

# Natural Alternatives to Antibiotics



**Elizabeth Noble** BSc. Dip Nat Res. Dip Nat Ther..  
Qualified Naturopath  
Member of the Complementary Medicine Association  
Director Wholistic Therapy Centre

Wholistic Therapy Centre

Suite 10, 876A Pittwater Rd, Dee Why 2099  
Suite 5, 169A Pacific Highway, Hornsby 2077  
**Ph** (Australia) 1300 650 169 **Fax** 02 9940 3564  
**[www.WholisticTherapyCentre.com](http://www.WholisticTherapyCentre.com)**

## **DISCLAIMER**

This e-book's intention is to inform and educate. It is not to replace medical advice given by your health professional. It is recommended that you consult your doctor or health professional before following any therapeutic advice, especially if you have a pre-existing medical condition. Never reduce or discontinue your prescribed medication without the consent of your doctor. The author cannot take medical or legal responsibility for illness arising out of the failure to seek medical advice from a doctor.

# NATURAL ALTERNATIVES TO ANTIBIOTICS

## CONTENTS

<b>Case study - Susans's story</b>	<b>3</b>
<b>What are antibiotics?</b>	<b>4</b>
<b>The history of antibiotics</b>	<b>4</b>
<b>What isn't killed becomes stronger - the threat of antibiotic resistance</b>	<b>5</b>
<b>Side effects of antibiotics</b>	<b>9</b>
<b>What was used before antibiotics</b>	<b>12</b>
<b>Case study - Christopher's story</b>	<b>14</b>
<b>Natural alternatives to antibiotics</b>	
Herbs	15
Homeopathy	19
Nutritional supplements	20
The benefits of yoghurt	27
Healthy diet, positive lifestyle, regular detoxification, other therapies	29
<b>Antibiotics - when they can and can't help</b>	
Middle ear infections	31
Strep throat	33
Sinus infections	35
Lower respiratory infections (bronchitis, pneumonia etc)	36
Acne	37
Colds and flu	39
Gastroenteritis	39
Peptic ulcers	40
Tuberculosis	41
Urinary tract infections	42
Bacterial skin infections	43
Chronic infections	44
<b>How to enhance the effectiveness of antibiotics and avoid a 2nd script</b>	<b>45</b>
<b>References</b>	<b>46</b>

# Case Study - Susan's Story

For years, Susan had suffered from chronic, recurrent sinus infections. She complained of sinus congestion, uncomfortable ear pain and throbbing headaches. She had continual nausea from the mucous dripping from her sinuses, down her throat and into her stomach. The pain of her sinuses kept her awake at night. She was a nervous wreck in the day - physically and emotionally drained, and incapable of enjoying her day.

Every few weeks Susan would trot off to her Doctor for another course of antibiotics. She would take them for a few days, and once her sinuses were feeling a bit better she would stop them. She never completed the full antibiotic course.

One of the reasons Susan never finished the antibiotics was that they gave her unpleasant side effects. She had bouts of thrush and ongoing digestive problems like bloating, abdominal discomfort and constipation.

Susan sought my help when her work was suffering due to her frequent sick days. She was also at the end of her tether - sick and tired of feeling so awful. She came to me in tears - frustrated and worn down by her situation. She was desperate for a solution.

The first thing I recommended to Susan was to boost up her immunity with high doses of vitamin C, A and zinc. I also started her on some herbal remedies to cleanse her gastrointestinal tract and detoxify her liver. I gave her an immune boosting diet to follow, and put her on a gentle exercise routine with lots of rest and relaxation. She was given some natural antibiotic herbs to use next time she got a sinus infection.

It took a few weeks but Susan started to notice her sinus infections were becoming less frequent and less severe. When she did feel an infection coming on she would dose up on her natural herb mix and put in place all the therapies I had taught her.

Now 2 years later, Susan is a new woman - free of sinus infections. She is vital, energetic, slim and healthy. She has learnt how to incorporate simple healthy living practices into her life and keeps on a maintenance dose of her supplements. She leads a life she loves and has not needed antibiotics for over 2 years.

I hope that this book will help you, like Susan, to learn the vital tools to boost your immunity and manage your health, so you can lead the vital life you deserve. At least you will have the knowledge about the pros and cons of antibiotics and the power to choose wisely next time you are confronted with the antibiotic dilemma.

I wish you well on your journey.

Yours Sincerely

*Elizabeth Noble*

Qualified Naturopath and Director Wholistic Therapy Centre

# What are antibiotics?

An antibiotic is a substance, produced by microorganisms which can inhibit the growth of, or destroy other microorganisms. The word “antibiotic” literally means “against life”.

Antibiotics are used as drugs to treat mainly bacterial infections. Bacteria are single celled organisms that have a cell wall, membrane and contain genetic material. Some antibiotics kill bacteria outright - others work by destroying different parts of the bacterial cell, stopping the bacteria from replicating.

Some people think that antibiotics help kill viruses like those that cause the common cold. In fact, antibiotics are useless for treating viruses. Viruses are not cells - they have no cell wall and can not replicate without a host. Because they have no cell to attack, antibiotics have no effect on them.

Antibiotics have the potential to be lifesaving. However their use should be reserved for serious illnesses, not just given out to anyone with a minor infection.

## The history of antibiotics

Alexander Fleming, a doctor and researcher living in London, discovered penicillin in 1928 - purely by accident. Fleming had left a culture plate smeared with *Staphylococcus* bacteria on his lab bench while he went on a two-week holiday. When he returned he discovered that a mould, *Penicillium notatum* had also developed on the culture plate.

The *staphylococcus* bacteria had grown like a lawn, covering the entire plate, except for a halo-like area surrounding where the *Penicillium* mould had grown. Fleming correctly deduced that the mould must have released a substance that inhibited the growth of the *Staphylococcus* bacteria

Fleming was inspired to further experiment and he found that the mould culture prevented growth of staphylococci, even when diluted 800 times. He named the active substance penicillin.

It was not until 1941 that extracts of *Penicillium notatum* were ready for use to treat infections. Researchers were initially faced with the problem of too much demand, and not enough stock. Moulds were then mass produced and Penicillin was used widely to treat childhood infections and for more serious infections like pneumonia, meningitis and septicemia in adults. These diseases, which were often fatal, became controllable for the first time.

Because of the widespread and enthusiastic use of penicillin, by the late 1940s many disease producing organisms had developed a resistance to penicillin. Drug manufacturers had to focus on developing more antibiotics which could control the resistant bacteria. Now there are tens of thousands of different antibiotic variations.

# What isn't killed becomes stronger - the threat of antibiotic resistance

When antibiotics were first introduced to the world in the 1940s, it was hoped that they would bring an end to infectious bacterial diseases. However due to misuse and overuse, bacteria are now becoming resistant to antibiotics. As a result, many once harmless infections are becoming difficult to treat.

More serious bacterial infections like tuberculosis and bacterial pneumonia are now starting to become unresponsive to a variety of antibiotics, forcing the medical community to search for other ways to control these potentially deadly infections.

The most widely cited case of antibiotic resistance is TB or tuberculosis - a bacterial infection of the lungs. This infection caused by a bacteria, *Mycobacterium tuberculosis*, was once highly responsive to antibiotics. But not any more.

The World Health Organisation estimates that 7.5 million people are infected by TB a year. 2.5 million people die of it a year. This is not just third world countries we are talking about. New York City is America's epicentre of TB, harbouring 17% of America's TB cases. In Harlem there is a rate of 222 cases per 100,000 people - more than 20 times the national average.

The current treatment for TB is a combination of antibiotics which must be taken together daily for up to 2 years. However even with this comprehensive strategy some treatments fail completely. In these cases the infection has become resistant to all the antibiotics thrown at it. This multiple drug-resistant tuberculosis (MDR-TB) is normally fatal.

TB is not an isolated case. Other deadly organisms which have become immune to antibiotics include *Staphylococcus aureus* or Golden staph. This dangerous bacteria is normally found in hospitals preying on patients with weakened immune systems and those with open wounds or after surgery.

In the early 1980s in Melbourne, Australia, there was an outbreak of Golden Staph, which was resistant to most antibiotics. Eventually, after several patient deaths, the infection was brought under control by Vancomycin - an expensive and toxic drug.

I have seen the threat of Golden Staph first hand. In the 1990s my aunt was admitted to hospital for skin burns she received in a house fire. However it was not the burns that killed her - it was an infection of Golden Staph that got into her blood stream and did not respond to the antibiotics given.

I hear many horror stories from my patients who have had loved ones admitted to hospital, often for minor procedures, only for them to be readmitted a few days later for life threatening drug-resistant infections picked up during their initial stay.

It is estimated that one in 16 hospital patients develop a hospital acquired infection. In Intensive Care units the rate is as high as one in every five. According to the Centres for

Disease Control and Prevention, about 19,000 hospital patients in the US die each year of bacterial infections that are resistant to all antibiotics.

There are now many bacteria which have become resistant to antibiotics. Among these are;

- *Streptococcus pneumonia*, a bacteria which causes pneumonia
- *Haemophilus influenzae* which causes ear infections
- *Campylobacteria* which causes gastrointestinal disease
- *Salmonella typhimurium* subtype - a bacteria present in animals (farm, wild and pets) that can be transmitted to humans causing severe illness.

In a single day, just one of these “super bugs” can reproduce 16 billion more of its bad self. The number of these resistant bacteria is growing so fast that specialists are dubbing the predicted explosion of drug resistant bacteria as “the coming plague”.

## What causes antibiotic resistance?

Bacteria have been able to survive over the centuries by spontaneous mutation. This just means that the genetic material or genes in a bacteria will occasionally mutate or change, in order to adapt and survive a hostile environment (like that caused by antibiotics). These mutated bacteria then begin to flourish and withstand the original hostile environment. In Europeans, about twenty-five of every fifty bacteria carry a resistance gene.

Even remote tribes in parts of the world where white people have no contact and who have never been introduced to antibiotics carry small amounts of bacteria that have antibiotic resistance genes. For example a study of the Kalahari bush men of Africa showed that about one in fifty of the bacteria in stools carried a resistance gene. If antibiotic resistance has always been there, why has it become so widespread now?

## Why antibiotics are starting to fail

### 1) Incorrect diagnosis and unnecessary prescriptions

If antibiotics are used too frequently then bacteria become resistant to them.

I've heard of many doctors routinely prescribing antibiotics for colds and flu. Antibiotics may also be wrongly prescribed for gastrointestinal disorders, herpes, glandular fever and other viruses.

It is estimated that up to 60% of antibiotics in the United States are mis-prescribed. There are no national standards on medical practice in America. It is largely left to the physician whether an antibiotic is given.

Some patients also pressure their doctor into writing them a script in the belief that antibiotics will help. A survey in 1996 revealed that 70% of patients inappropriately asked for antibiotics when they have a cold or flu. 60% of patients thought antibiotics were

effective against viruses, and many thought they were useful to avoid complications like sinusitis, ear infections and bronchitis.

Some of the worst antibiotic abuse I see is in the treatment of infections in children. Some parents want to give their children antibiotics at the first sign of any snuffle, sore throat, cough or painful ear. Since young children normally encounter 5 - 12 colds a year in their formative years, this can add up to several antibiotic courses a year!

Most upper respiratory infections are viral in origin, and antibiotics have no place in their treatment. Even with ear infections, only 30-50% are bacterial. For sore throats about 10-20 % are bacterial.

Unfortunately in many countries antibiotics can be bought across the counter without the need for a script. There is also a huge black market in many places like Africa and India where these drugs can be found in the hands of unqualified shop keepers or market stall owners. Antibiotics may be seen as a cure-all for any disease and inappropriately taken, often in excessive amounts.

Over prescribing antibiotics is just adding to the resistance of bacteria to drugs, and turning once innocuous infections into “super bugs” capable of wrecking havoc when they get the chance.

