AROMATHERAPY AT NATIONWIDE CHILDREN’ S HOSPITAL

Making sense of scents:

WHAT IS AROMATHERAPY?
The definition of Aromatherapy is the therapeutic application or use of aromatic substances for health. Clinical Aromatherapy as defined by Jane Buckle, PHD, RN is targeting the essential oils around a specific symptom.

3 ways to use Essential Oils:
- Inhalation
- Skin absorption
- Ingestion

WHAT IS AN ESSENTIAL OIL?
The International Organization for Standardization (ISO) in their Vocabulary of Natural Materials (ISO/DIS9235.2) defines an essential oil as a product made by distillation with either water or steam or by mechanical processing of citrus rinds or by dry distillation of natural materials. Following the distillation, the essential oil is physically separated from the water phase.

- Essential oils are composed of plant chemical components, it is these chemical components that have measurable therapeutic activity, validated through scientific research.
How essential oils are obtained. Most are steam distilled.

Distillation is the process of removing the Essential Oils from the plant. Depending on the plant, the oils may come from the flower, stem, root, leaf, rind etc. It is an exact process, done in order to keep the chemical composition intact and not lose the therapeutics. The fragrant water, separated is very beneficial and known as a hydrosol or hydrolat. The oils are volatile and extremely potent.

Examples of potency:
* 60 roses = 1 gtt of rose oil
* 10,000 roses or 833 dozen = 5ml
* 1 gtt of Lemon oil is equal to about 1 lb. of lemons
* 15 ml of Lavandula angustifolia oil is equal to 30 lbs. of flowers
* 1 gtt of German chamomile oil is equal to 30 cups of tea

A few more examples of potency for common Essential Oils:

Essential oils are influenced by the altitude, climate, soil and more. This can also affect potency, molecular components, price, and therapeutics.
Chemistry

Essential oils contain groups of Chemical Families. Within those families are the chemical components. A breakdown of the components show up on a GCMS (Gas Chromatography Mass Spectrometry) analysis. Important to note, that any adulteration of the oil, pesticides etc shows up here also.

Essential Oil chemistry is complex and fascinating. For our purpose here are just a few tidbits of general information.

For example:

- Monoterpene = chemical family
- D-limonene = a chemical component, with therapeutics including immunostimulant and skin penetrating abilities.
  - Monoterpenes are considered top or middle notes, they evaporate quickly.
  - Now a Monoterpenone with d-limonene can be a possible choice for someone who is ill.

*An essential oil can be made of over 300 different components.

The essential oils we have selected here for NCH have properties that Meet many of the common issues facing our patients.

Some chemical families and a few main properties of each

- Monoterpenes: airborne deodorizers, decongestant, rubifacient
- Sesquiterpenes: check ind. EO* anti-inflammatory, antispasmodic, sedative
- Monoterpenols: anti-infectious, immune stimulants needed for long term Emotional balance
- Sequiterpenols: check ind, EO* anti-inflammatory, whole body support, cooling
- Esters: calms nervous system, soothe and heals skin, antispasmodic, Anti-infectious
- Phenols: highly anti-infectious, immune stimulant (strong)
- Ketones: pain relief, mucolytic, circulatory
- Oxide: decongestant (strong), analgesic, anti-infectious.
Lamiaceae - botanical family

True Lavender = common name

Spike Lavender = common name

Now if you were to look at a Spike Lavender and a Lavendula angustifolia
Which would you pick for calming?
Fun fact: there are over 40 different kinds of Lavender!

Examples of part GCMS - gas chromatography, mass spectrometry

True Lavender = Lavandula angustifolia

Spike Lavender = Lavandula latifolia

Esters are calming for the CNS - you would choose True Lavender

Interesting Research

Explore. July/Aug 2008, vol4, No. 4
Essential Oil Diffusion for the treatment of persistent oxygen dependence in a three year old with restrictive lung disease with respiratory syncytial virus pneumonia. Hedayat, MD


"Weber State University did a study on airborne bacteria in 1998, and found Essential oils to be 99.96% effective in being anti-viral, anti-bacterial, and antiseptic, and anti-fungal. Certain essential oils have components that appear to have a detrimental effect on bacteria. Essential oils are complex and where by bacteria can generally outsmart pharmaceuticals, the oils outsmart the bacteria."
Essential oils can effect the Limbic System

Aromatherapy acts on the CNS, relieving depression, anxiety, reducing stress, relaxation, uplifting mood, sedation or stimulating, restoring both physical and emotional well-being.

