

# FROM SCIENTIFIC ROOTS TO CLINICAL BRILLIANCE OF MEDICINAL PLANTS AND AROMAS

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(prepared for and dedicated to Botanica 2014)

“Essential oils, made out of natural aromatic molecules, are endowed with so many physiological and pharmacological properties that they find applications in almost every field of medicine, not only curatively but also from a preventive medicine point of view.

Provided that the practitioner has the relevant information and has undergone the appropriate training, and that the aromatic extracts used conform to medical quality criteria, aromatherapy and aroma care can bring real complementary help to many patients, far beyond the anti-stress massage approach. Aromatherapy can provide a useful complementary medical service both in healthcare settings and in private practice, by example cancer care, dementia, and depression. There are many indications for the useful and successful application of essential oils like stress, sleep disorders, back pain, infections, gastrointestinal disorders, female diseases, and airways dysfunction.

Essential oils (EOs) are concentrated natural plant products which contain volatile aroma compounds. These mixtures of compounds (mainly mono- and sesquiterpenoids, benzoids, phenylpropanoids, etc.) exert different biological actions on humans, animals, and other plants. Distillation (most natural plants) and mechanical pressing (citrus fruit skin) are the common methods for isolation of essential oils (European Pharmacopoeia; ISO 9235 [1997]).”

*These words are mainly taken from “Aromatherapy for Health Professionals” (Shirley and Len Price, 1996, Churchill Livingstone, Pearson Professional Limited 1995), Foreword Dr. Daniel Penoel, Introduction: 1 – 4*

*I like to provide to Shirley and Len Price my outmost thanks and respect for their outstanding contributions to aromatherapy.*

## Personalized holistic treatment

The holistic approach of aromatherapy starts with the patient's aromatological medical history, which includes physical, mental, emotional and spiritual aspects, life events from the past and the present, as well as future perspectives, social and professional relationships. Preferences and dislikes of aromas are also very valuable.

Aromatherapy is a proven method of complementary medicine. Therefore, as in every other treatment, an exact diagnosis is the first step. Essential oils may be used independently to improve a person's well-being, promote health, or prevent disease.

**However, acute or chronic diseases should always be treated together with an experienced physician.**

Aromatherapy follows the principles of natural medicine. Its purpose is to arouse and strengthen the vitality and self-healing powers of a person. Essential oils have deep effects on our mental equilibrium. They cause a change of moods, restore balance in imbalanced areas, and thus deprive a disease of its actual breeding ground. Essential oils affect the body and the mind in equal measure and thus act in a holistic manner.

## **Interdisciplinary cooperation**

In my several years of medical practice I frequently found that close cooperation with doctors of general medicine, specialists, psychologists, physiotherapists, occupational therapists, experts in other fields of complementary medicine or serious alternative medicine is associated with numerous advantages for the patient as well as the doctor. Relevant reports and conclusions can be evaluated in respect of their significance. Besides, the professional competence and assistance of all therapists and experts can be coordinated in a team. Thus, the patient is seen appropriately as an individual personality within the overall holistic therapy concept.

Medical aromatherapy can be used as an alternative in some pathological cases and situations, and as a complement to conventional medicine in persons with other diseases. Its benefits in conventional medicine are manifested by its frequent and significant improvement of efficacy, tolerability, quality of life, cost-effectiveness, therapy adherence, and patient satisfaction. A similar situation is encountered when using patient-related aroma care as a complementary measure in the overall nursing process.

“In my view, a holistic approach with personalized effects on the body, mind and soul is the outcome of a combination of the olfactory and biochemical effects of the essential oil and the interdisciplinary and integrative combination of conventional and complementary medicine.”

## **CASES: INHALATION WITH ESSENTIAL OILS**

### **Pseudomonas aeruginosa colonization / infection in COPD GOLD III with bronchiectasis in both lower lobes**

Patient: S.P., 63 years old, male, married, 172 cm, 61 kg

**Medical history:** Been smoking since the age of 16 years (50 pack years), truck driver, early retirement, no known allergies. In the last 3 years he has had 2 to 4 exacerbations of infection per year. The last year he was admitted to the hospital twice for the treatment of exacerbations.

**Conventional pulmonological therapy:** Spiriva Respimat inhaler, Foster metered-dose inhaler, Berodual metered-dose inhaler in case of shortness of breath

**Medical aromatherapy:** Inhalation by the traditional method 2 times a day with 1 drop of eucalyptus (*Eucalyptus globulus*), 1 drop of oregano (*Origanum vulgare*) and 2 drops of thyme (*Thymus vulgaris* ct. thymol).