## **2) Incorrect use of antibiotics by patients**

Some patients will be given a course of antibiotics for a bacterial infection, but will not take them for the required length of time. Patients may stop the course because they feel better or because of unpleasant side effects. If you stop your medication too soon, then some partly resistant microbes may remain. These resistant bacteria then survive and multiply, making the next course of that antibiotic useless.

Patient compliance has been a big problem with many patients, particularly TB patients who may need to take the antibiotics for up to two years. TB is essentially a disease of poverty, with many of its sufferers being the homeless, drugs addicts and AIDS patients. For these patients, their health may be a low priority and committing to taking their antibiotics not essential.

A study in the late 1980s showed that only 11% of TB patients at Harlem Hospital finished their antibiotic therapy. Measures were put in place to encourage TB patients to complete their antibiotic course. This included treating patients respectfully and rewarding them with birthday presents and celebrations if they stuck to their prescribed dosages. This approach boosted the success rate of patients completing their course of antibiotics to 88 %.

## **3) Hospital transmitted infections**

As mentioned earlier, hospitals are a breeding ground for antibiotic resistant bacteria. With immune compromised patients and the medical practice of routinely prescribing antibiotics after surgery, some bacteria have gained a foot hold.

By improving infection control in hospitals, bugs would be killed before they got into people. This can be done with ultraviolet lights, better sanitation and the use of isolation or quarantine wards. For example, an experiment by Dr Dennis Maki from the University of Wisconsin Hospital, showed that coating intravenous catheters with antiseptic, reduced infections by 80%.

#### **4) Antibiotic use in animals and farming**

It is estimated that over 70% of the antibiotics produced are used in agriculture.

Antibiotics are widely used in animal feeds to treat infections and to enhance growth in pigs, cattle and poultry. The meat from these animals and their produce, like eggs, milk and cheese end up on our dinner plates!

Because many of these farm animals are fed antibiotics continually, the bacteria in them can become resistant to many different antibiotics. Infected produce, soil or direct contact with the animal can pass these bacteria onto humans.

Farm animals are not alone in developing antibiotic resistant bacteria. Pets like dogs and cats are also showing signs of developing these drug resistant microbes. An Irish study from 1981 showed that 70% of dogs have multi-resistant E coli in their faeces. This may be due to the antibiotic traces in the meat and in some cases the addition of antibiotics to pet food as a growth enhancer.

The spraying of some fruit trees with antibiotics to prevent rot is yet another way that antibiotic resistant bacteria are encouraged.

There is a move to reduce antibiotic use in animals and farming. The huge swing towards organic produce is a sign that the general public is aware and concerned about the effects of antibiotics and other chemicals in their produce.

Australia has prohibited the use of certain antibiotics, called fluoroquinolones, in farm animals. These antibiotics are still used widely in other industrial nations. A study on *Campylobacter jejuni*, a bacteria that causes food-borne illness, found that in Australian patients, only 2% of specimens were resistant to fluoroquinolone resistance. This compares with 29% drug resistance in the specimens from patients that lived in countries that allow fluoroquinolone.

#### **5) Lowered immunity and resistance**

The diet and lifestyle of the average Westerner is poor, leading to compromised immunity and lowered resistance to infections.

Anti aging specialists are now saying that the next generation of people will probably be the first generation for many years to have a shorter life span than their parents. Even now I am seeing grandparents in their eighties or nineties who have outlived their children (and sometimes their grandchildren) who have died prematurely from heart disease, cancer and other lifestyle diseases.

Some people have low immunity for other reasons. For example, AIDS, cancer and organ transplant patients are particularly prone to impaired immune systems and picking up opportunistic infections. For example it is estimated that 90% of AIDS patients who get multiple drug resistant TB will die of it.

## **6) Overuse of disinfectants**

Common household disinfectants like chlorine, bleach and hydrogen peroxide may also be contributing to bacterial resistance. One study found that bacteria can start to mutate in order to survive when exposed to these chemicals.

The possibility that common disinfectants could trigger resistance in bacteria, has broad implications for the modern day home. Are we being too clean? These days many homes have disinfecting sprays, wipes, cloths, soap, toothbrushes - even bug-resistant toys and steering wheels!

Have we lost our innate ability to fight disease? These common household cleaners and disinfectants may be part of the problem.

## **Side effects of antibiotics**

The side effects of antibiotics can be unpleasant. Even when used appropriately, antibiotics can damage your internal environment - especially the intestinal tract. This can lead to an array of health problems later on.

Side effects of antibiotics include:

### **Gastrointestinal disturbances**

Antibiotics, particularly the broad spectrum ones like tetracycline and amoxicillin, kill off all the bacteria in your system - the good and the bad.

The human gastrointestinal tract is filled with millions of different bacteria, including healthy ones like *Lactobacillus acidophilus* and *Bifidobacterium bifidus*. These healthy bacteria help the body digest food and produce B vitamins and metabolites essential for good health.

When all good and bad bacteria are removed by antibiotics then the bad bugs can gain a foothold causing bloating, gas, diarrhoea and abdominal distention. There is also evidence to suggest that disturbances of the intestinal flora can contribute longer term to problems like irritable bowel syndrome, ulcerative colitis and bowel cancer.

Even in the short term some antibiotics cause abdominal pain, nausea and vomiting.

### **Thrush and fungal infections**

One of the common bad bugs to recolonise the gut after using antibiotics is *Candida*. This yeast can turn into a fungal form, and damage the gut wall causing a leaky or porous gut.

This is called “Leaky gut syndrome”. *Candida* and its waste products can then travel into the blood stream and set up infections elsewhere in the body.

Vaginal thrush is one of the more likely candida infections. It causes a curd like vaginal discharge and itchiness in females. Oral thrush can be seen as white patches in the mouth or throat. Skin infections like tinea and athlete's foot are also caused by candida.

## **Allergies**

Some antibiotics, especially the sulphonamides, can cause allergic reactions like rash, fever and diarrhoea.

As said earlier, antibiotics can also damage the gastrointestinal tract causing a leaky gut, which allows undigested food particles to be released into the blood stream. This is a major cause of allergies.

If you develop a leaky gut, then common, favourite foods can start to cause allergies. The most likely foods to become allergens are dairy foods and wheat. Other common food allergens are citrus, eggs, peanuts, strawberries, yeast, tomatoes and beef. Any common everyday foods can become a problem if eaten too frequently.

Allergic reactions to foods can be varied. They can include skin rashes, migraines, itching, hay fever, palpitations, digestive upsets, swelling and asthma. In the most serious cases anaphylactic shock can occur. This is an extreme allergic reaction in which widespread histamine release causes swelling, constriction of the bronchioles, heart failure, circulatory collapse and sometimes death.

There is mounting evidence of a link between antibiotic use in infancy and the development of asthma in children. A Canadian study of 12,082 children found that infants who were exposed to at least one antibiotic were twice as likely as unexposed infants to develop asthma during childhood. It was found that for each extra course of antibiotics during the first year of life, a child was 1.16 times more likely to develop asthma.

Experts believe that the antibiotics kill off the beneficial bacteria in the intestine, and may lead to changes in the way the body deals with disease.

## **Lowered immunity**

Patients who are on antibiotics frequently, can be putting their immune system under pressure.

The gastrointestinal tract is the forefront of our immunity. If it has a microbial imbalance or is leaking toxins into the blood stream then the immune system suffers.

Although the theory is still controversial, many practitioners believe that chronic overgrowth of yeast due to the overuse of antibiotics may trigger chronic fatigue, fibromyalgia and further immune dysfunction.

I see many patients with chronic fatigue and immune dysfunction. Patients with recurrent sore throats, swollen glands, fatigue and recurrent colds, flu and infections. In many cases we can track their symptoms down to an overuse of antibiotics in their history.

## **Liver disease**

An important job of the beneficial flora in your intestines is getting rid of toxins. If the normal bowel flora has been reduced from antibiotic use, then they cannot perform their normal detoxification tasks, putting an extra load on the liver.

Direct poisoning of the liver may occur with some of the stronger antibiotics like those used to treat tuberculosis (TB).

Tetracyclines, commonly used for acne, especially when given at high doses or intravenously, can cause fatty liver.

## **High total and LDL cholesterol**

An imbalance in the intestinal flora due to antibiotics can elevate cholesterol over time. The good bacteria normally salvage and recycle the good HDL cholesterol. This good HDL cholesterol removes bad cholesterol from the arteries, and takes it to the liver for processing. When the healthy gastrointestinal bacteria are destroyed, the good HDL cholesterol is excreted in the stools and total cholesterol and the bad LDL cholesterol level rise.

## **Gynaecological problems**

In a healthy woman, oestrogens are excreted in the bile, then processed by intestinal flora and recycled back into the body. A significant amount of oestrogen is lost after antibiotic use. This can contribute to premenstrual syndrome, menopausal problems and other gynaecological disorders.

Hormonal imbalances may also occur when the toxic waste products of *Candida*, like acetaldehyde damage the production of hormones from the pituitary, adrenals, thyroid and ovaries. A deficiency of these hormones can slow metabolism and make patients feel tired, overweight and sick.

## **Bladder infections**

When normal gut flora are destroyed from antibiotics there is an overgrowth of undesirable bacteria which can become a reservoir for infections of the bladder.

## **Blood disorders**

Side effects of some antibiotics include:

- neutropenia - a reduction in the body's white blood cell count
- haemolytic anaemia - the destruction of red blood cells
- excessive bleeding or thrombophlebitis - a blockage or clot associated with inflammation of a vein.

## Arthritis

Antibiotics kill both good and bad bacteria. If the good bacteria are not replaced then the bad bacteria get a hold and the subsequent bacterial overgrowth can trigger auto immune disease.

This is because the proteins of certain bacteria are similar to our body's own tissue. The immune system starts to attack its own tissue in the belief it is destroying the invading bacteria. This can result in auto immune disorders like ankylosing spondylitis - inflammation of the backbone and sacroiliac joints, and rheumatoid arthritis - inflammation of the joints of the fingers, wrists, feet, hips and shoulders.

## Other side effects

Some antibiotics like the **tetracyclines** can damage the growing teeth and bones of the foetus and young children. Tetracyclines are absorbed by bones and teeth causing pitting, yellow discolouration and an increased risk of dental cavities.

Tetracyclines decrease the absorption of B vitamins due to the disturbance of bowel flora in the bowel. Less frequently they can increase the pressure around the brain, and can cause headaches and visual loss.

The **aminoglycosides** group of antibiotics which includes the anti tuberculosis drug, streptomycin, can also be quite toxic, causing damage to the auditory nerve and deafness. They can also cause kidney damage, skin rashes and drug induced fever.

## What was used before antibiotics?

Bacteria are becoming steadily resistant to antibiotics. Everyday infections like bacterial tonsillitis, middle ear infections and urinary tract infections are becoming harder to treat. It will only be a matter of time before last resort drugs like Vancomycin become ineffective against infections.

It is vital that we find alternatives to antibiotics soon. Our survival may depend on it!

Before antibiotics how did people fight infections? How did they treat everyday ailments and more serious epidemics like tuberculosis?

Well, generally it was recognised that bed rest and lots of fluids was the first approach to fighting infection. This allowed the body's own immunity to build up and develop an immunity to the bugs. Only if the body was not recovering were further remedies used.

Traditional herbs and plant remedies, often passed down from generation to generation, were the forefront of treatment. These herbs were specific to each country. For example the American Indians used *Echinacea purpurea* and *Baptisia tinctoria* to treat infections. The Chinese claimed ginger and ginseng had healing powers. Europeans knew about the

power of garlic. Australian aborigines used tea tree and eucalyptus to help the sick, and Africans used Roo tea to help heal the body.

From the mid 1800's homeopathy was popular in Europe and North America. However the American Medical Association campaigned for many of the homeopathic training hospitals to be closed down, restricting homeopathy's popularity.

The rise of conventional medicine and drugs since the 1940s has been fuelled by the large pharmaceutical companies. These companies can patent a certain drug then make a fortune on selling it. These drug companies can afford big budgets for medical research, advertising and promotion to doctors. They are also a powerful political force.

