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SA Pharmacist's Assistant

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Disruptions in healthcare – *Esprit de corpse* – Pharmacists unite towards patients' safety!

Natalie Schellack

Over the last three years, there have been many changes – the SARS-CoV-2 virus, the war in Ukraine at a global level – and, closer to home, the recent labour strikes by NEHAWU. These challenges impacted healthcare and inadvertently social healthcare. The pharmacy profession is arguably one of the most accessible healthcare providers to the public, and had to be resilient in the face of these challenges; providing access to medicines to ensure continuity of services in the interest of the patient's welfare. Resilience included changing practices from ensuring emergency pharmaceutical care to participating in vaccination outreaches during the pandemic. At the heart of it, all the pharmacists focussed on was the ethos of the profession – patient-centred. Each and every aspect involves the wellbeing of the patient.

This brings us to the ethical question of participating in labour strikes as a profession and the potential impact that would have on the wellbeing of the patient. Later in this edition, Mr J Hattingh describes the difference between a trade union and a professional society. Further to this, he explains that there is no trade union representing the pharmacy profession in South Africa. We will explore the implications of this in the ensuing editorial.

To this end, it is concerning that a Labour Appeal Court had to provide an interdict to stop the intimidation tactics of the National Education, Health and Allied Workers Union (NEHAWU) in governmental hospitals across South Africa. This is playing out in South Africa, which has one of the most progressive constitutions in the world—*The Constitution of the Republic of South Africa, 1996,* which was approved by the Constitutional Court (CC) on 4 December 1996 and took effect on 4 February 1997. The Constitution states very clearly that (per verbatim):

1. Everyone has the right to have access to
   a. *healthcare services, including reproductive healthcare;*
   b. *sufficient food and water; and*
   c. *social security, including, if they are unable to support themselves and their dependants, appropriate social assistance.*
2. *The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.*
3. *No one may be refused emergency medical treatment.*

This is not the first time globally or in South Africa that healthcare workers take to the streets, leaving the most vulnerable unattended to. Thus, denying their fundamental constitutional rights. This in an already overburdened healthcare system, further eroding the public trust in our healthcare workers.

The pharmacy profession, which amongst many other duties, ensures access to medicines and healthcare, has a more important role to play than ever before. The right to withdraw services is subject to the overarching question of how essential that profession is to the wellbeing of society, and that should overrule their right to strike. The pharmacy profession is essential in every way possible for the provisioning of safe and reliable healthcare for the citizens of South Africa (and globally).

Patient safety has been the focus of a recently held conference (23 and 24 February 2023) in Montreux, Switzerland, namely "The Fifth Global Ministerial Summit on Patient Safety". Ministerial delegations from 80 countries (South Africa was not represented by a ministerial delegation) around the world came together to pledge their support to ensuring patient safety, reaffirming that patient harm in healthcare is an urgent public health issue. The Charter may be accessed here: https://apps.who.int/iris/rest/bitstreams/1360307/retrieve.

This sentiment was highlighted by Dr Tedros Adhanom Ghebreyesus, WHO Director-General. On the second day, in his address to the ministerial segment, Dr Tedros urged health ministers:

"To invest in patient safety as part of their commitment to universal health coverage and health security; to build a culture of safety and strengthen reporting and learning systems; to support health workforce and strengthen their capacity; to strengthen data systems; and to engage patients and families in their own care." Dr Tedros announced that the theme for World Patient Safety Day 2023 would be ***"Engaging patients for patient safety"***.

Ensuring patient safety is not a new role or responsibility for pharmacists. Historically, pharmacists have done this as part of their scope of practice in various healthcare sectors. For centuries, the community pharmacist (often the first health contact for patients) councils and communicates with the patients. Further to this, they provide medication information and pharmacist-initiated therapy,

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whilst their hospital counterparts actively participate in medication reconciliation, preventing and reporting adverse medicine events, preventing drug-drug interactions, and promoting antimicrobial stewardship, to mention only a few.

It remains vitally important for the pharmacist to continue to evolve to ensure patient safety as outlined in the Montreux Patient Safety Charter. Seven strategic objectives have been set out to eliminate avoidable patient harm, and the most important role for the pharmacist is to remain the custodian of medicine, through accepting a challenge. The challenge is to lead global medication safety, through medication stewardship and providing medication without harm in many different ways in their everyday practice.

The South African Pharmaceutical Journal and the South African Pharmacist's Assistant Journal remain committed to ensuring a constant flow of information and knowledge to mitigate the risk of avoidable medication harm and improve the quality of patient care.

On a different note, I salute all women in healthcare as we celebrated International Women's Day on 8 March. The day was brought into existence in 1975 to highlight issues that affect women and raise awareness for those issues. One of the women that I want to draw attention to is Ms Lorraine Osman, who has been a mentor, friend, and fierce leader, not only to me but to the pharmacy profession in general. Lorraine, thank you for 25 years of commitment to the profession, passionately illustrated in your editorials that were aptly titled "Piece of my mind". We salute and honour you and wish you an incredible journey ahead.

With that, I will leave you with a quote from Marie Daly (The first African American woman to earn a PhD in Chemistry):

"Courage is like — it's a habitus, a habit, a virtue: you get it by courageous acts. It's like you learn to swim by swimming. You learn courage by couraging."

Allergic conjunctivitis

Megan van Staden
Amayeza Information Services, South Africa

Introduction

Not all pink eyes are "pink eye". Allergic conjunctivitis is a more frequent complaint than infective (bacterial or viral) conjunctivitis—commonly known as pink eye. Allergic conjunctivitis is the swelling of the lining of the eye (conjunctiva) due to an allergic response and usually has a sudden onset. Allergens can include pollens and dust due to season changes and chemical irritants in cosmetics, medications or the environment. Allergic conjunctivitis rarely threatens the patient's vision but can significantly impair the quality of life for sufferers.

Bird's eye view

The conjunctiva is a transparent layer of tissue lining the eyelids and covering the white of the eye. When an allergen irritates this lining, it becomes inflamed and red in response to the release of histamine that is triggered by the threat sensed by the conjunctiva. The swelling and tearing of the eyes are the body's way of getting rid of the irritation. Therefore, the sensible approach to treating allergic conjunctivitis is first to try to eliminate the cause and second to treat the histamine reaction that the eyes are experiencing.

Symptoms

Symptoms of allergic conjunctivitis include eye redness, intense itching and increased tear production. Puffy, swollen eyelids and a feeling of grittiness in the eyes, as well as light sensitivity and dark circles under the eyes, are typical symptoms of allergic conjunctivitis. A white, stringy mucous discharge may be observed with some crusting on the eyelid margins. The presence of yellow or green secretions indicates infective conjunctivitis, which will require referral to the doctor. Allergic conjunctivitis frequently presents in both eyes, differing from the infective type, which generally only originates in one eye but may spread to the other eye. It is also important to differentiate it from dry eye disease, which is characterised by burning, blurry eyes, but does not usually involve swelling or a discharge.

Causes

Most cases of allergic conjunctivitis are secondary to simple allergen exposure on the surface of the eye. These allergens may include:

- pollens
- chemicals
- dust mites
- animal fur
- medications

Changes in climate and air conditioning may also contribute to an allergic response. Certain patients, for example, those with an existing skin allergy or family history of allergic diseases, may be more prone to allergic conjunctivitis. A foreign body that is lodged in the eye (either accidentally or surgically) could also result in an allergic response by the conjunctiva.

Treatment

Patients presenting in the pharmacy with symptoms of allergic conjunctivitis should be counselled about general eye care:

- Discourage rubbing of the eyes, which causes worsening of symptoms by increasing the swelling and release of histamine.
- Encourage patients to instil artificial tears, rinse with saline and apply cool compresses frequently.
- If possible, known allergens should be avoided, and contact lenses and false eyelashes should be removed (if applicable).
- If the allergen cannot be avoided, sunglasses, swimming goggles, hats and other protective measures can be suggested.
- Promote hand washing and good hand hygiene to avoid further aggravating the inflamed conjunctiva if the patient touches their eyes.

