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The health of pharmacy in South Africa: navigating through the challenges

Natalie Schellack

The pharmacy sector in South Africa faces both opportunities and challenges in promoting public health. When evaluating the health of pharmacy in South Africa, I asked experts in the various settings of community service, academia, and pharmaceutical societies (see the list of the contributing authors) for their opinions on the following statements:

1. Adequate workforce capacity and diversity: the profession has sufficient numbers of qualified practitioners to meet societal needs. The workforce demographics also reflect the community it serves.
2. Strong professional standards and ethics: clear codes of conduct, standards of practice, and ethical guidelines help ensure high-quality, safe services and protect the interests of the public.
3. Robust education and training systems: practitioners are well-educated through accredited university programs, and ongoing competency requirements ensure skills and knowledge are up to date.
4. Effective self-regulation: the profession can set its own standards, monitor members' compliance, and discipline any lapses through an independent regulatory body.
5. Workplace well-being: practitioners can sustain healthy, balanced, and fulfilling long-term careers without the risk of burnout or workplace hazards that could compromise care.
6. Public trust and value: the profession is seen as making a valuable contribution to society, and individuals feel comfortable accessing its services.
7. Financial viability: the profession's economic model and compensation structures allow for adequate resources, innovation and continued service improvement.
8. Adaptability to change: the profession can effectively evolve to meet new health needs, technologies, standards of evidence, and community expectations over time.

When asked if we have an adequate workforce pertaining to capacity and diversity:

The overall consensus was no, as South Africa has an inadequate pharmacy workforce compared to other middle-income countries, with World Health Organization (WHO) norms suggesting the need for an additional 9 000 pharmacists. Even with an estimated 30 pharmacists per 100 000 people in the public sector, the current

system suffers from a skewed distribution, with overconcentration of services in malls and major cities and a lack of resources in rural areas. Demographics have also changed drastically over the past 20 years, with a transformed workforce that mostly serves higher-income communities instead of their own due to factors such as open ownership, inadequate licensing, improper reimbursement, and inadequate investment in areas of need. There is an even greater gap between urban and rural pharmacies in the public sector. As of March 2022, there were 9.4 pharmacists per 100 000 uninsured population in North West, compared to 18.9 in the Free State. These figures also vary between districts and types of hospitals.

What about the existence of strong professional standards and ethics with clear codes of conduct, standards of practice, and ethical guidelines that help protect the interests of the public?

The general consensus was that the profession is well served by policies on paper, although the Good Pharmacy Practice (GPP) standards require more detail, and the Office of Health Standards Compliance (OHSC) standards for pharmaceutical services are inadequate. Implementation and accountability are weak, particularly in the public sector, but corporate pharmacies are also affected.

The pharmacy regulator in South Africa, the South African Pharmacy Council (SAPC), imposes strong ethical and practice standards and inspects and grades the profession regularly. Medical practitioners and nurses also participate in delivering pharmaceutical services but without the same level of oversight. Recently, medicines have been found to be illegally sold on the street, an issue further aggravated by inadequate resources of the bodies responsible for medicines oversight.

Do we have robust education and training systems? Inferring that practitioners are well-educated through accredited university programs and ongoing competency requirements ensures skills and knowledge are up to date.

Pharmacists are well qualified to meet the country's needs in terms of distributing and dispensing medicines but lack opportunities to make full use of their scope of practice. If allowed to make full

use of their scope of practice, they could help reduce the burden of disease and improve patient outcomes. Specialisations in the pharmacy profession are still pending, and there is difficulty recruiting pharmacists with PhDs for senior lecturer and professor roles in clinical pharmacy, pharmaceutical chemistry, practice and public health management at universities.

Initial undergraduate training is satisfactory and generally meets SAPC accreditation requirements. The pre-registration examination sets a baseline of competence for entry-level pharmacists; however, the current continuing professional development (CPD) system does not provide adequate assurance of ongoing competence. Further, the proposed specialist training system is overly prescriptive and fails to meet the profession's requirements. More flexible options, some relying on the US Board of Pharmacy Specialties, have succeeded in other countries, such as the Gulf.

Effective self-regulation: the profession can set its own standards, monitor members' compliance, and discipline any lapses through an independent regulatory body.

Standards-setting is largely in the hands of the profession via the SAPC, and the disciplinary processes and sanctions applied by the regulator are meaningful. Complaints remain the essential first step in the process, which can be a barrier. Importantly, the punitive approach to medication errors may be too harsh and inhibit self-reporting. To counter this, the profession has provided guidance and tools, including peer review processes in some organisations. Corporate pharmacies must also satisfy shareholders and are under pressure from payers, which may lead to conflicts of interest. In the public sector, the lack of pharmacists' posts mean that many duties are handled by pharmacist assistants. These risks reduce processes to merely focus on medicine supply rather than patient outcomes. Without control being vested in the profession, standards are at risk of being compromised.

Workplace well-being: practitioners can sustain healthy, balanced, and fulfilling long-term careers without the risk of burnout or workplace hazards that could compromise care.

Workplace well-being is at risk when pharmacy staff working in community and hospital pharmacies are evaluated in terms of the number of prescriptions dispensed, waiting times, and sales volumes rather than on the quality of a comprehensive pharmacy practice. They are also under pressure due to the limited number of staff employed. In the private sector, this may be linked to the need to protect profits. Although these pressures may be perceived to be more pressing in corporate-owned pharmacies, independent practitioners are also under financial pressure. In the public sector, many pharmacists work under intolerable conditions due to poor infrastructure, persistent stock problems, and very low staff numbers linked to budget limitations. New pharmacy graduates and pharmacy support staff struggle to find positions in both the public and private sectors. Despite the inadequate workforce, there may well be an over-supply of pharmacy personnel relative to the absorptive capacity of the current market. Due to financial constraints in the public sector and profit prioritisation in the private sector, there are insufficient pharmacy positions to meet public needs. At its core, this problem is linked to the current remuneration structure. The current dispensing fee model is not sufficient to ensure long-term viability of a comprehensive, quality pharmaceutical

service. There are many uncertainties regarding the reimbursement model to be applied under National Health Insurance (NHI).

A recent study conducted by the Community Pharmacy Section of FIP found that South Africa has been greatly impacted by COVID-19. Apart from the direct loss of life within the profession and among pharmacy staff's families, they experienced the impact of inadequate staffing norms and lack of proper reimbursement for their efforts in the vaccine campaign. These factors have all contributed to severe burnout, creating a lack of sustainable solutions that will affect service delivery in the future, including the risk of life-threatening dispensing errors.

Do pharmacists still have the public trust and value?

Pharmacists are a valuable source of healthcare services for the community. Despite their claims to be the most accessible healthcare professionals, the StatsSA General Household Survey consistently shows a small portion of the public would consider pharmacists as their first point of contact in the event of illness or injury.

COVID-19 has highlighted the vital role of pharmacists in the world, with trust in the profession increasing. To capitalise on this, the payer environment needs to shift to take advantage of pharmacists' training in managing minor ailments at a lower cost. Pharmacists have been vital in the COVID-19 vaccine program, delivering 7 million doses in South Africa. Although only a small proportion of patients served by the Centralised Chronic Medicine Dispensing and Delivery (CCMDD) program access their medicine packets at community pharmacies, this has allowed 350 000 patients to be "decanted" from public sector facilities.

The South African pharmaceutical industry is almost entirely reliant on imported active pharmaceutical ingredients (API). Overconcentration of supply from a limited number of API sources, notably in India and China, threatens the security of local manufacturing. Strengthening industrial pharmacist skills in South Africa would thus be beneficial.

How financially viable is the profession? The profession's economic model and compensation structures allow for adequate resources, innovation and continued improvement in services.

The current private sector dispensing fee is reliant on a zero-based model, used by the Pricing Committee to advise the Minister of Health. However, few payers are willing to pay the maximum dispensing fee allowed by law, resulting in the profession receiving less than the value determined for that service. The SAPC publishes fees for a number of non-dispensing services provided in community and hospital pharmacies each year, but few schemes are willing to reimburse such claims. For the future of the profession, the financial viability of the current models applied in both community and hospital pharmacies needs to be addressed urgently. Professional services in community pharmacies cannot be built on a business model that is based on the sale of goods other than medicines. Likewise, in private hospitals, the lack of any profit margin in the pharmacy, with complete reliance on ward and theatre charges, hampers the development of comprehensive, quality pharmaceutical services. NHI holds the potential for a wholesale reconsideration of the reimbursement model for pharmaceutical services across both sectors, but also holds the risk that reducing

costs will be prioritised ahead of service quality. Particular attention also needs to be paid to interventions that would encourage pharmacists to practise in rural areas, not only in the public sector.

Adaptability to change: can the profession effectively evolve to meet new health needs, technologies, standards of evidence, and community expectations over time?

