequency, pulse or blood pressure.

The individual goes through several stages to reach deep sleep after falling asleep. First, the alpha waves in the brain are gradually replaced by theta waves (stage 1). Then, the electroencephalogram trace becomes irregular and waking up becomes more and more difficult (stage 2).

When sleep deepens further, delta waves appear and muscles are more relaxed (stage 3, medium deep sleep). When sleep becomes deep, the electroencephalogram is dominated by delta waves from 1 to 4 Hz (stage 4). The activity of the smooth muscles of the digestive tract increases. It is usually during this deep sleep that enuresis or somnambulism may appear.



Characteristics

Deep slow sleep is characterized by very slow electrical waves. The activity of vital functions slows down significantly: decrease in heart and respiratory rhythm – decrease in body temperature. At this stage, muscle activity and eye movements almost disappear.

Duration

The time of deep slow sleep represents about 40% of the total time (about 90 minutes) www.doctissimo.fr/html/psychologie/bien_dormir/ps_6205_sommeil_cycles.htm. It typically starts about 35-45 minutes after first falling asleep, its duration is longer at the beginning of the night. It decreases with age in favor of phase 2 (light slow sleep).

Role

Deep slow sleep promotes hormonal secretion, especially in children, of growth hormone. Its role is also to strengthen the effectiveness of immune defenses and memory.

When deep sleep is disrupted

Slow sleep has a restorative role for the body: when the individual lacks sleep, slow sleep tends to last longer in the early night.

How to get more deep sleep

Regular bedtime schedules

Maintaining regular hours of sleep, even on weekends and days off, helps us to get into deep sleep more easily. Sleep needs vary for each person but an estimated average of 7 and 9 hours per night is generally such as a sufficient compensatory rest time. And if you decide to change your sleep routine, give your body at least a few days to get used to the change.

Spreading essential oils

The sense of smell is very important when setting up a routine. Using a diffuser of lavender, bergamot or lemon essential oils before bedtime can send a signal to the body that it is time to get ready for a good night's sleep.

Relax your feet

Feet cannot be compared to the rest of the body, because they support the body weight all day long. Our feet work hard, especially when we exercise, and they deserve a moment of relaxation at the end of the day. Apply a generous amount of cream or oil and massage your feet every night before going to

bed.

Turn off screens

Studies have shown that exposure to blue light from screens during the evening can disrupt our biological clock. The production of melatonin and cortisol, the hormones that regulate sleep, is delayed, and falling asleep can become more difficult. Try to turn off electronic devices for one to two hours before closing your eyes.

Keep a notebook as an ongoing record and reminder of your daily activities

You don't need to have a particular talent for writing: you can keep a journal by writing just a few lines in the evening. This activity allows you to "debrief" your day, and to fall asleep with a lighter heart. Even the simple fact of noting three positive things, for which you are grateful, that happened during the day helps to calm your mind and help you sleep better.

Melatonin: benefits and side effects

Melatonin is a hormone identified as being potentially important in the regulation of the circadian rhythms including sleep-wake timing.

The role of Melatonin in Sleep regulation

This hormone is produced by the pineal gland (also called epiphysis). Melatonin secretion is inhibited in the presence of light and stimulated in the dark. Maximum production is reached from 2 AM. To 5 AM, hence the names sleep hormone or dark hormone. Through melatonin, the pineal gland informs the brain about the relative duration, hours of darkness and light over a 24-hour period (daily cycle), but also throughout the year (seasonal cycle). By secreting melatonin, the pineal gland “tells” the brain that it is dark and that it is the right time to sleep.

Since the implementation of the new regulations on natural health products, melatonin marketed in some countries like Canada as a synthetic product, entirely manufactured in a laboratory.

Two forms of melatonin are marketed. Immediate-release melatonin (regular form) and sustained-release melatonin. It can be assumed that the first one helps to fall asleep more quickly and the second one helps to stay asleep.

The leaves and roots of many plants contain small amounts of melatonin, including seeds of fenugreek, alfalfa, fennel, poppy, flax, coriander, and sunflowers. This antioxidant substance is believed to protect the fragile germ of these plants from the oxidative effects of UV rays, drought, extreme temperatures, and toxins.