With the influence of the hypothalamus, we may use aromatherapy @ NCH to elicit responses such as: sleep, nausea relief and calming. EO’s can also have effects on the brain such as mood elevation and stimulating mental alertness.

- **Hypothalamus**
  - Located in Limbic System
  - Influences:
    - Heart rate
    - Blood pressure
    - Hormone secretion
    - Temperature
    - Respiration
    - Sleep cycle
  - Assists coordination of nervous system, autonomic and parasympathetic.

Here are a listing of some the therapeutic actions we wanted our essential oils here at NCH to be used for:

1. Relaxation
2. Immune system support
3. Elevated mood
4. Assistance with sleep
5. Improved digestion/nausea
6. Joint/muscle pain relief

Next: Let’s look at some of the specific essential oils we use here at NCH.
SWEET ORANGE
Citrus sinensis

Citrus oils that are cold pressed can cause photosensitivity when applied to the skin. This is not an issue when the citrus EOs are diffused and inhaled. Patients, parents and staff also love the citrus scents for refreshing the patient rooms and clearing the clinical smells of the hospital.

- AROMA sweet, citrusy, fresh
- PROPERTIES digestive support, including nausea, helps clean the air, antibacterial, analgesic
- EMOTIONAL PROPERTIES uplifting yet also relaxing, may be helpful with depression
- SAFETY phototoxic, however not a concern with diffusing or inhalation.

PEPPERMINT
Mentha piperita

Here are NCH we really want to use this essential oil with care. First think where is another oil that would be better to use. If not, read through the SAFETY notes again to make sure your patient is older than 6 years old and doesn't have any of the conditions listed.

- AROMA fresh, cool, clean, minty
- PROPERTIES aid digestion, anti-spasmodic, anti-nausea, anti-inflammatory, analgesic, cooling, anti-viral
- EMOTIONAL PROPERTIES refreshes, up-lifting, awakens
- SAFETY do not use in children under 6 years old. Do not use in patients with asthma, seizures, blood clotting disorders, or G6PD deficiency.

ROMAN CHAMOMILE
Chamaemelum nobile

- AROMA herbaceous, sweet, fruity
- PROPERTIES analgesic, anti-spasmodic, aids sleep, calms nervous system, tonic, skin soother
- EMOTIONAL PROPERTIES eases anxiety, promotes peaceful thoughts
- SAFETY use with caution if patient has issues with ragweed
LAVENDER
*Lavandula angustifolia*
- **AROMA** floral, herbaceous, sweet
- **PROPERTIES** analgesic, calms CNS, anti-inflammatory, airborne antimicrobial, skin wound healing, promotes relaxation, antidepressant, antibacterial
- **EMOTIONAL PROPERTIES** balancing to body and mind, calming
- **SAFETY** no known safety issues

LEMON
*Citrus limon*
- **AROMA** citrusy, fruity, fresh
- **PROPERTIES** cooling, antiviral, antibacterial, immuno-stimulant, antidepressant, analgesic
- **EMOTIONAL PROPERTIES** invites happy mood, uplifting, reduces depression and tension
- **SAFETY** Phototoxic, however not a concern when diffused or inhaled

LIME
*Citrus aurantifolia*
- **AROMA** bright, fresh, citrusy, clean, sweet
- **PROPERTIES** analgesic, antibacterial, antiviral, cooling, stimulates immune system
- **EMOTIONAL PROPERTIES** anti-anxiety, uplifting, assists with fatigue, good for kids are are fearful
- **SAFETY** our Lime here is not phototoxic.
BLACK PEPPER
Piper nigrum

- AROMA spicy and warm
- PROPERTIES analgesic, anti-inflammatory, antibacterial, warming and helps circulation, vasodilator
- EMOTIONAL PROPERTIES reduces fatigue or low energy.
- SAFETY: if used on skin- 1% dilution to start.