Pharmacy in South Africa has historically endured past threats and is poised to adapt to needed changes. Government policy, however, has not been effectively conveyed nor adequately detailed. The plans for universal health coverage (via NHI) hold considerable uncertainty for existing service models, without clarity on how new models will be financed. Pharmacy must embrace its full scope of practice to meet the nation's healthcare needs. This needs to expand beyond HIV to include tuberculosis and non-communicable diseases, which are the leading causes of death in this country. Other areas of focus should include gender-based violence and accident-related deaths. Evidence exists of pharmacists' interventions leading to improved outcomes in diabetes, hypertension, blood disorders, and cardiovascular diseases. Technology has long been a crucial element in private sector pharmacy, but largely lacking in the public sector. Direct connections to patients and communities will assist this evolution.

In summary

Looking ahead, with political will and adequate investment, opportunities exist to strengthen the pharmacy workforce and the entire pharmaceutical service. Expanding access to affordable generics and integrating pharmacists as primary care providers could help address the quadruple burden of disease. Greater public-private partnerships and technology adoption may also enhance the monitoring of medicines quality and rational use. However, overcoming systemic inequities requires ongoing commitment to address the social determinants of health through multi-sectoral development.

South Africa's pharmacy sector is experiencing a promising growth, with increased acknowledgement of pharmacists across various domains and appreciation for their valuable knowledge.

This shift is essential to advancing South Africa's healthcare landscape and improving public health outcomes. Challenges

around the current lack of internships and community service positions and confusion regarding the future roles of various pharmacy support cadres require urgent attention. Pharmacists have also demonstrated adaptability. In the private sector, the transition from independent, pharmacist-owned pharmacies to larger pharmacy groups and chains is ongoing. NHI promises to blur the boundaries between public and private sectors, but also to improve the quality of service in both sectors in order to better serve all communities. On balance, while progress has been made, much work still lies ahead to realise the vision of equitable and quality pharmacy services for all South Africans.

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Managing skin burns in the pharmacy

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Burns are injuries, usually to the skin, caused by heat, sunlight, electricity, radiation, or chemicals.¹ Most burn injuries are thermal burns and are caused by fire, steam, hot liquids, or hot solid objects.² Children are particularly vulnerable to burns, especially scalds.³

The skin usually sustains most of the damage when it comes into contact with heat or caustic chemicals, but severe burns may penetrate to deeper body structures, such as fat, muscle, or bone.² While small shallow burns can be treated in the pharmacy, deep or severe burns require referral to a doctor or hospital.¹

Burn classification

Burns are classified based on:²

- The depth of the burn and
- The extent of the burn

Depth of burns^{2,4}

It is important to note that burn wounds may not be uniform in depth and may have a mixture of deep and superficial areas.⁴ Thin skin sustains deeper injuries, and children under five years and adults over 55 years of age may therefore, be more susceptible to deeper burns because of thinner skin.⁴

- Superficial burns are the shallowest (also called first-degree burns) and affect only the top layer of the skin (i.e. the epidermis).²
- Partial-thickness burns (also called second-degree burns) penetrate the middle layer of the skin (i.e. the dermis). Partial-thickness burns are further classified into superficial partial-thickness burns (involving the more superficial part of the dermis) or deep partial-thickness burns (involving both the superficial and the deep parts of the dermis).^{2,4}

- Full-thickness burns (also called third-degree burns) involve all three layers of the skin (i.e. the epidermis, dermis, and fat layer).^{2,4}
- Fourth-degree burns are deep and potentially life-threatening injuries that extend through the skin into underlying soft tissue and can involve nerves, blood vessels, muscle, or bone.⁴

Extent of the burn

An estimation of the burn size or how much of the body is burned is essential to guide treatment.⁴ Doctors assess the extent of the burn injury by estimating the total body surface area (TBSA) that is affected, expressed as a percentage.⁴ Superficial burns, however, are not included in the percentage TBSA burn assessments.⁴

The "Rule of Nines" is a quick way to estimate TBSA in adults:⁴

- The head represents 9% TBSA
- Each arm represents 9% TBSA
- Each leg represents 18% TBSA
- The front and back of the trunk each represents 18% TBSA

For children, doctors use charts that adjust the above percentages according to the child's age.²

The location of the burn also directs treatment.⁴ Burns on the face, hands, feet, and genitalia should be referred to the doctor, burn centre or hospital.⁴

The combination of the burn depth, extent and location determine the overall severity of the burn.^{2,3,4}

Minor burns	Moderate and severe burns
Superficial (first-degree) burns Partial-thickness (second-degree) burns that cover less than 10% of the body	Any burns on the face, hands, feet, or genitals Partial-thickness (second-degree) burns that cover more than 10% of the body Full-thickness burns
Usually heal well within 14 days without the formation of scars	Can cause serious complications due to fluid loss, tissue damage and possible infection Take longer to heal (usually weeks) Deeper burns can cause scar tissue to form May require skin grafting

Skin heals by growing new skin from its deeper layers.¹ Minor burns therefore heal on their own.¹ Deep burns that have damaged the growing layer of the skin, however, heal with scar tissue rather than the formation of new skin.¹ A skin graft may be needed to replace burned skin that will not heal.²

Symptoms of burns

The symptoms of a burn depend on the depth of the burn:²

- Superficial burns are red, swollen, and painful. The burned area whitens (blanches) when lightly touched but does not develop blisters.^{1,2}
- Partial-thickness burns are pink or red, swollen, and extremely painful.² Blisters usually develop and may ooze a clear fluid.² The burned area may blanch when touched.²
- Full-thickness burns are usually not painful because the nerves that sense pain have been destroyed.² The skin becomes leathery and may be white, black, or bright red.²

Treatment of minor thermal burns

First aid – Stop the burning process^{5,6}

Remove the heat source.⁶ Clothing and jewellery can retain heat, even in a scald burn, and should also be removed as soon as possible.⁶

First aid – Cool the burn^{5,6}

Active cooling removes heat and prevents the progression of the burn.⁶ This is effective if performed soon after the injury.⁶ Immersion or irrigation with room-temperature or cool tap water provides pain relief, limits tissue injury and should be continued for approximately 5–20 minutes.^{5,7} Direct application of ice or iced water should be avoided as this reduces blood flow to the area and can also increase pain and burn depth.⁵ Patients, especially children, should be monitored for hypothermia when cooling larger areas of skin.^{5,6}

Cooling gels such as Burnshield* are also useful in cooling the burn and relieving the pain.^{6,7}

Pain management

Applying gauze soaked in cool water to a wound for up to 30 minutes helps reduce pain soon after the burn has happened.⁵ For small burn injuries, paracetamol, or nonsteroidal anti-inflammatory

drugs alone or in combination are often sufficient for pain relief. An opioid may be added, if necessary, to control pain initially.^{5,6}

Clean the burn area gently

The burn area may be washed with mild soap and water or a dilute topical antiseptic solution (e.g. dilute chlorhexidine wash i.e. without alcohol).⁵

A doctor should examine the burn, if the burn:²

- Is larger than the size of a person's open hand
- Contains blisters*
- Darkens or breaks the skin
- Involves the face, hands, feet, genitals, or skinfolds
- Is not completely clean
- Causes pain that is not relieved by paracetamol
- Causes pain that does not decrease within one day after the burn happened

Burns suitable for management in the pharmacy setting are usually small and superficial and not affecting the above critical areas.⁶

*The management of clean, intact blisters remains a subject of debate. In general, small intact blisters (< 2 cm in diameter) are best left alone, ruptured blisters may be 'deroofed' by the doctor and needle aspiration of intact blisters should be avoided, as this increases the risk of infection.

Remember: Tetanus immunisation should be updated for any burns deeper than superficial partial-thickness.⁵

Dressings and topical agents for minor burn wounds

Note: Burns that require referral to the doctor or hospital may be covered with cling film which is an ideal first-aid cover, acting as a barrier and is transparent to allow inspection.⁶ It is important to lay this on the wound rather than wrapping the wound.⁶

Many superficial burns do not require dressings, while partial- and full-thickness burns are usually dressed.⁵ Minor burns of the face or hand (not the fingers) may be managed without dressings and treatment may consist of gentle cleansing with mild soap followed by the application of a topical agent two or three times a day.⁵ The application of a non-perfumed moisturising cream may be all that is required for superficial burns.⁵ Some doctors may recommend the application of aloe vera to superficial burns, such as sunburn.⁵ However, minor burns in infants, children, young active adults, and those at risk for wound contamination may need to be dressed to help keep the wound area clean.⁵ Burns involving the fingers and toes should be dressed.⁵

Superficial burns e.g. sunburn, rarely develop infections and do not require a topical antimicrobial agent.⁵ However:

- Chlorhexidine is often used with a gauze dressing (e.g. Bactigras*) for wound coverage in superficial partial-thickness burns.⁸
- A topical antimicrobial may be applied to partial-thickness minor burns.⁵ Mupirocin ointment or cream (e.g. Bactroban*) or silver-containing preparations (e.g. Silbecor*) or dressings (e.g. Acticoat*) may be used for partial-thickness minor burns.^{8,9} If a dressing is needed, the wound may be covered with a non-adherent dressing.⁸
- Honey-derived wound care dressings may be used on superficial partial-thickness burns and have been shown to improve wound healing.⁸

Conclusions

Most skin burns are thermal burns.³ While minor, superficial burns may be managed in the pharmacy setting, more severe burns and burns involving critical areas should be referred to the doctor, hospital or burns unit.¹ Simple first-aid measures can help reduce the severity and pain associated with the burn injury.^{5,6} While superficial burns may not always require a dressing, there are several wound dressings available that may be applied to protect the wound area, promote healing and help prevent infection.