Treatments that can be offered over-the-counter (OTC) include antihistamine tablets, syrups or eye drops, and tear replacement

Table I: Available drops to treat allergic conjunctivitis

Type	Trade names	Active ingredients	Dosing
Antihistamines	Gemini® Oculerge® Spersallerg® Allergex® Oxylin® Murine® clear eyes	Antazoline HCl Tetrazoline HCl Oxymetazoline HCl Naphazoline HCl	Three to four times daily
Antihistamine/mast cell stabilisers	Patanol® Relestat®	Olopatadine HCl Epinastine HCl	Twice daily
Mast cell stabilisers	Vividrin® Alomide®	Sodium cromoglycate Lodoxamide	Four times daily
Homoeopathic or herbal	Artelac® allergy Similisan® allergy	Ectoin, hyaluronic acid Apis mellifica Euphrasia Schoenocaulon	As often as required

eye drops. Medications applied directly to the eye to treat allergic conjunctivitis work to combat the histamine reaction or stabilise the mast cells (the cells that respond to the allergen and cause inflammation) or can combine both actions. Certain natural or homoeopathic options have also proven helpful in treating allergic conjunctivitis.

Long-term outlook

Reducing frequent exposure to known allergens and using preventative measures to diminish allergic responses is helpful. Complications of allergic conjunctivitis are rare.

When to refer

In most patients, the response to early intervention is positive, and rapid recovery with satisfactory soothing of the symptoms is observed within days. If OTC treatment has not resolved the complaint within 48–72 hours, the patient should be referred to the doctor. The reappearance of symptoms is not unusual, and patients should be counselled to avoid the allergen responsible and to practice the eye care advice given. A patient presenting with allergic conjunctivitis that recently had eye surgery should be referred to their ophthalmic surgeon as soon as possible.

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Itching[1]	Redness[1]	Lid swelling[1]	Tearing[1]	Chemosis[1]
✓	✓	✓	✓	✓

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S2 PATANOL Eye Drops, solution. Contains 1.11 mg/ml olopatadine hydrochloride equivalent to 1 mg/ml olopatadine. 33/15.4/0189. Novartis SA (Pty) Ltd.

For full prescribing information, refer to the Professional Information approved by SAHPRA (South African Health Products Regulatory Authority).

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Managing **constipation** in the **pharmacy**

Jacky van Schoor
Amayeza Information Services, South Africa

Constipation is a common problem in adults and children of all ages. It is a symptom rather than a disease. Constipation is only rarely associated with life-threatening diseases, but in some patients such as the elderly, constipation can be a major health concern.

Constipation refers to a change in bowel habits but has varied meanings:

- Doctors may regard constipation as being synonymous with infrequent bowel movements, typically fewer than three per week.
- Adult patients may report a broader set of symptoms, including stools are too hard or too small, or difficult to pass, a feeling of incomplete evacuation, abdominal discomfort, bloating and distension, as well as other symptoms, such as excessive straining.
- A child with constipation may have bowel movements less frequently than normal, or their bowel movements may be hard or difficult and painful to pass. For example, a child who normally has one to two bowel movements every day may be constipated if he or she has not had a bowel movement in two days. However, a child who has a bowel movement every two days is not constipated, if the bowel movement is reasonably soft and is not difficult or painful to pass.

Not having a bowel movement every day does not necessarily signify constipation. Constipation, therefore, is usually described as the passage of hard, dry stools less frequently than what is usual for that person.

Constipation may be acute or chronic. Acute constipation begins suddenly and noticeably, while chronic constipation may begin gradually and persist for years or months. Many people experience occasional acute constipation, e.g. when travelling.

Causes of constipation

Many factors can contribute to or cause constipation, although, in most people, no single cause can be found. In general, constipation occurs more frequently in older people. Causes of constipation include:

- Changes in the diet
- Lack of fibre in the diet
- Inadequate fluid intake
- Poor bowel habits, e.g. delaying the passing of stools
- Lack of exercise or long periods of immobility
- Laxative abuse
- Medical conditions such as Parkinson's disease, depression, irritable bowel syndrome
- Medicines such as aluminium- and calcium-containing antacids, iron supplements, antispasmodics, analgesics such as codeine and antidiarrhoeal agents such as loperamide

Alarm symptoms in constipation – when to seek help

Most cases of constipation can be treated at the pharmacy level. However, there are some alarm symptoms in constipation that require referral to the doctor. Some patients, because of their age or condition, are also best referred to the doctor, e.g. constipation presenting in an infant or young child, constipation during pregnancy or constipation in an elderly or frail patient (refer to Table I).

Table I: Alarm symptoms in constipation – when to refer the patient to the doctor

- New constipation that has lasted two weeks or more
- Constipation occurs together with abdominal pain, nausea, vomiting or bloating
- Presence of blood in the stools
- Patients over the age of 50 years who present with persistent constipation for the first time
- Constipation is associated with symptoms such as weight loss, fever or weakness
- The patient's prescribed medication may be the cause of constipation
- Previous appropriate lifestyle interventions and over-the-counter (OTC) medicines have not resolved the constipation

Managing Chronic Constipation for Pregnant and Breastfeeding Moms

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Constipation relief without gain or loss of significant amounts of water or electrolytes.

- About **11 to 38 % of women get constipated at some point during pregnancy**. A patient is most likely to get constipated in the third trimester however, **constipation can occur in all three trimesters**[2,3]
- Constipation negatively affects pregnant women's daily lives and is **second only to nausea as a common gastrointestinal complaint in pregnancy.**[2]
- **MOVICOL** contains polyethylene glycol (PEG), which is an osmotic laxative that works by increasing the water content of the stool, making it easier to pass. **PEG is considered suitable during pregnancy** because it is not absorbed into the bloodstream.[2]
- **Hormone changes** within the body **during pregnancy, can increase the chances of constipation**. [4]

SA's value leading laxative[5]

*If patients develop any symptoms indicating shifts of fluids/electrolytes (e.g. oedema, shortness of breath, increasing fatigue, dehydration, cardiac failure) MOVICOL should be stopped immediately and electrolytes measured and any abnormality should be treated appropriately.

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Management of constipation

Treatment for constipation includes changing some lifestyle behaviours and using laxatives, if needed (refer to Table II).

Behaviour changes

The bowels are most active after a meal, and this is often the time when stools will pass most readily. Patients should be reminded not to ignore the body's signals to have a bowel movement, as ignoring 'nature's call' may result in these signals becoming weaker over time. Drinking a caffeine-containing beverage in the morning may also be helpful.

Increasing fibre in the diet may reduce constipation. The recommended amount of dietary fibre is 20–35 grams of fibre per day. Adding raw bran to the diet (2–6 tablespoons with each meal) is an inexpensive way to increase fibre intake. Bran can be added into palatable drinks such as smoothies, yoghurt, cereals, or baked foods to improve fibre intake.

Many fruits and vegetables can be helpful in preventing and treating constipation. This is especially true of citrus fruits, prunes, and prune juice. Some breakfast cereals are also an excellent source of dietary fibre.

Note:
An increased fibre intake should be done in conjunction with an increased fluid intake. Adults should take in 2–2.5 litres of fluid per day. Increasing fibre intake too quickly and consuming large amounts of fibre can cause abdominal bloating or flatulence. These symptoms can be minimised by increasing fibre intake by a small amount and slowly increasing it until stools become softer and more frequent.

Bulk-forming laxatives

Bulk-forming laxatives that are available include mucilaginous seeds and seed coats (e.g. ispaghula, also known as psyllium) and mucilaginous gums (e.g. sterculia). Bulk-forming laxatives work by absorbing moisture and swelling in the colon, increasing faecal mass so that normal bowel action is stimulated. Bulk-forming laxatives are effective in increasing the frequency and softening the consistency of the stools with minimum adverse effects. There is generally a delay (up to 72 hours) between taking a bulk-forming laxative and improved bowel function. Taken together with adequate fluid, bulk-forming laxatives can be used long-term to improve bowel habits in people with persistent constipation.

Note: Intestinal obstruction may occur in patients taking bulk-forming laxatives if fluid intake is not adequate, especially in the patient whose gastrointestinal tract is not functioning properly because of abuse of stimulant laxatives.

Other laxatives

People who respond poorly to fibre or do not tolerate it, may require other laxatives.