**Sputum report:**

Baseline report: viscous, yellowish-green, *Pseudomonas aeruginosa*+++

Report after 2 weeks of treatment: moderately loosened, yellowish, *Pseudomonas aeruginosa* ++

Report after 4 weeks of treatment: loose, easily coughed up, alternating between white and bright yellow, *Pseudomonas aeruginosa* +

**Laboratory:**

Baseline value: Leukocytes = 10.86; CRP = 16 (normal to 5.0)

Report after 1 week: Leukocytes = 7.35; CRP = 12

**Chest X-ray:**

Baseline report: Discrete increase in structures in both lower lobes, especially in the areas affected by bronchiectasis; the diaphragm is flattened, no effusion, no congestion. The heart is slightly enlarged on both sides. Emphysematous bullae in both upper lobes.

Report after 2 weeks: Resolution of inflammatory infiltrates in the lower lobes, the tonus of the heart is improved, otherwise no change.

**Lung function:**

Baseline value: FEV-1 = 38% of the reference value, FEV-1 % VCmax = 71% of the reference value; RV = 214 % of the reference value

Report after 4 weeks: FEV-1 = 45% of the reference value; FEV-1 % VCmax = 78% of the reference value; RV = 196% of the reference value.

**Peak flow meter:**

Baseline value: 130 ml (Berodual metered-dose inhaler: 6 to 8 puffs per day)

Week 1: 130 to 160 ml (Berodual metered-dose inhaler: 4 to 6 puffs per day)

Week 2: 150 to 200 ml (Berodual metered-dose inhaler: 2 to 4 puffs per day)

Week 3: 190 to 220 ml (Berodual metered-dose inhaler: 2 to 3 puffs per day)

Week 4: 180 to 240 ml (Berodual metered-dose inhaler: 1 to 3 puffs per day)

**Exacerbations:** None in the last 4 months

## **Chronic obstructive bronchitis, stage II, with bronchial asthma overlap**

**Patient:** K.S., 52 years old, female, divorced, 168 cm, 75 kg

**Medical history:** Sporadic smoking in times of personal crisis, commercial employee, allergy to birch, grass, dust mites; 3 exacerbations in the last 12 months (cause: once due to infection, twice due to allergy).

**Conventional pulmonological therapy:** Seebri Breezehaler 44 µg, Serevent metered-dose aerosol, Berodual metered-dosed aerosol for shortness of breath

**Medical aromatherapy:** Inhalation by the traditional method 2 times a day with 1 drop of Atlas cedar, 1 drop of eucalyptus (*Eucalyptus radiata*), 1 drop of Turkish myrtle (*Myrtus communis* ct. cineole) and 1 drop of mountain pine.

### **Sputum report:**

Baseline report: viscous, white, sometimes a little yellowish, no sign of pathogens

Report after 2 weeks of treatment: moderately loosened, white

Report after 4 weeks of treatment: loose, easily coughed up, white

### **Chest X-ray:**

Baseline report: the diaphragm is a little flattened, no infiltrate, no effusion, no congestion. The heart is normal and in keeping with the patient's age.

### **Laboratory:**

Baseline value: Leukocytes = 7.18; CRP = 10 (normal to 5.0)

### **Lung function:**

Baseline value: FEV-1 = 61% of the reference value, FEV-1 % VCmax = 86% of the reference value; RV = 142 % of the reference value

Report after 4 weeks: FEV-1 = 69% of the reference value; FEV-1 % VCmax = 92% of the reference value; RV = 130% of the reference value.

### **Peak flow meter:**

Baseline value: 180 ml (Berodual metered-dose inhaler: 8 to 10 puffs per day)

Week 1: 180 to 220 ml (Berodual metered-dose inhaler: 4 to 8 puffs per day)

Week 2: 200 to 260 ml (Berodual metered-dose inhaler: 4 to 6 puffs per day)

Week 3: 260 to 320 ml (Berodual metered-dose inhaler: 2 to 4 puffs per day)

Week 4: 290 to 340 ml (Berodual metered-dose inhaler: 1 to 4 puffs per day)

**Exacerbations:** None in the last 4 months

**Hospital stays:** None in the last 4 months

*F.O.R.U.M. Aromatherapie. Aromapflege . Aromakultur (Aromatherapy . Aroma care . Aroma culture)  
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## Examples from clinical practice in Otto Wagner Hospital, Vienna, and in the outpatient clinic for respiratory diseases, Vienna

### ENHANCING THE BODY'S DEFENSE – Acute and chronic SINUSITIS – PHARYNGITIS

Essential oils that enhance the body's defense: verbena, eucalyptus, mountain pine, lemon grass, maritime pine, myrtle, tea tree, sage, juniper, hyssop, cedar, Douglas fir, silver fir, lemon, honey, spruce needle, oregano

#### **Body oil (IM 1):**

100 ml of sesame oil + 4 drops of ginger + 6 drops of rosemary + 8 drops of lemon

This mixture can be applied on the moist skin in the morning after a shower, or used as a body oil for 4 weeks. In the evening this mixture may be too stimulating.

