



Diffusing Essential Oils: Everything You Ever Wanted to Know

With Jade Shutes

Why offer a class on diffusing essential oils?

- Diffusing essential oils in one's environment has continued to be a popular 'doorway' into the world of aromatherapy!
- However, Confusion abounds with different types of diffusers and most likely, different qualities of product.
- Who to trust?




What is diffusion?

◦ the state of being spread out or transmitted especially by contact : the action of **diffusion** (to pour out and permit or cause to spread freely)

<https://www.merriam-webster.com/dictionary/diffuse#t2>

◦ Diffusion, in our case, refers to a method of transmitting essential oils (volatile components) into the air within a specified area and for a specified reason/goal.

Diffusion vs Inhalation

Diffusion (active)	Passive Diffusion	Inhalation
Nebulizer	Unglazed clay or Terracotta pot or pendant diffuser	Personal Inhaler: tube, smelling salts
Ultrasonic diffuser	Plug-in diffuser	Direct palm inhalation
Candle diffuser	AT necklace (with pad)	Handkerchief/Cotton-ball
Electric diffuser	Reed diffuser	Steam inhalation
Fan diffuser	Felt pads or flowers, etc.	

The Nebulizing Diffuser

- The electric micro-diffuser consists of two parts:
 - an air pump and
 - a hand blown glass expansion chamber (nebulizer) with special internal tubes and baffles.
- As air is pushed from the pump into the glass chamber the essential oil "breaks" against the baffles where by the essential oil is discharged into the atmosphere in a fine mist of micro droplets.



How to use Nebulizing Diffuser

- Place 1-4 milliliters (20-80 drops) of essential oil into the glass basin or other holding area.
- Turn the diffuser on.
- The standard recommended time for a nebulizing diffuser is 10-30 minutes then off for 1-4 hours. Repeat as desired.
- The ionized micro droplets will stay suspended in the air during the time the diffuser is off.

NOTE: The nebulizer differs greatly from other diffusers and is considered to be a more appropriate tool to disperse essential oils into traditional and nontraditional healthcare environments (e.g. hospice).

Due to the differences in nebulizers available, be sure to follow the instructions for the specific diffuser you are using.

How to Clean Nebulizing Diffuser

1. Remove glass piece from base
2. Fill bowl with rubbing alcohol or 70% alcohol
3. Place glass pieces in bowl and allow to soak for a couple of hours
4. Rinse glass under hot water
5. Allow to dry
6. It is now ready to use again.

NOTE: It is a good idea to run alcohol through diffuser while running to clean fine glass inside main glass piece.



The Ultrasonic Diffuser

What is ultrasonic?
utilizing, produced by, or relating to ultrasonic waves or vibrations

An ultrasonic diffuser uses ultrasonic vibrations to disperse the essential oils as tiny microparticles that enter the environment as a cool aromatic mist. It uses water as the medium to hold drops of essential oils.

◦ Insight: The mist is not steam – which implies heat.



How to use Ultrasonic Diffuser

1. Remove cover of unit.
2. Add water to the container until it reaches the water marker.
3. Add essential oils or synergy into the water.
4. Replace the cover.
5. Connect unit to a power source.
6. Turn diffuser on.
7. Select desired time setting for the mist.
8. LED light can be turned off independently.
9. Enjoy!



Diffuse 30-60 minutes then turn off.
Wait 1 to 4 hours. Repeat as desired.

Due to the differences in ultrasonic diffusers available, be sure to follow the instructions for the specific diffuser you are using.

Hydrosols and the Ultrasonic Diffuser



How to Clean Ultrasonic Diffuser

1. Wash with warm soapy water
2. Dry thoroughly
3. Wipe out with 70% alcohol or rubbing alcohol
4. It is now ready for use

The Candle or Electric Diffuser

◦ A candle or electric diffuser gently heats water with essential oils (or synergy). As the water heats, aromatics are slowly released into the environment.



How to use Candle or Electric Diffuser

1. Fill 'basin' with water
2. Add 5-15 drops of essential oil or synergy
3. Light candle or turn on (if electric)
4. As water warms, aromatics will waft into the air

The standard recommended time for a candle or electric diffuser is 60-90 minutes and then off for 2-4 hours. If desired, one can turn on again and repeat.