INTEGRATION BLEND
balsam copalba, balsam poplar, white sage, jasmine sambac, rhododendron

This blend is a good one to use with stress, trauma and grief, and end of life occurrences. The blend is formulated so that the scent won't be recalled as easily as a single scent like peppermint.

- AROMA floral, piney and herbaceous
- PROPERTIES antidepressant, decreases tension and anxiety
- EMOTIONAL PROPERTIES calms, decreases fear, quiets the mind, comforting
- SAFETY caution with patients taking medications that are metabolized by the enzyme CYP2D6.

Start with small dilutions with this blend.

PRECAUTIONS

- ESSENTIAL OILS ARE HIGHLY CONCENTRATED. WE DILUTE THEM GREATLY IN LOTION TO MAKE THEM SAFE FOR OUR PATIENT POPULATIONS.
- SOME ESSENTIAL OILS ARE NOT APPROPRIATE FOR CHILDREN UNDER 10 YEARS OLD.
- ESSENTIAL OILS SHOULD NOT BE USED ON THE SKIN OF CHILDREN 2 YEARS OR YOUNGER.
- PARENTS AND PATIENTS ARE BRINGING IN ESSENTIAL OILS. YOU CAN PRINT OUT THE AROMATHERAPY HELPING HAND.
NCH HOSPITAL POLICY

WHO MAY PROVIDE AROMATHERAPY?

Any licensed provider who is part of the care team for the patient who has completed basic training on Aromatherapy training for healthcare provider.

- Basic aromatherapy educational training sessions will be offered to healthcare providers. Completion of this training will define a healthcare provider as an aromatherapy trained healthcare provider within the use at NCH only.
- Those members of the care team who care for patients receiving aromatherapy will have basic aromatherapy awareness.

Only massage therapist and acupuncturist trained in clinical therapy are allowed to use Aromatherapy with lotion and provide custom blends in nasal inhaler sticks.

ESSENTIAL OILS USED THREE WAYS HERE AT NCH

- INHALER STICK OR AROMATHERAPY TAB, TO BE INHALED WHEN NEEDED.
- DRY AIR ROOM DIFFUSER

Please be conscious of a couple things when trying to decide between the diffuser and inhaler method. The diffuser will spread the aroma through the room. All people in the room will smell it, so if family or visitors are present, they should be made aware. Please place an AROMATHERAPY magnet on the patients door. Also, the aroma can affect staff that is going in and out of the room. We want to make sure the staff working with that patient are able to handle the smell of the essential oil.

There is also clean up that should be considered. The diffuser will need wiped down with the Sanicloth when removed from patient's room to disinfect it.
General Safety with Aromatherapy

- Wear gloves when handling essential oils.
- Wash hands after using essential oils.
- Keep essential oils in locked cabinets when not in use.
- If by chance the glass bottle breaks, use gloves, mask and goggles when cleaning up the spill, refer to MSDS.
- If any essential oil happens to get into eye area, see medical attention as directed on MSDS sheet.
- If the scents of any essential oil is noxious, use alcohol pad to convert smell.

Assess for signs of allergic reaction (local or systemic)

- Local: skin irritation, pruritus
- Systemic: wheezing, laryngospasm

- If an allergic reaction is detected remove the offending oil from the room or skin.
- Oils are not water soluble, use plain oil or lotion to remove irritating oil from skin.
- If someone is scent sensitive use an alcohol pad for inhalation to rid of the noxious scent.
- Once the irritating oil is removed the skin can then be cleansed with soap and water.
- Use clinical criteria to decide following steps of management depending on the severity of the allergic reaction.