#### **Inhalation (IM2):**

Lemon eucalyptus, thyme ct. thymol (for children linalool chemotype), lemon – all in equal quantities

#### **Aroma oil mixture (IM3):**

100 ml of almond oil + 8 drops of Atlas cedar + 4 drops of tea tree + 6 drops of lavender + 8 drops of sandalwood + 8 drops of myrtle ct. cineol (Turkey)

### Acute and chronic BRONCHITIS – COPD

Essential oils with expectorant and anticonvulsive effects: eucalyptus, myrtle, lavender, peppermint, tea tree, lemon, cypress aniseed, hyssop, chamomile, Atlas cedar, dill, Douglas fir, fennel, maritime pine, oregano, thyme

Essential oils that calm the urge to cough: Aniseed, thyme, sage, myrtle, myrrh, lavender, benzoin, oregano

#### **Aroma oil mixture (BR 1):**

100 ml of sesame oil + 7 drops of myrtle ct. cineol + 7 drops of Atlas cedar + 7 drops of lavender (alternatives to these oils would be aniseed, blue chamomile, laurel, marjoram, sandalwood, cypress)

#### **Warm oil compress (BR2):**

100 ml of almond oil + 10 drops of myrtle ct. cineol + 10 drops of Eucalyptus globulus + 10 drops of lavender + 10 drops of peppermint + 10 drops of thyme ct. thymol (for children ct. linalool) + 10 drops of lemon

#### **Aroma oil mixture (BR3):**

100 ml of St. John's Wort oil + 10 drops of myrtle ct. cineol / frankincense / benzoin + 10 drops of niaouli / cedar / sandalwood + 10 drops of alant root / thyme (Thymus vulgaris ct. linalool)

#### **For rubbing in, massage or warm compress (BR4)**

100 ml of sesame oil + 10 drops of lavender + 8 drops of Atlas cedar + 3 drops of clove oil

#### **Inhalation (BR5)**

Lemon eucalyptus or laurel, tea tree or thyme ct. thymol (for children ct. linalool) or mountain pine, lemon – all in equal quantities.

## **Oil for prevention of pneumonia 1.5%**

50 ml of olive oil

- 5 drops of fine lavender
- 3 drops of tea tree
- 4 drops of cajeput
- 1 drop of thyme ct. thymol
- 2 drops of mountain pine

## **Sleep disorder**

3 drops of lavender, 2 drops of mandarin, 1 drop of sandalwood

*Application:* Apply the essential oil mixture as an “aroma patch” on a suitable carrier (handkerchief or small cotton towel).

## **Activating oil for general care 1.5%**

90 ml of almond oil

10 ml of sea buckthorn oil

- 10 drops of fine lavender
- 10 drops of rose geranium
- 6 drops of lemon grass/new
- 4 drops of rosemary ct. cineol

## **Oil for prevention of decubitus ulcers**

100 ml almond oil

- 10 drops of spike lavender
- 8 drops of manuka
- 8 drops of tea tree
- 4 drops of rose geranium

## **Oil for a hypertensive emergency**

(according to Sabrina Herber)

3 drops of lavender, 3 drops of Indian spikenard, 3 drops of ylang-ylang complete in 10 mml of jojoba wax

*Application:* Mix the oils on a roll-on pen. Apply the emergency oil several times a day on the pulse or the heart region

## **Soothing heart mixture**

6 drops of melissa, 3 drops of Damask rose 10%, 3 drops of ylang-ylang in 30 ml of sweet almond oil

*Application:* Apply several times a day on the solar plexus

## **Oil for a hypotensive emergency**

(according to Wolfgang Steflitsch)

2 drops of bergamot, 3 drops of rosemary ct. cineol, 4 drops of spike lavender in 10 ml of jojoba wax

*Application:* Apply 1-2 drops of the emergency oil on the inside of the wrist; inhale the mixture intensively several times.

## **Aroma care: WASHING**

The formulation is as follows:

2 parts of jojoba oil / 1 part of essential oils of choice, such as

Stimulating wash: 1 drop of cajeput + 1 drop of lemon + 2 drops of cedar, to 20 ml

NOTE. The aroma of the undiluted mixture will be too strong for a wash!