Do not leave candle unattended when in use.



How to Clean Candle or Electric Diffuser

- Use 70% alcohol or rubbing alcohol to soak basin if any 'resin' has built up or simply to wipe out
- Can also wash with warm/hot soapy water.
- Then wipe down with alcohol to sterilize.
- It is now ready to use.



The Fan Diffuser

◦ Fan diffusers work by slowly warming filtered plates that then release the aromatics that have been placed on a pad.

1. Place 5-10 drops essential oil or synergy onto pad.
2. Place pad in unit.
3. Turn unit on.



Other ways to diffuse eo's into the environment

- Aromatic Spritzer
- Boiling water
- Humidifier (not all humidifiers work with eo's)

Passive Diffusion

- Unglazed clay or Terracotta pot or pendant diffuser
- AT necklace (with pad)
- Felt pads or flowers, etc.



- Plug-in diffuser
- Reed diffuser

Why is there a time frame for diffusing?

Odor Adaptation/Habituation and Fatigue

- Adaptation is when the perceived intensity of a smell declines after one has been exposed to it for some time. The smell itself does not disappear rather the individual has become habituated to it.
- Habituation, on the other hand, is a decrease in responsiveness to repeated or prolonged stimulation. Habituation and adaptation allow sensory systems to filter background or currently nonsignificant stimuli, while maintaining responsiveness to novel stimuli.

Over Using Diffusion

- The nervous system may begin to react in the opposite direction caused by over-stimulation. Presentation may include: irritability, headache, inability or difficulty concentrating, light-headedness, either sleepiness or over stimulated (agitation)
- The respiratory system may be negatively impacted. Presentation may include: irritation of the eyes and upper respiratory mucosa irritation, with possible tingling, burning, or stinging sensations

Why Diffuse Essential Oils

- To Support
 - Emotional Well-being
 - Immunity and Wellness
 - Support Respiratory Health

As we inhale through our noses

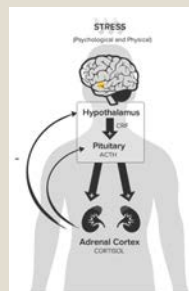
Aromatics go directly into the limbic part of the brain!

Insight: Sniffing increases the airflow thru to the upper sinuses, hence increasing our perception of an aroma.



Impact of Aromatics

- Reduce impact of stress
- Build resilience



Impact of Stress

- **An increase in heart rate, blood pressure, and breathing rate.** Chronic stress may lead to cardiovascular disease.
- **Inhibited digestion.** Chronic stress may lead to peptic ulcers and other digestive disorders.
- **Inhibited growth and reproduction.** Chronic stress may lead to low sperm count and low testosterone levels. Sexual behavior and interest may decline.
- **Curtailed growth and tissue repair.** Chronic stress may lead to slow healing wounds.
- **Decrease in sexual drive.** During chronic stress, females are less likely to carry pregnancy to full term and are less likely to ovulate. Males have trouble with erections and secrete less testosterone.

Impact of Stress continued

- **Inhibited immunity.** Chronic stress may lead to increased vulnerability to infectious diseases, e.g., bacteria, fungi.
- **Blunted pain perception.** Acute stress analgesia is common.
- **Loss of cognitive and sensory skills.** Chronic stress may result in increasing the rate of loss of brain cells during aging, and hence memory loss increases.



Conditions Commonly Caused By, or Made Worse By, Stress

Angina	Diabetes – Type II Adult Onset	Reduced feelings of pleasure
Anxiety	Depression	Rheumatoid arthritis
Asthma	Headaches/Migraines	Skin disorders: hives, psoriasis, rosacea, eczema
Autoimmune disorders	Immune suppression	Sleep disturbances: insomnia
Cancer	Irritable bowel syndrome	Slow wound healing
Cardiovascular disease	Lack of sexual drive	Substance abuse
Common cold	Menstrual irregularities	Susceptibility to infections
Constipation	Muscle tension	Ulcers
Depression	Muscular and joint pain	Ulcerative colitis
Eating disorders	Periodontal disease	
Hypertension	Premenstrual syndrome	



