

Aromatherapy for Breathing Conditions



Aromatherapy for Breathing conditions

Without breath we cannot function. However many people suffer with breathing problems. This course explores the use of Aromatherapy to assist in the treatment of breathing and respiratory conditions. Breathing and practical exercises are also taught

The course covers:

- The structure and function of the Respiratory system
- The Process of Respiration
- Pathology of Diseases of the Respiratory System
- Common disorders of the Upper respiratory tract
- Common disorders of the Lower respiratory tract
- Essential Oils beneficial to the Respiratory system
- Using essential oils to assist the respiratory system
- Relaxation and breathing techniques
- Assessment & Case studies
- Useful information – websites etc
- Bibliography

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The Structure & Function of the Respiratory System

The structures involved in the process of respiration are divided into two main parts, they are firstly the air passages and secondly the lungs. The air passages filter, moisten and warm the air as it enters the body and the lungs provide the location for the exchange of gases into and out of the body.

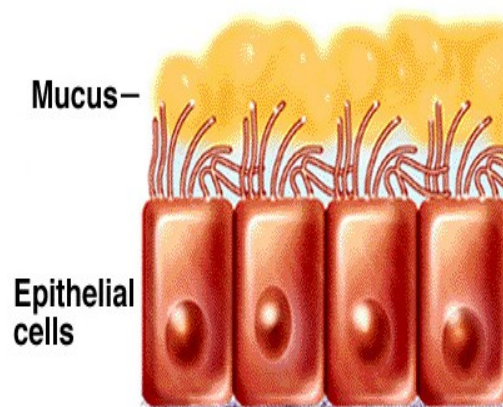


The Nasal Cavity

The first structure in the respiratory system is the nose. There are right and left nasal cavities which are divided by a structure called a septum. These cavities are lined with mucous membrane, which secretes a sticky fluid called mucus. Mucus helps to moisten the air on its way to the lungs. On the surface of the membrane are cilia, which help to move inhaled dust and bacteria away from the lungs. The sinuses communicate with the nasal cavities, explaining why the sinuses are so susceptible to infection. The roof of the nasal cavity is formed by the ethmoid bone, which holds the olfactory bulb giving access to the olfactory lobe in the brain.

This video explains the structure of the nasal cavity:

[http://youtu.be/ KAcylpzSWk](http://youtu.be/KAcylpzSWk)



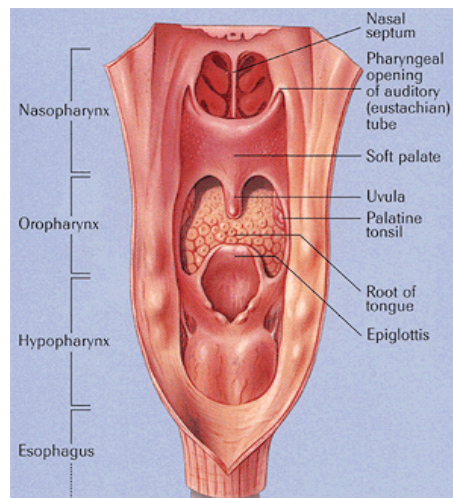
The Cilia

The Nasopharynx

Behind the nose is the nasopharynx which is connected to the middle ear via the eustachian tube. Just below the nasopharynx lies the pharynx. It provides a passage for both air on its way to the lungs and for food on its way to the stomach, but cannot be used for both at the same time. When swallowing, food is prevented from going up to the nasal cavity by the uvula (soft palate) and from entering the lower respiratory tract, by the epiglottis, which closes the entrance to the trachea. This prevents us choking or suffocating because of food.

This video explains the structure of the pharynx:

<http://youtu.be/-msOJE4Mi-k>



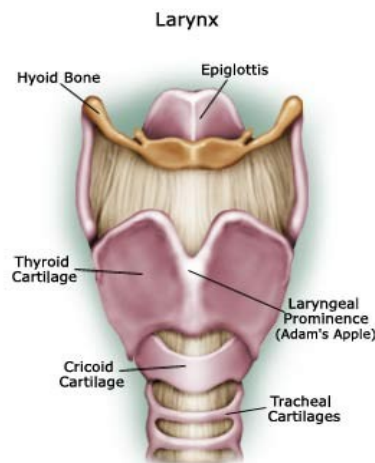
The structure of the Nasopharynx

The Larynx

The next part of the upper respiratory tract is the larynx (voice box). The larynx is supported by hyaline cartilage to the front, which prevents the airway from collapsing. The vocal cords are also situated in the larynx.

This video explains the structure of the larynx:

<http://youtu.be/3NLd8zrMdS4>



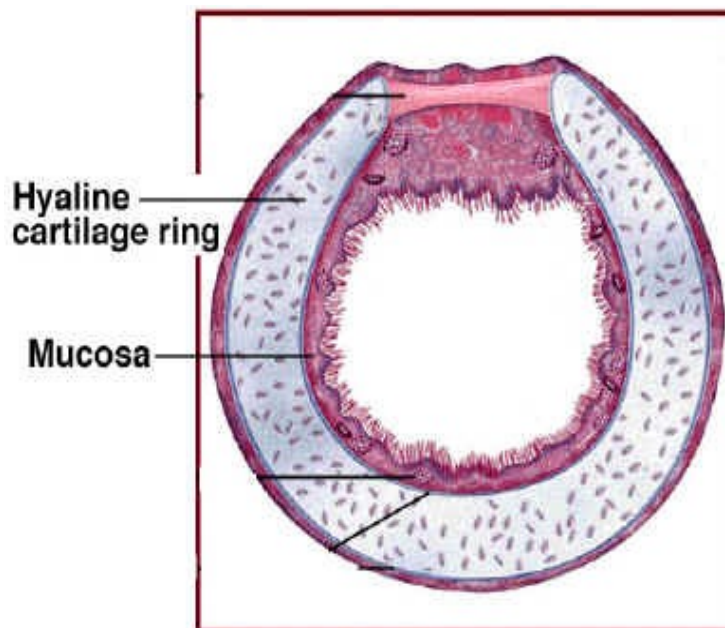
The Larynx

The Trachea

The trachea is a continuation of the larynx. It is approximately 10 centimetres long and at its lower end divides into the two bronchi. The trachea is kept permanently open by means of rings of cartilage joined together by muscle tissue at the back. This arrangement allows the trachea to be flexible but at the same time the cartilage prevents it from collapsing, so allowing it to remain permanently open. The trachea is lined with mucous membrane to moisten and filter the air on its way to the lungs.

This video explains the structure of the trachea:

<http://youtu.be/3ALJjtNeAb8>



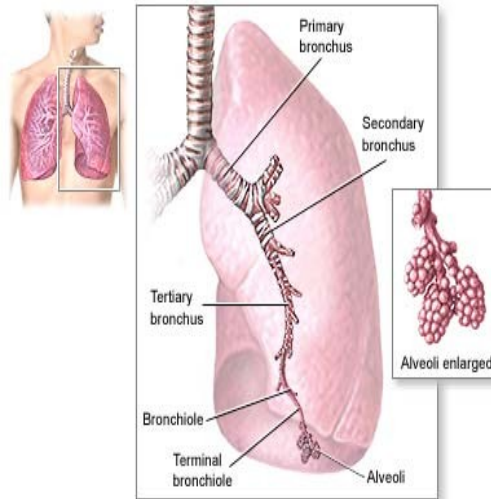
The structure of the trachea

The Bronchi

The bronchi start where the trachea divides into two. Each bronchus passes to either the left or right lung. These two short tubes are built on a similar structure to the trachea so that there is no obstruction to the airway. From each main bronchus, numerous smaller bronchi branch off and these divide even further into very fine bronchioles. The bronchioles are formed from muscular tissue and there are no hoops of cartilage, meaning that they may collapse. Each bronchiole ends in an irregularly shaped sac called an alveolus. These minute circular chambers grouped together are known as alveoli; they are lined with very thin flattened epithelial tissue and are surrounded by numerous blood capillaries. The exchange of gases takes place through the thin walls of both these structures.

This video shows the structure of the bronchi:

<http://youtu.be/lzLp5zT98nk>



The Bronchi

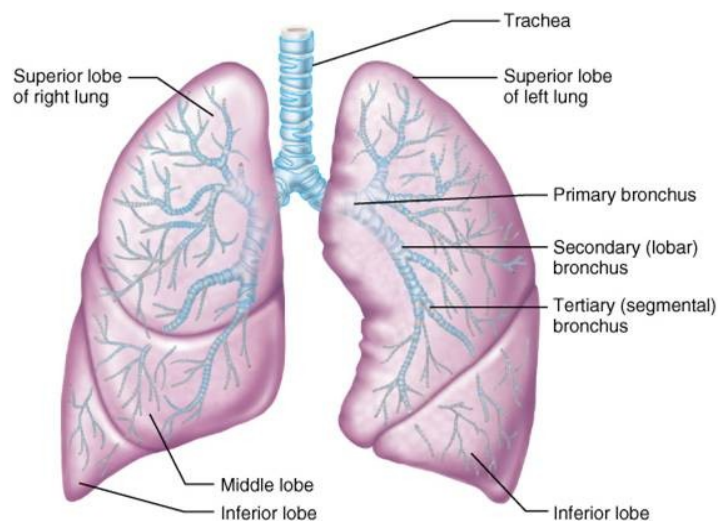
The Lungs

The lungs are the organs of respiration and they lie in the thoracic cavity. The right and left lungs are separated in the middle by the heart and the great vessels, the aorta and vena cava.

The lungs occupy the whole of the thoracic cavity, except for the structures in the mediastinum, the heart & its vessels. The lungs are composed of bronchi, bronchioles and alveoli. A thin double layer of serous membrane called the pleura covers each lung. The outer (visceral) layer lines the thoracic cavity. The inner (parietal) layer lines the lung surface. These layers are lubricated by serous fluid, which prevents friction when breathing. Between these two layers is a space called the pleural cavity where the pressure is slightly below atmospheric pressure, which helps to draw the air into the lungs.