Benefits

- Prevent or reduce the effects of jet lag (probable)
- Treat insomnia in people 55 years of age and older.
- Treat disorders in children with neurodevelopmental disorders or attention deficit disorder with or without

hyperactivity

- Reduce pain in the newborn (adjuvant treatment)
- Improves sleep in children with circadian rhythm disorders
- Reduce the risk of cancer remission and side effects related to chemotherapy and radiation therapy.
- Contribute to the withdrawal of sleeping pills.
- Reduce chronic pain (migraine, irritable bowel syndrome, fibromyalgia).
- Reduce agitation and dementia.

Posology

Ordinary melatonin. Take 1 mg to 5 mg from 30 minutes to 1 hour before bedtime.

This treatment is only effective if insomnia is associated with low melatonin levels.

However, the optimal dosage is not established, as it has varied greatly during the studies.

Sustained-release melatonin. Take 2 mg, 1 to 2 hours before bedtime.

This dosage is the one used during trials on a prescription product available in Europe (Circadin®), but not in Canada. See the Research section for more information.

Side effects

Attention

The use of melatonin in case of serious illness (cancer, epilepsy, Alzheimer's disease, etc.) must be under medical supervision.

Although melatonin is considered safe in the short term, the effects of continuous use are not known. However, in an open-label study (without a placebo group), children with circadian rhythm disorders were followed for nearly 4 years: sustained-

release melatonin was well tolerated by the young participants.

Due to the risk of drowsiness, loss of alertness or balance, do not drive for 4 to 5 hours after taking melatonin. Note that, according to several clinical trials, when melatonin is taken in the evening to improve sleep, it does not harm waking up.

Contra-indications

Due to insufficient safety data, caution should be exercised in pregnant and lactating women and children.

Adverse reactions

Clinical studies have shown that melatonin might cause drowsiness, nausea, headache, and dizziness. Note, however, that these adverse effects also occurred at the same frequency in subjects taking a placebo.

Bananas help you sleep better

Bananas can be considered as a natural sleeping remedy. They contain tryptophan, an essential amino acid, which, combined with vitamin B6, allows the synthesis of serotonin and melatonin, hormones playing an essential role in promoting sleep. Some doctors recommend its consumption 60 minutes before going to bed to enjoy better sleep. Rich in melatonin (commonly called sleep hormone), banana is an excellent sleep stimulator.

An anti-depression and relaxing fruit

According to a survey conducted on people who suffer from depression, many reports feeling better after eating a banana. Banana dopamine is probably not unrelated to this phenomenon, but it is also explained by the presence of tryptophan, a substance that the body transforms into serotonin, the brain's chemical messenger known for its relaxing effect.

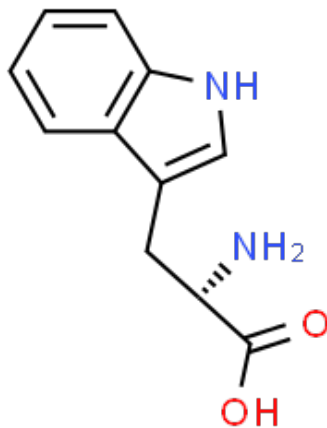
The good-mood effect is reinforced by the presence of high amounts of vitamin B6 (0.5 mg per 100 g, or a quarter of the recommended daily intake). Also known as pyridoxine, this vitamin is useful for the production of various mood-associated neurotransmitters, including serotonin and dopamine. Some studies have shown that, when taken in high doses, it relieves depression associated with the premenstrual syndrome.

A study also showed that a diet rich in tryptophan, combined with an adequate supply of vitamin B6, favored serotonin production and reduced the symptoms of depression and improve sleep quality.

How L-Tryptophan helps you sleep better

Natural L-tryptophan is an amino acid that promotes sleep and reduces stress. It is used by our body to manufacture serotonin, which promotes deep sleep. Serotonin also helps to manage stress and reduce mood disorders. Then melatonin, the sleep hormone, essential for the proper

functioning of the internal biological clock.



L-Tryptophan Structure

L-tryptophan is one of the eight essential amino acids our body needs. L-tryptophan is therefore not manufactured by our body and must be provided by our diet. Natural L-tryptophan allows better assimilation by the body. It requires essentially the presence of vitamins B3 and B6 and carbohydrates for its transformation.