- The medical profession does not define a category of illnesses that encompasses the effect of allostatic load. Prevention and treatment of stress and its effects on the HPA axis are not considered a part of preventative care or treatment for the numerous and serious stress-related diseases mentioned throughout this section. Yet the symptoms of HPA axis dysregulation are rampant in modern society.
- Aside from overt dysfunction and disease (reproductive disorders and endocrine dysregulation, insulin resistance (syndrome X) and obesity, chronic fatigue syndrome (CFS), cardiovascular disease, osteoporosis, impaired immunity and autoimmune disorders, thyroid disorders, cognitive impairment, chronic anxiety and major depression), Americans are plagued by fatigue and exhaustion, insomnia, emotional frustration, digestive problems, weight problems, menstrual problems, infertility, menopausal problems, headaches, susceptibility to colds, musculoskeletal tension, allergies and asthma, atopic conditions, and numerous other problems that can be related to stress and chronic HPA hyperfunctioning or hypofunctioning.

Romm, A. (2010). Botanical Medicine for Womens Health.
St. Louis, MO: Churchill Livingstone.

The Wonders of Our Sense of Smell

- Reduce or alleviate stress and anxiety
- Relieve pain by altering pain perception (in the brain)
- Induce sleep or relaxation
- Increase alertness and overall performance
- Be used for weight control or loss
- Balance and adjust sleep patterns
- Affect and improve mood and increase overall emotional well-being
- Useful stress management tool due to impact on autonomic nervous system
- Ease physical ailments, particularly stress-related disorders
- Help shape our impressions of self and others



Horrigan observes that the integration of aromatherapy for stress management can yield positive results including:

- A reduction of adrenal corticosteroid output to within normal parameters
- Reduction of blood pressure
- Slowing of heart rate
- Normalization of respiratory rate
- Improved duration and patterns of sleeping
- Increased concentration levels
- Immune response modulation
- Improved sense of well-being
- Great ability to cope with immediate or long-term stressors (Resiliency)
- Reduction in muscular tension

Horrigan, C. Aromatherapy in the management and treatment of rheumatoid and musculoskeletal autoimmune disorders: Part II, The International Journal of Aromatherapy (2002)13, 15-25.

Supporting Respiratory Health

- Diffusing essential oils into the air, although beneficial, is not a method we tend to use to 'treat' respiratory issues.
- It may, however, support respiratory health.



Supporting Immune Health

- **Essential oils eliminate pathogens from the air and hence prevent them from affecting us** - By diffusing antimicrobial and/or immune enhancing essential oils, one is able to reduce airborne and surface microbes thereby reducing the likelihood that they will make one sick.
- **Essential oils relieve stress, reduce the impact of stress, or allow for better coping of stress and hence enhance our vitality (immunity)** - Via the olfactory systems connection to the limbic region of the brain, essential oils may enhance or strengthen the immune response by reducing the impact of stress, inducing a state of relaxation or altering mood. The so called 'feel good' factor.



Which essential oils are best to diffuse?

- | | | |
|----------------------|-----------------------|-------------------------|
| ◦ Basil ct. linalool | ◦ Clary sage | ◦ Ginger |
| ◦ Bergamot | ◦ Copaiba | ◦ Grapefruit |
| ◦ Bergamot mint | ◦ Coriander | ◦ Green myrtle |
| ◦ Bitter orange | ◦ Cypress | ◦ Hemlock |
| ◦ Black pepper | ◦ Elemi | ◦ Himalayan CEDAR |
| ◦ Cape chamomile | ◦ Eucalyptus globulus | ◦ Hyssop var. decumbens |
| ◦ Cardamom | ◦ Eucalyptus radiata | ◦ Inula |
| ◦ Celery seed | ◦ Fennel | ◦ Juniper berry |
| ◦ Chamomile Roman | ◦ Fir Species | ◦ Katafray |
| ◦ Chamomile, German | ◦ Frankincense | ◦ Laurel |
| ◦ Cinnamon leaf | ◦ Geranium | ◦ Lavandin |



Which essential oils are best to diffuse?