Hyperosmolar laxatives such as lactulose, sorbitol, and polyethylene glycol work by drawing fluid into the bowel and thereby increasing stool frequency. Lactulose is a synthetic sugar. It is not metabolised by intestinal enzymes and therefore, water and electrolytes remain in the bowel due to the osmotic effect of the undigested sugar. Lactulose requires some time (24–48 hours) to produce its effect. Polyethylene glycol may be used in chronic constipation. A treatment course is usually two weeks, which may be repeated if necessary. Extended use may be required in patients with resistant

Table II: Laxatives used in the treatment of constipation

Laxative	Trade name	Patient information
Bulk-forming laxatives		
Ispaghula; seeds of plantago ovata	Agiobulk®	Ensure an adequate intake of fluid Non-habit-forming Suitable for long-term use for chronic constipation May cause abdominal distension, cramps, and flatulence
Sterculia	Normacol®	
Bulk-forming laxative in combination with a stimulant laxative		
Ispaghula; seeds of plantago ovata; senna	Agiolax®	Ensure an adequate intake of fluid Not recommended for long-term use Combination may initially be used in patients with severe constipation May cause abdominal distension, cramps, and flatulence
Sterculia with frangula	Normacol® Plus	
Hyperosmolar laxatives		
Polyethylene glycol with electrolytes	Movicol® Purgolene® Purgoped®	Suitable for chronic constipation in patients unable to use bulk-forming laxatives
Lactulose	Duphalac®	May cause flatulence and bloating Start treatment at a low dose to reduce the risk of side effects
Saline laxatives		
Magnesium hydroxide	Phipps Milk of Magnesia	Suitable for occasional use May cause loss of normal bowel function with long-term use
Sodium sulphate	Freshen Sodium Sulphate	
Stimulant laxatives		
Senna	Depuran® Senokot®	Use only if response to bulk-forming laxatives is inadequate Restrict to occasional use Long-term use may result in loss of normal bowel function and laxative dependence
Bisacodyl	Dulcolax®	

constipation or in those with constipation because of another medical condition, e.g. Parkinson's disease.

Saline laxatives such as magnesium hydroxide (Milk of Magnesia), magnesium sulphate, sodium sulphate and sodium picosulphate act similarly to hyperosmolar laxatives. A dose of these laxatives usually produces a bowel movement within a few hours. Some saline laxatives are used to evacuate the bowel before surgery or investigative procedures. Prolonged use is generally not recommended. Adequate fluid intake should be encouraged to prevent dehydration.

Stimulant laxatives (e.g. senna and bisacodyl) work by increasing colonic motility and should only be used for short-term indications, i.e. acute constipation. Ongoing use of stimulant laxatives can cause changes in the colon and dependency on the laxative. Stimulant laxatives should not normally be used for longer than a week. The intensity of the laxative effect depends on the dose that is taken. It is advisable to start at a low dose and only increase the dose if needed. Oral stimulant laxatives take between six and 12 hours to produce an effect. However, bisacodyl suppositories may produce an effect within one hour of insertion.

A variety of herbal products are available for the treatment of constipation. Some of them contain active ingredients, e.g. senna, found in commercially available medicines. The same cautions apply to the use of these products.

Summary and recommendations

Constipation is a common complaint and often responds to behaviour changes and various laxatives. An increased intake of dietary fibre and bulk-forming laxatives may be recommended as initial management of constipation, together with adequate fluids. For patients who do not tolerate bulk-forming laxatives or respond poorly to fibre, hyperosmolar laxatives such as lactulose or polyethylene glycol may be recommended. Saline laxatives and stimulant laxatives may be considered for occasional use only, as prolonged use is not recommended.

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What you **need to know** about **preventing** and **treating colds** and **flu**

Sumari Davis
Amayeza Information Services, South Africa

Introduction

With winter fast approaching, it is important to know how to avoid getting a cold or the flu and how to treat the symptoms when prevention has failed. This article will address some of the most common questions on the prevention and management of the symptoms of a cold or the flu.

What are the symptoms of a cold or flu?

The symptoms experienced with a cold and the flu are similar and often overlap. It is not possible to distinguish with absolute certainty between a cold or flu without doing a laboratory test. In most cases, however, it is not necessary to test, as the treatment is based on relieving the symptoms and is not effective in curing the disease. Symptoms of colds and flu may include some of the following:

- Runny nose and sneezing
- Blocked or stuffy nose
- Pressure in the face or ears
- Coughing
- Chest congestion and discomfort
- Sore throat
- Headache
- Muscle ache
- Fever or chills
- Fatigue
- Nausea
- Loss of taste and smell
- Loss of appetite

How should these symptoms be treated?

Patients with a cold or the flu need to take in plenty of fluids to stay hydrated. Warm liquids have the added benefit of loosening mucous to clear nasal passages and ease breathing. Patients can also gargle with water or salt water to ease a sore throat. It is important to rest to combat fatigue and provide the body with time to heal.

The medicines in Table I may help alleviate symptoms.

It is important to check the ingredients in the products to prevent duplication and accidental overdosing that can result in adverse effects for the patient.

How to prevent colds or the flu

Colds and flu are spread easily from person to person by coughing, sneezing, or touching surfaces. Frequent hand washing and/or sanitising can help prevent the spread of a cold or flu. Tissues may be used to trap germs when coughing or sneezing but need to be discarded in a bin as soon as possible. Sneezing into a sleeve or an elbow and not into the hands also reduces the risk of spreading the virus. Since the virus enters through the mucus membranes, it is recommended to avoid touching the eyes, mouth or nose after being in contact with someone who is sick with a cold or flu. There is also a flu vaccine available that can help protect patients against seasonal influenza.

Who can get the flu vaccine?

The flu vaccine can be given to all patients six months or older. Patients younger than nine years of age will need a second dose of the flu vaccine at least four weeks later, if it is the first time they are getting the flu vaccine.

Although the vaccine is recommended for everyone, it is especially important to vaccinate the following patients who are at higher risk of severe disease or complications:

- Pregnant women throughout pregnancy
- Patients with chronic lung conditions (e.g., asthma, tuberculosis)
- Patients with chronic heart or kidney disease

Table I: Medicine available to alleviate symptoms

Symptom	Treatment options	Examples
Runny nose and sneezing	First-generation antihistamine tablets or syrups such as diphenhydramine, brompheniramine, chlorpheniramine or promethazine may be useful but can cause drowsiness. This may be helpful for patients who cannot sleep because of symptoms.	Allergex® Phenergan® Prohist® Rhineton®
	Nasal sprays containing sodium cromoglycate or antihistamines.	Rhinolast® nasal spray Sinumax® allergy nasal spray Vividrin® nasal spray
Blocked or stuffy nose	Tablets containing decongestants such as pseudoephedrine, phenylpropanolamine or phenylephrine may be offered but should not be used in patients with high blood pressure or in pregnancy. Decongestants are usually found in combination with an analgesic.	Advil® cold and sinus Benylin® daytime flu Ibumax® cold and flu Nurofen® cold and flu Sinuclear® Sinugesic® Sinumax® Sinustat Flu® Sudafed® sinus pain
	Normal saline nasal sprays can reduce runny nose and congestion. Saline products can also be used to clean or rinse out nasal passages before medicated products are applied to ensure greater efficacy of the medicated product.	illiadin® saline Sterimar® nasal hygiene
	Topical nasal preparations containing oxymetazoline, phenylephrine or xylometazoline may be used for symptoms of nasal congestion but should not be used for periods longer than 2–3 days to prevent rebound congestion.	ENT® drops Drixine® nasal spray iliadin® drops or nasal spray Nazene® nasal spray Otrivin® drops or nasal spray Oxymist® nasal spray Sinutab® nasal spray
	Oral decongestants are often used in combination with antihistamines.	Actifed® cold tabs or syrup Demazin® syrup Dimetapp® paed. elixir Flusin® effervescent tabs Rinex® syrup or diffucaps
Thick mucus	Carbocysteine, n-acetylcysteine, or bromhexine break down thick mucus. These mucolytics make it easier to remove mucus from the airways.	ACC 200® effervescent tabs Bisolvon® solution Bronchette® syrup Mucospect® syrup or capsules Solmucol® granules
Sore throat, headache, body aches and fever	Paracetamol, ibuprofen, or naproxen	Advil® Liqui-gels® Synflex® tablets Nafasol® EC tablets Nurofen® tablets Panado® tablets
Cough	Dextromethorphan and codeine can suppress cough but should only be used when a patient has a dry cough that keeps them awake.	Benylin® dry cough Dilinct® dry cough Pholtex Forte®
	Guaifenesin increases the production of watery mucus and may be helpful in getting rid of mucus in patients with a wet cough. They should preferably not be used at the same time as antihistamines that dry up the mucus.	Benylin® wet cough Dilinct® junior syrup

*Products may also contain other ingredients such as vitamin C and/or analgesics

- Patients with diabetes
- Patients with immunocompromising conditions such as HIV or those on cancer treatment
- Obese patients
- Children between six months and 18 years on chronic aspirin treatment (they are at increased risk of Reye's syndrome if they get a viral infection)
- Patients older than 65 years
- People staying in old age homes, chronic care centres or rehabilitation centres
- Family contacts of high-risk patients
- Healthcare workers

When should the flu vaccine be given?