PROCEDURE

<table>
<thead>
<tr>
<th>Method of dispersion</th>
<th># drops of oils</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aromatherapy Inhaler stick</td>
<td>3-18 drops</td>
<td>Remove hemostats from wick. Place oil drops on the wick. Place the wick in the inhaler stick. Place cap on inhaler tube and secure tightly. Place aromatherapy label on the outside of the inhaler stick.</td>
</tr>
<tr>
<td>Aromatherapy Tabs</td>
<td>Scented tab</td>
<td>Remove from packet. Tape aromatherapy tab to patient bed/crib. Change tab as needed.</td>
</tr>
<tr>
<td></td>
<td>Unscented tab</td>
<td>- 1 to 6 drops - start low. Place oil drops on new unscented aromatherapy tab. Tape aromatherapy tab to patient bed/crib.</td>
</tr>
<tr>
<td>Aromatherapy Diffuser</td>
<td>Up to 6 drops</td>
<td>Place oil drops on clean diffuser pad. Place pad in diffuser. Keep the patient room door closed when diffuser is in use. Placed aromatherapy magnet outside of the patient door.</td>
</tr>
</tbody>
</table>
Aromatherapy products used here at NCH

Aromatherapy Inhaler Stick
Aromatherapy Tab
Dry Air Diffusor

AN EPIC ORDER IS NEEDED IN THE INPATIENT SETTING TO USE AROMATHERAPY

Aromatherapy Order
Order with required fields:

EPIC ORDER
Required fields complete, display in order header:
IN THE INPATIENT SETTING THE EPIC AROMATHERPY FLOWSHEET IS USED TO DOCUMENT IN THE EMR
### Aromatherapy Flowsheet with Answers and Cascaded Options:

#### Encounter Type Options:

<table>
<thead>
<tr>
<th>Encounter Type</th>
<th>Aromatherapy Encounter</th>
<th>Initial</th>
</tr>
</thead>
</table>

#### Cascade for "Progress" Encounter Type:

<table>
<thead>
<tr>
<th>Encounter Type</th>
<th>Progress</th>
<th>Evaluation</th>
</tr>
</thead>
</table>

#### Symptoms:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Intensity</th>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
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#### Epic

### Cascades for Symptom Intensity:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Intensity</th>
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#### Epic

### Essential Oils:

<table>
<thead>
<tr>
<th>Essential Oil</th>
<th>Quantity</th>
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<tr>
<td></td>
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</table>

#### Side Effects:

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>Frequency</th>
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### Patient Symptom Responses:

<table>
<thead>
<tr>
<th>Symptom Response</th>
<th>Effect</th>
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### Patient Satisfaction:

<table>
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<th>Patient Satisfaction</th>
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### Revenue:

<table>
<thead>
<tr>
<th>Revenue Type</th>
<th>Quantity</th>
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</tbody>
</table>
EPIC

To create an Aromatherapy Note in your current note you can use a smart-phrase (.aromatherapy) to pull assessment into any note.

EPIC

Note Template to pull assessment into a stand alone note:
Enter "aromatherapy" into the SmartTest box. The completed assessment will pull into a stand alone note.

EPIC IN THE CLINIC SETTING

use smart-phrase .aromatherapyclinic in the outpatient and clinic setting

Aromatherapy information was reviewed with *** and parents
Aromatherapy is being used with *** for *** pain using an aromatherapy inhaler
Essential oils used:
Black pepper, English lavender, English peppermint
Education was provided to patient and parent on use and home instructions. Aromatherapy Helping Hand was given.
Educate patient and family about aromatherapy and provide with Aromatherapy – Essential Oils Helping Hand (HH-IV-154).

HOMEGOING EDUCATION

If patient is being sent home with the Aromatherapy inhaler stick review home going instructions.

