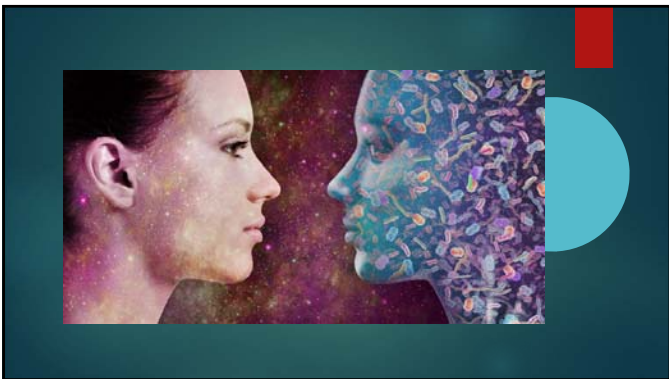


ESSENTIAL OILS & The MICROBIOME

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- The Human Microbiome
- Benefits of the Normal Flora
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What is Human Microbiome

- ▶ Microbe: Tiny living organism, such as Bacteria, Virus, Fungus and Parasite.
- ▶ Microbiome: Collectively all the microbes in the human body; a community of microbes



DID YOU KNOW?

The human body has 100 trillion microscopic life forms living in it.

The ratio of microbial cells to human cells in our body is 10:1.

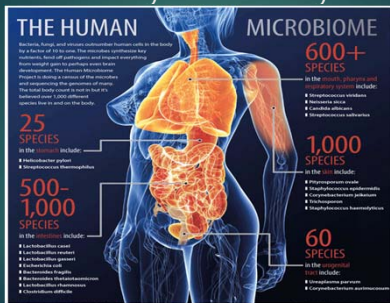
Microbes are all over us

- ▶ There are millions of microbes per square inch on your body.
- ▶ Thousands of different species inhabit the skin alone;
 - ▶ some thrive on dry patches of the elbow
 - ▶ others thrive in moist environment of the armpits
- ▶ It is estimated that there are more microbes in your intestines than human cells in your body.

We are covered with microbes

- ▶ Who are they?
- ▶ Where did they come from?
- ▶ Do they all matter?
- ▶ Can they be moved by us or on their own?
- ▶ Do they change in numbers or types when I am sick?
- ▶ When they change through their own activity does that impact my health?

How many different organisms are normally in our body?



Benefits of the Normal Flora

Intestinal Flora Affects Your Health

The microbes that live inside your intestines influence your health in beneficial and harmful ways

Immunity
Providing a physical barrier to invasive microbes, our gut flora enhances the functionality of the immune system.

Vitamins
Bacteria in the gut plays a direct role in the synthesis of vitamins B and K as well as the absorption of calcium and iron.

Metabolism
Metabolic activity of the gut flora allows our body to utilize food that would otherwise not be digested.

Obesity
In 2009, Dr. Kraljic-Brown discovered gut bacteria of obese patients differs significantly from normal individuals.

Inflammation
Gut flora likely plays a major role in the development of various inflammatory diseases including IBD and colitis.

Autism
New research by Dr. Kraljic-Brown suggests a link between autism and decreased gut bacterial diversity.

Bad Gut Microbes = Increased Inflammation = Poor Quality of Life

How do they help?

- ▶ Prevent colonization by pathogens
 - ▶ Competing for attachment sites or for essential nutrients
- ▶ Stimulates the developments of certain tissues i.e., intestine, certain lymphatic tissues, capillary density
- ▶ Stimulates the production of cross-reactive antibodies.
 - ▶ Low levels of antibodies produced against components of the normal flora are known to cross react with certain related pathogens, and there by prevent infections or invasions
- ▶ Produce additional energy otherwise inaccessible to the host
- ▶ Provide resistance to tumor and cancer leading neoplasm
- ▶ Assist in developing a mature immune system

Can Microbes talk???

- ▶ Microbes can communicate with each other by chemical language known as the phenomenon of "Quorum Sensing"
- ▶ They interact with each other by signals and respond to the signals by using chemical language
- ▶ Quorum Sensing is used by many species of bacteria.

4 PHASES OF Early gut colonization

- ▶ Phase 1: Sterile Gut – Welcome to the World baby!
- ▶ Phase 2: Initial acquisition:
 - ▶ Vagina
 - ▶ Feces
 - ▶ Hospital
- ▶ Phase 3: breast feeding or bottle feeding. (different bacteria)
 - ▶ Breast fed: more Bifidobacteria up to 90% of the flora
 - ▶ Bottle fed: more Bacteroides and Clostridal species
- ▶ Phase 4: start of solids
 - ▶ move to adult flora
- ▶ **Bifidobacteria remain key flora into adulthood**

Gut flora and metabolism

- ▶ Microbial genomes enhance our metabolic activity.
- ▶ A mass of colonic microbiome is equal to a size single kidney.
- ▶ Metabolically as active as the liver.

MICROBIOME IMPROVEMENT

DON'T Destroy Your Gut Microbiome
HELP IT HELP YOU!

AVOID

- ▶ Overuse of Antibiotics and corticosteroids
- ▶ Significantly impacted by the typical North American processed diet of high carb, high trans fat food consumption
- ▶ Artificial sweeteners including aspartame, saccharin and Sucralose
- ▶ As chronic stress adversely effects every element of our health, no surprise that it also damages gut flora.