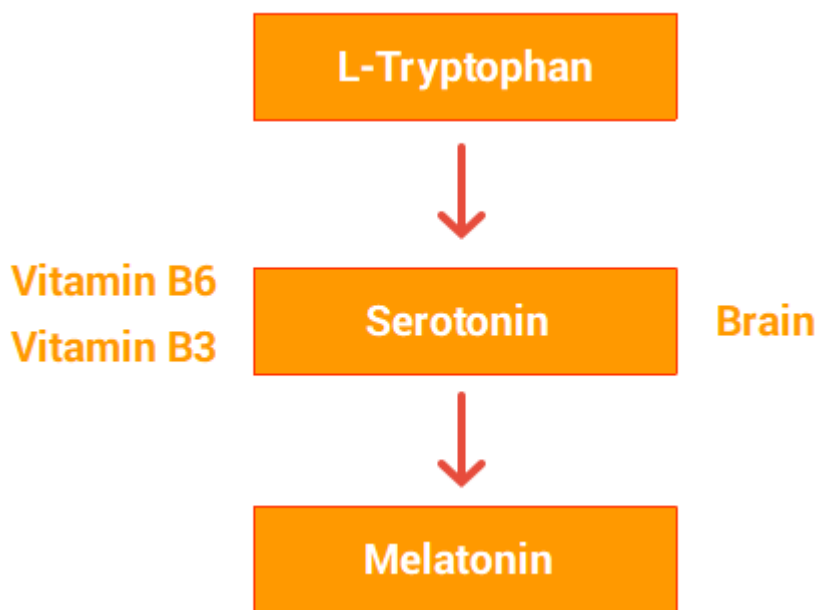
Metabolism to Melatonin, the Sleep Hormone

Metabolism of natural L-tryptophan leads to the production of endogenous serotonin and melatonin. The presence of carbohydrates, such as oats, in the presence of L-tryptophan results in a high concentration of L-tryptophan and its passage through the blood-brain barrier of the brain. This is where L-tryptophan is transformed into serotonin, then into melatonin, the mediators of sleep. This transformation requires the mandatory presence of vitamin B6 in sufficient quantity.

In the human body, according to its traditional metabolism, natural L-tryptophan is also used, and at 95%, for the synthesis of vitamin B3. This is why a nutritional intake of vitamin B3 is essential to occasionally reverse this ratio to

allow the development of the Serotonin – Melatonin synthesis pathway.

Serotonin organises the structure of our sleep and its continuity. It induces sleep and entry into the phases of deep sleep and REM sleep essential for proper physical and nervous recovery. Serotonin is then transformed into melatonin, the sleep hormone, which ensures the proper functioning of the circadian rhythm or biological rhythm.



Recommended daily intake

According to the U.S. Institute of Medicine, the Recommended Dietary Allowance (RDA) of 5 mg/kg body weight/day of L-Tryptophan for adults 19 years and over.

Top Foods high in Tryptophan (Trp)

The table below shows the content in g of Tryptophan/100 g of food.

Tryptophan (Trp) content of various foods

Food	Tryptophan [g/100 g of food]	Protein [g/100 g of food]	Tryptophan/protein [%]
Egg white, dried	1.00	81.10	1.23
Spirulina, dried	0.92	57.47	1.62
Cod, Atlantic, dried	0.70	62.82	1.11
Soybeans, raw	0.59	36.49	1.62
Cheese, Parmesan	0.56	37.90	1.47
Sesame seed	0.37	17.00	2.17
Cheese, Cheddar	0.32	24.90	1.29
Sunflower seed	0.30	17.20	1.74
Pork, chop	0.25	19.27	1.27
Turkey	0.24	21.89	1.11
Chicken	0.24	20.85	1.14
Beef	0.23	20.13	1.12
Oats	0.23	16.89	1.39
Salmon	0.22	19.84	1.12
Lamb, chop	0.21	18.33	1.17
Perch, Atlantic	0.21	18.62	1.12
Chickpeas, raw	0.19	19.30	0.96
Egg	0.17	12.58	1.33
Quinoa, uncooked	0.167	14.12	1.2
Wheat flour, white	0.13	10.33	1.23
Baking chocolate, unsweetened	0.13	12.9	1.23
Milk	0.08	3.22	2.34
Quinoa, cooked	0.052	4.40	1.1

