

**Complimentary and  
Alternative Treatments  
for Pain**

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Certified Aromatherapist

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**Integrative Medicine for  
Pain Management**

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Certified Aromatherapist NAHA Level 2

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**Disclosures**

- Donna Sipos Cox – does not have any relevant financial relationships to disclose

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## Objectives

- Participants will name the NIH categories for Complimentary and Alternative Medicine (CAM) and differentiate between the various therapies
- Participants will describe five nonpharmacologic alternatives to control pain
- Participants will be able to explain how aromatherapy affects the body

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## Pain Definitions

- "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or both." IASP, 1994
- "Pain is whatever the experiencing person says it is, existing whenever the patient says it does" McClafferty, 1968

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## Types of Pain

- Nociceptive – stimulation of pain receptors may arise from tissue injury, inflammation, mechanical deformation
  - Somatic - Injury occurs in tissues such as skin, muscles, bone, joints
  - Visceral – Injury occurs in internal organs of main body cavities
- Neuropathic – Abnormal processing of the impulses either by the peripheral or central nervous system
- Multimodal approach important since not one medication/therapy to decrease pain

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### NCCIH Definitions & Categories

- NCCIH – National Center for Complementary and Integrative Health – within the National Institutes of Health
- NIH modality groups
  - Alternative medical systems/energy healing
  - Biology-based
  - Manipulative and body-based
  - Mind-body

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### Statistics on Pain - Adults

- Pain is the number one reason to see Primary
- Chronic pain amount adults 11-40%
- Chronic pain costs an estimated \$560 billion each year
  - Direct medical costs
  - Productivity loss
  - Disability programs

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### Pediatrics National Health Survey

2007

- 11.8% parents reported pain
- Conditions included
  - Back or Neck 6.7%
  - Other musculoskeletal problems 4.2%

2017

- 26.6% parents reported pain
- Conditions included
  - Dental pain 8.4%
  - Abdominal pain 7.9%
  - Recurring HA not migraine 7.3%
  - Muscle/bone pain 6.7%
  - Frequent HA & migraine 6.4%

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### Statistics on CIM Pediatrics

<b>2007</b>	<b>2012</b>
<ul style="list-style-type: none"><li>• 11.8%</li></ul>	<ul style="list-style-type: none"><li>• 21.3% with pain</li><li>• 8.1% without pain</li></ul>

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### Statistics on CIM - Adults

<b>LBP 2012 – Limiting &amp; Non</b>	<b>LBP or Neck 2017</b>
<ul style="list-style-type: none"><li>• 41.2% of all LBP use in past yr</li><li>• Herbal therapy 21.3%</li><li>• Chiropractic manipulation 14.6%</li><li>• Massage 10.5%</li><li>• Yoga/Tai chi/Qigong 10.1%</li><li>• Limiting LBP 44.5% vs 39.9%</li></ul>	<ul style="list-style-type: none"><li>• 33.1% experienced</li><li>• Herbal therapy Massage ?</li><li>• Chiropractic manipulation 17.3%</li><li>• Yoga – 13.7% (13.1%) Tai chi 1.7% Qigong 0.5%</li><li>• MBM 26.9%<ul style="list-style-type: none"><li>• Spiritual 12.6%</li><li>• Mindful 6.9%, Mantra 5.1%</li><li>• Progressive 5.4%, Guided 3.9%</li></ul></li></ul>

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### Energy Healing Therapies

- Acupuncture
- Ayurveda homeopathic
- Naturopathy
- Traditional Healers
- Energy healing therapies

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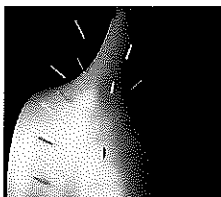
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### Energy Healing - Acupuncture

- Levy et al (2019) study  
40% less VAS scores at rest and movement for acupuncture group
- Possible bias – acupuncture group not blinded



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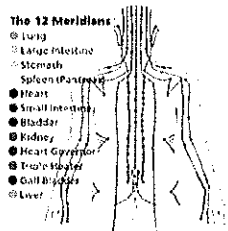
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### Energy Healing - Acupuncture

- Chen et al (2019), attempted to determine optimal schedule.
- Conclusion
  - No difference in lower vs higher frequency visit or duration of treatment
  - Need for more randomized controlled studies beyond 18 weeks



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### Energy Healing - Reiki



- Jahantigh et al 2018
- Reiki significant pain improvement vs medications
- Reiki vs physical therapy no different, but less expensive

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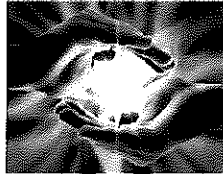
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### Energy Healing - Reiki

- Zins & Hooke (2019)
- Reiki decreased VAS scores from 4.73 to 0.87 ( $p < 0.01$ )
- Reiki provided last 2 sessions for 4 weeks



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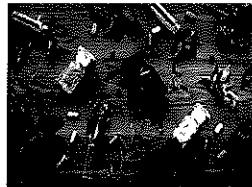
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### Biology Based Therapies

- Chelation therapy
- Herbal or nonvitamin supplements
- Special diets



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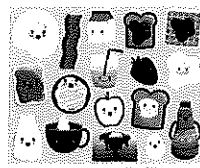
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### Biology Based - Diet