- » Lavender
- » Lemon
- » Litsea cubeba
- » Mandarin
- » Marjoram, Sweet
- » Monarda
- » Neroli
- » Niaouli
- » Nutmeg
- » Orange, Sweet
- » Palmarosa
- » Palo Santo
- » Peppermint
- » Petitgrain
- » Pine species
- » Pinon pine
- » Ravintsara
- » Rosemary
- » Saro
- » Spearmint
- » Spruce, Black
- » Tea tree
- » Thyme
- » Valerian
- » Yarrow
- » Ylang ylang



The Forest Palette

Essential Oil	Scientific Name
Cedarwood	<i>Cedrus atlantica</i>
Cypress	<i>Cupressus sempervirens</i>
Fir, Balsam	<i>Abies balsamea</i>
Fir, Douglas	<i>Pseudotsuga menziesii</i>
Fir, Silver	<i>Abies alba</i>
Juniper berry	<i>Juniperus communis</i>
Pine, Scots	<i>Pinus sylvestris</i>
Spruce, Black	<i>Picea mariana</i>

The Citrus Palette

Essential Oil	Scientific Name
Bergamot	<i>Citrus aurantium ssp. bergamia</i>
Grapefruit	<i>Citrus paradisi</i>
Lemon	<i>Citrus limon</i>
Lime	<i>Citrus aurantifolia</i>
Sweet or Blood Orange	<i>Citrus sinensis</i>
Mandarin/Tangerine	<i>Citrus reticulata</i>
Yuzu	<i>Citrus junos</i>



The Spice Palette

Essential Oil	Scientific Name
Black pepper	<i>Piper nigrum</i>
Cardamom	<i>Elettaria cardamomum</i>
Cinnamon leaf	<i>Cinnamomum zeylanicum</i> syn. <i>Cinnamomum verum</i>
Ginger	<i>Zingiber officinale</i>



The Floral Palette

Essential Oil	Scientific Name
Geranium	<i>Pelargonium x asperum</i>
Lavender	<i>Lavandula angustifolia</i>
Neroli	<i>Citrus aurantium</i> var. <i>amara</i>
Petitgrain	<i>Citrus aurantium</i> var. <i>amara</i>
Ylang Ylang	<i>Cananga odorata</i>



Creating a Synergy Stock Bottle

The Aromatic Studies Approach
to Blending

- Core
- Enhance
- Harmonize
- 5, 10, or 30ml synergy stock bottle
- Be sure to label!

Forest Walk

Core: Pine, Scots
Enhance: Balsam fir
Harmonize: Black spruce

Are there concerns with diffusing essential oils?

▫ Yes.

▫ It is entirely possible to diffuse so often that:

- The respiratory system is negatively impacted. Presentation may include: irritation of the eyes and upper respiratory mucosa irritation, with possible tingling, burning, or stinging sensations
- The nervous system may begin to react in the opposite direction caused by over-stimulation. Presentation may include: irritability, headache, inability or difficulty concentrating, light-headedness, either sleepiness or over stimulated (agitation)

Is it safe to diffuse around kids? Infants?

▫ Kids: YES

▫ Infants: use hydrosols!



Essential Oils not to diffuse (under 10 years of age- Plant Therapy)

- | | |
|-------------------------------------|------------------------|
| ▫ Benzoin | ▫ Sweet Verbena |
| ▫ Black Seed | ▫ Oakmoss |
| ▫ Cassia | ▫ Opopanax |
| ▫ Clove Bud, Clove Leaf, Clove Stem | ▫ Oregano |
| ▫ Garlic | ▫ Peru Balsam |
| ▫ Ginger Lily | ▫ Saffron |
| ▫ Honey Myrtle | ▫ Sage (Wild Mountain) |
| ▫ Hyssop | ▫ Savory |
| ▫ Lemon Leaf | ▫ Sycamore |
| ▫ Lemon Myrtle | ▫ Treemoss |
| ▫ Lemongrass | ▫ Tuberose |
| ▫ Massoia Bark | ▫ Turpentine |
| ▫ May Chang | ▫ Verbena (Lemon) |
| ▫ Melissa | ▫ Ylang Ylang Complete |

Is it safe to diffuse around pets?

Good ventilation
Cats and dogs are free to move around



Myths?

- Heat alters essential oil components
- An exact number of drops

Let's Talk?

- The Impact on Everyone in the Room
- Practice Discernment
- Use Critical Thinking



Questions?



Thank you for attending!



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