The rise of conventional drugs has restricted the teaching of traditional therapies to doctors. Unfortunately the modern day doctor spends the majority of their training learning about how to use drugs to treat ailments. Very little attention is given to the essential aspects of health like good nutrition and lifestyle recommendations.

The last ten years has seen a resurgence of interest in natural medicine. People have become disillusioned with conventional drugs, realising that they offer only band aid solutions. Drugs can give temporary relief from an ailment, but the ailment will reappear if the cause has not been addressed.

Side effects and bacterial resistance to drugs is another reason why people are seeking answers for their health elsewhere.

The benefits of natural medicines include:

- The natural approach emphasises a cure as well as long term prevention of an ailment, by addressing the cause to why the disease is there.
- Natural medicine treats the body holistically, treating the mind, body and spirit as a whole.
- Side effects of natural medicines are minimal compared to conventional drug side effects which kill thousands of people a year. Because most alternative remedies work on improving the body's immunity, then drug resistance is not normally a problem.

In Australia it is estimated that one in every three people now use some sort of alternative medicine on a regular basis.

## **Case study - Christopher's story**

Christopher, a 9 year old boy, had been suffering from stomach pain, nausea, recurrent infections, asthma and tiredness for over a year. He had been missing at least one or two days a week from school, and his mother was at her wits end.

After delving into Christopher's history, I learnt that Christopher had been a premature baby. As a young child, he had been plagued by a series of infections - all treated with antibiotics. His mother had never been advised to replenish his gut flora after the

antibiotics. He had bilateral grommets at age 1, and a right grommet and adenoidectomy at age 6. At age 6 and 8 he was diagnosed with scarlet fever.

Christopher had seen the family doctor and a couple of paediatricians, only to be told that nothing was wrong - all the standard blood tests seemed normal. They suggested that his symptoms were “all in the mind”. One doctor suggested that he thought Christopher had depression and bipolar disorder.

In desperation, Christopher’s mum sent off a stool sample of Christopher’s which came back positive for *Giardia* - an opportunistic infection of the small intestine, often seen in those with low immunity. The symptoms of *Giardia* are loose, odorous stools, flatulence, nausea, abdominal discomfort and loss of appetite. After a course of the drug Flagyl, Christopher was still not well, so his mother bought him in to see me.

We started Christopher on a couple of weeks on a herbal anti parasitic including citrus seed extract, barberry and wormwood to eliminate any bad bacteria. We then replenished his good gut flora with acidophilus and bifido bacteria.

Because I suspected he had not been absorbing his foods well, we added a good multivitamin with the B vitamins, magnesium and glutamine - an amino acid which help repairs the gastrointestinal tract. We also added an immune boosting powder with vitamin C, zinc, beta carotene and selenium We boosted his diet with some essential oils from flaxseed oil and coconut oil. Finally we took out sugar, wheat and cow’s milk from his diet as he seemed to be reacting when he ate them.

Christopher’s follow up appointment a month later was very promising. His chronic digestive upsets had settled down, his asthma was under control, his energy levels had soared and he had not had one single infection!

A few weeks later Christopher’s mum popped into the clinic to pick up some supplements for Christopher. Over Christmas she reported that Christopher had been so well and so “normal” that he had become a bit blasé about taking his supplements daily. He had also spent his Christmas money on a bag of lollies. Within a couple of days of eating them, a cold had set in, followed by his dreaded asthma. This demonstrates that even you might feel back to good health quite soon, your immune system may not be back to 100% yet.

At his 4 month appointment, Christopher looked like a different child. He had taken time out from tennis camp to see me and was bounding with energy. The dark circles below his eyes had disappeared. He was happy and enthusiastic. He had had no serious infections, no asthma and no sick days off school.

I will watch Christopher’s progress with interest and encourage him to stick to his healthy new diet and immune boosting regime.

## **Natural alternatives to antibiotics**

Stories like Christopher’s are not unusual. Many children start their lives picking up recurrent infections, which are treated with antibiotics. Over time the body’s natural defenses are weakened, leading to years of struggling with recurrent bacterial, viral and yeast infections that the immune system just can’t shake.

This does not have to happen. There is a lot you can do to repair your immune system, in order to fight infections efficiently and avoid the needless use of antibiotics.

In this section we will look at some of the strategies which can support your immune system through the use of herbal medicine, nutritional supplementation, a good diet and healthy lifestyle choices.

## Herbs

### Echinacea

Echinacea or the purple cone flower, is probably the most famous and widely used herb for fighting infections. It is the top selling herbal medicine in the United States and has been used for centuries by the American Indians.

Echinacea stimulates the white blood cells - particularly the macrophages which help kill viruses, bacteria and fungi in the body. It raises levels of white blood cells when they are low and increases the activity of these cells.

It has been used effectively to treat colds, flu, ear infections, throat infections, staph infections and urinary tract infections. It is also used to treat allergies, burns, skin ulcers and a low white blood cell count.

For maximum benefit it is good if you can get a blend of the root of *Echinacea purpurea* with *Echinacea augustifolia*.

Echinacea is a very safe herb. Many tests show it to be nontoxic, with little or no side effects.

Echinacea is usually taken as a tincture (in a alcohol base). It is also available in capsule or tablet form for those who can't tolerate liquids. For severe symptoms you can take echinacea every 2 hours and gradually decrease the frequency to three times a day as symptoms improve.

Many of my patients swear that taking echinacea as a preventative or even at the first sign of an infection, can stop the infection in its tracks or at least curtail the severity of the infection.

If you are going to take it as a preventative, most herbalists recommend you take it for 8 weeks then have a break for a week or two. You can then restart it for another 8 weeks. When you take it without a break, your phagocytes - the immune cells responsible for destroying microbes, can rise to peak levels but do not stay there as the body gets used to the echinacea.

### Wild Indigo - *Baptisia tinctoria*

This is another North American plant whose roots have been used by the Native Americans for centuries.

Wild Indigo has an antibiotic-like effect on bacteria and fungi. Research shows that it kills microbes and prevents them from replicating. Like echinacea, Wild Indigo assists the white blood cells to fight infections. Within 2-3 hours of taking it, there can be up to a 30% increase in the number of white blood cells.

Because of its antibacterial and anticatarrhal effects, Wild Indigo is good for treating respiratory tract infections, like tonsillitis and pharyngitis (the throat), sinusitis (the sinus), rhinitis (the nose) and bronchitis (lower respiratory tract). It can also be used topically as an ointment for skin infections, wounds and eczema.

Wild Indigo is best as a liquid and has a good safety record.

### **Old Man's Beard - *Usnea barbata***

This is a lichen that grows from a tree in Northern Europe. It is also known as Old Man's Beard since it hangs in long, grey strands.

*Usnea barbata* is an effective antibiotic producing a powerful substance called usnic acid that destroys the walls of bacteria and fungi. Studies have shown it to be more effective against certain bacteria than penicillin.

*Usnea barbata* is effective against *staphylococcus spp.*, *Streptococcus spp.*, *Trichomonas* (which causes vaginal and cervical infections) and *Mycobacterium tuberculosis* - the bacteria which causes TB. It is useful in treating bacterial sinusitis, tonsillitis and pneumonia as well as bacterial and fungal skin infections like boils, abscesses, ringworm and athlete's foot.

It is normally taken as a tincture or alcoholic extract, but can be used as a skin cream topically. It is also useful as gargle for sore throats, as a sinus rinse or in a douche for vaginal infections.

*Usnea* is safe at recommended dosages but can cause gastrointestinal upsets if overdosed.

### **Myrrh**

Myrrh is an ancient arid climate plant originating from the Middle East and North Africa.

Myrrh extracts have been shown to enhance the efficiency of white blood cells in killing bacteria, viruses and fungi. It also has a direct anti-microbial effect.

Myrrh is one of the strongest herbs for treating skin infections - particularly staphylococcal infections like boils and abscesses. It is also effective for treating sinusitis, bronchitis, streptococcal sore throats and the common cold and flu.

It is best used as a tincture at about 3 ml, three times a day. It has a good safety record.

### **Sage - *Salvia officinalis* and Thyme - *Thymus vulgaris***

Sage and thyme are strong antiseptics that are effective for respiratory tract and skin infections.

Sage is particularly good for inflammation of the mouth like inflamed gums and mouth ulcers. As well as thyme, it makes a soothing gargle for sore throats, including streptococcal tonsillitis.

Thyme is an excellent cough remedy as it helps remove phlegm from the respiratory tract.

When I was a student working part time at a health food shop, I came down with a particularly painful, sore throat. It felt like I was swallowing razor blades every time I talked or swallowed. In desperation I made myself a hot tea of dried sage and thyme which I sipped throughout the day. To my amazement my sore throat had eased by the end of the day and even though the next day I had organised a sick day off, my symptoms were totally gone!

## **Garlic**

Garlic is famous for its antibiotic properties. Garlic has been called the “poor person’s antibiotic” because of its easy availability and its role in treating a wide range of infections. Poor person or not, garlic is very effective!

Garlic was used by the ancient Egyptians to treat infections and wounds, by the Greeks and Romans for tumours, wounds and infection, and by the Chinese for fatigue, infections and tumours. In both World Wars it was used in wounds to stop infection, where no other antiseptics were available. It saved thousands of lives helping troops recover from typhus and dysentery and preventing gangrene.

Research shows that garlic oil contains a sulphur compound called allicin which has strong anti microbial properties. It can slow the growth or kill more than 60 species of fungi, more than 20 species of bacteria, and many viruses.

When consumed as a food, a sulphur-type odour can be smelt on the breath or skin as the garlic metabolites are excreted. The recommended dosage is 1-3 cloves a day - preferably raw. Those with a sensitive stomach may need to cook the garlic slightly or use the enteric coated capsules. The odourless garlic capsules may not be as effective as the active compounds may be lessened. If you are worried about the garlic smell on your breath you can chew on a sprig of parsley to take the smell away.

The other option which makes ingestion of garlic a bit easier is to make up ¼ cup each of apple cider vinegar, honey and soy sauce. Pour into a screw top jar and fill to the top with as many peeled garlic cloves as can fit. Alternatively fill a screw top jar with peeled garlic cloves and cover with olive oil. You can take 1 teaspoon of these mixtures every 1 - 4 hours depending on the severity of your symptoms. These liquids can also be used as dressings on salads or vegetables in everyday cooking. They will last in the fridge for a few weeks after making.

For babies or young children who can’t tolerate garlic or take tablets, a garlic poultice (or compress), can be effective in treating infections. Just crush a clove of garlic, wrap it in gauze and tape it to the soles of the feet. It is a good idea to oil the soles of the feet with some olive oil first, because direct contact with the garlic may irritate the skin. The garlic oil will be absorbed into the blood stream and help fight the infection.

When my boys were younger, I would apply garlic compresses to the soles of their feet at bedtime. By morning, they might have had a slight garlic odour, but the infection had always improved.

The same idea can be used for ear infections in kids or adults. Just pop a garlic clove, wrapped in light gauze, into the ear at night. Again oil the inside of the ear first so that the garlic will not irritate the skin.

Garlic is generally very safe but in some people can cause heartburn or gas when ingested. Because it has a blood-thinning effect it should be used with caution for those on anticoagulant medication or those undergoing surgery.

## **Goldenseal**

Goldenseal is well known for its antibiotic and immune-stimulating properties. It helps dry and cleanse the mucous membranes, so is good for respiratory infections. Evidence shows that goldenseal stimulates the macrophages that engulf and destroy viruses and bacteria.

Goldenseal is a safe herb but can raise blood pressure so should not be taken in those with high blood pressure.

## **Olive leaf extract**

The drinking of olive leaf tea has been done for many centuries by Middle Eastern cultures to treat disorders such as coughs, sore throat, cystitis, fever and gout. As it is a mild astringent, poultices were also made of the olive leaves to treat boils, rashes, warts and other skin problems.