- Low carbohydrate diet after TKR
- Lower pain intensity & unpleasantness in functional pain tasks & self-reported pain
- Significant reduction in oxidative stress
- Regular and low fat diets



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### Manipulative and Body Based

- Chiropractic and osteopathic manipulation
- Massage
- Craniosacral
- Movement and exercise



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### Manipulative & Body Massage



- Gentile et al (2018)
- Healing Touch and Oncology Massage immediately reduced pain
- Unsure of lasting effect
- N=572



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### Mind-Body

- Biofeedback
- Hypnosis
- Meditation
- Guided imagery
- Progressive relaxation
- Yoga
- Tai chi – Qi Gong



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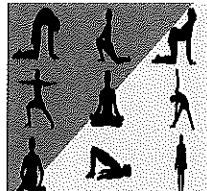
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## Mind Body -Yoga

- Demirel et al 2019 study
- Yoga group higher pain relief during yoga session
- Stabilization exercises improve disability in chronic LBP



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## Aromatherapy

Therapeutic use of essential oils (EO) derived from plants

Uses EO purposefully to enhance and restore health



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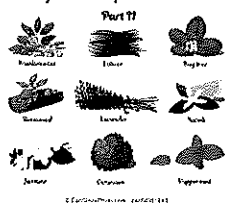
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## Essential Oils

Plants from which produce essential oil



- Naturally forming chemicals plants produce found in small pockets in plants
- Found in leaves, twigs, stems, roots, flower blossoms or fruit

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## Essential Oils vs Fragrances

### Essential Oils

- Naturally occurring in plants
- Small molecules -  
1 drop=40 million+
- Extremely concentrated -  
small amount necessary
- Lavender 150-200 pounds of  
plant tops equals 1 pound of  
essential oil

### Fragrances

- Synthetic
- Larger molecules
- Do not penetrate skin or  
olfactory system well due to  
size
- Not pure substance -  
pesticides

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## History of Aromatherapy

- Egyptians - essential oils found in tombs - frankincense, myrrh (hay fever)
- Greeks - Theophrastus in 300 BCE wrote Enquiry into Plants, which described specific uses for aromatics
- Iraq - Neanderthal skeleton buried with concentrated extracts of yarrow, grape hyacinth
- China - Shen Nung in 2800 BCE wrote Pen Tsao (The Great Herbal), which list plants many still used today
- India - first Sanskrit medical treatises dating to 2000 BCE includes aromatic plants
- Native Americans - treated dysentery and other diseases with cedar leaves, black cohosh root (*Cimicifuga racemosa*) for musculoskeletal pain, headache, aid for labor and hormonal imbalances.

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## History of Aromatherapy

- Rene-Maurice Gattefosse -  
Chemist in 1910 was  
burned in explosion -  
infected with gas gangrene  
stopped with lavender
- Florence Nightingale -  
Nurse used essential oils in  
Crimean War including  
lavender, myrrh
- Marguerite Maury - Nurse  
classified the use of  
essential oils into various  
clinical departments

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## How is Aromatherapy Used

### Inhalation

- Aromatabs
- Aroma sticks
- Steam inhalation
- Diffuser

### Topically

- Mixed with carrier oil or lotion
- Soaks for wounds
- Sprays – insect repellent, wound healing

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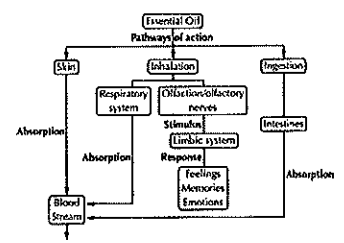
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## Essential Oil Absorption



Orients and body tissues  
 Figure 1 – Flowchart demonstrating the potential of HI performance pathways in the body – São Paulo, 2015.

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## Lavender - Lavandula angustifolia

Lavandula angustifolia

- Reduce anxiety – relaxing
- Assist with sleep
- Reduce pain
- Reduce headaches with Peppermint
- Topically – burns and wounds




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### Research

- Welden et al, 2021 – abdominal surgery patients who received regional block and aromatherapy significantly improved pain level (random control - USA)
- Sahin et al, 2021 – aromatherapy significantly decreased pain and anxiety related to arteriovenous fistula puncture in hemodialysis patients (random control - Turkey)
- Johnson et al, 2017 demonstrated diffused lavender significantly decreased stress reported by nurses in acute care setting (quasi-experimental, USA)

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### Peppermint – Mentha piperata

- Energizing
- Headache reduction
- Decrease nausea – chemo, postop,
- Decrease congestion
- Reduces colon spasms



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### Research

- Mohr et al 2021 – Peppermint or Peppermint/antiemetic arm significant improvement in baseline to postintervention (quasi-experimental, USA)
- Mapp et al 2020 – Peppermint on washcloth or washcloth on neck for chemotherapy nausea, significant improvement for peppermint group (USA)
- Two studies in cardiac patients
- Nausea/vomiting significantly decreased after peppermint (Maghami et al 2020, Iran)
- Anxiety in the ED decreased significantly with peppermint (Soleimani et al 2022, Iran)

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### Issue with Studies

- Small study sizes
- Difficulties with "sham"
- Mega analysis - difficult to use data
- Hoy et al 2021
- Evidence from RCT effect of yoga based intervention assessing cognition if adults >60
  - 1104 studies
  - Full text assessed 23
  - 6 included

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Thank You!

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