References

1. Merck Manual Consumer Version. Quick facts. Burns. May 2023. Available from: <https://www.merckmanuals.com/home/quick-facts-injuries-and-poisoning/burns/burns>. Accessed 30 October 2023.
2. Carter DW. Merck Manual Consumer Version. Burns. Nov 2022. Available from: <https://www.merckmanuals.com/home/injuries-and-poisoning/burns/burns>. Accessed 30 October 2023.
3. Benson A, Dickason WA, Boyce DE. ABC of wound healing. Burns. Br Med J. 2006;332:649–652. <https://doi.org/10.1136/bmj.332.7542.649>.
4. Rice PL, Orgill DP. Assessment and classification of burn injury. Feb 2023. Available from: <https://www.uptodate.com/contents/assessment-and-classification-of-burn-injury>. Accessed 30 October 2023.
5. Wiktor A, Richards D. Treatment of minor thermal burns. Oct 2022. Available from: <https://www.uptodate.com/contents/treatment-of-minor-thermal-burns>. Accessed 30 October 2023.
6. Hudspith J, Rayatt S. First aid and treatment of minor burns. Br Med J. 2004;328:1487–1489. <https://doi.org/10.1136/bmj.328.7454.1487>.
7. Allorto NL. Primary management of burn injuries: Balancing best practice with pragmatism. S Afr Fam Pract. 2020;62(1):a5202. <https://doi.org/10.4102/safp.v62i1.5202>.
8. Tenenhaus M, Rennekampff H-O. Topical agents and dressings for local burn wound care. Feb 2023. Available from: <https://www.uptodate.com/contents/topical-agents-and-dressings-for-local-burn-wound-care>. Accessed 30 October 2023.
9. Rossiter D [Ed]. South African Medicines Formulary. 13th Ed. 2020.



Take care and have fun in the sun: sunburn treatment and prevention

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Introduction

With the summer holidays hot on our heels, many South Africans will flock to the coast, or at the very least, spend time outdoors in the sun. It is important to remain mindful that excessive exposure to ultraviolet (UV) rays can have harmful effects on the skin. Sunburn may occur when the skin is exposed to ultraviolet radiation (UVR), most often after being in the sun for too long. The signs of a sunburn can start to appear in as little as 11 minutes and can continue to develop hours after exposure has ended and, depending on the severity, can take days or weeks to heal.¹⁻³

Important aspects of treating sunburn

Mild sunburn can often be treated at home. However, burns that are larger and affect the deeper layers of skin should be evaluated by a doctor.^{2,4}

- **Cool down:** skin continues to burn even after sun exposure has ended. Therefore, the affected area should be cooled down using cool, clean water or a cold compress.³
- **Replenish:** rehydration with plenty of cool fluids and electrolytes is essential as sunburn draws fluid to the skin's surface and away from the rest of the body.³
- **Soothe** the affected area: aloe vera gel is helpful for mild sunburn to ease pain and quicken recovery.^{2,3}
- **Relieve pain:** anti-inflammatories such as ibuprofen and naproxen are helpful in reducing pain and swelling and appear to work best if taken within 24 hours of the sunburn.^{2,3}
- **What NOT to do?**
 - Do not pop any blisters that may form because the open wound on damaged skin can quickly result in infection. Intact

blisters protect the healing skin underneath and maintain a sterile environment for the damaged skin.³

- Do not scratch or try to remove peeling skin as the skin underneath is sensitive and not yet able to form the skin's natural barrier.³

Prevention of sunburn

One of the most effective ways to prevent sunburn is to use sunscreen correctly. There are many formulations available and choosing the correct one is important.^{3,5}

Help patients choose a sunscreen

- *Encourage the use of broad-spectrum sun protection*
This means protection against both ultraviolet A (UVA) and ultraviolet B (UVB) rays. UVB rays are the main cause of sunburn, hyperpigmentation, and skin cancers, while UVA contributes to skin cancer and premature ageing.^{6,7}
- *Educate patients on SPF*
It is recommended to choose a sunscreen that has an SPF of 30 or higher, which filters approximately 97% of UVB rays.⁸ The higher the SPF, the better protection it will offer against UVB rays.³
- *Choose a water-resistant formulation*
Since swimming and sweating can reduce the effectiveness of sunscreen, a water-resistant formulation ensures wet or sweaty skin is protected.³
- *Know the difference between mineral and chemical sunscreen*
The key difference between these types of sunscreens lies in how they protect the skin.⁸ Table I gives an overview of mineral and chemical sunscreens.

Use sunscreen wisely by applying it^{2,3,11}

- at least 15–30 minutes before going outdoors to ensure effectiveness
- sufficiently to cover all exposed skin including the neck, ears, and tops of the feet
- at least every two hours and even more often if spending time in water

Table I: Differences between mineral and chemical sunscreens⁸⁻¹⁰

	Mineral/physical sunscreens	Chemical sunscreens
<i>Main ingredients</i>	Titanium oxide Zinc oxide	Oxybenzone Avobenzone Octisalate Octocrylene Homosalate Octinoxate
<i>How do they work?</i>	Create a physical barrier on the skin that shields it from the sun's rays	Acts like a "sponge" by absorbing UV rays before skin can soak them up
<i>Benefits</i>	Broad-spectrum Zinc oxide recommended for people with skin sensitivities, including acne	Broad-spectrum Easy to apply No white cast
<i>Disadvantages</i>	Chalky, difficult to spread Leaves a white cast on the skin Not as water-resistant, so reapplication is important to maintain UV protection	May cause unwanted reactions (redness or inflammation) in people with sensitive skin
<i>Examples (not an exhaustive list)</i>	BioNike Defense Sun SPF30 Mineral cream for Face and Body; BioDerma Photoderm Mineral Fluid; Oh Lief Natural Body Sunscreen	Cetaphil Sun SPF50+ Gel-Cream; Nivea Sun Protect & Moisture Sun Lotion SPD50+ Sunscreen; Bionike Defence Sun 50+ Very High Protection Fluid Lotion; La Roche Posay 50+ Anthelios Ultra-Light Invisible Body Mist

Note: Sunscreen products usually expire two years after manufacture. Products that have been opened should be discarded after one year has passed.¹¹

Other practical tips to prevent sunburn^{3,11}

- Stay out of the sun during peak hours (10 am to 4 pm)
- Use sunscreen even on cloudy days and check the UV index when planning outdoor activities
- A wide-brimmed hat can protect the face and back of the neck
- Darker fabrics and more densely woven fabrics provide better protection than lighter, loosely woven fabrics
- Wear sunglasses with a UV protection rating of UV400

Spotlight on Island Tribe: putting the Fun in SPF

Island Tribe is a trusted brand for everyday sun and after sun protection for the whole family. The range includes sunscreens with high UVA/UVB ratio which offer a light feeling and sun protection for everyday outdoor, beach and summer protection.¹²

The product range includes Light Lotions (SPF 30 and 50), Invisible Continuous Sprays (SPF 30 and 50), Anti-Ageing Face Cream (SPF 50), Clear gels (SPF 50), Lip Balms (SPF 15), Cooling gels (after sun product with aloe vera) and a Kids range. The Island Tribe Clear gel SPF 50 has been tested across the world and recorded unsurpassed water resistance after four hours of submersion in water. The Anti-Ageing face cream is formulated with collagen & vitamin E, offering additional protection against hyperpigmentation caused by sun damage.¹²

Conclusion

Although it may seem like a temporary condition, the long-term effects of repeated episodes of sunburn can cause long-lasting damage to the skin. Protecting the skin from excess UV exposure is the best way to reduce the risk of skin damage and, in turn, skin cancer. The Cancer Association of South Africa (CANSA), urges us now more than ever to be SunSmart all year round, especially in the summer months.^{2,3,11}