Over 40 medical and scientific publications now confirm the therapeutic benefits of olive leaf extract.

Olive leaf extract can be helpful in the treatment of the common cold, flu, cold sores (herpes), ear infections, eye infections, nose and throat infections, impetigo, pink eye, parasites, and a host of bacterial, viral and fungal infections.

The main constituent of olive leaf is the phytochemical oleuropein, which has a powerful antibacterial effect. It also has the ability to interfere with critical amino acid production essential for viruses. It can even directly penetrate infected cells and stop viruses from replicating. It also stimulates phagocytosis, which is an immune system response in which white blood cells ingest harmful microorganisms and foreign matter.

Olive leaf is effective against some antibiotic-resistant bacteria, fungi and yeast strains and stops the production of micro-toxins by these organisms.

It is also a powerful antioxidant. Tests show that it is almost twice as strong as green tea and five times more powerful than vitamin C at scavenging free radicals.

Olive Leaf Extract is nontoxic, but when killing too many pathogens too quickly, a "die off" or Herxheimer's reaction may occur - which can be experienced as flu-like symptoms, loose stools, nausea, headaches, tiredness or a skin rash. A reaction like this will only last

a day or so, and can be minimised or avoided by starting at a low dose and gradually increasing.

## Homeopathy

Homeopathy is a form of natural medicine that has been used safely for centuries. It has a big following in Europe, India, Latin America and Russia, and there is a growing interest in western countries.

Homeopathy is based on the principle that “like cures like”. It revolves around the observation that substances that cause symptoms in healthy people, can actually help sick people, if given in dilute amounts. For example, a respiratory infection which involves burning and watery eyes can be treated with a homeopathic remedy called *Allium copa*, which is made from onions (cutting onions normally causes teary, burning eyes in healthy people). The theory is that when you take a remedy that matches the symptoms of your illness, it stimulates your own innate healing ability.

Homeopathic remedies can be made from plants, minerals or animals. The active substances are diluted in a solution of water or alcohol, then diluted again and again - sometimes hundreds of times. Because of this dilution, homeopathic remedies are not toxic. They are safe for babies and young children.

Many of the antibacterial homeopathics are based on some of the anti microbial herbs like Echinacea and Thuja. There are even some specific remedies to undo the damage caused by antibiotics in the body. These remedies may even be named after the antibiotic that was used e.g. the homeopathic remedy called “tetracycline”, combats the damage done by tetracycline antibiotics.

Homeopathic vaccination may even play a part in controlling bacterial epidemics. During the mid 1970s in Brazil, there was an epidemic of bacterial meningitis. In an attempt to control the spread of the disease, homeopathic doctors dosed 18,000 children with a homeopathic vaccine of *Neisseria meningitidis* - the bacteria responsible for causing meningitis. These children subsequently had a very low incidence of infection compared to those who had not been homeopathically vaccinated.

Similar results were seen in the cholera outbreak in Europe in the 1800s. The mortality rate varied between 2 and 20% for those treated homeopathically compared to 50-65% of those treated conventionally.

These types of results attest to the power of homeopathy. Since homeopathic remedies are cheap, easy and without major side effects they may well be the medicine of the future.

You can buy homeopathics for certain conditions from your health food shop. For a more comprehensive remedy it is worthwhile seeing an experienced homeopath who will take a detailed health history and prescribe a particular remedy for your individual needs.

# Nutritional supplements

## Vitamin C

There is a huge body of scientific evidence to show that vitamin C is antibacterial and anti viral and that it boosts immune function.

Studies show that vitamin C:

- Stimulates the production of lymphocytes - the white blood cells that produce antibodies against infections
- Increases the effects of phagocytes - the white blood cells that scavenge and mop up bacteria, viruses and cancer cells
- Acts as a powerful anti-inflammatory - helping to reduce pain and inflammation
- Dampens the effects of cortisol - a stress hormone which lowers immunity
- Maintains collagen - the tissue that gives skin, tendons, bone and cartilage their structure.

In the 1970s, Dr Linus Pauling proposed that vitamin C was essential in the treatment of infections, both viral and bacterial. In one of his studies, the addition of 1 mg of vitamin C to a growth medium, prevented the growth of bacteria responsible for causing TB. At higher concentrations, vitamin C was shown to neutralise the toxins associated with diphtheria, tetanus and staphylococcus.

Several studies support Pauling's research and show that people with infections usually have less vitamin C in their blood. The worse the infection, the lower the vitamin C levels in the blood.

Evidence also shows that taking vitamin C in large doses prevents infections like the common cold from developing. It also shortens the duration and reduces the severity of the disease. Importantly, secondary bacterial infections after colds and flu are much reduced when vitamin C was taken daily.

Dr Robert Cathcart, the surgeon famous for inventing the artificial hip, prescribed high doses of vitamin C for his patients. His results were astounding. He showed that it is possible to use only vitamin C, in high doses, to treat an infection successfully.

Work by Dr Kalokerinos in outback Australia in the 1960s showed that vitamin C had the potential to be life saving. Dr Kalokerinos observed that many Aboriginal children were dying from seemingly minor infections with symptoms of runny noses and mild coughs. The children did not respond to antibiotics or other life saving drugs. Dr Kalokerinos realised that these children were suffering from scurvy due to a lack of vitamin C.

At first, the medical profession treated Dr Kalokerino's work with scorn. However once Dr Kalokerinos started injecting these sick children with vitamin C, they had fast and dramatic recoveries! Obviously vitamin C has a huge role to play in immunity and keeping kids healthy.

### **The recommended daily amounts of vitamin C**

Daily requirements of vitamin C vary considerably between individuals and from day to day in the same individual. It is known that vitamin C requirements increase with stress, smoking, infection, pregnancy, trauma, surgery and during childhood vaccinations.

The recommended daily amounts (RDA) given out by the American Academy of Sciences are only 60 mg a day. For Australia the recommended daily intake (RDI) is 30 - 40 mg. These recommended amounts for vitamin C are based on the amount needed, plus a safety factor, to prevent scurvy. It is clear that while these amounts may prevent scurvy, they are insufficient to protect individuals from degenerative diseases and ill health. Many scientists agree that this is far too low to ensure good health in the average person.

### **So how much vitamin C do you need?**

I suggest my patients take 1000 - 3000 mg of vitamin C a day. If you are prone to infections, up to 5000 mg a day may be required.

If you do get sick with an infection I recommend you take 1000 mg of vitamin C every hour until your stools become a little loose or watery. This indicates that the body is well saturated with vitamin C and the excess is being excreted. Going to just under bowel tolerance should be adhered to until the infection is cleared from the body. Tapering the amount down to a maintenance dose over a few days is then recommended to avoid blood levels of vitamin C dropping too low.

### **How do you take vitamin C?**

Vitamin C is a water soluble vitamin. It cannot be made or stored by the body and any excess is excreted easily.

Good sources of vitamin C are berries, raw peppers, citrus foods, kiwi fruit, cauliflower and all the leafy greens. For therapeutic benefits a vitamin C powder, capsule or tablet is recommended as it can be hard to eat enough of these fresh foods to adequately derive enough vitamin C from the diet.

Multiple small doses or a sustained release vitamin C supplement is suggested as it provides more efficient absorption and retention of vitamin C. Because vitamin C cannot be stored by the body, it is important to take it every day.

When taking large amounts of vitamin C, the acid form, ascorbic acid, is best as it is most easily absorbed. However it can cause gastrointestinal irritation like loose stools, nausea or stomach pains in susceptible individuals. In these cases a buffered form like calcium ascorbate or sodium ascorbate may be more easily tolerated.

For most of my patients I recommend a supplement that combines ascorbic acid and a buffered vitamin C, like calcium ascorbate. The addition of bioflavonoids (phytochemicals found just below the rind of citrus fruits), like rutin, to the formulation assists the action of vitamin C.

### **Side effects of vitamin C**

In some people, high dose vitamin C may cause diarrhoea or loose stools. The ascorbic acid form of vitamin C has the acidity of vinegar so in those with over acid stomachs, it can temporarily irritate the stomach.

In these cases, simply decrease the dose or use a buffered form of vitamin C like calcium ascorbate that will minimise any irritation. A sustained release supplement or small amounts taken often will also help.

Don't take vitamin C if you have haemochromatosis or iron overload. This rare disease causes iron to build up in the body, damaging organs and tissues. Since vitamin C aids the absorption of iron from the gastrointestinal tract and mobilises iron from the spleen, then extra amounts can worsen cases of iron overload.

Chewable vitamin C in the ascorbic acid form is not recommended in large amounts because it can damage the teeth enamel. These chewable tablets are also made to taste nice by the addition of sugar.

There is no risk of vitamin C causing kidney stones in the average person. Individuals who are susceptible to kidney stones may need to use care. The addition of magnesium and B6 can minimise any risk.

### **Zinc**

Many studies show that zinc boosts immunity. Zinc has been shown to stimulate T- cell and antibody production. It helps fuel circulation of the white blood cells that rid the body of viruses and bacteria. Zinc also appears to stop viruses from entering cells. It stops viruses from replicating, increases production of interferon and may reduce inflammation.

Zinc is required for the functioning of more than 300 enzyme systems. One of its most important roles is to maintain a healthy immune system and thereby help the body to fight off infections.

Daily zinc supplementation has been shown to reduce the incidence of pneumonia by 41% and the incidence of respiratory infections in pre-schoolers by 45%. Zinc has also been shown to shorten the duration and severity of the common cold.

Zinc supplementation in children with diarrhoea showed a reduction in duration of the illness by 24%.

### **Who is at risk of zinc deficiency?**

A CSIRO study published in 1991 showed that 85% of Australian women and 67% of Australian men were eating less than the recommended daily allowance of zinc. Surveys in the USA also show a general lack of zinc in the diet.

Vegetarians are especially at risk of zinc deficiency because the high fibre and phytic acid in grains reduce zinc's absorption from the gut. Diabetics also have problems absorbing zinc and they excrete it excessively too. Alcoholics are usually zinc deficient as alcohol inhibits zinc uptake.

### **Symptoms of zinc deficiency**

Zinc depletion can cause white spots on fingernails, susceptibility to infection, poor wound healing, poor appetite, low sex drive and infertility. If you are low in zinc you lose some sense of taste and you will favour very sweet or salty foods to satisfy your tastes. You will avoid the more subtle tastes found in fruits and vegetables as they will appear too bland. People with anorexia or bulimia, and children who show no interest in food, are normally low in zinc.

There is a very simple and accurate way to measure your zinc status called the zinc taste test. It involves tasting 5 ml of a solution of zinc sulphate (obtainable from your naturopath or made up by your local chemist). If you experience a strong, unpleasant taste immediately your zinc status is adequate. If you develop a dry, furry or mineral taste your zinc status is marginal. If you experience a watery or bland taste you are low in zinc.

### **How to take zinc**

As a supplement, a zinc salt like zinc sulphate, or a complexed zinc like zinc citrate or zinc amino acid chelate are fine.

For sore throats or colds, zinc taken as a lozenge has the best effect. A 1996 study showed that in patients who sucked on a zinc lozenge, cold symptoms disappeared 42% faster than those taking a placebo. Swallowing zinc supplements without allowing prolonged contact with the throat did not have the same effect. This discovery came about after a little girl with leukemia decided to suck on her zinc tablets rather than swallow them. Her father was amazed at the quick recovery she was suddenly making from colds, so he persuaded some researchers to investigate.

If your zinc status is low then take zinc at 50 - 60 mg a day until a distinct, unpleasant taste is experienced with the taste test. If immune compromised I suggest 60 - 90 mg a day. Dosages over 150 mg a day can interfere with iron and copper absorption, cause nausea and even suppress the immune system.

Zinc absorption decreases with age. Fibre, iron and calcium also reduces zinc absorption, so if taking these in high amounts, take your zinc separately.

### **Natural sources of zinc**

Zinc is found in most protein foods like meat, fish and oysters. It is also high in pumpkin seeds, wheat germ, whole grains, legumes and brewer's yeast.