The flu vaccine takes about two weeks to become effective and therefore it is important to administer the flu vaccine as soon as the vaccine becomes available at the beginning of each season, before being exposed to the flu. However, the vaccine can still be administered throughout the season so long as the expiry date has not passed yet.

Which flu vaccines are available?

Table II gives information about the flu vaccines available for vaccination.

Table II: Flu vaccines currently available

Vaccine	6 months through 8 years*	≥ 9 years
Vaxigrip Tetra®	0.5 ml (1 or 2 doses)	0.5 ml (Single dose)
Influvac Tetra®	0.5 ml (1 or 2 doses)	0.5 ml (Single dose)

*Two doses of an age-appropriate flu vaccine are recommended for children from 6 months through 8 years of age who are being vaccinated for the first time; doses should be separated by at least one month. Thereafter, it is only necessary to administer one dose per year.

Who should not get the flu vaccine?

Patients who had a severe allergic reaction following a previous dose of the vaccine should not get another flu vaccine.

Conclusion

Colds and flu are common viral infections seen in many patients presenting in the pharmacy during the winter months. Patients should be informed about ways to prevent colds and flu and what is available to treat the symptoms of colds and flu.

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Otitis externa

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Introduction

Otitis externa is an ear infection in the ear canal, which runs from the eardrum to the outer ear. Otitis externa may be caused by bacterial or fungal infection in the ear canal. The most common symptom of otitis externa is pain that may spread to the outside of the face. This ear infection is often called 'swimmer's ear' but does not just happen to people who swim; it can happen anytime water remains in the ear canal, creating a moist environment that aids in the growth of bacteria and/or fungi.

What can cause otitis externa?

An outer ear infection happens when the skin in the ear canal gets irritated or scratched and then gets infected. This can happen when a person:

- Puts cotton swabs, fingers, or other things like hearing aids, headphones or earplugs inside the ear canal.
- Cleans the ear canal to remove ear wax and damages the skin.
- Swims regularly – water can soften the ear canal's skin, allowing bacteria or fungi to infect the skin more easily. Moisture in the ear canal creates an ideal environment for bacterial or fungal growth.
- Swims in or is exposed to contaminated water.

Symptoms of otitis externa

- Ear pain – if not treated, it may get worse and radiate outwards to the side of the face
- Itchiness inside the ear
- Drainage from the ear – this may be clear and odourless or become yellow or green pus oozing from the ear that may have a foul smell
- Blocked ear
- Redness and swelling in the outer ear
- Temporary hearing loss or decreased and muffled hearing in the affected ear
- Slight fever
- Swollen lymph nodes around the ear or upper neck

How to prevent otitis externa

- Keep ears dry by draining water from the ear canal after swimming and drying with a soft towel.
- Don't swim in lakes or rivers where the bacterial counts are not known.
- Protect the ears while swimming and when using products like hairspray and hair dyes.
- Avoid putting foreign objects in the ear. Never attempt to scratch an itch or dig out earwax with items such as a cotton swab, paper clip or hairpin. Using these items can pack material deeper into the ear canal, irritate the thin skin inside the ear or break the skin.
- Remove excess earwax by seeing a doctor or using an at-home cleaning method rather than digging it out.

Table I: Drops to treat and prevent otitis externa

Use	Product	Directions
Softens wax	Cerumol® Ear Drops	Instil 5 drops into the ear 10–30 minutes before syringing
	Waxsol® Ear Drops	Instil 10 drops into the ear on 2 consecutive nights before syringing
To dry the ear	Swim Seal™ Ear Drops	Instil 2–3 drops into each ear before water exposure
	Clicks Swimmers Ear drops	Tilt the head to one side and apply 4–5 drops in the affected ear, then tilt the head to the opposite side to allow excess liquid to run out.

Treatment

Otitis externa may resolve on its own but is typically treated with antibiotic ear drops. If it is very painful, taking over-the-counter (OTC) pain medication will offer some relief. OTC drying drops can also be used as prevention and initial treatment, but medical attention should be sought if there is no relief.

The goal of treatment is to stop the infection and allow the ear canal to heal.

It is important to keep the inside of the ear dry while the infection heals. Wearing hearing aids or headphones, or putting anything into the infected ear, should also be avoided until symptoms improve.

A homemade cure can be mixed from a solution of half rubbing alcohol and half vinegar. The alcohol combines with water in the ear and then evaporates, removing the water, while the acidity of the vinegar keeps bacteria from growing. Apply a couple of drops of solution in each ear, e.g. after swimming. This home remedy is recommended for those with repeat infections.

For the more serious cases, the patient may require antibiotic or antifungal ear drops that would require a prescription.

Analgesic (only if the eardrum is not perforated)	Aurone Ear Drops	Instil 5–10 drops, 2 hourly as needed

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Fighting fatigue

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Introduction

Physical and mental fatigue may be experienced by healthy people and those suffering from acute and chronic illnesses. Fatigue can be damaging to health, hinder work productivity and negatively affect quality of life. Following a healthy diet and exercising regularly is the best way to prevent fatigue for most people. Good sleep habits and stress management can also help maintain energy levels. Insufficient intake of certain nutrients in the diet can cause numerous symptoms, including fatigue. Key nutrients include the B vitamins, vitamin C, iron, magnesium, zinc, and omega-3 fatty acids. Other ingredients such as caffeine and ginseng have been shown to boost energy levels. Supplements may help to correct nutrient deficiencies and curb fatigue. Indeed, many consumers take supplements with the intention of reducing mental and physical fatigue.

What is fatigue?

Fatigue is a broad term referring to significant and lasting tiredness, weakness or exhaustion that can be mental, physical or a combination of both. Fatigue is also described as a depletion of energy. Energy is associated with feelings of well-being, stamina and vitality which allows us to perform daily tasks. Fatigue hinders our ability to function optimally and is linked to poor mental and physical performance. Everyone experiences some form of fatigue in their lives. In most cases, fatigue can be resolved by making lifestyle adjustments.

Lifestyle factors

Sleep habits, stress, exercise, and diet all play a role in regulating our energy levels. One night of poor sleep will cause tiredness the next day but will not drastically affect health. However, several nights of poor sleep can result in persistent fatigue. Adults should aim to get 8 hours of sleep per night. Good sleep habits include sleeping in a dark room and limiting screen time before bed. Exercising on most days of the week can reduce the risk of chronic disease, improve sleep, and prevent fatigue. Prolonged mental and emotional stress is also linked to poor immunity and fatigue. Finding ways to relax by exercising, meditating, and spending time with friends and family can help to reduce stress and boost energy levels.

Diet

A healthy diet can prevent nutrient deficiencies and fatigue. Our bodies require energy to maintain cellular structures and carry out chemical processes. This energy can only be acquired through food. Carbohydrates, protein, and fat (macronutrients) are the calorie-containing compounds in our diets. Not meeting the body's basic calorie needs is associated with decreased immune function and fatigue. Vitamins and minerals also play a role in energy production. To meet our nutrient requirements, we should consume a varied diet consisting of whole grains, fruits, vegetables, lean meat, plant-based proteins (e.g., lentils, beans), low-fat dairy and healthy fats. Oxidative stress and inflammation in the body is also linked to fatigue. Consuming nutrient-rich whole foods has been shown to reduce oxidative stress. Carbohydrates are the body's preferred energy source and are essential for optimal brain function. Choosing low glycaemic index (GI) and high-fibre carbohydrates (e.g., whole grains) promotes sustained energy release throughout the day.