Food	Tryptophan [g/100 g of food]	Protein [g/100 g of food]	Tryptophan/protein [%]
Rice, white, medium-grain, cooked	0.028	2.38	1.18
Potatoes, russet	0.02	2.14	0.84
Tamarind	0.018	2.80	0.64
Banana	0.01	1.03	0.87

Sleep efficiency of the combination of natural L-tryptophan – vitamin B6 – vitamin B3

The “L-tryptophane-vitamin B6-vitamin B3” complex taken in addition to a high carbohydrate intake has shown a significant 39% increase in deep sleep time in people with difficulty of sleeping, however, these results were not found with synthetic L-Tryptophan.

INCREASED SLEEP TIME IN THE MIDDLE OF THE NIGHT: 39,3% WITH NATURAL COMPLEX, 3,2% WITH PLACEBO.

A second study showed that taking milk proteins rich in natural L-tryptophan not only improves the quality of sleep but also improves the attention and intellectual performance of the next day.

L-Tryptophan also fights stress, overwork and mood swings

A lot of research provides evidence linking serotonin to stress and depression. This is particularly observed during dietary deficiencies in natural L-tryptophan, the precursor of

serotonin synthesis.

Firk, in his double blind versus placebo clinical study, demonstrated that stress can induce a depressive episode, both in people with and without a family history of depression, and that this episode is exacerbated if there is food deprivation with L-tryptophan. This suggests the mediation of serotonin in stressful situations and particularly in people with a family history of depression.

Also, a dietary deficiency of L-tryptophan seems to provide less resistance to uncontrollable stress caused by noise in healthy volunteers than in the placebo.

Conversely, the intake of L-tryptophan would provide better resistance to stress. It is known that cognitive performance often decreases under chronic stress exposure. A clinical study, carried out in double blind versus placebo, shows that a diet rich in L-tryptophan significantly increases cognitive performance (better reaction time) in people sensitive to stress.

This study was confirmed by a second crossover clinical study, double-blind, versus placebo, which observed that a diet rich in L-tryptophan was beneficial in combating mood and stress disorders.

Natural L-Tryptophan VS Synthetic L-Tryptophan

Studies have shown a very good bioavailability of 100% natural L-tryptophan provided from milk proteins. Many foods are excellent sources of L-tryptophan, such as meat, poultry, and fish. But they also contain many other amino acids that compete with L-tryptophan and, therefore, limit its passage through the brain.

On the other hand, synthetic L-tryptophan has very poor

bioavailability, making it ineffective and sometimes unsafe.

Milk proteins contain a high concentration of L-tryptophan compared to other amino acids, which allows a better blood concentration of L-tryptophan.

L-tryptophan, a very fragile essential amino acid

It is the least abundant amino acid in food and is very fragile. In particular, it is easily destroyed by cooking that is too long or too hot.

It undergoes a strong competition sometimes causing a lack for our body. Indeed, protein nutritional intakes also contain many other amino acids that compete with L-tryptophan and, therefore, limit its passage through the brain: a meal that is too rich in protein harms sleep because it can cause a higher blood concentration of tyrosine, an amino acid used to produce dopamine, a neurotransmitter associated with motor activity and aggression.

Finally, as we have seen previously, L-tryptophan is used primarily by our body to preferentially produce vitamin B3 to serotonin and melatonin. It is therefore essential to reverse this ratio to optimise the serotonin – melatonin synthesis pathway.

Foods Rich in L-Tryptophan

The nutritional composition table of food doesn't detail the precise tryptophan levels. However, the following foods are the richest in tryptophan.

- Whole grain rice
- Meat and poultry
- Dairy products
- Eggs
- Soya protein
- Peanuts

- Fish
- Pulses
- Chocolate
- Banana
- Almonds
- Cashew nuts
- Brewer's yeast

Use of tryptophan

The nutritional recommendations are to consume 500 to 2000 mg of tryptophan per day for a healthy adult.