This video shows the structure of the lung:

http://www.youtube.com/watch?v=6x1SYFkt_a4&feature=share&list=UU15YK7pMCRkJOrjOq0Qu5qA



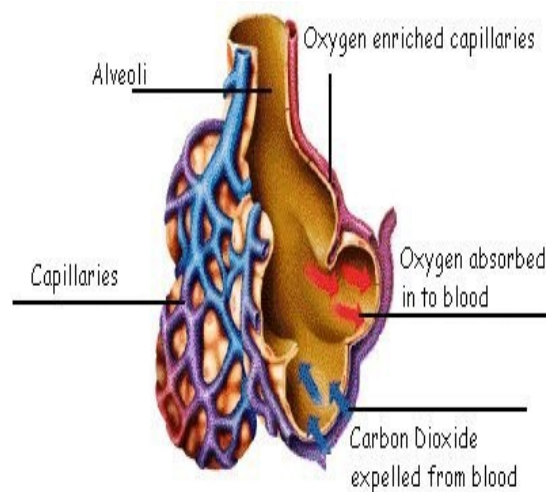
The Lungs

Pulmonary Circulation

Pulmonary circulation is the circulation of blood between the heart and the lungs, where the pulmonary artery carries the deoxygenated blood away from the heart towards the lungs. A branch of the artery passes to each lung where it divides into smaller and smaller branches forming a vast capillary network around all the alveoli. Once this exchange has taken place, the pulmonary veins carry oxygenated blood back to the heart. The function of the lungs is to allow a free exchange of gases to take place between the alveoli and the capillary network around them. This process is known as external respiration.

This video explains the microanatomy of the lung:

<http://youtu.be/6dMAj8Uujew>

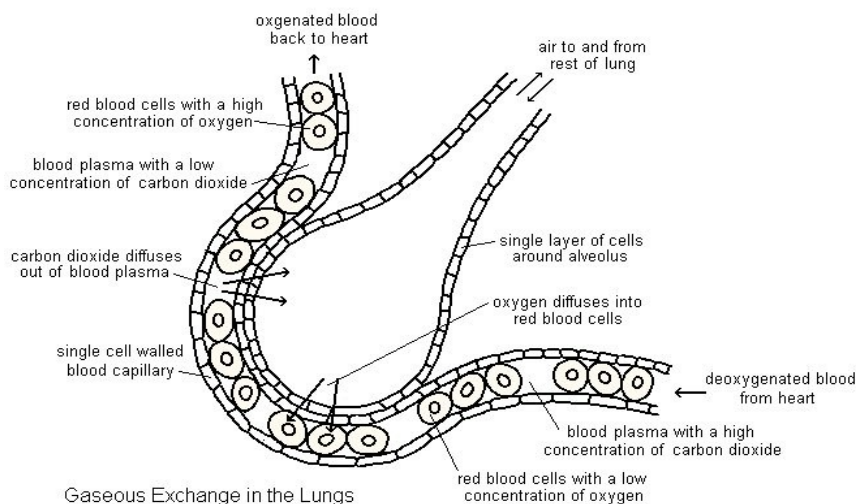


The Alveoli

This brief video explains gaseous exchange in the alveoli:

<http://youtu.be/bklrcFuiH-8>

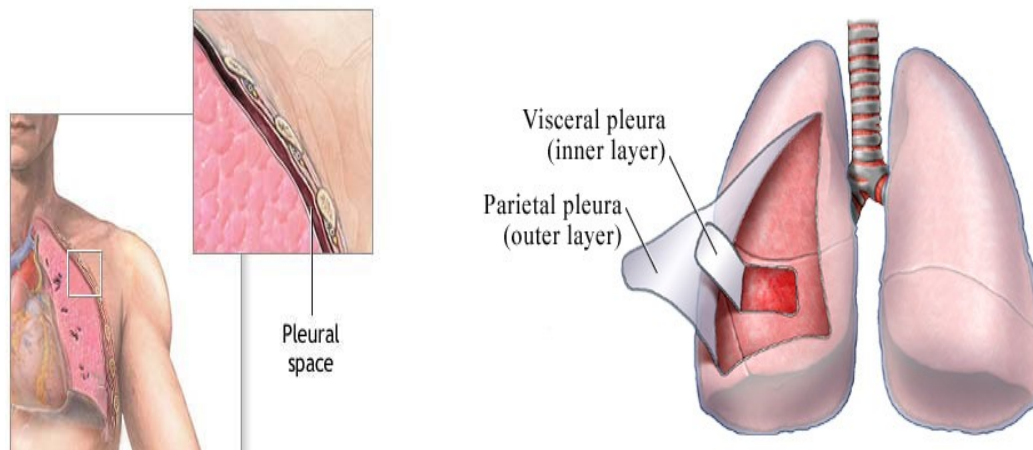
The process of external respiration:



The Process of Respiration

The mechanism of breathing

The structures involved in the physical process of respiration are the muscles of respiration, the thoracic cage and the pleura.



The Pleura

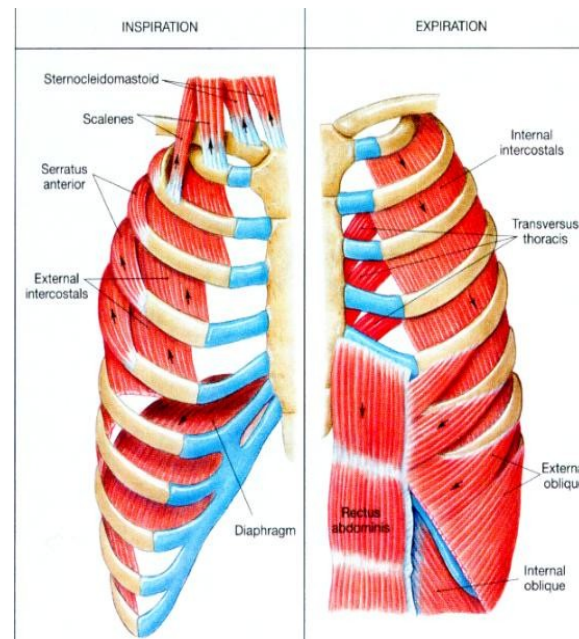
When we breathe there is a series of events taking place known as the respiratory cycle. There are three phases to this cycle – inspiration (breathing in), expiration (breathing out), followed by a pause. The cycle occurs approximately 16 times a minute. During inspiration the rib cage expands by swinging upwards and outwards and the volume of the thorax is increased so taking in air. In expiration the ribs swing down and reduce the volume of the thorax and air is expelled. Before the cycle begins again there is a slight pause. During this phase, the air begins to pour into the lungs, which is due to the atmospheric pressure being greater than the pressure within the lungs. Pressure within the pleural cavity is lower than atmospheric pressure so the air will flow from higher to lower pressure, filling the lungs.

This video shows the mechanism of breathing:

http://youtu.be/pc2MmhkUW_E

The muscles used in respiration are the diaphragm and the intercostals. The diaphragm, the main muscle of inspiration, is domed-shaped and it separates the thoracic cavity from the abdominal cavity. During inspiration the diaphragm descends and flattens. In expiration the diaphragm relaxes to return to its dome shape. The intercostal muscles lie within the spaces between each rib. There are two layers of these muscles called the external and internal intercostals and their muscle fibres run at right angles to each other. They are antagonistic, so when

the external intercostals are contracted, the internal intercostals are relaxed and vice versa. The external layer of muscles contracts with the diaphragm during inspiration. The internal layer contracts during expiration. As one or other of the layers is always contracted, the rib cage is prevented from collapsing. The muscles mentioned above are the ones used during quiet, normal breathing. There are several other muscles, known as accessory muscles that are used in forced respiration, for example when you are out of breath. These include the pectorals, sternocleidomastoid, platysma and the abdominal muscles.



The Intercostals

This video shows the movement of the intercostal muscles during respiration:

<http://youtu.be/x2OQ9Vz9pTA>

Pulmonary Ventilation

Pulmonary ventilation or breathing is the exchange of gases that occurs between the lungs and the external environment. This mechanical process is dependant on the difference of atmospheric air pressure and pressure in the alveoli. On inhalation increased internal volume occurs along with a reduction in internal pressure. The diaphragm and intercostals are the muscles responsible for this process. During this action the diaphragm contracts and moves downwards, flattening its dome shape and increasing the size of the chest cavity and reducing the pressure on the lungs. The intercostals also contract causing the ribs to move upwards and outwards. This action also lowers the pressure on the lungs whilst increasing the size of the chest cavity. When the diaphragm and intercostals muscles contract internal pressure is reduced relative to

the atmospheric pressure, thereby causing air to rush into the lungs. When the diaphragm relaxes, its domed shape returns along with the intercostals relaxing to bring the ribs down and inwards. This action results in the size of the chest cavity being reduced causing increased pressure in the lungs, thus forcing out the air.

An explanation of Boyles Law showing how pressure and volume affect the respiratory system:

<http://youtu.be/q6-oyxnkZC0>

Diffusion of gasses

When there is a difference in pressure across a semi-permeable membrane an exchange of gases will occur. Gases move by a process of diffusion from a place of higher to an area of lower concentration until a state of equilibrium is achieved. The pressure of atmospheric nitrogen which is present during this process remains unchanged at all times.

This video explains the process of diffusion in the lungs:

<http://youtu.be/d-f3RL0KiUg>

Pulmonary Circulation (External Respiration)

Pulmonary circulation is the circulation of blood between the heart and the lungs, where the pulmonary artery carries the deoxygenated blood away from the heart towards the lungs. A branch of the artery passes to each lung where it divides into smaller and smaller branches forming a vast capillary network around all the alveoli. Once this exchange has taken place, the pulmonary veins carry oxygenated blood back to the heart. The function of the lungs is to allow a free exchange of gases to take place between the alveoli and the capillary network around them. This process is known as external respiration.