### **Vitamin A and Beta-carotene**

Vitamin A and its precursor beta-carotene enhance immunity. Vitamin A has been shown to lower the rate of infections. It is essential for epithelial tissue repair and maintenance. (Epithelial cells are the surface cells that line the mouth, throat and lungs). A deficiency of vitamin A allows microorganisms to more easily penetrate mucous membranes. Vitamin A is also needed for vision, heart health and growth and reproduction.

People with poor intakes of vitamin A can suffer from poor eyesight, skin problems like acne and an increased risk of infections and cancer.

Supplementation has been shown to reduce the risk of respiratory infections, measles and lung complications in low weight babies. In developing countries where deficiency is rife, supplementation can reduce childhood mortality by 30%.

Beta-carotene may increase T- cells (a form of white blood cells). A recent study showed that beta-carotene improved the activity of natural killer cells in elderly men. This may improve their resistance to infections and cancer.

### **Where is vitamin A found naturally?**

Vitamin A is naturally high in fish liver oils, animal livers and green and yellow fruits and vegetables. Beta-carotene is abundant in yellow and orange fruit and vegetables like carrots, pumpkin, apricots and cantaloupe melon.

### **How much vitamin A do you need?**

The recommended daily intake of vitamin A in Australia is 750 ug of retinal equivalents. This is equal to 2500 IU or about 4.5 mg beta carotene. Surveys in Australia indicate that 24% of men and 33% of women receive less than 70% of the recommended daily intake of vitamin A in their diet.

Health organisations recommend a beta-carotene intake of 5 - 6 mg a day. Studies in the US and UK show that the average intake of beta-carotene was 1.5 mg and 2.3 mg in each country respectively.

For immune support I recommend about 15mg of beta-carotene a day. The body will convert the vitamin A it needs from this source. In cases of confirmed vitamin A deficiency I recommend at least 20,000 IU a day.

### **Side effects of vitamin A**

Long term use of vitamin A in high amounts over 30,000 IU can cause toxicity since vitamin A can accumulate in the body. There is the well known case of the men on one of the early trips to Antarctica eating the livers of their husky dogs since their food supply had run out. These poor men suffered from the symptoms of vitamin A overdosing, including vomiting, tiredness, constipation, bone pain, and severe headaches. Their skin acquired a rough and dry appearance, with hair loss and brittle nails.

Vitamin A should not be taken in large amounts by pregnant women as higher amounts are linked to an increased risk of birth defects. Below 10,000 IU a day is fine. Patients suffering from liver disease should also use caution. Diabetics and hypothyroid individuals should avoid beta-carotene supplements as they cannot convert it to vitamin A.

## **Vitamin E**

Vitamin E has been shown to help a whole range of immune functions. It improves resistance to infection, it boosts antibody response and activates lymphocytes, phagocytes and macrophages - the white blood cells responsible for killing and scavenging bacteria and viruses.

Studies on elderly people show that 800 IU daily can enhance immune response and lower the incidence of infection. Animal studies reveal the effect that vitamin E has on bacteria. For example, sheep exposed to the bacteria *Chlamydia* did not develop the infection if

they were first given vitamin E. Poultry infected with E.coli, then fed vitamin E had a lower death rate than those without the vitamin E.

Vitamin E works with vitamin C as a powerful antioxidant. Since vitamin E is a fat-soluble vitamin, it is bound up in the cell membrane, protecting the cell. Vitamin C is water-soluble so remains outside the cell.

Apart from immune function, vitamin E improves circulation, repairs tissues, reduces scarring, protects the heart and is good for hormonal conditions like premenstrual syndrome and fibrocystic breast disease.

### **Where is vitamin E found naturally?**

Vitamin E is found in nuts, seeds, cold pressed vegetable oils, whole grains and legumes.

### **How much vitamin E do you need?**

In Australia the recommended daily intake for vitamin E is 10 mg day for men and 7 mg day for women. A 1991 survey in USA found that the daily average intake of vitamin E was 7.3 mg day for men and 5.4 mg for women.

For optimal health and to protect against degenerative diseases, a minimum of 100 mg a day is required. With most people struggling to get even 10 mg a day, and even the best diet probably supplying only 30 mg a day, supplementation is advisable.

I recommend my patients take at least 200 - 300 mg of vitamin E daily.

Vitamin E requirements can vary markedly between individuals. For example people with a high intake of polyunsaturated fats from vegetable oils like margarine, will need extra vitamin E to protect themselves against the oxidation of these oils. Athletes also need extra vitamin E to quell free radicals caused by exercise.

Vitamin E is a safe vitamin, however I do recommend that people with high blood pressure start on a low dose and increase it gradually to the desired amount. Since vitamin E is an anticoagulant, it should not be taken with warfarin or those on vitamin K for coagulation defects. When having surgery it is advisable to lessen the dose to about 100 mg day to prevent blood clotting problems a week either side of surgery.

## **Selenium**

Selenium is an essential antioxidant that protects the immune system by preventing the formation of free radicals. Supplementation with selenium has been shown to activate phagocytes and reduce inflammation.

Selenium acts with vitamin E to produce antibodies, to maintain a healthy heart and to prevent cancer.

### **What is naturally high in selenium**

Foods naturally high in selenium include meats, grains, brazil nuts, garlic, onions and brewer's yeast.

Some countries like New Zealand and parts of China have very low selenium in their soils, so as a consequence their produce is also low in this mineral. It is interesting to note that these selenium deficient areas also correlate with diseases where selenium plays a crucial part. For example, New Zealand which has the lowest selenium soil levels in western countries also has the highest rate of asthma, the highest rate of sudden infant death syndrome and above average rates of cancer and heart disease. Parts of Georgia and Carolina in the USA are called the stroke belt as there is such a high incidence of stroke. These areas are also distinguished by the low selenium in the soils. In China the rates of cancer of the oesophagus, stomach and liver are highest in low selenium areas. The incidence of heart disease increases and life expectancy decreases with low blood selenium.

### **How much selenium do you need?**

The Australian recommended daily intake for selenium is 85 ug for males, 70 ug for women and 10 ug for infants. The recommended intake in America is 50 - 200 ug a day. A 1985 study showed that in Australia, males have an average intake of 87 ug a day, women 58 ug a day. To achieve optimum intake, a supplement of 100 - 200 ug a day is suggested.

In Australia selenium cannot be bought over the counter, however it is available through doctors and naturopaths. It is freely available in other western countries.

## **Colloidal silver**

Colloidal silver is a suspension of silver molecules in water. Silver has been used for thousands of years as a natural antibiotic, anti-viral and anti-fungal agent. Some people may remember their grandmother putting a silver coin in milk to prolong its freshness before the introduction of pasteurization and refrigeration.

Colloidal silver disables the enzyme that bacteria, viruses and fungi need for their oxygen metabolism. It does not harm human biochemistry. According to research back in the 1970s colloidal silver has been quoted as "a wonder of modern medicine", capable of killing over 650 different organisms including resistant bacteria.

Colloidal silver (at 5 parts per million) is recommended at 1 - 4 teaspoons a day as a preventative, and is safe for extended periods of time. In times of acute illness this can be increased to 3-12 teaspoons for up to 30 days before dropping to a maintenance dose. It

can also be used on open wounds, in the nostrils, eyes or on skin affected by acne or eczema.

When taking colloidal silver for the first time, start off slowly as the killing of pathogens too quickly can cause side effects like headache, fatigue, nausea, sore muscles or cold and flu like symptoms.

## Yoghurt and the beneficial bacteria

The gastrointestinal tract is colonised by billions of bacteria. There are over 500 different species all co-existing.

Under ideal conditions each species keeps each other in check. This avoids overgrowth of any one species. However the bacterial balance can be disturbed by antibiotics, stress, surgery, poor diet and contaminated food or water.

Antibiotics are renowned for killing off the bacteria - both good and bad. If the good flora or probiotics, are not replenished, then the bad bacteria, as well as yeasts and fungi, can get a foothold. This imbalance can cause gastrointestinal symptoms like bloating, gas, nausea, loose stools, abdominal discomfort and poor appetite.

An overgrowth of the yeast candida can trigger vaginal thrush in females, with symptoms of itching, burning and a curdy discharge. Longer term bacterial imbalance can lead to allergies, irritable bowel syndrome, recurrent infections, chronic thrush, diabetes and liver damage.

### **The benefits of good bacteria**

Numerous studies have proven the vast benefits of using live yoghurt or an acidophilus/ bifido bacteria supplement. These benefits include:

- **Stimulation of the immune system**  
The gastrointestinal tract is the forefront of the immune system. Continual changes in the bacterial flora stimulate the immune response and increase the body's resistance.  
Researchers have also found that yoghurt increases interferon and natural killer cell activity.
- **Prevention of bowel infections**  
The beneficial bacteria produce lactic acid, which keeps the bowel environment acidic so that harmful bacteria and yeast cannot grow. Some lactobacilli produce substances like acidophilin which directly kill pathogens in the bowel. This information is particularly important for travellers who are prone to picking up gastroenteritis or "Bali Belly" from contaminated food and water.
- **Keeping the bowel regular**  
Good bacteria stimulate peristalsis - the natural contraction of the bowel. This helps pass the food from mouth to anus and avoids constipation, haemorrhoids and diverticulitis.

- **Prevention of colon cancer**  
Beneficial bacteria like lactobacilli protect against putrefactive bacteria. These bad bacteria have the potential to produce toxic amines that damage the colon lining and can lead to tumours, growths and cancers.
- **Lessened side effects of cancer treatment**  
*Lactobacillus acidophilus* and *Bifidobacterium* have been scientifically proven to reduce the side effects of radiation and chemotherapy. In one study the taking of a supplement reduced side effects like diarrhoea, nausea and poor appetite from 61% to 21%.
- **Improved calcium absorption**  
Calcium absorption is improved in an acidic environment like that made from lactobacilli. Natural yoghurt also supplies a good amount of calcium for the body.
- **Reduced cholesterol**  
Good bacteria like those in yoghurt have been shown to lower cholesterol and reduce the risk of heart disease
- **Production of vitamin K and B vitamins**  
A live culture of lactobacillus in the bowel produces folic acid and other B vitamins.  
Lactobacillus in the bowel also manufactures vitamin K, needed for blood clotting. Vitamin K is also available from green vegetables. A vitamin K deficiency can result in frequent nose bleeds, easy bruising, blood in the urine and heavy periods. Most babies born in the western world are given vitamin K at birth to avoid spontaneous bleeding. This is because babies are born with a sterile gastrointestinal tract that cannot manufacture vitamin K.
- **Longer life span**  
Epidemiological evidence shows that people who consume yoghurt regularly have less illness and a longer life span.

### **How do you get the beneficial bacteria into your diet?**

In order to keep the bacterial flora of the body in balance I recommend my patients take a high potency acidophilus and bifido powder daily. This is particularly important during and after they have taken a course of antibiotics. *Lactobacillus acidophilus* colonises the small intestine, *Bifido* bacteria, the large intestine. For those on long term antibiotic therapy, a supplement should be taken throughout the course, but not at the same time as the antibiotic. Natural live yoghurt made with the beneficial bacteria will help maintain this balance over time.

The recommended dose, depending on the brand is ½ - 1 teaspoon, 3 times a day, mixed in water and away from food. Powder is preferable to capsules as it is better absorbed. Longer term, a maintenance dose of once daily is recommended.

The predominant bacteria in an infant's gastrointestinal tract should be *Bifidobacterium infantis*, which you can get from a health food shop. If you give adult strains like *Lactobacillus acidophilus*, the lactic acid produced can be too strong for the infants

gastrointestinal tract. For infants on antibiotics, *Bifidobacterium infantis* should be taken at a dose of 1/8 teaspoon, 3 times a day. For toddlers ¼ teaspoon, 3 times daily. Continue supplementation for up to a month after the antibiotic course has finished. It is then a good idea to do a maintenance dose of once a day to keep the flora in tip top condition. Because infants do not have strong gastric secretions it is all right to add the probiotic to milk or juices.