References

1. Souter J. Sunscreens. SA Pharmacist's Assistant. 2013;13(4):36-37.
2. Van Schoor J. Skin care during the summer months. SA Pharmacist's Assistant. 2018;18(4):34-35.
3. Rabbets W. Don't feel the burn - sunburn prevention and treatment. SA Pharmacist's Assistant. 2022;22(4):18-19.
4. Cleveland Clinic. [Internet]. Sunburn. 2023. Available from: <https://my.clevelandclinic.org/health/diseases/21858-sunburn>.
5. Pharmacy Times. [Internet]. Guide to preventative skin care and importance of sun protection for the community pharmacist. March 2022. Available from: <https://www.pharmacytimes.com/view/guide-to-preventative-skin-care-and-importance-of-sun-protection-for-the-community-pharmacist>.
6. American Cancer Society. [Internet]. Ultraviolet (UV) radiation. 2023. Available from: <https://www.cancer.org/cancer/risk-prevention/sun-and-uv/uv-radiation.html>.
7. American Academy of Dermatology Association. [Internet]. How to select a sunscreen. 2023. Available from: <https://www.cancer.org/cancer/risk-prevention/sun-and-uv/uv-radiation.html>.
8. Gabros S, Nessel TA, Zito PM. Sunscreens and photoprotection. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK537164/>.
9. BeYoutiful Beauty. [Internet]. 12 Vital facts you may not know about sunscreen (but need to). 2023. Available from: <https://www.beyoutiful.za.com/beauty/skincare/sunscreen-protection-facts#:~:text=Unlike%20chemical%20sunscreens%20that%20penetrate,skin%20that%20blocks%20UV%20rays>.
10. Wightman C, Timmons J. Healthline. [Internet]. What's the difference between physical and chemical sunscreen? 2023. Available from: <https://www.healthline.com/health/physical-vs-chemical-sunscreen>.
11. CANSA. [Internet]. Be SunSmart everywhere. 2023. Available from: <https://cansa.org.za/be-sunsmart/>.
12. Adcock Ingram. [Internet]. Island Tribe Sun Protection. 2015. Available from: <https://www.adcock.co.za/ProdPersonalCare/Island>



Travel medicine kit: what to pack

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Abstract

Travelling can be fun but it can also be stressful. To have a successful trip, it's important to advise patients to pack a travel medicine kit with items like medication, first-aid supplies, and personal health needs. They should be educated to consult a medical professional prior to travel and consider the destination and trip style when deciding which items to pack. Also, keep in mind that if any symptoms last longer than a few days, medical advice should be sought.

Introduction

Travelling can be a lot of fun, but it can also be stressful, especially if getting sick is a concern. A travel medicine kit is an essential item for any traveller, especially those visiting areas where access to medical care may be limited. By packing a well-stocked travel medicine kit, travellers can help to prevent and treat common illnesses and injuries and ensure that they have the supplies they need to stay healthy while away from home.¹

A pharmacist's assistant can give the following advice to a patient for a travel medicine kit:

1. Medications you definitely need: this includes prescriptions you use at home on a regular basis and special medications for your destination, such as something to help with altitude sickness. It is important to carry enough medication for the planned trip plus extra in case the return home is delayed. Carry all medicine in their original containers with clear labels that identify your name and dosing schedule.
2. Basic first-aid items: no travel emergency kit is complete without these basics: antibacterial wipes, hand sanitizer, adhesive bandages, gauze, adhesive tape, scissors, tweezers,

thermometer, and disposable gloves. It is also recommended to carry safety pins to fasten splints and bandages, antiseptic wipes to disinfect wounds or clean hands, antibiotic ointment to prevent infection in cuts, scrapes, and burns, hydrogen peroxide to clean and disinfect wounds, and disposable, instant-activating cold packs to cool injuries and burns, as well as for use in strains and sprains

3. Personal health needs: consider your personal health needs when packing for a trip. For example, if you have a chronic condition, such as diabetes, seizures, or allergies, consider wearing a medical alert bracelet. It is also important to pack any over-the-counter medications you may need, such as antihistamines, anti-diarrheal, and antacids or indigestion meds
4. Destination and trip style: consider where you are travelling to, and for how long, when deciding which medicines and first aid items to include in your travel medical kit. For example, if you are travelling to a tropical, subtropical, or developing country, you may need to pack insect repellent, sunscreen, and water purification tablets. If you are going on a hiking or camping trip, you may need to pack a snake bite kit and a tourniquet.
5. Consult a medical professional: travellers should consult a medical professional, week to months prior to international travel, especially when travelling to a tropical, subtropical, or developing country, in order to receive proper counseling and any prophylactic medications or vaccinations that may be recommended. Pharmacists can consult the CDC Travelers' Health website for specific recommendations. Pharmacists may also be instrumental in helping patients locate a travel-medicine clinic.

Further to this, patients should be advised that specific items packed in a travel medicine kit will vary depending on the individual traveller's health needs and the destination of their trip. However, there are some essential items that should be included in every travel medicine kit, such as:^{2,3}

- Any prescription medications that the traveller takes regularly. Make sure to take enough to last for the duration of the trip.^{1,2}

- Pain relievers: Paracetamol, ibuprofen, or naproxen can be used to treat headaches, muscle aches, and fever.^{3,4,5}
- Antihistamines: these can be used to relieve allergy symptoms such as runny nose, sneezing, and itchy eyes. The fast-acting antihistamines like diphenhydramine and chlorphenamine can cause drowsiness and can also help with trouble sleeping.⁶ Antihistamines like cetirizine and loratadine do not cause drowsiness and can alleviate symptoms throughout the day.^{3,6}
- Anti-diarrhoeal medication: Diosmectite can be helpful for diarrhoea, which is a common problem caused by eating unfamiliar food or drinking contaminated water.² Oral rehydration is important to prevent dehydration and there are several oral rehydration sachet-type formulations containing glucose and electrolytes that should be included in the travel medicine kit.¹ Loperamide may be helpful in adults but fluid replacement is the mainstay of treatment for both adults and children.
- Antacids: These can be used to relieve heartburn and indigestion.^{3,4}
- Motion sickness and nausea medication: be aware that many of these medicines can cause drowsiness.¹ Most commonly used are cyclizine for nausea⁶ and cinnarizine for motion sickness.^{2,5,6}
- Sunscreen: this is essential for protecting skin from the sun's harmful rays and should be SPF 15 or higher.^{2,5}
- Insect repellent: this can help prevent mosquito bites and other insect bites that can transmit diseases. Effective insect repellents have an active ingredient like DEET or picaridin.^{2,5}

- First-aid supplies: this includes bandages, antibiotic ointment, antiseptic wipes, and scissors.²

Additional items may be needed depending on the destination and activities. For example, if someone is travelling to a malaria area or country, malaria medication or anti-malarial tablets may be required.⁷ If hiking or camping is included in the itinerary, a first-aid kit that includes items such as burn gel and blister care should be included.⁸

If someone becomes ill while travelling, it's important that they know how to use the medication and other items in the travel medicine kit correctly. Make sure to include all the labels and instructions in the kit to be able to determine the correct dosage of any medication that is required.⁴ Be sure to check the expiration dates on all the medications before travel⁴ and keep the medications in a secure container that will not be easily damaged or opened.^{4,5} Try to limit the amount of liquids in the travel kit as leakage can occur during travel and especially air travel.³

Conclusion

Packing a travel medicine kit is an important step in preparing for any trip, no matter how long or short. By packing the right medications and supplies, the traveller can be prepared to treat common minor illnesses and injuries and avoid having to seek medical attention while they're away from home. One last thing to keep in mind is if any symptoms last longer than a few days, seek medical advice.^{1,3}

Items to pack in a travel medicine kit

Medication to treat the following		First-aid	Miscellaneous
	For example:		
Pain	Paracetamol (e.g. Panado)	Band-aids of assorted sizes	Sunscreen
Heartburn	Omeprazole (e.g. Omiflux 20)	Antibacterial cr	After sun care
Motion sickness or Nausea	Cyclizine (e.g. Valoid)	Hydrocortisone cr	Eye drops or saline
Diarrhoea	Diosmectite (e.g. Smecta Go)	Gauze	Cold pack
Constipation	Lactulose (e.g. Laxette)	Alcohol swabs	Thermometer
Allergy (non-drowsy formulation for during the day)	Cetirizine (e.g. Allecet)	Adhesive tape	Disposable face mask
Insomnia	Diphenhydramine (e.g. SleepEze)	Bandages	Insect repellent
Congestion	Pseudoephedrine (e.g. Sudafed)	Blister plasters	Oral rehydration salts
Cold	Combination products (e.g. Coryx)	Burn care	Disposable gloves
		Antiseptic wound cleaner	Space blanket
		Scissors	
		Tweezers	