Internal Respiration

This term is used to define the process of diffusion between blood in the capillaries and the cells of the body. There is no gaseous exchange in the walls of the arteries carrying blood from the heart to the tissue as their walls are too thick. Blood carried to the tissues of the body has been cleansed of any carbon dioxide and saturated with oxygen during its journey through the lungs. This concentration gradient ensures that gaseous exchange occurs diffusing oxygen from the bloodstream into the tissues via the capillary wall and returning carbon dioxide through the intracellular fluid out into the bloodstream.

This video explains external and internal respiration:

<http://youtu.be/EI8Oe8r9vH4>

Transport of gases

The transport of both oxygen and carbon dioxide in the blood is essential for internal respiration to occur.

Oxygen is carried in the following ways by the blood:

- In chemical combination with the haemoglobin as oxyhaemoglobin
- As a solution in plasma water

These are in a ratio of 98.5% to 1.5%

Carbon dioxide is a waste product produced during metabolism which is excreted by the lungs. It is carried in the following ways:

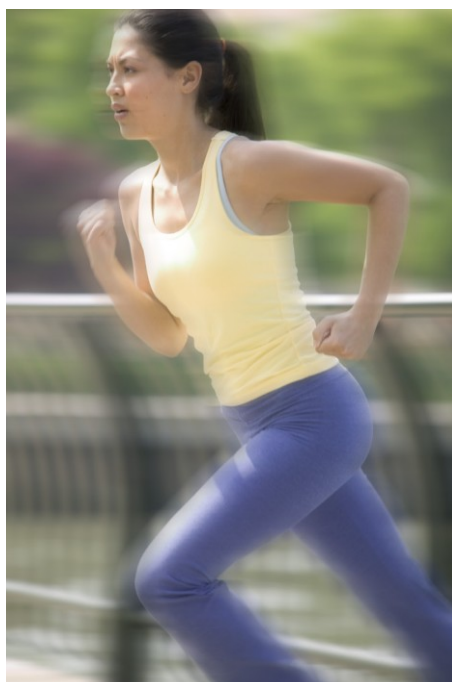
- As a bicarbonate in the plasma
- In the erythrocytes in a combination with haemoglobin as carbaminohaemoglobin
- Dissolved in the plasma

This ratio is 70% to 23% to 7%

Control of respiration

The control of respiration is normally involuntary however voluntary control can be exerted. Factors that affect the control of respiration can include:

- Exercise and strenuous activity
- Speech
- Singing
- Emotional factors – crying, laughing or fear
- Drugs – sedatives and alcohol
- Sleep



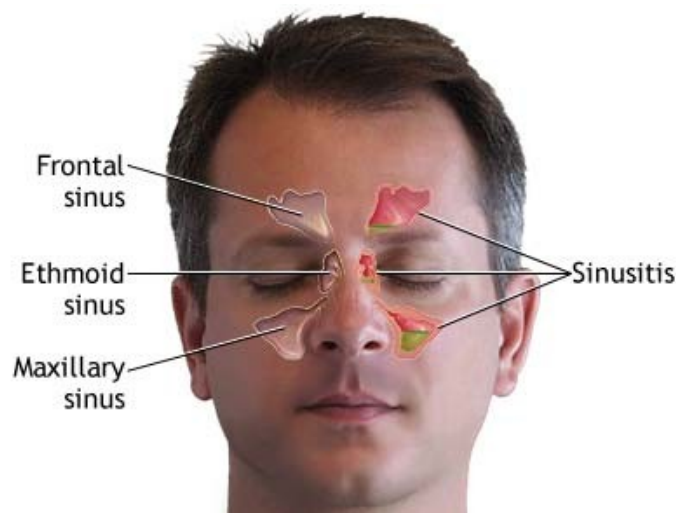
Common Disorders of the Respiratory System

Upper Respiratory Tract Infections

Infections of the larynx, trachea or bronchi are common. Doctors often just use the term URTI - upper respiratory tract infection, to describe these infections in a general way. Most URTI's are due to a viral infection.

Sinusitis

Sinusitis is inflammation of the mucous membranes of one or more of the sinuses. Acute sinusitis is caused by an infection of the mucous membranes with a virus, bacterium or fungus. Most people with sinusitis have a viral infection such as the common cold. The mucus that is produced by the mucous membranes in the sinuses normally drains into the nose through small holes called ostia. The ostia can become narrow or even blocked if the sinuses get infected and inflamed so the mucus cannot drain properly.



Location of the sinuses

This video explains the pathology of sinusitis:

<http://youtu.be/SPtJnv-a7do>

Essential Oils for Sinusitis

- Canadian balsam
- E. globulus
- Hyssop
- Lavender
- Niaouli
- Cornmint
- Peppermint
- Myrtle

- Pine
- Ravensara
- Rosemary (all cts)
- Spanish marjoram
- Thyme (all cts)

These essential oils are discussed in more detail later in the course

Essential oil inhaler for sinus decongestion

Peppermint	4 drops	Spike lavender	4 drops
Eucalyptus radiata	4 drops	Aniseed	2 drops

Other treatments for Sinusitis include:

- Steam inhalation
- Application of warm flannels to stimulate the release of mucous
- Application of cold flannels / ice pack to reduce the swelling in the sinuses
- Decongestant tablets are often prescribed by a GP
- Antibiotics can be prescribed in the case of serious infections

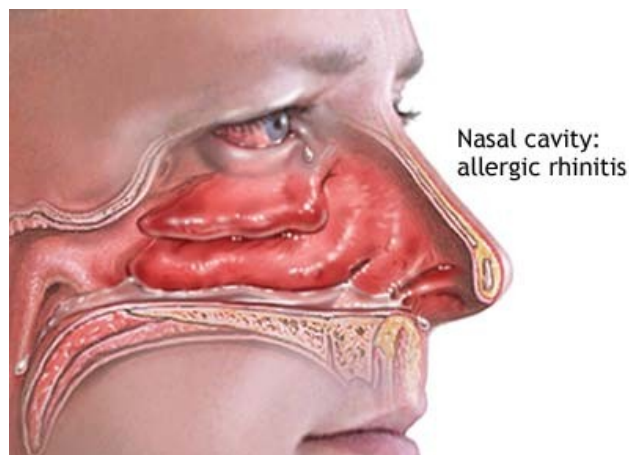
More information can be found at:

<http://www.nhs.uk/conditions/Sinusitis/Pages/Introduction.aspx>

<http://www.patient.co.uk/health/Sinusitis-Acute.htm>

Rhinitis

Rhinitis is a condition where the inside of the nose swells or becomes inflamed. This can cause cold-like symptoms such as sneezing, itchiness, and a blocked or runny nose. One of the most common causes of rhinitis is an allergic reaction to something such as pollen. This type of rhinitis is known as allergic rhinitis. There are several different types of rhinitis that do not involve an allergic reaction. Viral or infectious rhinitis is a common one.



Allergic Rhinitis

This video talks about the conventional treatment of allergic rhinitis;
<http://youtu.be/gpz0waSuccs>

Essential Oils for Rhinitis

- Canadian balsam
- E. radiata
- Helichrysum
- Juniper
- Cornmint
- Sweet marjoram

These essential oils are discussed in more detail later in the course

Nasal gel to reduce inflammation

Gel base + Chamomile hydrolat + EO mix at 1%

Orange Mint	40%	Himalayan Cedarwood	15%
E. Smithii	25%	Frankincense	15%
Peppermint	5%		

More information can be found at:

Non-allergic rhinitis:

<http://www.nhs.uk/conditions/Rhinitis---non-allergic/Pages/Introduction.aspx>

Allergic Rhinitis:

<http://www.nhs.uk/conditions/Rhinitis---non-allergic/Pages/Introduction.aspx>

Persistent Rhinitis:

[http://www.patient.co.uk/health/Rhinitis-\(Persistent\).htm](http://www.patient.co.uk/health/Rhinitis-(Persistent).htm)

Tonsillitis

Tonsillitis is an infection of the tonsils. The main symptom of tonsillitis is a sore throat, but there may be several other symptoms including coughing, headache and a fever. Tonsillitis often clears up on its own without the need for treatment but in severe, or recurring cases, the tonsils may be removed.

Tonsillitis can be caused by either a virus or by bacteria, although most cases of the condition are viral. Children between 5 -15 years of age are most likely to get tonsillitis, but it can affect anyone.

Tonsillitis can spread from person to person through throat or nasal fluid, including saliva, hand contact or airborne droplets. The incubation period is usually between 2-4 days.



Inflammation on the tonsils

This video explains the pathology and treatment of tonsillitis:

http://youtu.be/nckVy8z2_SQ

More information can be found at:

<http://www.nhs.uk/conditions/Tonsillitis/Pages/Introduction.aspx>

<http://www.bupa.co.uk/individuals/health-information/directory/t/tonsillitis>

Essential Oils for Tonsillitis

Geranium

West Indian Bay

Winter Savoury

Thyme (ct geraniol & linalol)

These essential oils are discussed in more detail later in the course

Laryngitis

Laryngitis is inflammation of the larynx and is a common condition of the throat. Acute laryngitis is usually caused by a viral infection. It can sometimes occur at the same time as a cold and often gradually gets worse over a 2-3 day period. After this time, it usually eases, disappearing completely within a week. However afterwards, you may have a croaky voice for a while until the inflammation of the vocal cords settles down and the virus is out of the system. Chronic laryngitis is sometimes caused by persistent acute laryngitis. It is a condition that commonly affects smokers and singers.

More information can be found at:

<http://www.patient.co.uk/health/laryngitis>

<http://www.nhs.uk/conditions/Laryngitis/Pages/Introduction.aspx>



The silent one!

This video explains the symptoms, causes and treatment of laryngitis:

<http://youtu.be/IDnfdtFIK18>

Essential Oils for Laryngitis

Myrrh

E. globulus

Cornmint

Peppermint

Black Pepper

These essential oils are discussed in more detail later in the course

Otitis media

Acute otitis media is an inflammation of the area behind the eardrum (tympanic membrane) in the chamber called the middle ear. It is caused by an infection that produces pus, fluid, and inflammation. It is common in children but can occur in adults.