Use smart-phrase: aromatherapy/homegoing in discharge AVS

RESOURCES & REFERENCES:

Anchor: http://anchor.columbuschildrens.net/aromatherapy

National Association of Holistic Aromatherapy
www.naha.org

National Institute of Health
www.nih.gov

*International Journal of Clinical Aromatherapy
*International Journal of Professional Holistic Aromatherapy

*Clinical Aromatherapy, Essential Oils in Healthcare. Jane Buckle, PhD. RN
*Essential Oil Safety. Robert Tisserand.
*Aromatherapy for Health Professionals. Price, Shirley and Ken.
Frequently asked Questions

Q Can I use my own oils in the hospital?
A While present at NCH you are requested to use only sanctioned oils even for personal use. This is for consistency and continuity rather than endorsing particular brands. While there are many reliable products available, we want to assure a consistent patient/family experience with EOs at NCH.

Q Can I use stronger concentrations?
A We must all stick to the NCH policy while in the hospital.

Q Will there ever be other oils and different uses at NCH?
A This is a new program and a work in progress. As more research and data are gathered, it is possible that the program will expand.
Making “Scents” of Aromatherapy/Essential Oils

Children’s Mercy Hospital
Journey to Implementation
Lynn M. Anson, RN-BC
September, 2018

Conflict of Interest

• I have no Conflicts of Interest to disclose

In the Beginning . . .

• Our massage therapist is the only Certified Clinical Aromatherapy Practitioner (CCAP)
• 4 full weekend training sessions from April 2014 through March 2015 in Tennessee
• She provides clinical aromatherapy using custom blends in nasal inhalers/ethereal sticks
2015 – Lots of Interest

• Nurses on Orthopedic unit piloted a study using a peppermint essential oil patch for post op urinary retention with positive results.
• Aromatherapist did a small study comparing use of hand massage only vs essential oil patch only vs hand massage and EO patch (most favorable)
• Pain NP did a study for migraine patients in our pain clinic using aromatherapy in a foot bath.

2015

• Saw an increase in the number of families bringing in diffusers (not allowed).
• Nurses wanted another alternative they could use to aid in patient comfort and support holistic nursing practice.
• By Fall, policy development began with the pain team.
  – 2 separate/distinct policies – Aromatherapy and Essential Oil Use

Feb 2016

• Assembled multidisciplinary group of Essential Oil Champions from each unit/clinic. (Total of 62 reps)
  – Nurses, Care Assistants, Child Life Specialists, Pain Team, PT
• Tasks
  – Review proposed policy and complete edits
  – Build staff education on use of four EO patches
    • Lavender, Citrus (mandarin), Peppermint, Spearmint – safest & effective for desired indications.
    • Direct Inhalation mode ONLY - Patch chosen for ease of administration
  – Develop nursing orders and documentation
June 2016

Next steps:
- Secure MSDS Data sheets for lavender, mandarin, peppermint and spearmint oils.
- Build Consult order for Aromatherapy, no need for physician order for essential oils.
- Disposal – regular trash
- Present policy draft and progress at Inpatient Directors and Ambulatory managers meetings

September 2016

Policy approved by Nurse Practice Council – Next stop, P&T in November and Med Exec committee in December

Unit EO champions completed Cornerstone education module for training:
- Brief background history
- Basic facts – some intrinsic risk, not FDA regulated, safe when used correctly
- Difference between Clinical Aromatherapy and recreational fragrances
- Modes of delivery
- Basic physiology of Olfaction

September 2016 (con’t)

- Considerations
  - cannot use on children < 3yrs or < 20kg
  - assessment of comfort concern
  - patient’s desire to use as well as EO preference if indicated
- Application – On 4 hours, remove. May replace if pt desires. Remove prior to discharge
  - After initial assessment completed by licensed staff, application can be designated to Child Life Specialists or Care Assistants who completed the required competency based instruction
- Patient/Family Education/Discharge Information
- Documentation
- 7 question Quiz
September 2016 (con’t)

• Establish communication tools for EO champions on our inpatient units, ED, peri-operative services and ambulatory clinics
  ► Email group
  ► Yammer group

Education

• Approved oils, indications and contraindications

ESSENTIAL OIL PATCHES

<table>
<thead>
<tr>
<th>Indication</th>
<th>Oils Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load, Sleep, Mood, Focus</td>
<td>Lavender, Peppermint</td>
</tr>
<tr>
<td>Digestive Distress</td>
<td>Ginger</td>
</tr>
<tr>
<td>Respiratory, Sinus Congestion</td>
<td>Eucalyptus</td>
</tr>
<tr>
<td>Allergy Relief</td>
<td>Chamomile</td>
</tr>
</tbody>
</table>