Vitamins and minerals

Vitamins and minerals (micronutrients) are required by the body in relatively small amounts. Each nutrient performs specific functions in the body and many are involved in the production of energy. Deficiency of certain micronutrients can result in multiple health issues, including fatigue. Micronutrient supplementation can help to prevent and treat nutrient deficiencies. Supplements should be taken with caution as overdosing can be toxic and lead to health problems.

Table I: Supplements on the market that may be used to help combat fatigue

Product	B vitamins	Vitamin C	Iron	Zinc	Magnesium	Caffeine	Omega-3s	Ginseng
Turbovite® Focus	x					x		x
Vital®: Vitaboost energy Ultra	x	x		x	x	x		
Slow-Mag®					x			
Vital®: Gold active multivitamin and ginseng	x	x	x	x	x			x
Berocca® Performance	x	x		x	x			
Vita-thion®	x	x						
Vita-thion® Extra	x	x		x	x			x
Ciplaton®	x	x	x	x	x			x
Centrum® Omega-3s							x	
Vital® Omega-3							x	

The B vitamins

The B vitamins play a major role in metabolism and are essential for energy production. Vitamins B1, B2, B3, B5, B6, B7, B9 and B12 all form part of the enzymes required to convert macronutrients into energy for the body. Vitamins B9 (folate) and B12 are also involved in red blood cell production. Red blood cells transport oxygen around the body for normal cell function. Vitamin B deficiencies are rare but can occur in certain diseases, undernourished individuals and in people who abuse alcohol. A deficiency of B vitamins can cause fatigue, depression, confusion, muscle weakness and inflammation. Folate and B12 deficiencies are more common and can cause anaemia. Anaemia is a condition characterised by fatigue and poor work performance.

Vitamin C

Vitamin C is a water-soluble vitamin well-known for its role in fighting off the common cold. Vitamin C forms part of the enzymes required for energy metabolism and is a powerful antioxidant. Insufficient vitamin C can lead to poor immunity, weakness, muscle aches and nervous system dysfunction. In cases of deficiency and illness, vitamin C supplementation is beneficial.

Iron

Iron plays a role in energy metabolism and is used to make red blood cells. Iron deficiency reduces the body's ability to transport oxygen around the body. This can eventually lead to anaemia, which is characterised by fatigue, poor mental function and decreased immunity. If iron requirements cannot be met by consuming iron-rich foods (e.g., eggs, poultry, legumes), supplementation may be necessary.

Zinc

Zinc is a well-known antioxidant and anti-inflammatory agent. It plays a major role in immunity, nervous system function and chemical reactions. Zinc deficiency is linked to depression, memory issues and immune dysfunction. Supplementation can help to prevent deficiency and may play a role in reducing fatigue.

Magnesium

Magnesium is responsible for helping over 300 enzymes carry out metabolic processes in the body. It is also important for bone health as well as muscle and nerve function. Magnesium deficiency is linked to oxidative stress, poor mental and physical performance, and fatigue. Supplements containing magnesium may be required in cases of deficiency.

Caffeine

Caffeine is found naturally in coffee beans, tea leaves and cocoa. Up to 85% of adults consume caffeine daily. When consumed in moderate doses (40–200 mg), caffeine acts on the brain to reduce fatigue and increase alertness. Although a cup or two of coffee can help fight off fatigue, too much caffeine may be harmful. Overconsumption of caffeine (e.g., consuming too many energy drinks) is linked to high blood pressure and anxiety. Furthermore, if caffeine use is stopped abruptly, withdrawal symptoms like fatigue and depression can occur. Caffeine-containing supplements can be useful in fighting fatigue but should be taken with caution.

Omega-3 fatty acids

Omega-3s are polyunsaturated fatty acids (PUFAs) known for their anti-inflammatory properties. Omega-3s are found in foods such as fatty fish, nuts, seeds, and plant oils. In cases where omega-3 intake is low, supplementation can be useful to combat inflammation and fatigue.

Ginseng

Ginseng is a root that has been used for centuries in Chinese medicine. Amongst other benefits, ginseng has been shown to reduce disease-related fatigue by lowering oxidative stress and supporting energy metabolism in cells.

Supplements

Supplements containing the above nutrients may help to prevent fatigue by correcting deficiencies, supporting the body in energy production, fighting oxidative stress, or acting directly on the nervous system. A summary of supplements containing these products is depicted in Table I.

Conclusion

Fatigue is a multi-faceted symptom resulting from a lack of energy. Lifestyle factors such as sleep, stress, exercise, and diet affect energy levels and should be addressed before supplementation is considered. Supplements can help to treat nutrient deficiencies and may help to combat fatigue.

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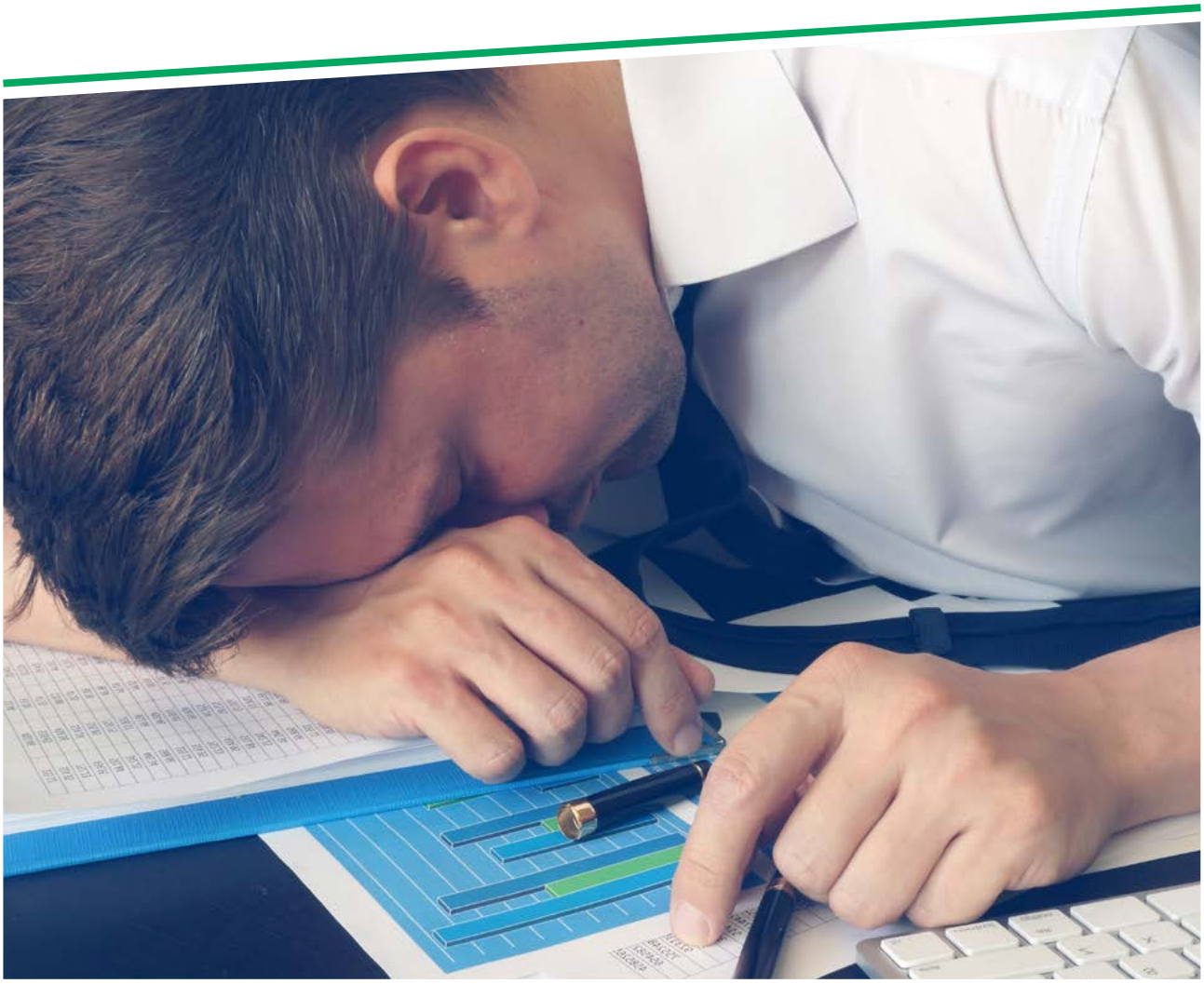

Low back pain

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Introduction

Low back pain is a common musculoskeletal ailment, affecting nearly 60–80% of people at some point in their lifetime. It is also among the most common causes of absence from work and disability in the world. Non-specific lower back pain is defined as 'low back pain not attributable to a known cause' and accounts for up to 95% of cases of low back pain.