The infection should be treated promptly as the infection can spread to the inner ear.



Otitis media

This video explains the pathology of otitis media:
<http://youtu.be/1kmsPEd2Efk>

More information can be found at:
<http://www.nhs.uk/conditions/Otitis-media/Pages/Introduction.aspx>
[http://www.patient.co.uk/health/Ear-Infection-\(Otitis-Media\).htm](http://www.patient.co.uk/health/Ear-Infection-(Otitis-Media).htm)

Essential Oils for Otitis Media

Symptom	Essential Oils	Properties
Pain	Lavender, Sweet Basil, Sweet Thyme, Coriander, E. Globulus**, Lemongrass, Peppermint*, Himalayan Cedarwood, Helichrysum.	Confirmed analgesics
Inflammation	Myrrh, Palmarosa, Helichrysum, German Chamomile, Patchouli.	Confirmed anti-inflammatory
Mucus hypersecretion and congestion	Cajuput**, E. Radiata**, Cardamom, Ginger, Peppermint*	Decongestant Mucolytic
* These oils should not be placed around the nose or mouth of young children & infants.	* menthol ** 1,8 Cineole	Frankincense & Ginger have both be used as effective prophylactics for the condition.
These essential oils are discussed in more detail later in the course		

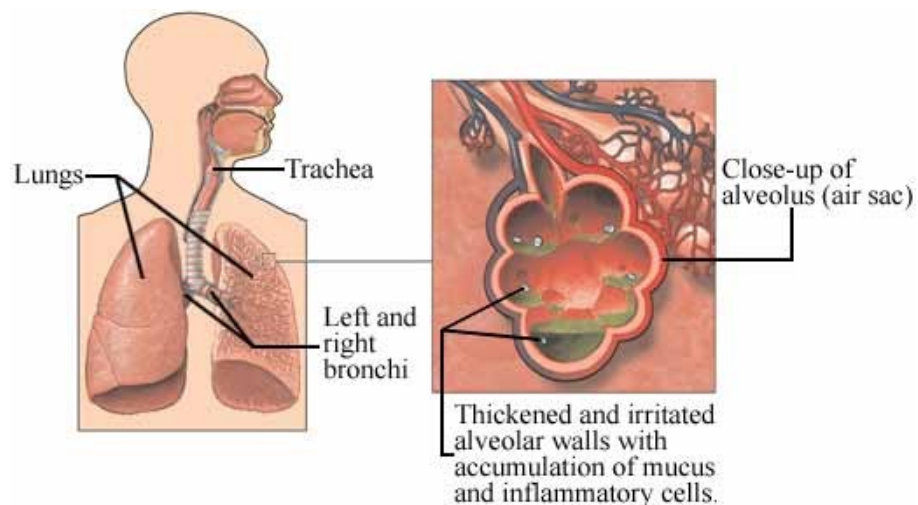
Lower Respiratory Tract Infections

Lower respiratory tract infections (LRTI's) are usually more serious than URTIs. They affect the trachea, bronchi and the lungs. Pneumonia and TB are types of LRTI.

Pneumonia

Pneumonia is an infection which causes the alveoli and bronchioles in the lung to become inflamed and fill with fluid. Many different germs can cause the infection that result in pneumonia. Although some are common and easy to identify, in quite a few people with pneumonia the germ causing the problem is never discovered. Some germs, particularly viruses, are breathed into the lungs because they are present in the air, especially if someone nearby has an infection and is coughing or sneezing. Others, including some bacteria, already live in the throat. They usually do no harm but may get into the lungs if you are 'under the weather' or weakened by a virus. Some of the rarer types of pneumonia may arise from unusual sources.

Pneumonia may result in hospitalization. It is treated with the use of antibiotics.



The effects of pneumonia

This video explains the causes, effects and treatment of pneumonia:

<http://youtu.be/cWQ14x1URXo>

More information can be found at:

http://www.bbc.co.uk/health/physical_health/conditions/pneumonia1.shtml

<http://www.nhs.uk/Conditions/Pneumonia/Pages/Symptoms.aspx>

Essential Oils for Pneumonia

E. Globulus

Hyssop

Pine

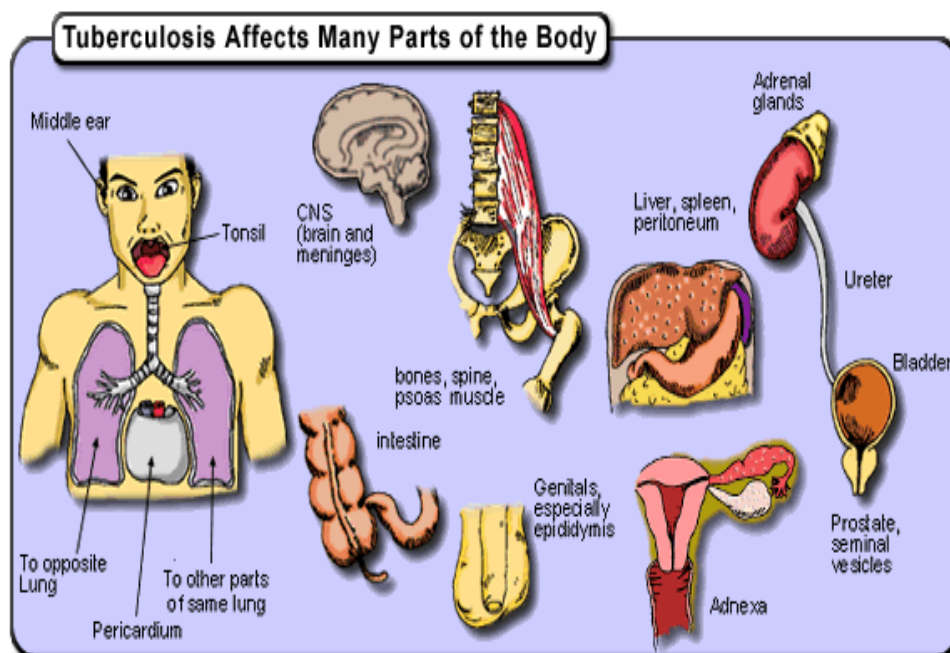
These essential oils are discussed in more detail later in the course

Tuberculosis

TB is a disease caused by a germ called *Mycobacterium tuberculosis*. It most commonly affects the lungs, and it is contagious. The immune system usually destroys the germs once they are inhaled, but they may cause an illness weeks or even months later. Sometimes TB causes no immediate illness but remains dormant in the body before developing many years later. This is more likely if the body is weakened by other medical problems. People most at risk are those with damaged immune systems.

The vaccination against TB is called the BCG but it does not give complete protection against TB, but does help the body's defences fight it off. The vaccination lasts at least 15 years and you can only have it once.

TB can affect any part of the body, but most commonly affects the lungs or lymph glands. The most common symptom is a cough, sometimes accompanied by sputum (phlegm) which can be bloodstained. There may also be chest pain, weight and appetite loss and a fever with sweating, particularly at night. When TB affects the lymph glands, these may appear as lumps on the neck. TB is usually diagnosed after a chest X-ray has been taken and a specimen of phlegm examined.



This video explains the causes, symptoms and treatment of TB:

<http://youtu.be/ZDYhgh8oYQs>

The mix of oils outlined below is used in the 40 cot paediatric ward at Brooklyn Chest Hospital in the Western Cape, South Africa. The babies and toddlers are all suffering from TB meningitis or Miliary TB (affects liver, spleen, bone marrow and meninges)

Melaleuca quinquenervia ct viridiflorol	60%	(Niaouli)
Eucalyptus smithii	5%	
Myrtus communis ct myrtenyl acetate	10%	(Myrtle)
Abies balsamea	10%	(Canadian balsam)
Melaleuca alternifolia	10%	(Tea tree)
Pelargonium x asperum cv Egypt	4%	(Bourbon geranium – Egypt)
Mentha x piperita	1%	(Peppermint)

Topical application between 1%-3% dilution in fixed oil blend of Hazelnut and Sweet Almond. Depending on age applied to reflex points on feet, full body or chest only. The same undiluted blend is also vaporised.

Other essential oils cited in research for the treatment of TB:

- E. Globulus
- Sweet Marjoram
- Hyssop
- Juniper
- Neroli
- Lavender
- Dwarf Pine
- Scotch Pine
- Winter Savoury
- Clove
- Thyme (all cts)

These essential oils are discussed in more detail later in the course

More information can be found at:

<http://www.nhs.uk/conditions/Tuberculosis/Pages/Introduction.aspx>

http://www.bbc.co.uk/health/physical_health/conditions/tuberculosis1.shtml

http://www.hpa.org.uk/infections/topics_az/tb/

<http://www.patient.co.uk/doctor/Tuberculosis.htm>

Chronic Obstructive Pulmonary Disease (COPD)

Chronic obstructive pulmonary disease (COPD) is the name for a collection of lung diseases including chronic bronchitis, emphysema and chronic obstructive airways disease. People with COPD have trouble breathing in and out. This is referred to as airflow obstruction. Breathing difficulties are caused by long-term damage to the lungs, usually because of smoking.

COPD is one of the most common respiratory diseases in the UK. It usually affects people over the age of 35. Around 835,000 people in the UK have been diagnosed with COPD, but it is thought that there are about 2 million people living with the disease who have not been diagnosed. This is because many people who develop the symptoms of COPD do not get medical help because they often dismiss their symptoms as a 'smoker's cough'. COPD affects more men than women. However, according to the British Thoracic Society, rates of COPD in women are increasing. The main cause of COPD is smoking. The likelihood of developing COPD increases the more you smoke and the longer you've been smoking.

