

THE BRIDGE

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AROMATHERAPY

Editor's Note:

Aromatherapy is an ancient practice receiving renewed attention due to advances in neuroscience. Due to the direct relationship of the olfactory bulb to the limbic system, the effect of the sense of smell is immediate, undiluted, and unedited by the cerebral cortex. Our sense of smell is essential to our wellbeing and experience of pleasure in life, as well as an effective warning system for danger. Decades of commercialism of scented products labeled "aromatherapy" have distorted our perspective on this millennia-old science. WDH has approved practice guidelines for clinical aromatherapy. -K Hails MD

Aromatherapy

Clinical aromatherapy is defined as the therapeutic use of essential oils extracted from plants to enhance health by targeting specific symptoms. Essential oil extracts are highly concentrated and complex essences obtained from plants through a process of steam distillation. Volatility and aroma are the two primary physical characteristics of essential oils; together these characteristics dictate storage, preparation, and administration protocols. Although each essential oil has different properties and specific effects, all are thought to have antiseptic properties in varying degrees. Therapeutic functions of specific essential oils are not necessarily identical to those of the whole plant from which it was derived.¹

Essential oils used in clinical aromatherapy meet the following strict criteria to assure quality and therapeutic response: 1) essential oils are genuine oils, derived from a defined plant genus, species, and chemotype and from a specific plant part such as the flower, or leaf or seed; 2) they are authentic oils, neither adulterated nor

reconstituted in any way; and 3) they are derived from a high quality plant source (how it is grown, harvested, stored and handled) and an extraction process that meets quality specifications.²

Mechanisms of Action

Our sense of smell likely accounts for most of the effect of aromatherapy essential oils whether the essential oils are used topically or by inhalation. The processes that establish our olfactory circuits begin early in life, perhaps even before birth. Studies demonstrate that infants recognize the odor of their mothers within minutes of birth. Interestingly enough, we do not notice olfactory stimuli every time we take a normal breath. Sniffing and smelling occur with inhalation but there is a subtle difference---just as taking a normal breath is not the same as sniffing and smelling an essential oil.³

Smell is a chemical reaction; receptors in the brain respond to chemicals within essential oils. When we breathe in, these chemicals move up behind the bridge of the nose, attaching themselves to millions of hair-like receptors connected to the olfactory bulb. These receptors are so sensitive that they can be stimulated by even subtle scents, and different odors bind to distinct arrays of receptors, enabling people to discriminate between more than 10,000 odors!⁴

Credible evidence suggests that odors can affect mood, physiology and behavior. This is due to the proximity and connections of the olfactory bulb to the limbic system, responsible for emotional memory.⁵ We know immediately if a smell is pleasant or unpleasant and what memories it evokes. Within the limbic system, the amygdala plays an important

role in processing aromas and emotion, and in the formation of emotional memories. Sometimes just thinking about certain smells can be as powerful as actually smelling them. The amygdala also governs our negative emotional responses. A drug familiar to many is diazepam (Valium) which acts by increasing gamma aminobutyric acid (GABA)-containing inhibitory neurons in the amygdala, and thereby reduces the effect of external emotional stimuli.⁶ The essential oil of lavender (*Lavendula augustifolia*) is thought to have a sedative effect on the amygdala, via the same mechanism.⁷

Methods of Application of Essential Oil (EO)

Topical – EO is diluted in a non-toxic carrier oil then applied to the skin by gentle massage. The EO may also be diluted in water and applied as a compress or soak.

Direct Inhalation - Inhalation of EO vapor targeted to a single individual. Two to five drops of EO are applied to a cotton ball or soft fabric and placed under the pillow or in a shirt/gown pocket or given to the patient to smell.

Indirect Inhalation - Inhalation of EO dispersed as fine particles within a specified room or space that may affect multiple individuals. A cotton ball or an aromatherapy diffuser may be used. Indirect inhalation is especially beneficial for wound odors and at end of life care.

Side Effects and Risks

When pure steam-distilled essential oils are used, the potential for adverse reactions to solvents and synthetic additives is eradicated. Topical application is done only with diluted essential oils to

(continued on back page)

further reduce the likelihood of dermal irritation, including sensitivity or allergy. Patch testing can detect and avoid these reactions.^{8,9} Because people have definite scent preferences, they may be asked to select a preferred scent from several essential oils with similar indications. Derreth Roberts, RN, MS, MSN, NP

Clinical Aromatherapy at WDH

Practice guidelines for aromatherapy (PC-92) can be viewed on **The Beacon** (WDH Intranet): clinical documents, policies and forms, click policies, type *Aromatherapy* into search box. Treatment is limited to the availability of a certified clinical aromatherapy practitioner and/or designated clinical staff who have undergone training and orientation.

Requests for aromatherapy may be generated by patients, their families, physicians, nurses and other hospital clinical staff.

References

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Examples of Essential Oils and Indications for Use ⁵.

Common Name	Botanical Name	Indications
Angelica	<i>Angelica archangelica</i>	Anxiety, Emotional/spiritual distress Enhance substance detoxification (eg., nicotine)
Clary Sage	<i>Salvia sclarea</i>	Anxiety, Pain Insomnia, Headache Menopause
Frankincense	<i>Boswellia carteri</i>	Pain End of life agitation Emotional release
Geranium	<i>Pelargonium graveolens</i>	Female hormone regulation, e.g., PMS; menstrual problems Nervous tension Stress, Depression
Lavender	<i>Lavandula officinalis</i> (also referred to as <i>Lavandula augustifolia</i> or <i>Lavandula vera</i>)	Relaxing/calming action Enhances sense of well being Pain, Topical antiseptic
Pine	<i>Pinus sylvestris</i>	Male hormonal balancing Supports "inner strength" Antiseptic
Roman Chamomile	<i>Chamaemelum nobile</i>	Antispasmodic, useful for back pain, headache Soothing, calming Nervous tension
Rose	<i>Rosa damascene</i> (<i>Rose otto</i> is steam distilled)	Insomnia Hypertension Pain, Anxiety, Depression Spiritual distress
Sandlewood	<i>Santalum album</i>	Insomnia Enhance meditation Topical antifungal, antiseptic Astringent & toning on skin Joint pain
Ylang ylang	<i>Cananga odorata</i> var. <i>genuine</i>	Relaxing, calming Soothe angry situations

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