When buying a probiotic make sure you get a refrigerated form which has a guaranteed shelf life of billions of organisms at the time of opening. Some brands guarantee the potency at time of manufacture but the organisms can die in transit or from being improperly stored. A review in Australia's *Choice Magazine* recently, revealed that the majority of probiotics had no live, viable organisms in them at the time of purchase. So choose wisely!

Live yoghurt, fermented milk, curdled milk and buttermilk are all good ways of getting the good bacteria into your system, however they are not as potent as using the bacteria in a powder or capsule form.

When buying yoghurt, please avoid the commercial yoghurts with added sugar. Check the yoghurt label to see that it contains active strains of the beneficial bacteria. Some commercial yoghurts will add skim milk powder or sugar or even heat the yoghurt after making it. All this will reduce the potency of the beneficial bacteria.

Many patients who are lactose intolerant and can't drink milk will find yoghurt acceptable. The good bacteria will break down a lot of the lactose. Other options are the yoghurts based on goats milk or sheep milk. The fat globules in these milks are smaller than those in cows milk and more easily absorbed

### **Other probiotics and prebiotics**

For patients with chronic *Candida*, the addition of the probiotic *Saccharomyces boulardii* can work wonders. This is actually a harmless yeast that outcompetes *Candida* species. It can be used alongside other probiotics.

The addition of prebiotics, substances that help the adhesion of the friendly flora to the gut wall can also be used in cases of chronic *Candida* or other digestive disorders like Crohn's disease and colitis. Sources include colostrum and arabinogalactans - a soluble vegetable fibre from the Western Larch tree.

## **Healthy Diet**

Food provides you with calories for energy, but it is much more than just that. A healthy diet contributes to your resistance and can help ward off a huge spectrum of infections, and therefore the need for antibiotics.

For optimal immunity, make sure that you get a good supply of fresh, ripe and preferably raw vegetables and fruits a day. Aim for 9 - 14 servings of fruit and vegetables a day. They will give you the vitamins, minerals, enzymes and antioxidants to keep you well. About two thirds of your diet should be from plant based foods like vegetables, fruits, nuts, seeds, beans, oils and whole grains.

The other third should be quality protein foods like fish, eggs, cheese, lean red meat and dairy. Protein is essential for a strong immune system and for the repair of the body. Protein will also help stabilise your blood sugar and stop you craving sugars.

Try and also include some healthy fats into your daily diet. Raw nuts, seeds, avocado, cold pressed olive or flaxseed oil and deep sea fish are all excellent choices.

Plenty of pure water or herbal or green tea is a vital part of your healthy diet. Add a squeeze of fresh lemon juice to aid liver detoxification and good gastrointestinal function.

A good example of how a good diet enhances immunity and longevity is the Japanese people from the Okinawa Islands at the southern end of Japan. These people have one of the longest life expectancies of anyone in the modern world. They live up to 120 years, and remain healthy and active in their latter years. Now these amazing people eat a variety of 18 - 22 plant foods a day. They include an abundance of vegetables, sea weeds and soy foods, balanced with proteins from fresh fish. Sugar, alcohol and caffeine are not a part of their diet.

Whilst we are talking about sugar - it is a major immune suppressant that slows down the action of your white blood cells. If you are prone to infections, then don't touch it! I suggest no chocolate, cakes, cookies, biscuits or sugared drinks. Fresh fruit is a far better option if you have a craving. I even recommend you cut down or eliminate your intake of grains - especially the processed cereals, breads, pastas and rice. Even grains can unbalance your blood sugar, increase insulin levels and put you into an inflammatory state.

Have a look at the Immune Boosting Diet in the Sore Throat e-book to get a complete blue print of a diet designed to keep infections at bay. There is also further information on the dangers of sugars, alcohol and caffeine.

## **A positive lifestyle**

People with a healthy lifestyle have measurably better immune functions than those with a poor lifestyle.

A 1992 study revealed that natural killer cell activity was decreased in smokers, alcoholics and those suffering from high stress levels. On the other hand regular exercise, daily sunshine, meditation and positive contact with friends and family, can help support a strong immune system and faster healing if you do get sick.

Again check the Sore throat e-book out for some ideas on how to fine tune your lifestyle for optimal immunity, limited infections and less antibiotics.

## **Regular detoxification**

Doing a yearly detox can do a lot to keeping you healthy and keeping nasty infections at bay. Imagine your body like a garbage can - when it is full off rotting garbage it is going to attract bugs and infections. If it is kept clean and in good working order, the infections

have trouble getting a hold. A regular detox is particularly important for those with chronic illnesses or poor immunity, as it helps reduce secondary infections.

## Other therapies

There are a number of alternative therapies that have been shown to be effective for bolstering immune function, reducing infections and minimising the use of antibiotics. These include acupuncture, homeopathy, aromatherapy (the use of essential oils), hydrotherapy (the use of water treatments), massage and oxygen therapy. These are outlined in the accompanying e-book.

## Antibiotics - when they can and can't help

Now we'll look at the most common ailments for which antibiotics are prescribed. For each ailment I'll discuss some common symptoms, the natural alternatives and how to support the immune system if antibiotics have to be used.

### Acute middle ear infection (Otitis media)

Somewhere between 30-50% of middle ear infections are bacterial, most commonly caused by bacteria like *Streptococcus pneumonia* and *Haemophilus influenzae*. The diagnosis of a middle ear infection is based on ear pain associated with fever. The ear drum appears red and bulging and the patient feels irritable and restless. In younger children the pain can be so intense as to make them scream and cry.

With middle ear infections a responsible doctor may advise you to wait at least a couple of days, using pain killers if necessary to dull the pain. This will determine if an antibiotic is really needed.

Studies show that about 90% of children get better just as fast, with no significant differences in speed of relief of pain, how quickly temperature returned to normal, how soon ear discharge stopped or other symptoms - whether they have antibiotics or not.

In one 2000 study, 240 children under age two who were diagnosed with acute Otitis media were just watched carefully. After four days, only 3% of the children required treatment with antibiotics, while the infection cleared itself naturally in the other 97%.

When antibiotics are repeatedly used for Otitis media in children, it increases the chances of further infection by 200 and 600 percent. It also increases the chances that surgery will ultimately be needed. In the 1970s, out of 10,500 children treated for Otitis media without antibiotics, Danish researchers found that over the following 14 years, only 15 required ear operations. This was very low compared to children having surgery after repeated courses of antibiotics.

A 1983 study published in the British Medical Journal showed that in adults who develop active chronic Otitis media, there is no benefit at all in using antibiotics.

If antibiotics are needed then make sure to follow the advice on how to support the immune system in a later section. If antibiotics are required for Otitis media, then be aware that studies have shown that short courses of treatment, from two to five days, are equally effective as a ten day course.

### **Natural treatments for Otitis media**

- Essential oils  
Warm a teaspoon of vegetable oil like olive oil, and add to it 3 drops of tea tree and 2 drops of lavender. Soak a piece of cotton wool in this and use to plug the ear.

You can also use a massage oil around the ears, neck and cheeks. An effective massage oil combination is 1 drop of thyme, 3 drops of tea tree and 2 drops lavender.

If the ear aches, add 3 drops of chamomile to the above blends to help relieve the pain.

- Garlic  
Garlic is great for ear infections. Some of my elderly patients swear by peeling a clove of garlic, wrapping it in gauze and placing it in the affected ear overnight. You can put some olive oil in the ear first to prevent any skin irritation. You can also drip some warmed garlic oil or liquid garlic extract in the ear every 2-3 hours. These remedies should not be used if the ear drum is perforated.
- Improve diet  
An imbalanced diet with too much refined food causes an accumulation of toxins and a breeding ground for bacteria. It is important to base the diet around fresh fruit and vegetables, quality proteins, natural oils and whole grains if desired.
- Homeopathics  
Iron phosphate, potassium chloride and specific ear remedies can reduce inflammation and mucous in the ears.
- Antibacterial herbs like olive leaf, echinacea and goldenseal can help reduce the infection causing bacteria in the ears
- Hot compresses, heat bags or hot water bottles on the affected ear can also ease the pain of ear infections.
- Raise the head of the bed  
Raise the head of the bed or crib to help the ear tubes drain naturally. Children rarely complain of pain in their ears during the day because they're upright and the tubes are draining freely. When they lie down at night, the tubes fill, causing pain
- Drink plenty of fluids  
The very action of swallowing helps the ear tubes to open and drain, so drinking lots of fluids will help.
- Use a vaporiser or steamer  
It's also helpful to use a vaporizer in the room at night. This will help to keep the air moist and encourage the thinning of fluids in the ear.

- **N-acetyl cysteine**  
N-acetyl cysteine is a natural amino acid supplement that can help reduce the severity of ear infections. It has been shown to be helpful in keeping mucus fluid and thus helping the ears to drain. 200 mg twice daily is recommended.
- **Fight colds**  
For some people who are prone to recurrent ear infections after they get a cold it may be worth treating the cold vigorously with immune boosting nutrients, herbs, a vapouriser and if necessary a decongestant, especially at night.
- **Immune boosting nutrients like Vitamin A, C, E and zinc are important in treating and preventing ear infections.**
- **Treat allergies**  
Allergies are one of the major predisposing causes of ear infections. When you or your child's respiratory passages become clogged with mucous in reaction to an allergen, they're more liable to harbor infection.

In a recent study presented to the American College of Allergy and Immunology, 104 children who suffered from frequent and serious ear infections were tested for allergies. 78 percent were shown to have specific food allergies. After eliminating the offending food from the diet for eleven weeks, improvement was seen in 70 out of 81 children.

Dairy products, wheat and eggs are the most common food allergens, however environmental allergens like dust mite, animal hair and pollen can also be a problem.

## Strep throat

A bacterial strep throat, most commonly caused by streptococci may warrant the use of an antibiotic. Only about 10-20% of sore throats are bacterial, so a swab is recommended before antibiotics are taken.

Symptoms of a strep throat can be;

- Redness and swelling in throat
- Pain in the throat
- A yellow discharge on the tonsils.
- Coated tongue
- Fever
- Swollen, tender lymph nodes in front of the neck
- Headaches and malaise
- Abdominal pain, nausea and vomiting - particularly in children
- Red rash with small spots under the arms or in the skin creases - often in children

As a general rule, if you have a prominent cough or nasal symptoms, you are more likely to have a viral throat infection, rather than a strep throat.

Since symptoms of viral and bacterial pharyngitis can overlap, it may be hard for a doctor to determine which one you have. If there is some uncertainty, the doctor can do a rapid strep test. This only takes a few minutes to do and can detect up to 90% of strep throats. It involves the doctor using a long cotton swab to take some material from the back of your throat. If this is negative but a doctor thinks it may still be strep or some other bacteria, then they can do a throat swab which is then cultured in a laboratory. Results are available in 24 - 48 hours.

If strep throat is diagnosed your doctor will prescribe a 10 day course of antibiotics - usually penicillin or amoxicillin. If you do have strep throat, then your symptoms should subside within 2-3 days of taking antibiotics. Even though you may feel better it is important that you finish the whole course of antibiotics as prescribed. Do not return to work or school until you have taken antibiotics for 24 hours and symptoms have subsided.

Untreated strep throat can lead to complications like rheumatic fever - a potentially life-threatening illness that can damage the heart valves. It can also cause glomerulonephritis - a kidney disorder, or arthritis. In some cases it can spread to cause sinusitis, ear infection, and peritonsillar abscesses.

Strep throat, like viral pharyngitis is contagious. It is most common in late autumn, winter and early spring. The infection is spread by person to person contact through nasal secretions or saliva. If someone you have contact with has strep throat, then wash your hands well, avoid sharing cups or eating utensils and keep toothbrushes separate. You normally come down with strep throat within 2 - 5 days of contacting it.