Acute or short-term back pain lasts a few days to a few weeks. It usually resolves on its own within a few days with self-care and there is usually no long-term loss of function. Chronic low back pain, on the other hand, continues for 12 weeks or longer, even after an initial injury or underlying cause of back pain has been treated.

Pain can range in intensity from a dull, constant ache to a sudden, sharp or shooting pain. Back stiffness, decreased movement of the lower back and difficulty in standing straight may accompany pain.

Common causes of low back pain

- Muscle strain: The muscles of the lower back provide the strength and mobility to perform daily activities. Strains occur when a muscle is overworked or weak.
- Ligament sprain: Ligaments connect the vertebrae and provide stability for the lower back. They can be injured with a sudden forceful movement or with prolonged stress on the back.
- Poor posture: Poor posture, such as slouching in front of the TV or sitting hunched over a desk, can result in muscle fatigue, joint compression and stress on the discs that cushion the vertebrae. Years of poor posture can cause muscular imbalances such as tightness and weakness, which also cause pain.
- Age: Low back pain tends to become more common with ageing. 'Wear and tear' may cause degenerative changes in the discs and in the facet joints of the spine leading to low back pain.

Table I: Risk factors for low back pain and recommendations for a healthy back

Risk factor	Recommendation
Fitness level Back pain is more common among people who are not physically fit, as their muscles may not properly support the spine.	Exercise regularly to keep muscles strong and flexible. Consult a healthcare professional for a list of low-impact, age-appropriate exercises that are specifically targeted to strengthen lower back and abdominal muscles.
Weight gain Being overweight, obese, or quickly gaining significant amounts of weight can increase stress on the back and cause pain.	Maintain a healthy weight and eat a nutritious diet that promotes bone health.
Work-related factors: Physically demanding jobs requiring heavy lifting, pushing or pulling, or twisting or vibrating the spine can cause injury and low back pain. Sitting at a desk all day with not enough back support can cause low back pain.	Avoid movements that jolt or strain your back. Don't try to lift objects that are too heavy. Lift from the knees, keep a straight back, and objects close to the body. Use ergonomically designed furniture and equipment at home and at work. Switch sitting positions often and periodically walk around the office or gently stretch muscles to relieve tension. Feet may be rested on a low stool or a stack of books when sitting for long periods of time.
Smoking This can restrict blood flow and oxygen to the vertebral discs, causing them to degenerate faster.	Quit smoking. Smoking reduces blood flow to the lower spine, which can contribute to spinal disc degeneration. Smoking also increases the risk of osteoporosis and impedes healing. Coughing due to heavy smoking also may cause back pain.

Table II: Medications for low back pain

Paracetamol	• Usually one of the drugs of choice in pain management due to its favourable safety profile. However, its efficacy for low back pain is under debate.
NSAIDs e.g. Ibuprofen Diclofenac Naproxen Mefenamic acid	• NSAIDs have analgesic and anti-inflammatory properties, which are useful in the management of pain. • There is no proof that one NSAID is better than another, and switching to a different NSAID may be considered if the first NSAID is ineffective. • While the NSAIDs are usually well-tolerated when used short-term, the traditional NSAIDs may cause gastrointestinal side effects such as gastric and intestinal mucosal damage. NSAIDs should be taken at the lowest effective dose for the shortest possible period of time. • Topical NSAIDs also provide good levels of pain relief in acute low back pain, probably similar to that provided by oral NSAIDs.
Skeletal muscle relaxants such as: Orphenadrine Methocarbamol	• Skeletal muscle relaxants are beneficial in the treatment of acute low back pain. • Most pain reduction from these medicines occurs in the first seven to 14 days, but the benefit may continue for up to four weeks. • The skeletal muscle relaxants may cause drowsiness but may be helpful before bedtime when used for a short time.
Other medications	• Analgesics containing codeine are sometimes used for acute low back pain if an NSAID is contraindicated, not tolerated or has been ineffective.

- Disc bulge or herniation: This can cause pressure on a nerve, which can radiate pain down a leg.
- Other causes: bladder or kidney infection and endometriosis. Psychological factors can also contribute to low back pain. These include depression, anxiety, stress, job dissatisfaction, boredom, and tension, as well as how the body responds to everyday physical demands.

Treatment

The goals of treatment for acute low back pain are to relieve pain, improve function and reduce time away from work. Unless low back pain is caused by a serious medical condition, a rapid recovery is expected. Most people with low back pain improve within four to six weeks without treatment or with simple measures that can be performed at home.

Non-drug management

These methods are the first line of treatment and if unsuccessful, medications should be considered.

Rest is not best for low back pain

Bed rest is not recommended for simple low back pain and should be avoided. The emphasis should be on mobilising and maintaining activity, supported by pain relief. Advice to stay active results in faster recovery, reduced pain, reduced disability and reduced time off work compared with advice to rest.

Remaining active/exercise

Many people fear that remaining active may cause more injury or delay recovery. However, remaining active, to the best extent possible, is a recommended form of therapy for low back pain. If pain is severe, rest may be necessary. However, prolonged bed rest is not recommended. Movement helps to relieve muscle spasms and prevents loss of muscle strength. Therefore, continuing to do regular day-to-day activities and light exercises, such as walking, is recommended.

A combination of general physical fitness, aerobic exercise, muscle strengthening and flexibility and stretching exercises are some of the interventions suggested for the treatment of back pain. Other exercises include traditional mind-body exercises such as yoga, which emphasises precise, controlled movement and body awareness.

Spinal manipulation

This method provides modest short- and long-term relief of back pain, improves psychological well-being and increases functioning.

Acupuncture

Acupuncture is a traditional Chinese-based therapy involving small solid needles inserted into specific points in the body to help improve pain. Evidence suggests that acupuncture in isolation or as adjunct therapy provides short-term improvements in function and pain for chronic lower back pain.

Medications for low back pain

In the treatment of lower back pain, the choice of a suitable medication should be based on the benefits, risks and costs. If pain medication is needed, it is usually more effective to take a dose on a regular basis for three to five days rather than only using the medicine when the pain becomes unbearable. Table II provides a list of some medication available for the treatment of low back pain.

Conclusion

Low back pain is a common musculoskeletal disorder. Prolonged bedrest should be avoided and patients should rather be advised to remain active. The recommended treatment for acute low back pain includes non-drug treatment strategies and the use of nonsteroidal anti-inflammatory drugs (NSAIDs) and/or skeletal muscle relaxants. If these conservative treatment approaches do not provide adequate symptom relief or if their is no improvement, the patient should be referred to the doctor.

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Bacterial skin infections: focus on **impetigo**

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Introduction

Impetigo is a contagious bacterial skin infection which is usually caused by bacteria called *Staphylococcus aureus*. Occasionally, infection may be caused by *Streptococcus pyogenes* (also known as group A *Streptococcus*) or by both bacteria.

Impetigo may present as

- bullous impetigo – large blisters (bullae) form, which then ruptures and leaves round erosions that become crusted;
- non-bullous impetigo; or
- ecthyma – lesions penetrate deep into the skin to form "punched out" ulcers.

This article focuses on non-bullous impetigo which is the most common form of impetigo. It is also sometimes called "impetigo contagiosa" or "pyoderma."

Signs and symptoms

The bacteria may enter healthy skin or any place where the skin is damaged, for example, minor scrapes, cuts, insect bites or a rash.