Over many years, the inflammation leads to permanent changes in the lung. The walls of the airways get thicker in response to the inflammation and more mucus is produced. Damage to the delicate walls of the air sacs in the lungs means the lungs lose their normal elasticity. It becomes much harder to breathe, especially when you exert yourself. The changes in the lungs cause the symptoms of breathlessness, cough and phlegm associated with COPD. Although any damage that has already occurred to your lungs cannot be reversed, you can prevent COPD from developing or getting worse by making lifestyle changes. Treatment for COPD usually involves relieving the symptoms, for example by using an inhaler to make breathing easier. Although COPD causes about 25,000 deaths a year in the UK, severe COPD can be prevented by making changes to your lifestyle.

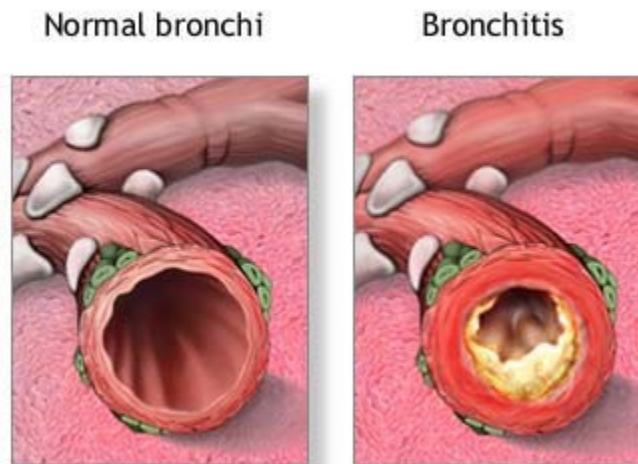
Information taken from: <http://www.nhs.uk>

This video gives information about the diseases that make up COPD:
http://youtu.be/IYW_2Rfuii8

This video is a lady suffering COPD talking about her condition:
<https://www.youtube.com/watch?v=bt6EC-57sbw&feature=relmfu>

Bronchitis

Bronchitis is inflammation of the mucous membranes of the bronchi, the airways that carry airflow from the trachea into the lungs. Bronchitis can be divided into two categories, acute and chronic, each of which has distinct etiologies, pathologies, and therapies.



Acute Bronchitis

By definition, an acute condition is one which is sudden, severe and of short duration. Bronchitis is caused by inflammation of the bronchi in the lungs. Most cases of bronchitis are caused by a viral infection spreading from the nose to the throat. Once in the throat, bacterial infection usually sets in. A dry, harsh cough develops after a nasal cold or sore throat. Fever and a general feeling of being unwell usually accompany this. The linings of the inflamed bronchi secrete mucus more rapidly than normal, which can be coughed up easily by the patient, thus reducing the harshness of the cough. Cold air should be avoided at this time but warm, moist air can be beneficial.

Treatment for acute bronchitis is primarily symptomatic. Non-steroidal anti-inflammatory drugs (NSAIDs) may be used to treat fever and sore throat. Decongestants can be useful in patients with nasal congestion, and expectorants may be used to loosen mucus and increase expulsion of sputum. Cough suppressants may be used if the cough interferes with sleep or is bothersome, although coughing may be useful in expelling sputum from the airways. Even with no treatment, most cases of acute bronchitis resolve quickly

This view discusses Acute Bronchitis v Chronic Bronchitis:

<http://youtu.be/6Shdu09-REY>

Chronic Bronchitis

This condition forms part of the group of diseases known as COPD (Chronic Obstructive Pulmonary Disease). Any prolonged attack of bronchitis (longer than 3 months) is considered as chronic. It is likely that the bronchi have become permanently damaged. This type of bronchitis is not caused by an infection but rather by irritants such as air pollution, dust, cigarette smoke and other social factors causing continuous irritation of mucous producing cells. These cells overproduce mucus which is coughed up regularly.

The following chart contains oils that were researched as part of a project looking into formulating a treatment plan for a client with acute bronchitis who had a tendency towards recurring respiratory infections.

Essential oil	Main Chemicals	Properties	Reasons for choice
Eucalyptus smithii (Eucalyptus)	1,8 cineole 70-80% Monoterpenes 20%	Antiinfectious Anticatarrhal Non-irritant Decongestant	High 1,8 cineole Non-irritant Low toxicity
Abies alba (Silver Fir)	Monoterpenes 98%	Antitussive Expectorant Immunostimulant	Cough Immune system boost
Abies balsamea (Canadian balsam)	Monoterpenes 85% Esters and alcohols 20%	Decongestant Mucolytic Cicatrissant	Regenerates mucous membranes Balanced oil for respiratory conditions
Satureia Montana (Winter Savoury)	Phenols 40% Monoterpenes 30% Alcohols 20%	General tonic Antibacterial Immunostimulant Expectorant	Immune system boost Repeated infections Bacterial infection
Leptospermum scoparium (Manuka)	Alcohols 50% Monoterpenes & Sesquiterpenes 40%	Antiseptic Antimicrobial Analgesic Bronchial tonic Antiinflammatory	Bacterial infection Pain relief Treats bronchitis Inflamed bronchi

These essential oils are discussed in more detail later in the course

Emphysema

Emphysema is one of the conditions grouped under the banner of COPD (Chronic Obstructive Pulmonary Disease). Emphysema is where the alveoli in the lungs lose their elasticity leading to a loss in the surface area available for the exchange of gases. This reduces the support of the airways, causing them to narrow. It also means the lungs are not as good at getting oxygen into the body, so you may have to breathe harder, resulting in shortness of breath.

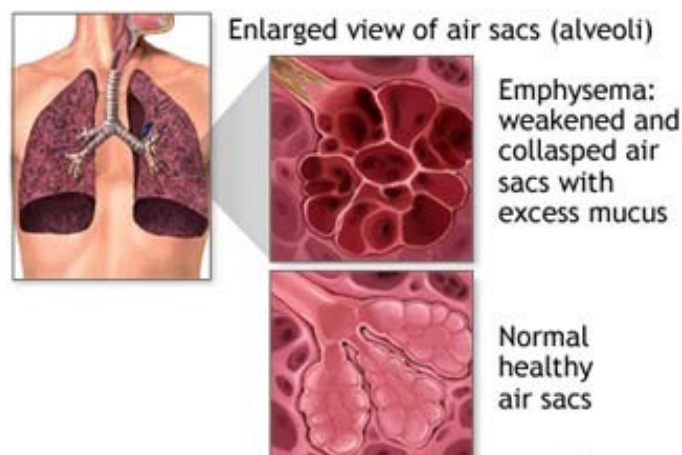
The most common cause of COPD is smoking. Once you give up smoking, you gradually reduce the chances of getting COPD and you slow down its progress if you already have it.

Occupational factors, such as coal dust, and some inherited problems can also cause COPD. Whether pollution is a factor is under investigation.

Cough, phlegm and shortness of breath can be symptoms of COPD. Some people may only notice their symptoms in winter or they might put them down to bronchitis or 'smoker's cough'. This means that they might not seek help at an early stage of the disease.

The best way to confirm diagnosis is through spirometry, a simple breathing test which will indicate whether the airways have narrowed. In some cases more detailed tests and a referral to hospital may be needed.

COPD can lead to feelings of anxiety because of breathlessness. People with COPD may reduce their activities to avoid becoming breathless, but by reducing activity levels you become less fit and therefore get breathless even sooner when you try to do any activity. People with COPD may adapt their lifestyles to reduce breathlessness, but keeping as fit as possible is important. Some hospitals run pulmonary rehabilitation courses which involve exercise and education.



When looking at essential oils for treating emphysema we need to look at the symptoms - Anxiety, Cough, Phlegm and Breathlessness

Symptom	Essential Oils	Properties
Anxiety	Cypress, Frankincense, Lavender (angustifolia), Neroli, Manuka, Sandalwood, Sweet marjoram	Relaxing to CNS and have properties relating to the respiratory system.
Breathlessness	E. radiata, Spanish marjoram, Lemon, R.Chamomile, Myrtle, Sandalwood	Tonics to respiratory system.
Cough	Cypress, Canadian balsam, E. radiata, Hyssop, Rosemary (all cts)	Antitussive
Phlegm	E. radiata (mixed with E. smithii), Eucalyptus dives ct piperitone, Lavender (stoechas), Caraway, Bay	Powerful expectorant & fluidification properties, Mucolytic

These essential oils are discussed in more detail later in the course

New research findings published.....Broccoli may help to prevent lung damage

“A substance found in broccoli may limit the damage which leads to serious lung disease, research suggests. Chronic obstructive pulmonary disease (COPD) is often caused by smoking and kills about 30,000 UK residents a year. US scientists found that sulforapane increases the activity of the NRF2 gene in human lung cells which protects cells from damage caused by toxins. In the latest study, a team from John Hopkins School of Medicine found significantly lower activity of the NRF2 gene in smokers with advanced COPD. Writing in the American Journal of Respiratory and Critical Care Medicine, they said the gene is responsible for turning on several mechanisms for removing toxins and pollutants which can damage cells. Previous studies in mice had shown that disrupting the NRF2 gene caused early onset severe emphysema, one of the conditions suffered by COPD patients.” – Source: British Lung Foundation

Further information can be found at:

http://www.bbc.co.uk/health/physical_health/conditions/copd1.shtml

<http://www.patient.co.uk/health/chronic-obstructive-pulmonary-disease>

<http://www.nhs.uk/conditions/chronic-obstructive-pulmonary-disease/Pages/Introduction.aspx>