Strep throat is most common in children between the ages of 5 and 15, although it can affect younger children and adults. Children younger than 3 can get strep infections but they do not usually affect the throat. If repeated cases of strep throat occur in your family there may be someone carrying the bacteria in their throat and passing it on, even though they do not show symptoms themselves.

### **Natural therapies for strep throat**

Supporting your immune system with natural therapies will help to shorten the duration of the strep throat and avoid repeat antibiotic scripts.

- Antibacterial herbs like olive leaf, thyme, sage, myrrh, garlic and wild indigo should be part of your treatment protocol.
- Vitamins A and C can help too.
- Zinc taken in a tablet or lozenge form which can be sucked or chewed on has been found to be particularly helpful in soothing the throat.
- Some patients attest to the effectiveness of colloidal silver for treatment of strep throat.
- You need to get plenty of rest, drink lots of fluids and avoid using your voice too much.

- Gargling with warm, salty water and sucking on sugar-free lozenges can ease discomfort.
- Gently massaging your throat with a menthol-based balm like tiger balm or vicks vapour rub can bring some relief. Some patients like to place a warmed heat bag around their neck to ease any pain.

## Sinus infection

A study in Holland involved 200 patients with inflamed sinuses. Half of the patients were given antibiotics, the other half, a placebo or dummy pill. There was found to be no difference between the groups in terms of speed of recovery or number of relapses over the next year.

### Natural treatments for sinus infections:

- Essential oils. When you have a sinus infection, the use of essential oils like eucalyptus, tea tree, thyme and pine can bring relief. A few drops can be added to a steam inhalation or you can blend one of them in a teaspoon of vegetable oil and massage over your nose, forehead, neck and cheeks.
- Bromelain - an enzyme derived from pineapple, has been shown in studies to relieve inflammation and improve sinusitis symptoms.
- Herbs like echinacea, goldenseal, garlic, fenugreek, horseradish, myrrh, Wild Indigo and *Usnea barbata* have been particularly useful in treating sinusitis.
- Homeopathic remedies for acute sinusitis include Arsenicum album, Kalium bichromium, Nux vomica, and Mercurius iodatas.
- Nasal irrigation or rinses with a saline solution can be helpful in loosening nasal secretions, improving drainage and allowing you to breathe more easily. You can buy nasal irrigation kits or the Indian Neti pot for nasal rinses from a good chemist . Spray saline into each nostril whilst closing off the other nostril and inhaling. Another good recipe for a sinus rinse is one teaspoon of goldenseal to one cup of hot water.
- Hot compresses can bring welcome relief from the pain of sinus infections. Just use a heated wheat bag, hot water bottle or even a washer soaked in hot water, and place over your sinuses.
- Vaporizers or humidifiers can also bring relief by keeping the room around you slightly humid, and making breathing more comfortable.
- Drinking plenty of pure water will also prevent mucous from congesting and blocking the nasal passages.
- Zinc, Vitamin C and Vitamin A or beta-carotene are natural antioxidants which have a place to play in preventing chronic inflammation of the sinuses and in boosting immunity.

- Reflexology - an interesting study at the University of Wisconsin School of Medicine, on 150 chronic sinusitis sufferers, showed that reflexology improved symptoms in 70% of subjects and allowed 30% of them to reduce their sinus medication. The participants were told to apply pressure with the thumb and forefinger for 20-30 seconds on the tips of the fingers and toes. Pressure was meant to be hard enough to cause slight discomfort.

## Lower respiratory tract infections like bronchitis and pneumonia

Bronchitis and pneumonia can result from a lowered resistance to infection following another illness like a cold. In children many cases of bronchitis and pneumonia are viral, in which case antibiotics are of no use. Bacterial bronchitis and pneumonia are more common in adults.

Bacteria like *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Mycoplasma pneumoniae*, *Legionella pneumophila*, *Klebsiella pneumoniae* or *Hemophilus influenzae* can cause bacterial pneumonia.

In these cases antibiotics may be recommended. Bacterial pneumonia may involve a high temperature, shaking and chills. Signs of a more serious lower respiratory tract infection include respiratory distress like gasping for breath, increased rate of breathing, increased pulse and turning blue. X-rays and a culture of sputum or phlegm can help confirm bacterial lower respiratory tract infections.

### Natural remedies for bacterial lower respiratory infections;

- High dose vitamin C, A, E, zinc
- Antibiotic herbs like garlic, olive leaf, myrrh, thyme, sage, golden seal and Wild Indigo.
- Steam inhalations - use a facial steamer or pot of hot water to help loosen chest congestion. Do this steam cleaning every morning and before bed, as well as during the day if possible. For infants and young children, turn the bathroom into a steam room with the door closed and the shower on full hot. Sit safely away from the hot water, and breathe in the steam for 10 to 15 minutes.
- Clap the chest and back - clap on your chest and back (where the lungs are) firmly with a cupped hand. Pound rapidly for one minute, then rest a minute, then continue again on and off for ten minutes. This helps shake the mucus loose so you can cough it up. Repeat 4-6 times a day.
- Sleep slightly upright - try to sleep so that your head is slightly raised. This allows for easier breathing during sleep. Putting the upper bed legs on books or bricks is an easy way to elevate your bed head.

- Hot steam vaporizer - use a hot steam vaporizer in the bedroom at night to help breathing.
- Essential oils - eucalyptus, tea tree and lavender oil added to an oil burner or vapouriser can help clear up the congestion faster.
- Vapor rubs on the chest can help breathing and ease chest discomfort
- Drink plenty of liquids. This will help to thin secretions and prevent dehydration. Lemon and honey drinks, particularly with added ginger and garlic, are great to loosen phlegm and speed recovery.
- Bed rest and keeping your hands and feet warm will encourage healing.

## Acne

Acne is an inflammatory condition of the skin. Infection occurs in the hair follicle of the sebaceous gland. When oil becomes trapped, bacteria multiply and the skin becomes inflamed.

Acne is one condition that attracts a lot of antibiotic use. Unfortunately for many young people it is also the trigger for further health problems if their gut flora becomes unbalanced.

Tetracyclines are often prescribed for teenage acne - often for months at a time. They are potentially quite damaging, so natural alternatives should always be explored first. I have many chronic fatigue patients and patients with chronic gastrointestinal problems who pinpoint their initial problems to when they were on antibiotics for their acne.

However there are some fantastic natural approaches that should be used first that can have outstanding results. Improvement can be seen in a few short weeks, however it can take a few months to totally clear up.

### **Natural treatments for acne;**

- An acidophilus supplement to rebalance the beneficial gut flora. One study showed that 80% of a group of 300 patients who took *L. acidophilus* and *L. bulgaricus* reported an improvement in their acne. Half of the improved patients reported their results as excellent, the other half as reasonable.
- Vitamin A at 20,000 - 50,000 I.U a day. Vitamin A helps skin maintenance and repair. Don't exceed 10,000 I.U if you are pregnant.
- Zinc at 50 - 60 mg a day. Zinc helps wound healing, tissue regeneration, hormone activation and vitamin A activity.
- B6 at 50 - 100 mg a day. B6 helps normalise hormones and the action of zinc. It is especially important if acne is worse before or during menstruation.

- Vitamin E at about 400 I.U daily can help prevent scarring
- Selenium at 200 umg is a vital antioxidant that works with vitamin E to help acne.
- The Essential Fatty Acids - these are needed to keep the skin smooth and soft and to repair damaged cells. The Omega 3s (from fish oil and flaxseed oil) and the Omega 6s (from evening primrose oil) should both be taken at dosages of 4-6g a day.
- Do a regular liver cleanse. If the liver is congested or sluggish then it cannot break down toxins efficiently and they will try and come out through other channels like the skin. A daily method for keeping the liver clean and the skin clear is a morning ritual of lemon juice in warm water on rising. Lots of pure water during the day, and the avoidance of junk food, sugar, white flour, coffee, alcohol, cigarette smoke and excess animal fat is also recommended. Some people find that cutting out dairy, especially cream, milk and cheese helps enormously.
- Regular relaxation. Doing daily relaxation exercises has been shown to reduce acne. Over a 3 month period, acne affected teenagers in Florida used simple relaxation techniques for 15-20 minutes a day. Compared to the teenagers using conventional medical care, they had better overall results and maintained their improvement as long as they continued their relaxation exercises.
- Doing regular exercise. Daily exercise improves acne by stimulating circulation to the skin. It is also great for reducing stress which exacerbates acne.
- Daily sunshine. A daily dose of 30-60 minutes a day of sunshine can help dry up acne. Avoid midday sun if you live in a hot climate to avoid the risk of getting burnt.
- Daily skin brushing. Regular skin brushing with a dry skin brush or loofah can improve circulation and elimination. It helps get rid of dead skin cells. Always brush towards your heart and avoid the face and acne-affected areas. A regular skin rub with some salt moistened in a bit of water is also beneficial.
- Avoid harsh cleansers and make-up. Use a gentle cleanser on your skin. The tea tree based cleansers are a good choice since tea tree is a natural antibacterial. Avoid pore clogging make-up which can irritate your skin.
- Essential oils like tea tree, myrrh, lavender, eucalyptus, thyme and clary sage are good antibacterial oils that can be used in a facial steam to help fight infection and heal the skin.

## Colds and flu

Antibiotics have no action against common colds and flu which are caused by viruses. However they can have a place to play in a small number of immune suppressed people who are prone to recurrent bacterial infections, as a preventative when they have a cold or flu. These people may have damaged lungs or bronchials that means common colds or infections can turn into life threatening bacterial pneumonia or serious bronchitis.

Building up the immune system with a healthy diet, good lifestyle and high potency supplements should be the priority for these patients, so that antibiotics are not required in the long term.

## Gastroenteritis

Gastroenteritis is commonly caused by a virus. Even if it is bacterial in origin, antibiotics may not be a good treatment as it can worsen the condition by clearing out all the good gut flora with the bad. This can worsen the diarrhoea and predispose the body to opportunistic infections like *Candida* and *Staphylococcus*.

### Natural treatments for gastroenteritis;

- Rest, rehydrate the body with clear fluids and abstain from foods until the condition has cleared.
- The addition of good bacteria like acidophilus and bifido bacteria can help the body to fend off the bugs.
- Garlic is a good antibacterial to add to soups or broth. You can also use antimicrobials like Black Walnut, Barberry, Golden Seal and Citrus seed extract to kill off the invading organisms.
- If vomiting or diarrhoea is profuse an electrolyte replacement drink is recommended. You can buy these from your chemist or make your own up using 500 ml boiled water (which has been allowed to cool slightly), 1 tablespoon sugar (or honey), 1/8 teaspoon sodium bicarbonate and 1/8 teaspoon salt. Drink hourly to replace lost fluids.
- Rice water drunk throughout the day can also stop the diarrhoea and vomiting. Boil ½ cup brown rice in 3 cups of water for 45 minutes and drink hourly.
- For breast fed babies, keep breast feeding and give extra fluid (50 - 70 ml) hourly. For bottle fed babies give ½ strength formula. For babies and young children dehydration can be life threatening.

Even if children seem to vomit up whatever you feed them, persevere with small, frequent sips of fluids, as some would be absorbed. Symptoms of dehydration are dry mucous membranes like cracked lips, decreased urination, listlessness, sunken eyes or a sunken fontanel in babies, rapid heartbeat, cooling and mottling of the hands and feet, and reduced skin elasticity. Call your doctor immediately if these symptoms appear.

- If diarrhoea or vomiting persists, your doctor may send a stool sample to a lab to test for bacteria or other parasites.
- If you have cramping, then ginger or peppermint tea can help. A hot compress or hot bath can also help.

- When you are feeling hungry again and if the vomiting or diarrhoea has stopped, then start by eating a light diet of cooked vegetables, dry toast or crackers, white rice, stewed fruits or grated apple. Gradually introduce lean poultry, fish or eggs. Avoid dairy foods, fried or very fatty foods, spices and raw foods until you are feeling 100%.
- Good foods to help heal the gastrointestinal mucosa and stop inflammation are ginger, slippery elm bark, pawpaw, mashed banana, steamed pumpkin, carrot and vegetable juices.