Enhance Your Microbiome THROUGH YOUR LIFESTYLE

- ▶ Eat the right food; help your digestive system help you
- ▶ Avoid sugar
- ▶ Include fermented food in your diet
- ▶ Reduce your stress level as much as possible
- ▶ Avoid drinking chlorinated tap water

Enhance Your Microbiome Through Supplements

- Berberine;
 - ▶ *Negative Affect*- Proteobacteria (E. coli, Shigella, Salmonella, Klebsiella, Proteus, Staphylococcus, etc.
 - ▶ *Positive Affect*- Increases the relative proportion of some key beneficial groups: Clostridia (butyrate producers), Bifidobacteria, and Lactobacilli
- Probiotics
- Prebiotics
- Fulvic acid
- Use proper essential oils

Essential Oils

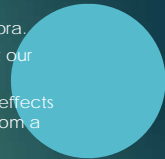
Unleash the Power!



Essential Oils & The Gut Flora

▶ Essential Oils;

- ▶ provide polyphenols which can feed our gut flora.
- ▶ can modulate microbe activity as they protect our tissues.
- ▶ act as antioxidants, preventing the damaging effects of an inflammatory process that could occur from a pathogenic overgrowth
- ▶ can positively affect the bacteria in our mouth, which influence our whole body health.
- ▶ help us to deal with daily stresses that have a powerful impact on our microbiome.



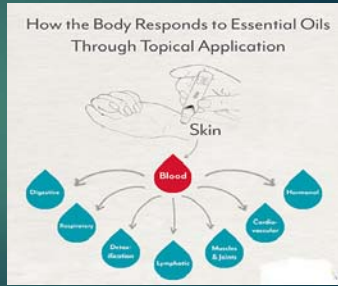
Body absorption of therapeutic components of essential oils - *INHALATION*

- ▶ When inhaled through the nose, tiny nerves send an immediate signal to the brain and go straight to work on the systems that moderate our minds and bodies.
- ▶ Can be the most direct delivery method of these incredibly nurturing components in essential oils, since the chemical messengers in the nasal cavity have direct access to the brain.



Body absorption of therapeutic components of essential oils – *TOPICAL APPLICATION*

▶ When applied to the skin, their healing components are absorbed into the bloodstream by the pores and hair follicles. Once inside the bloodstream, they disperse to the specific organs and systems on which they work.



SIBO & DYSBIOSIS

- ▶ A state of dysbiosis is the term for a tilted balance in the gut's microbial life. If it escalates far enough, a condition like SIBO (*Small Intestine Bacterial Overgrowth*) can ensue.
- ▶ During SIBO, colonic bacteria move into the small intestine – not where they belong!
 - ▶ This kind of imbalance can be connected with common gut issues like IBS. Treatments for symptoms that damage beneficial bacteria would only further the problem.
- ▶ Essential oils are able to relieve the symptoms of overgrowth without damaging the good bacteria.

LAVENDER OIL

Promotes peaceful and restful sleep, used to soothe anxiety symptoms, and as a stress reducer.

In relation to your digestive system, lavender protects against dysbiosis. It has healing properties and is anti-inflammatory in nature.

USAGE: Use 5 drops lavender oil in a tablespoon carrier oil and apply it to your tummy and your intestinal system externally clockwise twice a day for at least a month.

ORANGE OIL

It reduces the negative affects of gut dysbiosis while still protecting beneficial bacteria in the body.

USAGE: Use 5 drops lavender oil and 3 drops orange oil in a tablespoon carrier oil and apply it to your intestinal system externally clockwise twice a day for at least a month.

FRANKINCENSE OIL

It works against harmful bacteria and other microbes, including viruses. Unlike antibiotics, it defends against colds and flues without harming beneficial bacteria.

It balances microbiome activity and strengthens the immune system.

USAGE: Combine 3 drops of frankincense oil and 5 drops of lavender oil with a tablespoon of carrier oil. Apply it to your intestinal system externally clockwise twice a day for at least a month.

Peppermint oil

It reduce spasms of the colon and intestinal tract, and, it will balance oral and intestinal flora, thereby reducing fermentation of undigested food.

USAGE: Combine 5 drops of peppermint oil with 1 cup of spring water. Rinse your mouth twice a day.

Use 5 drops peppermint oil in a tablespoon carrier oil and apply it to your tummy and your intestinal system externally clockwise twice a day for at least a month.

LEMON OIL

- ▶ Highly effective for stomach health.
 - ▶ Aids digestion, balances gut flora by killing only harmful bacteria
 - ▶ Protects against *E. coli* and *salmonella* when added to food
 - ▶ Acts as a proven remedy for abdominal and colic pain, nausea, and upset stomach.

USAGE: Combine 5 drops of lemon oil with 1 tablespoon of carrier oil and rub it clockwise on your tummy and your intestinal system externally.

Add 10 drop to your diffuser.

Protecting Oils

The following essential oils in combination have been used to protect the microbiome:

clove, cinnamon, thyme, eucalyptus, grapefruit, lavender, rosemary, pine, lemon, and peppermint.

Thyme: It is a natural antimicrobial and is extremely effective in managing your gut's bacteria. It has been used to treat SIBO, and common digestive diseases. Thyme suppresses pathogens in the small intestine, thus combating symptoms of these diseases.

Clove: It is an efficient antimicrobial that can counter *Candida albicans* overgrowth in your intestine.

USAGE: Combine these various oils and use 5 drops with a tablespoon of carrier oil and massage your tummy and your intestinal system externally.



KEEP
CALM
AND
TRUST
YOUR GUT

Slide 29

MB1 This is an NSP specific oil - lowest risk simply remove this slide

Melissa Beardall, 1/5/2018