<http://www.blf.org.uk/Conditions/Detail/COPD>

<http://www.hse.gov.uk/copd/index.htm>

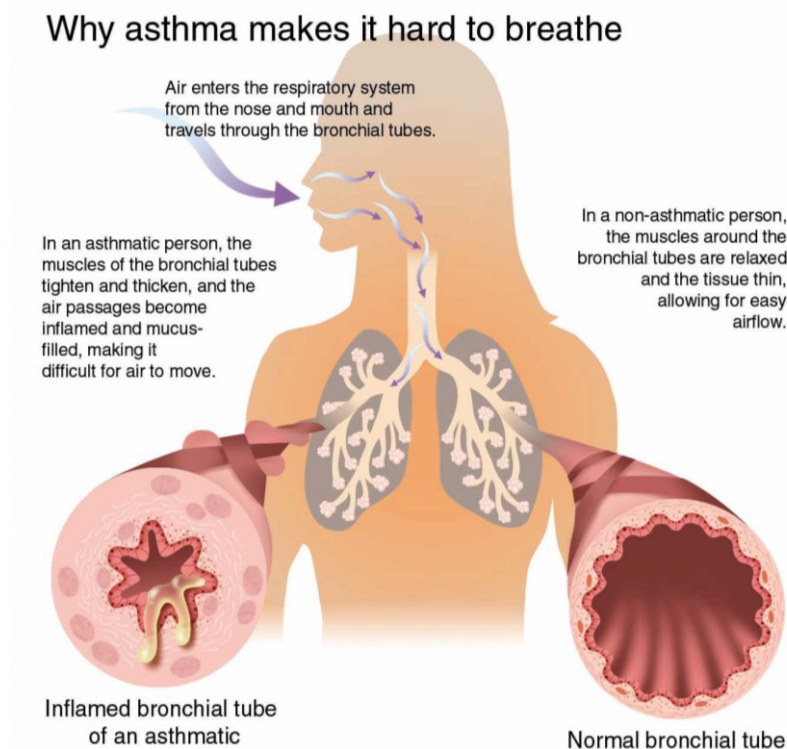
Asthma

Asthma is a common disease, affecting about 5 million people in the UK. Asthma often starts in childhood (atopic/extrinsic) and the sufferer may also be afflicted by other conditions such as eczema, but it can also appear for the first time at any age (intrinsic).

Asthma affects the airways. People with asthma have sensitive airways which become irritated in some situations. It is the bronchioles that are affected as the muscles surrounding them tighten and the airways become narrow and sometimes produce more mucus than usual. This makes it difficult to breathe, particularly on the outward breath.

Asthma may get better or disappear completely during teenage years, but around 1/3 of children with asthma will go on to have problems as an adult. Asthma can run in families, but many people with asthma do not have relatives with the condition. Some medical practitioners believe that asthma runs in 7 year cycles – there does not appear to be medical data to substantiate this fact

Asthma can't be cured, but it can be controlled so that attacks can be prevented. Most people with asthma who receive (and take correctly) proper treatment can lead normal lives. The symptoms of asthma are shortness of breath, wheezing and a tight feeling in the chest. Symptoms are often worse at night.



This video gives a brief explanation of the causes of asthma:

<https://www.youtube.com/watch?v=7EDo9pUYvPE>

This video shows a teenager having an asthma attack:

<https://www.youtube.com/watch?feature=endscreen&v=EK8nzKzdnIM&NR=1>

In this video Professor Peter Barnes from the National Heart and Lung Institute at Imperial College, London, explains what he would want to know if he was diagnosed with asthma:

<https://www.youtube.com/watch?NR=1&v=cMCCKR2YFMc&feature=endscreen>

Although we do not know what causes asthma, we do know that many factors contribute. For instance, there is more and more evidence that allergies are a factor, especially if you are under 16.

On many occasions asthma gets worse for no obvious reason. This is sometimes known as an asthma attack. 'Triggers' can make asthma worse:

- **The common cold** - the effects of a cold can last for a long time unless you are given increased treatment. Asthma attacks are often set off by allergens such as grass pollen, house dust and animal fur.
- **Exercise** - running, particularly in cold weather, can cause an asthma attack. However, exercise-induced asthma can be controlled. People with asthma should **not** avoid sport and exercise - they contribute to overall good health.
- **Irritants** like tobacco smoke, fumes and a dusty atmosphere will often lead to asthma attacks.
- **Emotion** – anger, anxiety or happiness – can bring on an attack of wheezing in some people with asthma.
- **Pollution** - especially from traffic, is increasingly recognised as making asthma worse.

Treating asthma in children (atopic/extrinsic)

Essential oils for asthma in children are usually selected because they have anti-inflammatory and antispasmodic properties. They are generally not chosen for their mucolytic actions as these oils can be too powerful for children and could actually induce coughing and wheezing if they are over-used or used incorrectly.

An adult can tolerate directly inhaling neat essential oils but in children we have to take extra precautions and it is better to use the oils indirectly, either via the skin or a vaporiser.

Recommended essential oils would have the following actions: anti-inflammatory, slightly mucolytic, calming, bronchodilating and antispasmodic.

Essential oils that have these properties would include the following: Clary sage, R. Chamomile, Lavender, Lavandin, Sweet Marjoram and Myrtle.

It is recommended that strong-smelling oils (e.g. peppermint and eucalyptus) are not used with very young children as their olfactory system is more sensitive than an adult's and they may rebel against the treatment because the smell is unpleasant to them. In addition, studies suggest that nasal inhalation of menthol or 1,8 cineole could cause a brief period of apnoea in premature infants.

Essential oil	Main Chemicals	Properties
Salvia sclarea (Clary Sage)	Linalol 26% 1.8 cineole (trace) Linalyl acetate 70%	Antispasmodic, neurotonic and anti-inflammatory. Calming for the nervous system
Chamaemelum nobile (Roman Chamomile)	Trans-pinocarveol 5% Myrtenal 1 - 10% Pinocarvone 13% Esters 75% 1.8 cineole 0 - 10%	Anti-allergic, anti-inflammatory, antispasmodic. Used to treat anxiety and insomnia
Lavandula angustifolia (Lavender)	Linalol 26 – 49% Linalyl acetate 36 -53% 1.8 cineole 2%	Antispasmodic, anti-inflammatory, analgesic Treats asthma, anxiety, spasmodic coughing, wheezing
Lavandula x intermedia (Lavandin)	Linalol 23% Linalyl acetate 30% 1.8 cineole 2 – 11% Camphor 5 – 15%	Neurotonic, expectorant, anti-inflammatory, sedative. Treats bronchitis and asthma, coughs, stress

Origanum majorana (Sweet Marjoram)	Monoterpenes 40% Monoterpenols 50%	Antispasmodic, calming, respiratory tonic. Used to treat bronchitis, asthma, spasm, anxiety, catarrh, nervous breathing.
Myrtus communis (Myrtle)	1.8 cineole 60%	Expectorant, decongestant, uplifting Treats asthma, coughs, wheezing, mucal congestion, apathy.

Suggested treatment approaches

Use 4 drops in a vaporiser

Use 10 drops in 15ml reflex cream for daily treatment on the feet

Use 1 – 2 drops neat in the crook of the elbow

Use 4 drops in a warm bath

Use 15 drops in 50ml of sunflower or white lotion for application to the upper back

See video section for treatment ideas

Treating asthma in adults

Adult sufferers can usually tolerate the more therapeutically powerful and aromatically pungent essential oils that we would normally associate with the treatment of asthma, such as hyssop, eucalyptus globulus, peppermint, basil and pine. These oils, which mainly belong to the labiatae and myrtaceae families, are beneficial to the respiratory system in many different ways. Their principal components are oxides, ketones, alcohols and terpenes. The most beneficial approach to treatment has been shown to be a three-stage treatment plan for long-term effect

Stage 1 – Consultation, Treatment plan, reducing spasm, increasing the breath

This is the introductory stage. Clients are introduced slowly to essential oils. A full consultation is essential to ascertain the lifestyle, living and working conditions of the client. This will establish all allergens or triggers that are exacerbating the asthma. Where possible these allergens or triggers should be reduced or eliminated. Using the oils and treatments recommended for children (as above) and using uncomplicated blends for the first few weeks will accustom the client to the treatment approaches in a clinic situation, the home treatment plans and to the

essential oils themselves. Select essential oils to reduce spasm, inflammation, allergic reaction and anxiety. Breathing exercises are also introduced to make the client more aware of their breathing patterns.

Stage 2 – Expelling mucous and reducing build up

The introduction of mucolytic and expectorant essential oils is recommended at this stage, when the inflammation and any spasm in the lungs has reduced.

Stage 3 – Maintenance and building the immune system

Introduce a blend of essential oils that are helpful for all the above symptoms, but are also immuno-stimulant, so that after initial treatment has continued for a few weeks, the client's immune system is strengthened and restored, therefore helping them cope with any difficulties in the future. The mix of oils in this stage of the treatment will combine oils from both stages 1 & 2 but will also add in new oils from stage 3.

Suggested treatment approaches

Use 4 - 7 drops in a vaporiser

Use 15 drops in 15ml reflex cream for daily treatment on the feet

Use 1 - 2 drops neat in the crook of the elbow twice or three times a day

Use 4 -7 drops in a warm bath (if steam is not a problem)

Use 30 drops in 50ml of sunflower or white lotion for application to the upper back, reducing to regular dosage after improvement has been made (15 drops in 50ml)

Essential oils	Main Chemicals	Properties
Hyssopus officinalis (Hyssop)	Monoterpenes 45-58% 1.8 cineole 0.5%	Anti-inflammatory, expectorant, mucolytic, anti-allergic Stages 1, 2 and 3
Ravensara aromatica (Ravensara)	1.8 cineole 65%	Anti-inflammatory, expectorant Stage 2
Mentha x piperita (Peppermint)	Ketones 16 – 36% 1.8 cineole 3 – 8% Alcohols 50%	Antispasmodic, mucolytic, neurotonic, calming, anti-stress Stages 1 and 2 (with care)
Eucalyptus smithii E. globulus (Eucalyptus)	1.8 cineole 65%	Mucolytic, expectorant, bronchodilator Stages 2 and 3

Ocimum basilicum (Basil)	Linalol 40 – 55% 1.8 cineole 2 – 8%	Anti-inflammatory, antispasm, neurotonic Stages 1 and 2
Pinus sylvestris (Pine)	Monoterpenes 70% Esters 1 – 10%	Anti-allergic, anti- inflammatory, antiseptic, respiratory Stages 2 and 3
Rosmarinus officinalis (Rosemary)	1.8 cineole 30 – 55% Monoterpenes 37%	Mucolytic, expectorant, neurotonic, bronchodilating Stage 2
Thymus vulgaris (linalol) (Sweet Thyme)	Geraniol/linalol 70%	Anti-inflammatory, antispasmodic, neurotonic Stages 1, 2 and 3
Melaleuca leucadendron (Tea Tree)	1.8 cineole 50 – 75%	Anti-infectious, expectorant, mucolytic, antispasmodic Stages 2 and 3
Boswellia carterii (Frankincense)	Monoterpenes 40%	Anti-catarrhal, anti- inflammatory, expectorant, immuno- stimulant Stages 1, 2 and 3

Further information can be found at:

<http://www.asthma.org.uk>

<http://www.patient.co.uk/health/asthma>

http://www.bbc.co.uk/health/physical_health/conditions/in_depth/asthma/aboutasthma_index.shtml

Mesothelioma

Mesothelioma is a cancer of the mesothelium, a thin membrane that lines the chest and abdomen and surrounds the organs in these areas. About 2000 people in the UK are diagnosed with mesothelioma each year.