## Peptic ulcers caused by *Helicobacter pylori*

About 80% of peptic ulcers are caused by a bacteria called *Helicobacter pylori*.

Other causes of ulcers can be excessive use of aspirin and non-steroidal anti-inflammatory drugs, parasites, bile reflux, excess acid or decreased acid or inadequate mucous production from the stomach. Stress is often cited as the cause of ulcers probably because it affects gastric secretions and lowers immunity, leaving the body more prone to opportunistic infections.

Ulcers can appear in the stomach or the first part of the small intestine known as the duodenum.

Common symptoms of peptic ulcers are;

- A gnawing or burning feeling above the naval from 1-3 hours after eating. The pain is usually relieved by food
- Abdominal pain that feels like indigestion, heartburn or hunger
- Stomach pain that wakes you up at night
- Dark, bloody or tarry looking stools
- Vomiting blood or material that looks like ground coffee
- Weight loss

Peptic ulcers can be diagnosed from a doctor from breath and blood tests, X rays or by an endoscopy - where they pass a long tube with a tiny camera at the end into the stomach and small intestine.

If *Helicobacter* is found to be present, the conventional treatment is a strong course of two types of antibiotics and an antacid. Treatment usually takes two to three weeks. This treatment is very effective in most cases. In cases of antibiotic resistance it may take longer.

### **Natural treatments for ulcers caused by a *Helicobacter* infection;**

- Antibacterial herbs and foods, like Grapefruit seed extract, barberry and garlic
- Active Manuka honey which is a natural antibiotic and does not affect the good bacteria in the gastrointestinal tract. This medicinal honey can be bought through health food shops and good chemists. Since it is just honey there is no chance of overdosing. The recommended amount is at least 1 teaspoon at regular intervals up to 30 minutes before meals. Some patients use it whenever they feel the burning or discomfort of the ulcers. Relief is normally felt within a few short days. If the

conventional antibiotics are not being used, the Manuka honey treatment can take up to 2-4 months to completely kill all the bacteria.

- To strengthen the lining of the stomach and intestine, it is important to avoid fried foods, coffee, tea, alcohol, salt, strong spices and smoking. Aim to eat small, regular meals.
- Foods that help soothe and heal the mucosa include pine nut oil, cabbage juice, potato juice (mix with carrot or celery to taste), aloe vera juice, slippery elm bark, fenugreek tea, ripe banana, raw goats milk, paw paw and non-irritating fibre like psyllium husks or guar gum. Licorice tea is a good anti-inflammatory.
- Supplements to repair and strengthen the mucosa including glutamine, vitamin A, vitamin E, vitamin C, zinc and the essential fatty acids.
- Gentian - a herb that stimulates gastric secretions, will help render the gastrointestinal tract less susceptible to infection.
- Trunk or abdominal heat packs or compresses are good to relieve pain caused by ulcers

Whatever the treatment chosen it is important that close family members are screened and treated as it is possible that they can re-infect you if they have the bacteria.

## Tuberculosis (TB)

TB is caused by the bacteria *Mycobacterium tuberculosis*. TB initially shows no symptoms until the lesions it cause show up on a X ray. Symptoms may then include cough, blood in sputum, pain in the chest, fever, malaise and weight loss.

Treatment of TB involves 2 - 4 antibiotics over a period of 6 months to 2 years. Most treatment failures are due to lack of patient compliance. In immune compromised patients like AIDS patients, drug resistant bacteria can mean that treatment is not effective.

It is essential that TB patients are educated about the importance of completing their antibiotic courses. If they do not, they are contributing to the rise of antibiotic bacteria and putting their health at risk.

The addition of immune boosting supplements including high dose vitamin C, A, E, zinc and selenium and herbs like *Usnea barbata* will help speed recovery from TB. Follow the recommendations for Lower Tract Respiratory infections as outlined previously.

## Urinary Tract Infections

Unlike most respiratory and gastrointestinal infections, urinary tract infections are usually caused by a bacteria - typically *Escherichia coli* (E.coli). The cause of the infection is usually contamination of the vagina or urethra with faeces from the bowel. From there they can travel to the rest of the urinary tract and cause infection.

Some people find that irritation from tight clothing, a diaphragm, spermicides, sex, bubble baths, chlorinated pools or even eating foods like spices, coffee, alcohol, citrus, chocolate and bananas, can predispose them to an infection. Symptoms can be pain on urination, blood or pus in urine, urgency to urinate, fever and malaise. Some patients find that their urine is cloudy and smells very strong.

### **Natural treatments for urinary tract infection;**

- Drink lots of water and cranberry juice. Cranberry juice can stop E.coli from adhering to the walls of the bladder and urinary tract. It is also available in a capsule form and can be even taken as a preventative if you are prone to urinary tract infections.
- Take an immune boosting supplement with vitamin C. Ascorbic acid, the free form of vitamin C, is a powerful urinary tract bactericide. By increasing the acidity of the urine, urinary tract infections can be curtailed.
- Eat lots of garlic and parsley which act as antibacterials and diuretics.
- If after a couple of days the infection has not improved, then antibiotics could be considered. It is worthwhile getting a urine sample tested to confirm there is a bacterial infection.
- Do not delay emptying the bladder - you need to urinate every two to three hours, and always after intercourse.
- For women, always wipe yourself from front to back after urination or emptying your bowels.
- Wear cotton underwear and avoid pantyhose.
- If prone to infections consume lots of natural diuretics like celery, parsley, watermelon, dandelion tea, vegetable juices and salads.
- Herbs like echinacea, olive leaf and cranberry are good preventatives.

In young children, recurrent urinary tract infections can be caused by areflux of the urine from the bladder back up into the ureter. This is diagnosed from injecting a dye into the veins of the arm and then taking X rays of the urinary tract to see if reflux is a problem. Renal problems may require surgery or the taking of antibiotics as a preventative. Children normally grow out of this problem as they age.

## **Bacterial skin infections**

Many types of bacteria live harmlessly on the skin. However, if the skin is punctured or broken, bacteria can enter the wound and cause infection.

The most common bacteria to cause bacterial skin infections is *Staphylococcus aureus*. *Streptococci* can occasionally be involved.

Bacteria usually cause localised infections like:

- Boils - tender, inflamed area of the skin containing pus
- Folliculitis - infection of a hair follicle causing the follicle to become swollen, red and tender.
- Impetigo - an infection which starts as a red patch before developing into small pustules that join together, forming yellow crusty sores. Most common on the face and limbs of babies and children. Impetigo is highly contagious.
- Cellulitis - inflammation of the connective tissue between adjacent tissues and organs.

Symptoms of a bacterial skin infection include redness, warmth, swelling, tenderness and blisters. In some cases the bacteria can enter the bloodstream and then to other parts of the body, causing serious illness, like pneumonia, bloodstream or joint infections.

People with skin conditions like dermatitis, eczema or burns are more likely to get bacterial skin infections. Warm, humid environments and excessive sweating can also encourage infections. People with lowered immunity like those with AIDS, cancer, diabetes, kidney failure or mal nourishment are more at risk. Some medications like cortisone and chemotherapy can also increase your risk of these infections. Sometimes you hear of clusters of staph skin infections between people who live in close quarters or those who share linen, clothes or sporting gear.

The best way to limit the spread of bacterial skin infections is by regular hand washing and daily bathing or showering. If someone in your household has an infection then do not share towels, sheets or clothing until their infection has been treated. Wash their bedding, towels and clothes in hot water and bleach and dry in a hot dryer rather than air-drying.

If you do get eczema, dermatitis, a wound, or an infected hair follicle, then try not to touch the infected area. Treat it with a natural antibacterial cream like tea tree or neem oil and cover with clean, dry bandages.

For treating a boil the best method is to apply a hot compress to the area. This brings a better blood flow to the area, along with white blood cells and antibodies to fight the infection.

To apply a compress, soak a clean flannel or face cloth in 1 cup of boiling water with 6 drops of tea tree oil. Cool slightly and place on affected area, covering with a dry towel or cling wrap to retain the heat. When the compress has cooled repeat the whole process 2 or 3 more times. Repeat the procedure 3 times a day. Finish each treatment with a dab of neat tea tree oil, Indian neem oil or active manuka honey. Never squeeze a boil as you can drive the infection into the bloodstream. It is best to let the boil to come to a head so it can be lanced or drained by a health practitioner.

If you develop a fever, vomiting, or very irritated, painful skin then you should call your doctor.

Antibiotics are often prescribed for bacterial skin infections however increasing numbers of people are being diagnosed with antibiotic resistant staph - called Methicillin-resistant *Staphylococcus aureus*, or MRSA. Tea tree oil used directly on the skin has been shown

to be a viable alternative to antibiotic treatment for MRSA infections. One study showed that it cleared 41% of MRSA infections. Keeping the immune system strong with vitamin A, C, E, zinc and an immune enhancing herbs like Wild Indigo, myrrh, olive leaf and *Usnea barbata* can also go a long way in treating these infections.

## **Chronic infections with Chlamydia, Mycoplasma, Rickettsia**

Infections with unusual organisms like Chlamydia, Mycoplasma, Rickettsia (e.g. Lyme Disease), may also warrant the use of antibiotics.

Although chlamydia and mycoplasma are common in the environment, they are usually noninvasive. If you have a weak immune system they can enter your cells causing a persistent, low grade infection which can last for years.

Unfortunately these bacteria are not readily cultured and seen under a microscope. They are also hard to detect from normal blood tests. Most antibody tests from standard laboratories can tell you that you may have had an infection, but whether it is still active is another matter. There is a sensitive test called PCR testing that looks for DNA specific to these bacteria. It will pick up if you have an active infection.

If you are diagnosed with one of these infections you will probably need to take a tetracycline antibiotic for at least 6 months. Some patients may need to be on them for up to a couple of years.

## **How to enhance the effectiveness of antibiotics and avoid repeat scripts**

In this final section, I want to share with you some key things you should do if you have to take antibiotics.

### **Guidelines if you have to take antibiotics;**

- When you are prescribed antibiotics take it exactly as the doctor tells you.
- Insist on knowing the side effects. You can either ask your doctor or pharmacist
- Complete the whole course as instructed. Even if you are feeling better finish the whole course. Otherwise some bacteria may remain to re-infect you. Because they have been exposed to the antibiotic, these remaining bacteria may have developed a resistance and will be harder to kill next time. What isn't killed becomes stronger.
- Do not skip doses

- Do not save any antibiotics for the next time you get sick
- Do not share your prescribed antibiotics with others.

**To assist your body's immune response (and to avoid a second script);**

- Take 2-3 g of vitamin C a day
- Take some beta-carotene (6 mg) or vitamin A (10,000 I.U) daily
- Take 50 - 60 mg of zinc daily.
- Take an immune-boosting tonic like Echinacea or Olive Leaf Extract or a combination of herbs.
- Drink plenty of water or herb teas
- Eat an immune boosting diet with added ginger, black pepper, sage, thyme and/or garlic.
- Get adequate rest and sleep, minimise stress and exercise regularly to keep your immune system in tip top condition.
- Use recommendations specific for your condition as outlined earlier.
- Take acidophilus as a powder or capsule during and after your antibiotic course to help maintain balance in your gastrointestinal tract

## References

[www.all-natural.com](http://www.all-natural.com)

[Whyfiles.org](http://Whyfiles.org)

[www.mercola.com](http://www.mercola.com)

Allardice, Pamela; Pamela's Natural Remedies, 1996, Sydney, Random House

Balch, James and Balch, Phyllis; Prescription for Nutritional Healing, 1990, New York, Avery Publishing Group.

Chaitow, Leon; The Antibiotic Crisis, 1998, London, Harper Collins

Mckenna, John., Alternatives to Antibiotics, Dublin, Gill and Macmillan Publishers

Worwood, Valerie Ann: The Fragrant Pharmacy, 1990, London, Macmillan