Impetigo begins as red, itchy sores on the skin, which progress to blisters and then to pustules (pus-filled blisters). Pustules break open and a characteristic thick, yellow, golden or brown ("honey-coloured") crust forms over the sores. Reddish marks that form under the crusts fade without leaving scars.

Non-bullous impetigo lesions typically occur on the face (around the nose and mouth) and exposed extremities (on the arms or legs). However, lesions can also occur anywhere on the body. When an infected person touches or scratches the affected areas, the bacteria can get onto their hands, and not only can they spread the infection to other areas on the body (self-inoculation), but the bacteria can also be spread to anything they touch.

Once the sores heal, the person with impetigo is no longer able to spread the bacteria to others.

Who is at risk of getting impetigo?

Although impetigo can occur anywhere in the world, at any time of the year and in any climate, it is more common in hot, humid conditions. It is also more common in children two through five years of age, but older children and adults can also get impetigo.

Impetigo can be spread to anyone who has direct contact with infected skin, or when they touch items that a person with impetigo used, for example, clothes, towels or sheets. The bacteria are easily spread among people in close contact, especially in crowded areas (such as schools and day-care centres) and in impoverished settings.

The risk for transmission and susceptibility to impetigo is higher in people with diabetes, those with a weakened immune system, underlying skin conditions (such as dermatitis, psoriasis or eczema), itchy skin infections (such as scabies or chickenpox), injuries that break the skin (cuts, scrapes or insect bites), and in those who lack personal hygiene. In addition, some people may carry these bacteria in their nasal passages without having any symptoms. There may be a risk of the bacteria being introduced into a lesion (broken skin) nearby, thereby causing impetigo.

How is impetigo diagnosed?

Laboratory testing is not routinely performed to diagnose impetigo. Doctors usually diagnose impetigo by doing a physical examination and looking at the affected areas of the skin.

How is impetigo treated?

Impetigo is usually self-limiting and typically clears without complications and without leaving scars. The aim of treatment is to reduce the spread of infection, improve cosmetic appearance and shorten the period of discomfort. Impetigo is treated with either

topical or oral antibiotics that are effective against *S. aureus* and group A strep.

- Topical treatments are considered the treatment of choice for patients who only have a few lesions that do not appear to penetrate deep into the skin. In addition to having fewer side effects (especially gastrointestinal side effects) compared with oral therapies, topical treatments also have a lower risk of contributing to bacterial resistance. Examples of topical antibiotic treatments include mupirocin and fusidic acid (Table I).
- Oral antibiotic treatment (only available with a prescription) is usually recommended for people with multiple lesions, if the infection penetrates into the tissue or if the affected area is hard to reach.

Evidence from studies suggests that the topical antibiotics mupirocin and fusidic acid are equally effective.

Table I: Topical antibiotic treatment

Active ingredient	Retail name (include, but not limited to)	Directions for use
Mupirocin	Bactroban® cream or ointment, Dermoban® ointment, Nuban® ointment	Apply two to three times per day for up to 10 days, depending on the response
Fusidic acid (sodium fusidate)	Fucidin® cream (ointment), Stafubak® cream (ointment)	Apply three to four times per day

To ensure that the infection is cleared and does not come back, the patient should be instructed to:

- Gently clean the sores and remove the crusts with warm water and soap before applying the topical antibiotic.
- Apply the cream or ointment to all lesions.
- Use the cream/ointment as recommended and for the recommended period.
- Lightly cover all lesions with gauze.
- Refrain from scratching or touching the lesions.

People with impetigo can return to day-care, school or work 24 hours after they have started treatment with an appropriate topical or oral antibiotic, provided that all the sores on exposed skin are covered.

Who should be referred to the doctor?

Impetigo usually clears within 7–10 days with appropriate treatment. However, it is important to note that resistance to fusidic acid and mupirocin is increasing worldwide. If the lesions have not cleared with treatment, patients should be referred to the doctor to reassess the treatment and to rule out other underlying conditions. It is noteworthy to remember that not all sores or blisters necessarily mean that a person has impetigo; other skin infections such as eczema, tinea infections (ringworm), contact dermatitis or herpes simplex (herpes cold sores) may share features with non-bullous impetigo. The doctor may take a sample of the pus from one of the blisters to determine which organism is responsible for the infection.

Patients with symptoms suggestive of a more severe infection such as fever (impetigo usually does not cause a fever), severe pain, loss of appetite, worsening redness and swelling should also be referred to the doctor.

Preventative measures

People with impetigo should be encouraged to implement measures to prevent the spread of impetigo; for example, they should:

- Wash their hands often with soap and water or use alcohol hand rubs, especially after touching the sores. This also applies to anyone who touched someone with impetigo.
- Use disposable tissues to blow their noses, especially if they have impetigo around the nose or in the face. It is also important that infected people wash their hands afterwards as the tissue could be carrying bacteria.
- Wash their clothing, linen and towels often (daily) in hot water.
- Avoid sharing personal items such as clothing, linen and towels with other people in the household.

In a nutshell

- Impetigo is most frequently seen in children but can affect people of all ages.
- Lesions are typically located on the face or extremities and have a characteristic honey-coloured crust.
- Topical antibiotic treatment is effective in treating impetigo and is preferred for those who only have a few lesions.
- Patients with more severe cases of impetigo may need an oral antibiotic and should be referred to the doctor.
- Impetigo is contagious and strict hygiene measures should be observed to prevent the spread of infection.

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Vaccines for life

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Vaccines work by stimulating the immune system's defence mechanisms to recognise an infectious agent and destroy it before it can make the person ill. Children under five years of age are more susceptible to disease as their immune systems are not fully developed.

Delays or disruptions in children receiving their scheduled vaccines have occurred for various reasons, such as misinformation, vaccine hesitancy, the COVID-19 pandemic, poverty and conflict. As a consequence, outbreaks of vaccine-preventable diseases, such as measles, are occurring around the world and in South Africa.

Certain vaccines are recommended throughout the lifetime of an individual. Infants are susceptible to diseases at a very young age. Therefore, they need to receive vaccines as early as possible after birth, receiving booster doses as they age to extend the protection.

South Africa's Expanded Programme of Immunisation (EPI) (Figure 1) provides the following free routine immunisations to infants and children from birth until 12 years of age:

- BCG (tuberculosis vaccine)
- Oral polio vaccine
- Rotavirus vaccine
- 6-in-1 combination vaccine protecting against tetanus, pertussis, polio, *haemophilus influenzae type b,* and hepatitis B
- Pneumococcal vaccine
- Measles vaccine
- Tetanus and diphtheria combined vaccine

In addition to these vaccines, a vaccine is provided to females in public schools from nine years of age that protects against cancer caused by the human

Figure I: The current EPI schedule

EXPANDED PROGRAMME ON IMMUNISATION – EPI (SA) REVISED CHILDHOOD IMMUNISATION SCHEDULE FROM DECEMBER 2015

Age of child	Vaccines needed	How and where it is given
At birth	**BCG** Bacilles Calmette Guerin	Right arm
	OPV (0) Oral Polio Vaccine	Drops by mouth
6 weeks	**OPV (1)** Oral Polio Vaccine	Drops by mouth
	RV (1) Rotavirus Vaccine	Liquid by mouth
	DTaP-IPV-Hib-HBV (1) Diphtheria. Tetanus, Acellular Pertussis, Inactivated Polio Vaccine and Haemophilus Influenzae Type B and Hepatitis B Combined	Intramuscular/left thigh
	PCV (1) Pneumococcal Conjugated Vaccine	Intramuscular/ right thigh
10 weeks	**DTaP-IPV-Hib-HBV (2)** Diphtheria, Tetanus, Acellular Pertussis, Inactivated Polio Vaccine and Haemophilus Influenzae Type B and Hepatitis B Combined	Intramuscular/left thigh
14 weeks	**RV (2)** Rotavirus Vaccine*	Liquid by mouth
	DTaP-IPV-Hib-HBV (3) Diphtheria. Tetanus, Acellular Pertussis Inactivated Polio Vaccine and Haemophilus Influenzae Type B and Hepatitis B Combined	Intramuscular/left thigh
	PCV (2) Pneumococcal Conjugated Vaccine	Intramuscular/right thigh
6 months	**Measles Vaccine (1)****	Subcutaneous/left thigh
9 months	**PCV(3)** Pneumococcal Conjugated Vaccine	Intramuscular/right thigh
12 months	**Measles Vaccine (2)****	Subcutaneous/right arm
18 months	**DTaP-IPV-Hib-HBV (4)** Diphtheria, Tetanus, Acellular Pertussis, Inactivated Polio Vaccine and Haemophilus Influenzae Type B and Hepatitis B Combined	Intramuscular/left arm
6 years (both boys and girls)	**Td Vaccine** Tetanus and reduced strength of Diphtheria Vaccine	Intramuscular/left arm
12 years (both boys and girls)	**Td Vaccine** Tetanus and reduced strength of Diphtheria Vaccine	Intramuscular/left arm

*Rotavirus Vaccine should NOT be administered after 24 weeks
**Do not administer with any other vaccine

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Other vaccines are available in the private sector and may be given as an alternative to, or in addition to, the vaccines available in the government sector. These vaccines include, amongst others, the measles-mumps-rubella vaccine (MMR), the chickenpox vaccine, the hepatitis A vaccine and the meningococcal meningitis vaccine.