This channel contains lots of videos and information about mesothelioma:

<https://www.youtube.com/channel/HCHiHHIq-mYrc?feature=relchannel>

When mesothelioma develops in the pleura (pleural mesothelioma), the delicate membranes thicken and may press inwards on the lung. Fluid may also collect between the two layers of the pleura; this is known as a pleural effusion. Mesothelioma can also develop in the abdomen (peritoneal mesothelioma).

Mesothelioma often starts as a lot of tiny lumps (nodules) in the pleura, which may not show up on scans or x-rays until they are quite large. The main symptoms of pleural mesothelioma are breathlessness and chest pain. Some people find that their voice becomes hoarse and they have a cough that does not go away. As mesothelioma develops, pleural effusion is more likely to occur.

The following is a chart of oils assembled from research data which may be useful in the holistic care of a client with mesothelioma.

Symptoms (physical & emotional)	Essential Oils	Properties
Breathlessness	E. radiata, Spanish marjoram, Lemon, R.Chamomile, Red myrtle, Sandalwood	Tonics to respiratory system.
Pain	Lavender, Sweet Basil, Sweet Thyme, Coriander, E. Globulus, Lemongrass, Peppermint, Himalayan Cedarwood, Helichrysum, R. Chamomile, Neroli, Patchouli, Myrrh, Ginger.	Confirmed analgesics
Cough	Cypress, Canadian balsam, E. radiata, Hyssop, Rosemary (all cts)	Antitussive

Fluid build up	Those oils indicated in the treatment of pleurisy may be of use here – E. Globulus, Cinnamon Bark, and Dwarf Pine. Including oils that have a high monoterpene content may also be of use – Lemon, Grapefruit, and Silver Fir.	Cedarwood also indicated for fluid retention
Compromised immunity	Frankincense, Cinnamon leaf, E. Radiata, Tea Tree, Niaouli, Oregano, Black Spruce, Patchouli, Winter Savoury, Clove, Thyme ct linalool & thujanol-4, Vetiver	Immunostimulants
Anxiety & agitation	Cypress, Frankincense, Lavender (angustifolia), Neroli, Manuka, Sandalwood, Sweet marjoram	Relaxing to CNS and have properties relating to the respiratory system.
Fear	Bergamot, Cypress, Mandarin, Sandalwood, Sweet Marjoram, Frankincense, Neroli	

* Hospice of St Mary of Furness (Cumbria) has done a great deal of work with patients with mesothelioma as part of the palliative care programme. There are many patients who are suffering with this disease as a direct result of working at the Ship Yard, which was the main employer on the Furness peninsula.

Further information can be found at:

<http://www.mesothelioma.uk.com/>

<http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Mesothelioma/Mesothelioma.aspx>

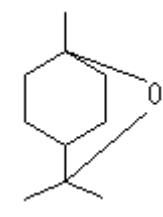
<http://www.nhs.uk/conditions/mesothelioma/Pages/Definition.aspx>

Key essential oils for respiratory illnesses

All of the components within the essential oils charted below have been documented in published research papers as being beneficial within the treatment of respiratory illness. Many references are from recent research conducted within the last 5 years.

Desired activity	Active components	Essential oils
Expectorant & antiviral	1,8 cineole (Oxide)	Ravensara, E. radiata, Myrtle, Niaouli
Mucolytic	Piperitone, Camphor, Verbenone, Thujone, Atlantolactone (Ketones)	E. Dives, Rosemary ct camphor/verbenone, Sage, Inula graveolens, Cedarwood
Antispasmodic	Methyl chavicol (Methyl ether)	Tarragon, Basil (Indian)
Relaxant & anti-inflammatory	Benzyl acetate, Benzyl benzoate, Isobutyl angelate, Linalyl acetate (Esters)	Ylang ylang, R.Chamomile, Petitgrain, Lavandin (Super).
Bronchodilatory	Anethole (Methyl ether)	Anise star, Aniseed, Fennel
Anti-inflammatory & anti-histaminic	Chamazulene (Sesquiterpene)	German chamomile
Antitussive	Various	Cypress, Canadian balsam, E. radiata, Hyssop, Rosemary (all cts)
Anti-infectious	Thymol, Carvraol, Eugenol, Cinnamaldehyde (Phenols) Linalol, Geraniol, Thujanol, Terpinen-4-ol (Alcohols)	Thyme ct thymol, Oregano, Winter savoury, Clove, Cinnamon (Leaf & Bark) Rosewood, Ho Wood, Palmarosa, Thyme ct thujanol, Tea tree

The importance of 1,8 Cineole in the treatment of respiratory conditions



1,8 Cineole

Inhalation of essential oils containing relatively high amounts of 1,8 cineole has a direct and fast action in the relief of a number of respiratory conditions. The following oils all have a high percentage of 1,8 cineole and their therapeutic effects can largely be attributed to the presence of that molecule.

Ravensara aromatica	60%+
Eucalyptus radiata	60-70%
Eucalyptus smithii	70-80%
Eucalyptus globulus	60-85%
Laurus nobilis	35-50%
Lavandula latifolia	25-37%
Melaleuca cajuputi	50-75%
Melaleuca quinquenervia	38-65%
Myrtus communis	8-37%
Rosmarinus officinalis ct cineole	30-55%
Thymus mastichina	41-75%

Properties of 1,8 cineole

Antimicrobial

- Not greatly antimicrobial in itself but it is very effective at causing leakage of bacterial cell membranes which may allow other more active components to enter the cell via the membrane.
- When mixed with a-pinene & limonene it reduced the requirement for antibiotics in treating exacerbations of chronic bronchitis.
- Has good antiviral properties.

Antitussive

- Reduced citric acid induced cough when applied as a chest rub. Eucalyptus was active component.
- Menthol 75% + Eucalyptus oil 25% decrease citric acid induced cough.

Bronchodilation

- In a clinical trial, pure 1,8 cineole was taken orally over a period of 7 days. It was noted that the oxide had surprisingly strong bronchodilatory effects.

Mucolytic

- Very low doses of 1,8 cineole administered to rabbits in a steam inhalation produced an increase in the volume output of respiratory tract fluid from 9% to 45%.
- Several studies have shown that the respiratory cilia beat more frequently following four days of treatment with the oxide.

- A group of 152 rhinosinusitis patients received 600mg of 1,8 cineole daily for 7 days. There was an improvement in frontal headache, nasal obstruction and nasal secretions. It was concluded that 1,8 cineole was a safe and effective treatment before antibiotics are indicated.

Anti-inflammatory activity

- Patients with bronchial asthma were given 3 x 200mg 1,8 cineole daily for 3 days. Their lung function was measured and blood samples were taken before during and after treatment. Monocytes were shown to have inhibited activity regarding the production of anti-inflammatory substances and lung function was significantly improved.
- 32 patients with steroid-dependent bronchial asthma were either given a placebo or 3 x 200mg 1,8 cineole daily for 12 weeks. Their usual medication was then gradually reduced. 12/16 patients receiving 1,8 cineole remained stable compared to 4/16 in the placebo group. The 1,8 cineole group maintained their lung function 4 times longer despite a 36% reduction in their usual medication. The 4 in the placebo group could only manage a slight reduction in their medication.

Pulmonary function

- Majority of trials involving 1,8 cineole report good or significant changes in lung function whatever the presenting respiratory disorder (common cold through to COPD).

Most of the trials above were conducted in Germany where 1,8 cineole is a licensed medication in capsule form for oral use. The trials use oral dosing instead of inhalation. The potential for drug interaction is greater for oral dosing of essential oils. Even though there is a lack of clinical trials relating to inhalation of 1,8 cineole the effectiveness of topical application has been clearly proven for many years.

It has been suggested that where a patient is taking steroid inhalers, essential oil inhalations (direct with steam or mask) should be postponed for a length of time to prevent the possible interference with the functioning of the prescribed medication.

A diverse range of respiratory conditions of varying complexities will benefit from essential oils containing 1,8 cineole. When we then blend essential oils high in this component with other oils with a different chemical mix we create a synergy which will further increase the therapeutic potential for treating respiratory complaints.

Breathing Exercises

Breathing Exercises for children

Getting children who suffer from breathing problems to breathe properly can help reduce their symptoms and make them more aware of their own breathing patterns. This in turn helps them to recognise when their breathing is impaired.

Young children

Blowing bubbles is a really effective way of getting children to practice working with their own breath. It allows for deep exhalations of breath and they can also practice controlling the size of the bubbles with the amount they exhale.