### **Soothing wash**

2 drops of neroli

1 drop of rose geranium

1 drop of red mandarin

### **Soothing wash II**

2 drops of sandalwood

2 drops of fine lavender

1 drop of bergamot

### **Strengthens the mind**

- 2 drops of sandalwood
- 3 drops of bergamot
- 1 drop of cedar

### **Strengthens the mind II**

- 2 drops of sandalwood
- 2 drops of fine lavender
- 2 drops of red mandarin
- 1 drop of neroli

### **Pain-relieving wash**

- 3 drops of fine lavender
- 1 drop of mountain pine
- 2 drops of cajeput
- 2 drops of rose geranium

### **Stimulating wash, wash for breathing freely**

- 1 drop of cajeput
- 1 drop of lemon
- 2 drops of cedar

### **Wash to reduce sweating, reduce fever**

- 1 drop of lemon
- 2 drops of fine lavender
- 1 drop of cajeput

## **Global alliance for aromatherapy and aroma care (international networking)**

In an era of globalization at the social, political, ecological and economic level, global cooperation between all persons, institutions and companies involved in the use of essential oils, fatty vegetable oils and hydrolates should be a prime goal. Such a

global alliance could access existing national and international structures or help in the establishment of missing regional and national infrastructures.

A global alliance for aromatherapy and aroma care would serve as a successful instrument (tested successfully in many other economic and social fields) for the implementation and enforcement of our predefined goals. One instrument of this type implemented in medicine are, for instance, the international societies of the individual specialties, by which their recognition, promotion and quality are improved markedly and consistently.

### **Choice of essential oils, guidelines and remedies (formulations on prescription) for medical indications (diseases, complaints):**

Stefflitsch W, Wolz D, Buchbauer G, Aromatherapie in Wissenschaft und Praxis, 2013, 880 pages, Stadelmann Verlag, ISBN 978-3-9811304-6-1

### **Clinical toxicity and safety concerns with aromatherapy and aroma care:**

Tisserand R, Young R, Essential Oil Safety – A Guide for Health Care Professionals, 2014, second edition, 780 pages, Churchill Livingstone Elsevier, ISBN 978-0-4430-6241-4

## **APPENDIX**

### **I. My pathway to aroma therapy**

- 1978 Additional examination in biology
- 2002 Essential oils at the ICU Annenheim in Otto Wagner Spital
- 2003 Initial advanced training courses with Evelyn Deutsch, Jürgen Trott-Tschepe, Monika Werner, Forum Essenzia and others
- 2004 In-hospital training in aroma care at Otto Wagner Spital
- 2006 Founding of the ÖGwA
- 2006 Aroma Care Competence Team at Otto Wagner Spital
- 2009 Publications in the Journal "Forschende Komplementärmedizin" (Complementary Medicine Research)
- 2009 DV Austrian Doctors for Holistic Medicine
- 2010 Course in medical aromatherapy, Kuratorium (Advisory Board) Forum Essenzia
- 2012 Aroma care manual at Otto Wagner Spital
- 2013 - 2015 Health promotion studies at Otto Wagner Spital (stress, joints) supported by Puresentiel, France

### **II. Aromatherapy and Aroma Care at Otto Wagner Spital and the medical office of a lung specialist**

What it needs ...

- TIME
- TEAM WORK
- ARGUMENTs (studies, efficiency, costs, resources)
- SUPPORT (cooperative leadership)
- PLAN A – and a Plan B



- QUALITY (training, application, formulations, products)
- DOCUMENTATION & EVALUATION

### III. Activities of “Aromatherapy”

- **Otto Wagner Spital, Vienna:**  
In-hospital advanced training in aroma care  
Implementation of aroma care at the wards and outpatient departments  
Aroma therapy consultant service for the entire hospital  
Aroma Care Competence Team: setup and team work
- **Lung specialist’s office in Vienna:**  
Additional aromatherapy for diseases of the lung and the respiratory tract
- **Austrian Association for Scientific Aromatherapy and Aroma Care** ([www.oegwa.at](http://www.oegwa.at))
- **Education in Medical Aromatherapy** ([www.aromamed.at](http://www.aromamed.at))
- **Aroma-Phytotherapy-Congress**, pharmaceutical university of Vienna, 21.-22.02.2015  
(<http://aroma-phyto2015.univie.ac.at/willkommen>)
- **Aromatherapeutic Health Promotion Employees Joint Study**, Spring 2015, Otto Wagner Hospital, Vienna (supported by orthopedic clinic, company Puresentiel, France)

### IV. Essential Oils at Otto Wagner Spital in Vienna (35)

#### “In stock” (filled in 10-ml units):

Eucalyptus globulus, lavender, mountain pine, Melissa, clove, peppermint, rosemary ct. cineol, orange, lemon

#### “On request”:

Atlas cedar, bergamot, cajeput, grapefruit, lemon grass, lime, mandarin, palmarosa, rose geranium, sandalwood, tea tree, ylang-ylang

#### Components of mixtures:

Benzoin, Ho leaves, ginger, German chamomile, laurel, manuka, clary sage, myrtle ct. cineol, clove, neroli, sage, thyme ct. thymol, Indian frankincense (Boswellia serrata), cypress, cinnamon bark

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