The prevention of outbreaks of vaccine-preventable diseases, many of which haven't been seen for years, depends on routine vaccines being given at the correct time to as many children as possible. It is estimated that 25 million infants went without routine lifesaving vaccines in 2021. Every clinic visit should be seen as an opportunity to review the child's vaccination card and, if necessary, catch up any vaccines that the child may have missed in the past.

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Chronic pain management gets a new impact player

The launch of a wearable pulsed shortwave therapy (PSWT) device with a 10-year track record in the US, Canada and Australia is set to give chronic pain sufferers in South Africa a shot at improved quality of life.

Chronic pain management remains one of the challenges in the medical profession. Adding to conundrums such as balancing medicine use with quality of life, is the reality that the central nervous system can become stuck in a centrally sensitised pain state. Central sensitisation – as this process is called – changes a person's pain sensitivity, allowing the perception of pain to continue even after an injury has healed. This is because pain thresholds are lowered, leading to a heightened perception of pain. Stimuli that are normally painless can produce pain, while stimuli that produce pain will produce pain at much higher levels (hyperalgesia).[6]

Central sensitisation can be associated with well-known chronic pain culprits such as lower-back and neck pain, and the agony caused by osteoarthritis in the knee.[1]

It is precisely for these conditions that ActiPatch® promises relief, says Garth Maart, marketing manager, OTC division for Adcock Ingram SA, the company licensed to distribute the device locally. "The concept of using electrical therapy to enhance healing is well-known and widely used in devices such as pacemakers and the TENS machine. Different to the TENS machine, ActiPatch® is a device that is generally worn on the skin, attached with the tape provided," explains Maart.[3]

The strength of the low-power electromagnetic signal that the ActiPatch® generates (27.12 MHz)[6] is further reduced by pulsing the signal, hence its name: low power **pulsed shortwave therapy** (PSWT).[5,6]

In very simple terms, PSWT devices such as ActiPatch® increase background physiological noise.[6] Although the stimulation is below the sensory level due to its low power and pulsed nature, the central nervous system still 'sees' an increase in afferent noise and, over time, raises the pain tolerance thresholds through the habituation process. In essence, PSWT distracts the central nervous system by giving it new peripheral information to focus on. In this way, pain is treated by moving the individual out of a centrally sensitised pain state.[6]

ActiPatch® has been available for about 10 years and has been approved in Canada, the US and Australia.

More about ActiPatch®

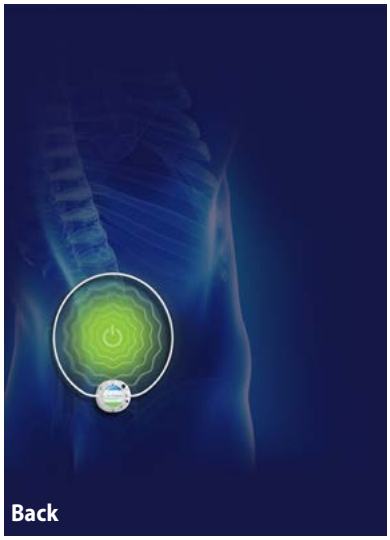
The device consists of three components, namely an integrated circuit, an antenna and a - lithium battery (3V). When the antenna is placed over the area to be treated, radio-frequency energy from the antenna is transferred into the target tissue as a localised therapy.[1]

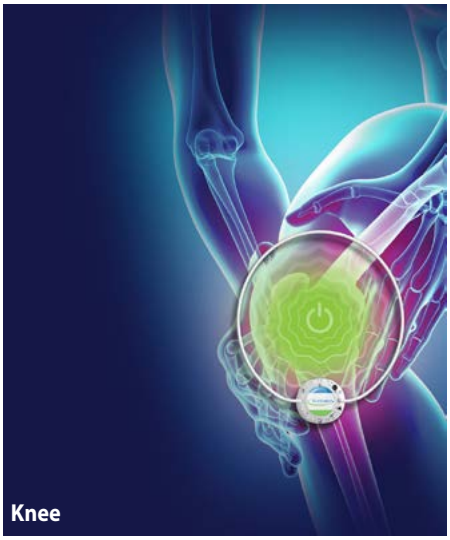
ActiPatch® is indicated for the adjunctive treatment of musculoskeletal pain and should be used for between 12 and 24 hours per day.[3] Pain relief is not immediate; it could take three to four days for the therapy to take effect.[3]

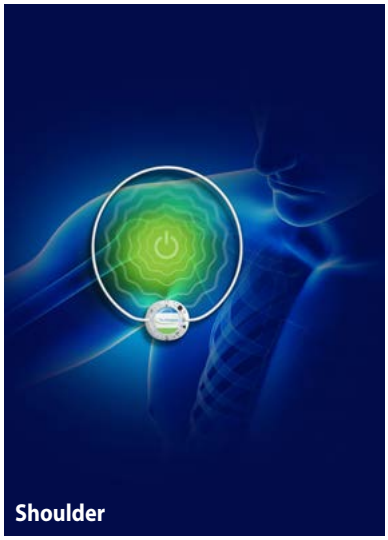
Depending on the severity of the injury, patient pain levels can begin to subside after only 2–3 hours of wearing the device and will continue to decrease as long as the device is being used continuously or at least 12 hours per day.[3] If the device is used in this way, it may last up to two months before replacement is required – the current design does not have a replaceable battery.[3]

ActiPatch® Medical Device – Musculoskeletal Pain Relief. Pack shot

Images demonstrating device activated







Daily treatment may be continuous or intermittent and overnight therapy is an effective option. The low-power energy ensures that the device does not produce any sensation, be it heat, noise or vibration.[3]

ActiPatch® may be used during regular physical activity and while it is not waterproof, normal sweating does not affect it.[3] It is safe for patients with diabetes and arthritis, as well as the elderly or bedridden.[3] However, the device should not be placed directly over a cardiac pacemaker, implanted defibrillator, deep brain stimulator, nerve stimulators or other active implantable devices.[3] It should also not be used on children younger than 18[3], pregnant women or cancer patients as there is no data on its safe use in these patient categories.[3]

While not a prescription therapy, ActiPatch® will only be available in pharmacies, carrying a warning for consumers to consult their pharmacists on its use.

"Adcock Ingram is proud to bring ActiPatch® to South Africa," says Maart. "We have no doubt that it can help provide chronic pain sufferers a new lease on life."

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About Adcock Ingram

Adcock Ingram is a leading South African pharmaceutical manufacturer listed on the Johannesburg Stock Exchange. The Company manufactures, markets, and distributes a wide range of healthcare products and is a leading supplier to both the private and public sectors of the market – ranked as the second largest manufacturer in the private pharmaceutical market and is the second largest supplier to the public sector.

The Over the Counter (AI OTC) division manufactures, markets and sells medication with a focus on brands sold predominantly in retail pharmacy, where the pharmacist plays a role in the product choice. Pharmacy-initiated therapy is the main driver of product use in the Schedule 1 (S1) and Schedule 2 (S2) space, satisfying a growing need for primary healthcare in South Africa.

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