Older children

Blowing up balloons – this exercise regulates the breath and also allows for deep inhalation and exhalation

Blow football - Great fun for boys! It helps regulate the breath and encourages them to regulate their breathing

Tarzan – great fun for making lots of noise and loosening mucous from the chest

1. Get the child to take a deep breath and open out the arms
2. As they exhale drum the chest and make 'tarzan' noises!

Robin Hood – wish setting

1. Stand with feet hip width apart, extend one arm out at shoulder height
2. Bring the other arm up to meet and place palms together, inhale and slowly draw back the top hand as if drawing a bow string.
3. Close eyes and set a wish
4. Exhale and bring the hand back across the body to the starting position

Playing a wind instrument – This may be painful to the ears of surrounding family! Playing a wind instrument requires conscious effort to control the breathing in order to attain the music's rhythm. Recorders and tin whistles are inexpensive ways to start and play.

Adult Breathing exercises

Three part breath

This yoga exercise is often done while seated in a comfortable, cross-legged position, but it is also nice to do while lying on the back. When you are lying down, you can really feel the breath moving through your body as it makes contact with the floor.

1. Come to lie down on the back with the eyes closed, relaxing the face and the body.
2. Begin by observing the natural inhalation and exhalation of your breath without changing anything. If you find yourself distracted by the activity in your mind, try not to engage in the thoughts. Just notice them and then let them go, bringing your attention back to your breath.
3. Then begin to inhale deeply through the nose.
4. On each inhale, fill the belly up with your breath. Expand the belly with air like a balloon.
5. On each exhale, expel all the air out from the belly through your nose. Draw the navel back towards your spine to make sure that the belly is empty of air.
6. Repeat this deep belly breathing for about five breaths.
7. On the next inhale, fill the belly up with air as described above. Then when the belly is full, draw in a little more breath and let that air expand into the rib cage causing the ribs to widen apart.
8. On the exhale, let the air go first from the rib cage, letting the ribs slide closer together, and then from the belly, drawing the navel back towards the spine.
9. Repeat this deep breathing into the belly and rib cage for about five breaths.
10. On the next inhale, fill the belly and rib cage up with air as described above. Then draw in just a little more air and let it fill the upper chest, all the way up to the collarbone, causing the area around the heart (which is called the heart centre in yoga), expand and rise.
11. On the exhale, let the breath go first from the upper chest, allowing the heart centre to sink back down, then from the rib cage, letting the ribs slide closer together. Finally, let the air go from the belly, drawing the navel back towards the spine.

12. You are practicing three-part breath! Continue at your own pace, eventually coming to let the three parts of the breath happen smoothly without pausing.

13. Continue for about 10 breaths.

Pigeon Breath – Taken from Stillness in Motion (Dru Yoga)

1. Either stand hip width apart or settle in a kneeling position. Interlock the hands under the chin. Head faces forward.

2. Breathe in through the nose and raise the elbows sideways

3. Breathe out through the mouth – emptying the lungs whilst bring the elbows back down to meet each other. Whilst performing the movement gently push the chin up

4. Whilst holding this position take one cycle of breath through the nose. On the exhalation gently return the chin to rest on the hands

5. Repeat ten times

Bongers!



Bongers are traditional massage tools in Japan. They're great for drumming out muscle tension and stimulating circulation. Bongers feel good all over and give an invigorating, Shiatsu-like massage, particularly effective for the upper back & neck area. They are excellent for releasing mucous in the lungs if used gently over the lung area. Their flexible shafts do all the work, allowing the person massaging to Bong indefinitely without trying.

Essential Oil treatments

Essential Oil drench on the spine – Adults only

1. Using body brushes warm the skin working upwards and towards the axilla
2. Mix your chosen combination of oils into 2.5ml carrier oil
Essential oils should be between 12 – 20 drops in total and contain at least 1 oil rich in 1,8 cineole
3. Press the thumbs into the essential oil blend and working from the base of the spine upwards apply into the spinal channel
4. Continue until all the oil has been used
5. Apply cling film to the area
6. Leave for 20 – 30 minutes before removing the cling film
7. Effleurage the back with carrier oil to lift and dilute the excess oil solution

Seated Shoulder massage

1. Receiver kneels on the floor or sits on a chair and giver kneels/stands behind them
2. Apply oils to the spinal channel if required and cover with cling film
3. Make contact by placing the hands on the shoulders
4. Ask receiver to take a deep breath in and release the breath slowly.
Repeat 3 times
5. Brush down over the shoulders, back and arms using the flats of the hands
Repeat 4 times
6. Squeeze the shoulders along the trapezius and down the arms using a gentle gripping and shaking movement
Repeat 3 – 4 times

7. Work thumb pressures into areas of tension working with the clients breath and getting them to stretch away on the out breath
Alternative for children – work raindrop effleurage over the shoulder, arm and upper back area
8. Hacking and chopping in the shoulder area avoiding the spine
9. Beating to the lung area or use Bongers as required
10. Hold the upper arms firmly and raise to the ears as the client breaths in. On the out breath let the arms drop to see how relaxed the shoulders are.
Repeat 3 times
11. Supporting the head with one hand gently run the thumb up the length of the neck to lengthen and stretch the muscles.
Repeat 3 times
12. Gently friction with the fingertips along the occipital ridge with one hand whilst supporting the head with the other
Repeat 3 times
13. Work through the hair with a ruffling movement using one hand and supporting with the other
14. Shampoo the hair
15. Gently stroke the hair back into place!!
16. Receiver clasps hands behind head –giver stands supporting the receiver on their knees/chest working with the breath and applying pressure to the arms expand the rib cage on the in-breath and allow the receiver to collapse forward slightly on the out breath.
Repeat 3 times
17. Allow arms to rest by sides again
18. Work on the shoulders and down the arms using a squeezing and kneading movement as before
19. Brush down with the flats of the hands over the shoulders back and arms to finish
20. Settle behind the client and slowly break the contact

Foot Reflex treatment

This is a shortened treatment designed to target the respiratory and linked systems.

The start of the treatment

- Explain the procedure and that you need to be told of the tenderness or sharpness felt on the reflexes.
- Always have a really good look at and feel the feet just after they have come out of their shoes – note on the record card condition, hard skin, temperature, colour, shape & smell.
- Cleanse the feet.
- Relax both feet using a few of the techniques below
- For each of the following movements, work first the right foot then the left.

Foot relaxation techniques

Stroking

Stroke both feet gently, this is the initial contact, so is very important. Once this contact is made it should not be broken. This movement puts your client at ease.

Shaking the Foot Out

Taking each foot in turn, place both hands loosely around the whole foot and shake rapidly from side to side incorporating a rolling movement up & down the foot.

Loosening the Ankle

This follows on from the previous technique. Place the heel of each hand into the groove under the anklebone. Shake foot gently from side to side ensuring the foot is relaxed

Metatarsal Stretching

Taking each foot in turn, place thumbs on the base of the foot, fingers on top. Starting underneath the toes, gently pull the thumbs outwards on the sole of the foot then the fingers on the top of the foot.

Spinal Twisting

Take each foot in turn. Place both hands on inside of the foot, thumbs on sole, fingers on top. The hands twist over the spinal reflex.

Lung Press

Taking each foot in turn, support the foot with one hand and with the other make a fist, pressing firmly into the ball of the foot making a wave type motion.

Foot Rotation

Taking each foot in turn, support the heel with one hand and rotate the whole foot with the other hand, clockwise and anti-clockwise

Toe Rotation

Taking each foot in turn, rotate each toe individually, clockwise then anti-clockwise, ensuring that you support the foot correctly at the base of each toe.

Relaxing the Diaphragm

Taking each foot in turn, thumb-walk the diaphragm line (under the ball of the foot)

Relaxing the Solar Plexus

Work on both feet. Locate the solar plexus and with the thumb, gently roll over the area several times.

Reflex Treatment

Nervous system

Solar plexus: Use the outside hand to hold the foot and be sure to bend the working inside thumb at joint. Place your inside hand thumb in the deepest hollow under the "rib-cage" of the foot – press & rotate.

Work the Head area

Using caterpillar movements thumb walk 5 lines up the big toe covering the whole of the area

Work the Neck reflexes (Musculoskeletal system)

Hold the foot upright with your outside hand. With your inside hand thumb, Caterpillar around the base of the big toe.

Respiratory system

Sinuses: Hold one hand behind the client's toes with your forefinger resting on the toenails, with your thumb in front. Using the thumb from your other hand, locate the 'fattest' part of each toe starting with the second toe and moving towards the little toe. Press & rotate.

Eye and Ear: Hold the foot with your outside hand. Reach up with your outside thumb and press down and rotate on the eye reflex, just below joining point of the second and third toes. The ear reflex is the same hold, but press between the fourth and fifth toes.

Lungs: With your outside thumb, caterpillar over the lung area which covers most of the ball of the foot. Work upwards and across the foot.

Teeth: Work the fronts of toes front the toe towards the foot in lines. Repeat 3 times

Musculoskeletal system

Spine: Turn the foot out so that the instep is exposed. With the outside hand, hold the foot and with the other hand caterpillar from mid heel upwards towards the base of the big toenail. Swop hands & return to the heel. You should be following the bone which creates the arch.

Neck: Hold the foot upright with your outside hand. With your inside hand thumb, Caterpillar around the base of the big toe. Tuck your thumb inside the curve between the big and 2nd toes and rotate on the spot.

Shoulder: Hold the foot with your inside hand. Place the outside thumb underneath the ball of the little toe and caterpillar up towards the little toe. Press & rotate over the area.

Depending upon your findings, select your essential oils and blend them into the base cream. Apply to both feet and return to the important reflexes for your client, working the cream into those specific reflexes. These may be selected for a number of reasons. Your client may have found them to be tender or they may have reported problems with a particular body system or you may have detected grittiness etc. Work longer over the reflexes than before (10-20 seconds) but don't overwork them as this can potentially cause a negative reaction following treatment.

Finish your treatment with a general foot massage.

References

Books

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Principles of Anatomy & Physiology	Tortora & Derrickson
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The Reflexology Handbook	Laura Norman
Asthma: An alternative approach	Ron Roberts & Judy Sammut
Asthma & Allergies	Chris McLaughlin

Journals

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Websites

Website British Lung Foundation	www.lunguk.org
NHS	http://www.nhs.uk
Also see links in the text	