November 2016

• Implementation Obstacles
  – Physicians on P&T Committee raised concerns about physician notification with no orders.
  – Significant edits related to discharge education for patients/families
  – Policy language changes to be more comfort in nature rather than therapeutic.
May 2017
• Added a requirement for provider notification to the policy
• Developed more descriptive discharge instruction sheet
• Tweaked the language in policy
• Policy was finally approved and out for signatures

August 2017
• Take II for EO Champs
  – Reviewed updated Cornerstone module
  – Discussed patch ordering info
    • $1 each
    • 25 per box
    • Expiration dates (1 year)

October/November 2017
• All applicable staff assigned to complete the Essential Oil cornerstone module – open October 1st through November 15th.
• Go-Live on November 16, 2017
  Implementation completed
Patient/Family Education

The Use of Essential Oils for Comfort

Children's Mercy wants your child to be as comfortable as possible. We would like to offer your child a __________________________ essential oil patch. (name of essential oil)

Some people with ______________________ have felt more comfortable when they smell (comfort concern) the essential oil. The safety and usefulness of essential oils have not been proven. Essential oils are not regulated by the Food and Drug Administration (FDA).

Children's Mercy has a policy about how essential oils may be used in our hospital. Below are some key points from that policy:

• The patch is the only form of essential oils use that may be used in our hospital.
• Some people have headaches, dizziness, breathing difficulties, seizures, or nausea when using essential oils. If you or your child have any of these problems when you use essential oils, the patch will be taken off.
• The patch will be placed on your child's gown or skin right below the neck. The patch can be a choking hazard. Make sure you know where the patch is placed. Make sure your child does not play with it or place it in their mouth.
• The patch stays on for 4 hours. Your child can ask to stop using the patch at any time.
• We can replace it every 4 hours if your child finds comfort with the patch. We will remove the patch prior to your child's discharge.
• This essential oil patch is being used with your child's other ordered medical treatments.
Discharge Instructions

Essential Oil Discharge Information

• During your child's a_____________________________ essential oil patch was used for comfort.
• We hope that your child was comforted. The patch will be removed.
• Other commercial essential oils are available. They may report similar comfort measures. They may also have other risks. Children’s Mercy does not use these products.
• Talk to your child’s primary care provider:
  - if you want to continue to use essential oils.
  - if you use essential oils or other natural products in your home.
• Call your doctor or the Children’s Mercy Information Line at (816) 234-3188 if you have questions or concerns about essential oil patches for your child’s treatment.

Supplier Info

• Bioesse Technologies, LLC
  P.O. Box 1182
  Minnetonka, MN 55345
  Phone: 952-221-8610
  www.bioessetech.com

• Appalachian Valley Natural Products
  266 Maple Street, PO Box 515
  Friendsville, MD 21531
  Phone: 301-746-4630
  www.av-at.com

• Nature’s Gift
  316 Old Hickory Blvd East
  Madison, TN 37115
  Phone: 615-860-9171
  www.naturesgift.com

• SunRose Aromatics, LLC
  1120 Dean Avenue
  Bronx, NY 10465
  Phone: 718-794-2991
  www.SunRoseAromatics.com

Program Acceptance – Moving Forward

• Nov 16, 2017 to July 17,2018
  – 701 patches have been applied
  – Most used indications
    • Irritability and restlessness
    • Nausea
Program Acceptance

• 4 reported adverse reactions – patch removed
  - one for each patch
  - 2 reported nausea
  - 2 patient didn’t like the fragrance
• All 4 requested to have a patch again

Program Acceptance

• 2 other notable events
  – Parent brought own diffuser using unknown oil
  – Parent using own blend of EO on 5 month old babies feet, palms and chest. Aromatherapist discovered the concentration was 5X greater and unsafe to use, especially as a topical.

QUESTIONS???