Notes

- *Remember to pack enough of any regularly taken medications for the duration of the trip
- *If visiting a malaria area include malaria prophylaxis medication
- *Include a list with names and contact numbers for doctors that prescribed any of the medication being taken along on the trip.
- *Leave medication in the original packaging with instructions and dosing information

References

1. Fitfortravel. [Internet]. Advice on first aid. NHS choices. Available from: <https://www.fitfortravel.nhs.uk/advice/general-travel-health-advice/first-aid>. Accessed, 04 October 2023.
2. Centers for Disease Control and Prevention. [Internet]. Traveler's Health Pack smart. Available from: <https://wwwnc.cdc.gov/travel/page/pack-smart>. Accessed: 04 October 2023.
3. Bultman R. Simply see the world. [Internet]. How to pack your travel medicine kit - advice from a pharmacist. 2020. Available from: <https://simplyseetheworld.com/category/travel-prep/>. Accessed, 04 October 2023.
4. Cleveland Clinic. [Internet]. 25 items to put in your travel first aid kit. Clinic. 2023. Available from: <https://health.clevelandclinic.org/travel-first-aid-kit/>. Accessed: 04 October 2023.
5. Johns Hopkins Medicine. [Internet]. Traveler's first-aid kit. 2019. Available from: <https://www.hopkinsmedicine.org/health/wellness-and-prevention/travelers-first-aid-kit>. Accessed: 04 October 2023.
6. Blockman M, Barnes KI. South African medicines formulary. 14th ed. Edited by D Rossiter. Cape Town: South African Medical Association. 2022.
7. Travax. [Internet]. Malaria NHS choices. 2023. Available from: <https://www.travax.nhs.uk/malaria/>. Accessed: 06 October 2023.
8. Aspen Valley Hospital. [Internet]. What to have in your camping first aid kit 2023. Available from: <https://www.aspenhospital.org/healthy-journey/camping-first-aid-kit/>. Accessed: 06 October 2023.



Optimising blood pressure control...being smart about your heart

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Abstract

Blood pressure is the pressure exerted on artery walls by the blood flowing through them. It changes throughout the day and is influenced by activity. Systolic and diastolic pressure are the two measurements taken when measuring blood pressure. Systolic is the pressure when the heart contracts and diastolic is the pressure when the heart relaxes. The measurements are reported as mmHg (millimeters of mercury). Hypertension is diagnosed when systolic is ≥ 140 mmHg and/or diastolic is ≥ 90 mmHg. It is estimated that 46% of adults are unaware that they have hypertension. Risk factors include age, unhealthy lifestyle, genetics, medical conditions, and stress. If left untreated, hypertension can lead to stroke, heart failure, heart attacks, and kidney damage/failure. Treatment includes lifestyle changes such as exercise, nutrition, limiting alcohol/tobacco, and reducing stress. In some cases, medication may be needed. Low blood pressure (hypotension) is diagnosed when systolic is < 90 and diastolic is < 60 mmHg. Symptoms include dizziness, blurred vision, fainting. Hypotension treatment depends on cause and may include fluids, salt, and medication.

Introduction

Understanding blood pressure

Blood is transported via arteries from the heart to other parts of the body and organs.¹ The pressure that blood applies to the inner wall of the arteries is referred to as blood pressure (see Figure 1).^{1,2}

Blood pressure usually fluctuates throughout the day and also depends on a person's activities.² There are two measurements

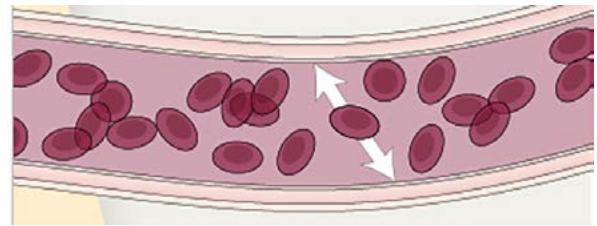


Figure 1: Blood pressure on artery walls (Adapted for the Centers for Disease Control and Prevention (CDC). Materials developed by CDC. Available from: <https://www.cdc.gov/bloodpressure/about.htm>)²

taken when measuring blood pressure, namely the pressure in the arteries when the heart:¹

- Contracts (at the time of a heartbeat) – referred to as systolic pressure^{1,3}
- Relaxes/rests between beats – referred to as diastolic pressure^{1,3}

Blood pressure is measured in units of millimetres of mercury (mm Hg) and the measurements are described as systolic pressure over diastolic pressure (e.g. 120/80 mmHg).^{1,4}

High blood pressure

The term "hypertension" is used when a person's blood pressure is higher than normal.^{1,2,4} For hypertension to be diagnosed, the blood pressure needs to be measured at two different occasions and, on both occasions, the:^{3,5}

- Systolic reading must be ≥ 140 mmHg and/or
- Diastolic reading must be ≥ 90 mmHg

In some cases, the doctor may attach a sphygmomanometer to the patient's arm and blood pressure readings are taken over a 24-hour period.⁴

In-office screening can sometimes result in "white coat hypertension". This is when a person's blood pressure temporarily increases when it is taken by a doctor or nurse in an office setting.^{1,4}

Table I: Classification of blood pressure⁴

Category	Normal	Optimal	High normal	Hypertension		
				Mild (Grade 1)	Moderate (Grade 2)	Severe (Grade 3)
Systolic BP (mmHg)	< 120	120–129	130–139	140–159	160–179	≥ 180
	and	and	or	or	or	or
Diastolic (mmHg)	< 80	< 80	80–89	90–99	100–109	≥ 110

Table I contains a guide to blood pressure reading which has been adapted from the Department of Health South Africa.⁴ Kindly note that the international expert groups differ slightly in how they define hypertension.¹

Signs and symptoms of hypertension

Approximately 46% of adults are not even aware that they have high blood pressure.^{3,4} Hypertension is also known as the “silent killer”.^{4,6} People with high blood pressure usually do not experience symptoms, consequently they are not identified or treated.^{1,3}

However, people with very high blood pressure may experience symptoms such as headaches, blurred vision, buzzing in the ears, chest pain, dizziness, nausea, vomiting, nose bleeds, facial flushing, anxiety, confusion, abnormal heart rhythm and shortness of breath.^{3,4}

Risks associated with hypertension

According to the World Health Organization (WHO) only about 21% of adults with hypertension have their blood pressure under control, despite effective treatment being available.³

Hypertension is a main cause of premature death globally. If left untreated, high blood pressure increases the strain on the heart and arteries which could increase the risk of complications such as:^{1,2,7}

- Stroke
- Heart failure
- Heart attack (myocardial infarction)
- Kidney damage/failure

Risk factors for hypertension

The exact cause of hypertension is not always known.^{1,7} The likelihood of someone developing high blood pressure increases with advancing age;^{1,3-5} nearly 80% of South Africans over 55 years of age have high blood pressure.⁵

In addition, unhealthy lifestyle choices such as physical inactivity, high sodium or low potassium intake, excessive alcohol consumption, smoking or tobacco use of any kind have been identified as risk factors for developing high blood pressure.^{1,2,4,5}

Other risk factors include family history of hypertension, genetics (e.g. people of African heritage), certain underlying medical conditions (e.g. kidney disease, diabetes), obesity or being overweight, and high levels of stress.^{1,3-5}

Sometimes, high blood pressure may occur only during pregnancy (known as gestational hypertension).^{4,5}

Management

Since many people with hypertension do not have symptoms, the only way to know if someone has high blood pressure is by measuring it.² People over 40 years of age should have their blood pressure measured at least annually.¹ More frequent blood pressure checks are recommended for those with risk factors.¹

Choosing a healthier lifestyle

Lifestyle changes form an essential part of blood pressure management for everyone with high blood pressure.^{3-5,7} Patients should be advised to:^{3-5,7}

- Exercise regularly (150 minutes per week; approximately 30 minutes per day, five days a week).
- Eat a healthy, balanced diet which includes fruit and vegetables. Since potassium helps to balance the amount of sodium in cells, diets should also include potassium-rich foods such as nuts, green leafy vegetables, papayas, and bananas.
- Reduce the amount of sodium intake. Contrary to popular belief, the main sources of sodium in the diet do not come from the salt shaker but from processed, packed, restaurant and fast foods. Instead of using salt to flavour food, rather use herbs, spices, garlic, ginger, chilli, and lemon juice. When purchasing packed food, look for the “Heart Mark”.
- Eat smaller portions.
- Maintain a healthy weight (lose excess weight, if overweight).
- Limit alcohol use.
- Stop smoking.
- Reduce/manage stress.

Medication

In addition to lifestyle changes, many people would also need to use medication to achieve their target blood pressure.⁴ The type of medication prescribed would depend on the person's blood pressure measurement as well as overall health.³⁻⁵

It is important to advise your patients to continue using their anti-hypertensive medication to control their blood pressure even if they are feeling better.⁴

Low blood pressure (hypotension)

Generally, a resting blood pressure of 90/60 mmHg or lower is considered to be low blood pressure, also known as hypotension.^{8,9}

Some people may experience a sudden decrease in blood pressure when they suddenly stand up from a sitting or lying position. This form of low blood pressure is known as orthostatic hypotension (“postural hypotension”). It can affect people of all ages, but is more common, and more likely to cause symptoms in older patients.⁸⁻¹³

Signs and symptoms of hypotension

Not everyone with low blood pressure experiences symptoms.¹⁰ However, low blood pressure can cause symptoms such as dizziness, blurred vision, light-headedness, and fainting, which could consequently result in falls and fall-related injuries.⁸⁻¹²

When blood pressure is too low, not enough blood reaches the organs and other parts of the body. This could lead to organ damage, heart problems, stroke, or shock.⁹⁻¹¹

Management

Treatment of low blood pressure depends on the cause. For example, if hypotension was:^{9,11-13}

- Caused by current medication, the doctor could change the dose of the medication or switch to another product.
- Due to dehydration, the doctor could recommend drinking more fluids or he/she may administer intravenous fluids to increase the blood volume.

In some cases, the doctor may prescribe medication to treat the symptoms.^{9,12}

Other measures include:^{8,9,11,12}

- Drinking more water and, in some cases, the doctor could also recommend increasing the amount of salt used in the diet.
- Wearing compression stockings (they apply light pressure which helps to push blood upwards toward the heart).
- Standing up slowly and sitting down or holding onto something when feeling dizzy or lightheaded.
- Avoiding:
 - Eating large meals, especially if symptoms appear after eating
 - Drinking too much alcohol
 - Hot, humid weather
 - Activities that could lead to excessive sweating

In a nutshell

- Many people who have high blood pressure do not have symptoms, so they are unaware of the damage done within their bodies. Routine measurement of blood pressure is therefore essential.

- Lifestyle changes are recommended for everyone with high blood pressure. Some patients may require medication in addition to lifestyle changes to control their blood pressure.
- Healthy people with lower-than-normal blood pressure, who do not have any symptoms, generally do not require treatment.
- Anyone experiencing signs and symptoms of low blood pressure should consult his/her doctor. Treatment of hypotension usually treatment depends on the cause.

References

1. Mann JFE. Patient education: High blood pressure in adults (Beyond the Basics). UpToDate. Available from: <https://www.uptodate.com/contents/high-blood-pressure-in-adults-beyond-the-basics>. Accessed 2 October 2023.
2. Centers for Disease Control and Prevention (CDC). High blood pressure symptoms and causes. Available from: <https://www.cdc.gov/bloodpressure/about.htm>. Accessed 9 October 2023.
3. World Health Organization (WHO). Hypertension. Available from: <https://www.who.int/news-room/fact-sheets/detail/hypertension>. Accessed 2 October 2023.
4. Department of Health. National user guide on the prevention and treatment of hypertension in adults at the PHC level 2021. Available from: <https://knowledgehub.health.gov.za/system/files/elibdownloads/2021-11/HYPERTENSION%20USER%20GUIDE%20FINAL%20COPY.pdf>. Accessed 2 October 2023.
5. The Heart and Stroke Foundation SA. World hypertension day fact sheet. Available from: <http://heartfoundation.co.za/wp-content/uploads/2021/05/World-Hypertension-Day-Fact-Sheet-2021.docx-2.pdf>. Accessed 4 October 2023.
6. The Heart and Stroke Foundation SA. Blood pressure. Available from: <https://heartfoundation.co.za/blood-pressure/>. Accessed 4 October 2023.
7. Bloch MJ, Basile J. Patient education: High blood pressure, diet, and weight (Beyond the Basics). UpToDate. Available from: <https://www.uptodate.com/contents/high-blood-pressure-diet-and-weight-beyond-the-basics>. Accessed 2 October 2023.
8. HSE. Low blood pressure (hypotension). Available from: <https://www2.hse.ie/conditions/low-blood-pressure-hypotension/>. Accessed 4 October 2023.
9. Cleveland Clinic. Low blood pressure. Available from: <https://my.clevelandclinic.org/health/diseases/21156-low-blood-pressure-hypotension>. Accessed 4 October 2023.
10. Palma J, Kaufmann H. Mechanisms, causes, and evaluation of orthostatic hypotension. UpToDate. Available from: <https://www.uptodate.com/contents/mechanisms-causes-and-evaluation-of-orthostatic-hypotension>. Accessed 4 October 2023.
11. Procter LD. Low blood pressure. MSD Manual consumer version. Available from: <https://www.msmanuals.com/home/heart-and-blood-vessel-disorders/low-blood-pressure-and-shock/low-blood-pressure>. Accessed 4 October 2023.
12. UpToDate. Patient education: Orthostatic hypotension (The Basics). UpToDate. Available from: https://www.uptodate.com/contents/orthostatic-hypotension-the-basics?topicRef=5103&source=see_link. Accessed 4 October 2023.
13. WebMD. Low blood pressure (hypotension): Symptoms, causes, and treatment. Available from: <https://www.webmd.com/heart/understanding-low-blood-pressure-basics>. Accessed 4 October 2023.

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Antifungal

Antifungals

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Amayeza Information Services

Introduction

Antifungals are medications used to treat fungal infections (infections caused by certain dermatophytes, moulds and yeasts).^{1,2} They can be administered topically, orally, by vaginal application, or through an intravenous drip.¹ This article will focus on antifungals available over-the-counter, that can be administered orally or topically for the treatment of local or minor fungal infections.

More about antifungal drugs

Antifungals work by either killing the fungus or preventing the growth of the fungus.^{3,4} They are available in different formulations such as creams, gels, ointments, sprays, or pessaries (for vaginal use). They are also available as oral drops, capsules or tablets, and as injections.³ The capsules, tablets and injections are only available on prescription from a doctor.^{2,5}

Antifungal powders are useful as adjunctive treatment of very moist areas whilst ointments are best avoided in moist areas and more suitable when the skin is dry.² Lotions are preferred for large wet areas or in areas that are hairy. Scalp infections are best treated with systemic antifungals and would therefore, need to be referred to a doctor.²

Oral antifungals for systemic use are only available on prescription from a doctor and is used for systemic infections. These include tablets or capsules containing fluconazole, itraconazole, terbinafine, griseofulvin and posaconazole. For serious systemic infections, antifungals may also be administered via the intravenous route. Products containing amphotericin b, fluconazole, caspofungin, anidulafungin, micafungin or voriconazole are available on prescription for intravenous administration, usually in a hospital.^{2,5}

The antifungals available over-the-counter that can be used for treatment of local infections are summarised in Table 1.^{2,5,6}

Types of fungal infections

Fungal skin infections

Ringworm is a fungal infection that starts as a small red papule and gradually spreads to form a circular lesion leaving a central cleared area.⁷ Skin is itchy and appears red, scaly and cracked.¹ Ringworm, also known as tinea corporis, is a superficial fungal skin infection of the body caused by dermatophytes. It is commonly known as ringworm and is characterised by a circular, ring-like rash on the skin. Tinea corporis can affect various parts of the body, including the trunk, neck, arms, and legs. It can also occur on other areas of the body, such as the scalp (tinea capitis), face (tinea faciei), hands (tinea manuum), groin (tinea cruris), and feet (tinea pedis).

Ringworm is usually acquired through direct contact with an infected person or animal, but transfer can also take place through indirect contact with towels, clothes, or bed linen.⁷ Patients should be advised not to share towels and bed linen and to wash these frequently to eradicate the fungus.⁷

Hair in the affected areas can come out easily and patients with ringworm of the scalp (tinea capitis) may present with circular patches of hair loss.⁷ These patients should be referred to a doctor to get systemic treatment, but a shampoo or lotion may be used as an adjunct to oral treatment.²

Ringworm in the groin area (tinea cruris) is also known as jock itch,⁸ occurs in the genital region and often spreads to the inside of the thighs.⁷ Advise patients to wear loose fitting clothes made of cotton or material to keep moisture away from the skin. Antifungal powders are recommended as they can help absorb perspiration.⁷

Topical azoles such as clotrimazole, miconazole or ketoconazole are effective treatments for ringworm. The treatment length varies depending on the fungal infection.⁴ Infections such as ringworm usually clear within a few weeks and in general treatment is recommended three to four times daily for two to four weeks (continue at least one to two weeks after symptoms have

Table I: Some antifungals available over-the-counter in South Africa for treatment of local fungal infections^{2,5,6}

Antifungal	Products	Effective treatment for
Polyenes		
Nystatin	Canstat [®] topical cream Nystacid [®] ointment	Candida skin infections
	Candacide [®] oral suspension Canstat [®] oral suspension Nystacid [®] oral suspension	Oral thrush
Azoles		
Bifonazole	Canespor [®] cream	Fungal skin infections
Clotrimazole	Canesten [®] troche lozenges	Oral thrush
	A-Por [®] cream Canesten [®] topical cream Fungistop [®] topical Medaspor [®]	Fungal skin infections
	Canesten [®] vaginal cream 3VC [®] vaginal cream Glenmark clotrimazole [®] vaginal tablet	Vaginal yeast infections
Econazole	Pevaryl [®] cream/powder/spray	Fungal skin infections
	Gyno-Pevaryl [®] vaginal cream ovule Vari-Econazole [®]	Vaginal yeast infections
Ketoconazole	Ketazol [®] cream	Fungal skin infections
	Adco-Dermed [®] shampoo Kez [®] liquid	Dandruff
Miconazole	Covarex [®] cream	Fungal skin infections
	Daktarin [®] oral gel Vari Miconazole [®] oral gel	Oral thrush
	Gyno-Daktarin [®] Combipak [®] vaginal cream/capsules	Vaginal yeast infections
Allylamines		
Terbinafine	Almatil [®] cream Dermgel [®] emulsion gel/spray Lamisil [®] cream/spray Terbicil [®] cream	Fungal skin infections
	Lamisil [®] dermgel Lamisil [®] film forming solution	Athlete's foot, ringworm Athlete's foot
Others		
Amorolfine	Loceryl [®] nail lacquer	Fungal nail infections
Selenium sulphide	Selsun [®] shampoo	Dandruff
Zinc undecenoate	Mycota [®] cream/powder	Athlete's foot

disappeared).⁷ Always refer to the manufacturer's package insert for dosing recommendations.

Athlete's foot (tinea pedis) usually presents as itchy, flaky skin in the web spaces between the toes and can peel to leave sore, reddened, itchy areas.⁷ The skin may be dry and itchy or moist and weeping. The scaling can also affect the entire sole and side of the feet and may be associated with blistering, although this is less common.⁷ Azoles and terbinafine are effective for treatment of athlete's foot, but terbinafine is more effective in preventing recurrence.⁷ Treatment with terbinafine and ketoconazole should continue for one week and patients may prefer this shorter treatment period.⁷

Oral thrush

Oral candidiasis is an infection of the lining of the mouth and often occurs in babies, patients that are immunocompromised and patients that use topical sprays for asthma.⁷ White patches known

as plaques are formed and look like milk curds. These white plaques are not easily removed and when they are scraped away, the area underneath is sore and red and can sometimes bleed.⁷ Thrush can also affect the nappy area in babies (nappy rash) or the vagina (see below).⁷ Nystatin oral suspension may be given, 1–2 ml four times a day and should be kept in contact with the thrush for as long as possible (one to two minutes) before swallowing.² Miconazole oral gel is another option and should be applied to the affected areas three to four times daily but should not be used in children younger than six months of age.²

Vaginal yeast infections

Patients presenting with an intense, burning vaginal itch may suffer from candidiasis (fungal vaginal infection). The infection may sometimes be associated with a cream-coloured, thick, and curdy discharge that is usually odourless. Azoles administered as a vaginal cream, gel or tablet are effective for treatment of vaginal yeast

infections. Treatment is usually administered once or twice daily, often for several days – please refer to the manufacturer's package insert for instructions.²

Fungal nail infections

Fungal nail infections can affect any part of the nail and the infection evolves slowly leaving the nail discoloured and distorted.⁷ A nail paint containing 5% of amorolfine can be used as treatment for some fungal nail infections.² The affected nail is filed before application to enable medication to enter the nail bed.² The paint is applied once a week and treatment should continue for six months on fingernails and nine to twelve months on toenails.⁷ Adverse effects include discolouration and brittle nails. An allergic reaction to the medication can also result in a burning sensation on the skin.⁷

Conclusion

Antifungals treat fungal infections by killing the fungus or preventing the growth of the fungus. Over-the-counter treatments are available

as ointments, creams, gels, shampoos, sprays, nail paint, powders and oral drops. The choice of formulation will depend on where the infection is and whether the area is dry or moist. Areas should be treated regularly, and treatment should usually continue for one to two weeks after symptoms dissipate.

References

1. Wheatherspoon D. Medical News Today. [Internet]. What to know about antifungal drugs.2022. Available from: <https://www.medicalnewstoday.com/articles/antifungal#antifungal-drugs>. Accessed 9 October 2023.
2. Rossiter D, Blockman M, Barnes KI, editors. South African Medicines Formulary. South African Medical Association; 2022.
3. NHS. [Internet]. Antifungal medicines. 2023. Available from: <https://www.nhs.uk/conditions/antifungal-medicines/>. Accessed 9 October 2023.
4. Cleveland Clinic. [Internet]. Antifungals 2021. Available from: <https://my.clevelandclinic.org/health/drugs/21715-antifungals>. Accessed 9 October 2023.
5. Snyman JR (Ed.) Monthly Index of Medical Specialities. 2023;63(5):192-195,231-232.
6. Strydom L. MIMS guide to OTC Products. 2022;28:376-377.
7. Blenkinsopp A, Paxton P, Blenkinsopp J. Symptoms in the Pharmacy. John Wiley & Sons, Limited; 2018.
8. Seladi-Schulman J. Healthline. [Internet]. What are antifungal drugs? 2019. Available from <https://www.healthline.com/health/fungal-infection/antifungal>. Accessed 10 September 2023.

Support for a healthy framework

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Abstract

Bone mass and density can be measured through BMD tests to assess if a person is osteopaenic or osteoporotic. Routine screenings are recommended for men and women over 65/70. Younger individuals may be recommended to have a test if they have certain underlying factors. To maintain healthy joints, certain steps can be taken such as ensuring proper nutrition, adequate intake of calcium and vitamin D, regular exercise, maintaining a healthy weight, proper posture, enough sleep, avoiding smoking and excessive alcohol intake. Certain vitamins, minerals and supplements such as Vitamin D, K2, C, calcium, magnesium, glucosamine & chondroitin, omega-3, Sam-e, curcumin, collagen and gelatin may help to support bone and joint health. However, it is important to counsel patients on keeping within the upper safe limit and possible interactions with medications.

Introduction

Joints, as the name suggests, form the connection between two bones.¹ They consist of bone, connective tissue, cartilage, tendons, ligaments and nerves. Keeping bones and joints healthy is essential, as they play a vital role in the support and movement of the body.²

Peak bone mass and bone density

The time that a person has to develop a healthy peak bone mass is limited, as peak bone mass is reached by the age of 25 to 30 years. From the age of 40 years, bone mass starts to slowly decrease.³

Bone mass density (BMD) tests can measure the amount of calcium and other minerals in the bones in order to determine whether the person is osteopaenic or osteoporotic.² Diseases such as osteopaenia (low bone mass) and osteoporosis (low bone density), increase the

risk of falls and fractured bones, which can have devastating effects for the elderly.^{3,4} Routine bone density screenings are recommended for all women over 65 years and for men over 70 years.⁵ However, younger individuals may also be encouraged to have a BMD test if they have certain underlying factors, such as having a family history of osteoporosis, or having a low bone mass index (BMI).⁵

Non-Pharmacological Management

Regardless of age, certain steps may be taken to maintain healthy joints, increase bone and muscle strength, and prevent severe bone loss over time.^{2,3,4}

These steps include:

- Ensuring proper nutrition with a high vegetable and adequate protein intake
- Adequate intake of calcium and vitamin D
- Following a regular exercise routine
- Maintaining a healthy weight
- Maintaining a proper posture when sitting or standing
- Getting adequate sleep
- Avoiding smoking
- Avoiding excessive alcohol intake

Vitamins, minerals and supplements

Certain vitamins, minerals and supplements may help to support bone and joint health.^{2,4,6,7} Although eating a varied and balanced diet should supply the body with all the recommended vitamins and minerals needed for healthy bones and joints, over-the-counter (OTC) dietary supplements are also available.⁶ The body benefits best from daily food-sourced calcium, rather than from supplements.⁴ Also, spreading the calcium intake throughout the day by including a food that is rich in calcium, ensures optimal absorption.⁴

Table I lists some vitamins, minerals and supplements that may maintain or improve bone and joint health.^{2,3,4,6}

Table I: Vitamins, minerals and supplements that may maintain or improve bone and joint health

		Function	Sources (Examples)
Vitamins	Vitamin D	Aids in the absorption of calcium	Supplements (OTC) Dietary: Dairy, fatty fish, beef liver, egg yolk, cheese
	Vitamin K2	Activates proteins that help deliver calcium to the bone during bone formation	Dietary (main source): Green leafy vegetables, vegetable oils, meat, dairy, eggs, supplements (OTC)
	Vitamin C	Stimulates bone-forming cells and anti-oxidant effects may protect bone cells from damage	Diet: Vegetables (broccoli, red cabbage, red bell peppers) Fruit (kiwi, oranges) Supplements (OTC)
Minerals	Calcium	Strengthens and hardens bone Recommended daily intake (RDI) is 1000 mg for most people (higher intake needed for teens and older women)	Dietary: Green leafy vegetables, fortified fruit juices and cereals, canned salmon and sardines (edible bones), supplements (OTC)
	Magnesium	Helps in the absorption of vitamin D and calcium	Supplements (OTC) Dietary: green vegetables, nuts, seeds, whole grains
Supplements	Glucosamine and chondroitin	Found naturally in healthy cartilage	OTC dietary supplements available
	Omega-3	Plays a role in decreasing joint inflammation and pain in the body	Dietary (small amounts): Fish, nuts and seeds (e.g. flaxseed, walnuts), plant oils, leafy green vegetables, OTC dietary supplements
	Sam-e (S-Adenosyl-L-methionine)	Produced naturally in the body. May have pain-relieving, anti-inflammatory and cartilage-protecting effects	Only available as an OTC supplement (not found in diet)
	Curcumin	Has anti-oxidant and anti-inflammatory properties, which may reduce inflammation, improving joint function and reducing pain	Present in turmeric Dietary supplements (OTC)
	Collagen (gelatin)	Contains amino acids that help build bone, muscle, ligaments	Collagen hydrolysate found in animal bones OTC supplements

Important considerations regarding vitamins, minerals and supplements

Excessive intake of some vitamins and minerals, such as calcium and vitamin D may cause adverse effects.⁶ Care should be taken to keep within the upper safe limit for calcium and vitamin D when purchased over the counter.⁴ Some medications and foods can interact with certain medications, e.g. green leafy vegetables and vitamin K interact with warfarin, therefore the patient's current medications should always be taken into consideration when recommending supplements.⁶

Conclusion

Keeping bones and joints healthy throughout life is essential due to the vital role they play in supporting the body. The importance of exercise, proper nutrition and following a healthy lifestyle, as well as BMD screenings (in the elderly) should be emphasized.

References

1. Swiner C. WebMD. [Internet]. Caring for your joints. 2022. Available from: <https://www.webmd.com/arthritis/caring-your-joints>. Accessed 5 October 2023.
2. Milroy A. Durdans Hospital. [Internet]. Top 10 tips for maintaining healthy joints and bones. 2023. Available from: <https://www.durdans.com/top-10-tips-for-maintaining-healthy-joints-and-bones/>. Accessed 5 October 2023.
3. Campbell B. American Academy of Orthopaedic Surgeons. [Internet] Healthy bones at every age. 2023. Available from: <https://orthoinfo.aaos.org/en/staying-healthy/healthy-bones-at-every-age/>. Accessed 9 October 2023.
4. Spritzler F. Healthline. [Internet]. 10 Natural ways to build healthy bones. 2023. Available from: <https://www.healthline.com/nutrition/build-healthy-bones>. Accessed 5 October 2023.
5. NOFSA Guidelines. JEMDSA. 2017;22(1):Supplement 1.
6. Meacham J. Medical News Today. [Internet]. What to know about vitamins, minerals, and supplements for bones and joints. 2023. Available from: <https://www.medicalnewstoday.com/articles/vitamins-for-bones-and-joints#:~:text=Vitamins%20and%20minerals%20play%20a,support%20bone%20and%20joint%20health>. Accessed 5 October 2023
7. Mikstas C. WebMD. [Internet]. Top foods high in vitamin C. 2023. Available from: <https://www.webmd.com/diet/foods-high-in-vitamin-c>. Accessed 10 October 2023.



ADHD – complementary and alternative treatments

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Introduction

Attention deficit hyperactivity disorder (ADHD) is a condition that causes difficulty concentrating, as well as hyperactive and impulsive behaviour.¹ Stimulant medications and behaviour management training are the most common treatments for ADHD. However, complementary, and alternative medicine (CAM) such as herbal preparations and supplements are becoming increasingly popular.^{1,2}

What is ADHD?

ADHD is the most common psychiatric illness among young children and often continues into adulthood.³ ADHD can affect a child's behaviour, way of thinking, emotional wellbeing, school performance and relationships with others.¹ The cause of ADHD is unknown, but research shows it may be linked to genetic factors or exposure to certain substances during pregnancy.³ Unrecognised and untreated ADHD can result in poor behaviour, failed relationships, low performance at school/work, and an increased risk

of accidents. Effective treatment can mitigate these problems and allow children and adults with ADHD to reach their full potential.¹

What treatment is best?

The best treatment for ADHD differs from person to person. Common treatments include medications (e.g. stimulants), behaviour management training, counselling, skills training, and environmental changes.¹ Reducing the amount of sugar and food additives in the diet may also be beneficial for children with ADHD.² Medication alone cannot cure ADHD and a combination of different treatment methods is often required to manage symptoms.¹

How well do stimulants work?

The most commonly used stimulant medications are methylphenidate and amphetamines. Despite their name, stimulant medications do not cause children with ADHD to become more stimulated. Instead, these medications improve the communication between certain areas of the brain, resulting in better concentration and behaviour management. At least 80% of children with ADHD respond to stimulant medications. A third of ADHD patients report side-effects such as poor appetite, weight-loss, abdominal

Table 1: Supplements containing ingredients used to treat ADHD

Supplement	Zinc	Iron	Magnesium	Ginkgo	Pine bark extract	St. John's wort
Clicks: expert brain booster				√		
MNI NeuroVance® Brain Supplement	√		√			
Turbovite® focus			√			
Centrum Adult High-potency Multivitamin	√	√	√			
Faithful to nature: Organic pine bark extract					√	
GNC Herbal Plus® St. John's Wort						√

pains, headaches, and sleep disturbances because of stimulant medications.^{1,3}

Complementary or alternative medicines for ADHD

More than 50% of parents of children with ADHD use complementary or alternative medicines (CAM). These therapies are typically used in conjunction with conventional medications to manage ADHD symptoms.³ Nutritional and herbal supplements are part of the wide range of CAM therapies used to treat ADHD.² Table I provides examples of supplements containing ingredients commonly used for treating ADHD.

Zinc

Zinc is an essential trace element that performs multiple functions in the human body.⁴ Zinc is known to influence behaviour and learning performance and is therefore important for children with ADHD. Zinc deficiency is associated with decreased cognitive function. Zinc supplementation has been shown to improve hyperactivity and impulsivity in children with ADHD.^{2,3} Food sources of zinc include meat, shellfish, and whole-grains. If zinc requirements cannot be met through dietary sources, supplementation may be beneficial.⁴

Iron

Iron is a mineral needed to maintain red blood cells, which are responsible for transporting oxygen around the body. Meat, fish, eggs, legumes, and leafy vegetables (e.g. spinach) are food sources of iron.⁴ Iron deficiency and anaemia can cause fatigue, decreased learning ability and poor cognitive function. Children with ADHD might benefit from an iron supplement if they are unable to meet their needs through diet.²

Magnesium

Magnesium is required for energy metabolism and plays a key role in neurotransmitter synthesis.⁴ Magnesium deficiency can impair central nervous system function and is associated with ADHD.² Magnesium is found in nuts, legumes, whole-grains, seafood, and

leafy green vegetables.⁴ Children with ADHD who are deficient in magnesium would benefit from a magnesium supplement.^{2,4}

Herbal supplements

More research needs to be done on the benefits of herbal supplements for ADHD. Ginkgo Biloba is a tree species known for its medicinal properties.² Children with ADHD have abnormally low levels of dopaminergic activity. In animal studies, ginkgo increased dopaminergic activity in the brain.² It is unclear whether ginkgo should be advised for children with ADHD.^{2,3} Another ingredient of interest is French maritime pine bark extract. Supplements have been shown to improve blood flow to the brain and may reduce hyperactivity and inattention.^{2,3} The effect of St. John's wort on ADHD symptoms has been extensively studied, but no clear benefit has been shown.^{2,3}

Conclusion

ADHD is a common condition that requires a combination of treatment methods to manage symptoms.¹ In addition to prescribed medications (e.g. stimulants), behavioural therapy and dietary restrictions are useful for treating ADHD. Nutritional deficiencies of zinc, iron and magnesium may worsen effects of ADHD.^{2,3} In these cases, supplements are beneficial. Herbal supplements such as ginkgo, French maritime pine bark extract and St. John's wort may be useful for treating ADHD, but more research is needed in this field.^{2,3}

References

1. Krull K, Chan E. UptoDate. [Internet]. Patient education: Treatment of attention deficit hyperactivity disorder in children (Beyond the Basics) Augustyn M, editor. 2023. