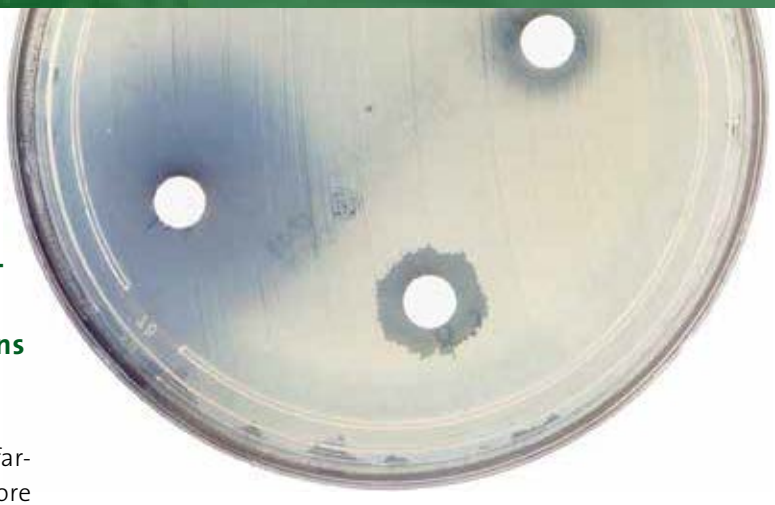
Aromatogram

Essential Oile - Treatment of Chronic Infections



Petri dish with clearly visible inhibition zones in the bacteria growth

Aroma therapy – as part of phytotherapy – is gaining significance again especially in the field of chronic infections and infections with multi-resistant bacteria

As the use of antibiotics in the scope of livestock farming is steadily increasing, human medicine is more and more confronted with the fact that we have no therapeutic options against bacteria which have become resistant.
Essential oils are supplements or alternatives as they have modes of action at their command against which bacteria do not develop any resistances. Similar like for the antibiogram the effectiveness of essential oils against defined bacteria can be identified and applied for specific treatment.

We offer the following analyses:

- **Vaginal flora status incl. aromatogram** (Test Set 911)
- **Urine incl. aromatogram** (U-green)
- **Pharyngeal-/nasal smear incl. aromatogram** (swab)
- **Wound smear incl. aromatogram** (please send only swabs of superficial wounds)

Please always note the exact place of withdrawal and include anamnestic information! As usual ***biovis*** will provide interpretations, recipe recommendations and sources of supply.

Essential Oils Counteract Bacteria

The anti-bacterial effect of essential oils has been known for a long time. Already in 1979 the French physician Paul Belaiche published a book listing essential oils with strong antibiotic effect. In the meantime numerous scientific studies have confirmed and reviewed their effectiveness[1]. Examples of very active antibiotic essential oils are lemon grass oil, tea tree oil, manuka oil and thyme oil.

The Inhibition Zone Shows the Effectiveness of Essential Oils

First pathogens have to be isolated in the laboratory. Subsequently they are plated on nutrient medium. Then plates soaked with various essential oils are applied to the medium and put into the incubator. A dense bacteria or fungus layer will grow. *"If an essential oil is effective against the plated bacteria an inhibition zone develops around the platelet. The pathogen cannot proliferate in this zone."* The most effective essential oils – the ones with the largest inhibition zones – can then be applied as well-aimed therapy against the respective pathogens.

More Effective in Natural Form

Essential oils partially change the form of bacteria visibly or attack the coat around the bacteria cell. As many studies have shown it is not sensible to filter out individual active components of the oil. The essential oils are more effective in their natural composition than the individual components by themselves. This can be illustrated e.g. with the aid of the different thyme oil components: At first the only modestly anti-bacterial effective **p-Cymene** is able to destabilize the bacteria's cell membranes and make them more permeable. The strong germ-killing carvacrol can now penetrate the cell membrane more easily and immobilize the bacteria. **Geraniol** – this monoterpenol also occurs in numerous other essential oils – disturbs pump mechanisms in cell membranes and can contribute to lysis of bacteria in a similar way, especially in cooperation with stronger molecules – for example in antibiotics.

1_**Manuka** – *Leptospermum scoparium*
2_**lemon grass** – *Cymbopogon citratus*
3_**thyme** – *Tymus vulgaris*
4_**tea tree** – *Malaleuca alterifolia*

Essential oils are effective against aggressive periodontitis pathogens like *Aggregatibacter, Porphyromonas* and *Prevotella*, but also against the dreaded **MRSA – methicillin resistant staphylococcus aureus strains**. Tea tree oil (Melaleuca alternifolia) has proven especially effective against **MRSA**[2]. Based on previous clinical experiences essential oils are also suitable for treatment of respiratory tract, skin and vaginal disease

Multiple Infections: Determination of Pathogens

In case of infections caused by one bacteria species, general recommendations of suitable essential oils are possible. If, however, several bacteria species are involved - like in case of vaginitis – the pathogens and their sensitivity to essential oils should be determined before treatment.

Intensification of Antibiotic Agents

In the course of the various research approaches in the scope of antibiotic resistances one focusses on collective intelligence (or collective perception) of bacteria. This so-called Quorum sensing (QS) describes the mechanisms used by bacteria to quasi coordinate their "attack" to make sure it is successful. From various in-vitro studies some essential oils and smell molecules have become known, which undermine the Quorum sensing of many bacteria. Furthermore they counteract biofilm development, e.g. like found on catheters[3].

Application of Aroma Therapies

On the basis of essential oils tested to be effective (inhibition zone >10) we recommend aroma recipes, e.g. suppositories or ointments applications in case of vaginal infections.
For throat infections a spray can be produced or the essential oils can be filled in capsules and applied orally. When mixed with the herbal emulsifier Solubol, they can also be taken in water. Furthermore cough suppositories have proven to be very effective for children.
Bath supplements of essential oils in emulsion are also able to unfold their bacteria-inhibiting, mucus-dissolving effect while taking a bath.

Literature:

1) Cirino IC, Mene- zes-Silva SM, Silva HT, de Souza EL, Siqueira-Júnior JP: The Essential Oil from Origanum vulgare L. and Its Individual Constituents Carvacrol and Thymol Enhance the Effect of Tetracycline against Staphylococcus aureus. Chemotherapy. 2015 May 13;60(5):290-293

2) Falci SP, Teixeira MA,
das Chagas PF, Martinez BB, Loyola AB, Ferreira LM, Veiga DF: Antimicrobial activity of Mela- leuca sp. oil against clinical isolates of antibiotics resistant Staphylococcus aureus. Acta Cir Bras. 2015 Jul;30(7):491-6

3) Kerekes EB, Deák E, Takó M, Tserennadmid R, Petkovits T, Vágvölgyi C, Krisch J. Antibiofilm forming and anti-quorum sensing activity of selected essential oils and their main components on food- Thymian related microorganisms. J Appl Microbiol. Oct 2013.

Should you have any more questions, please call us!
We gladly provide additional information!

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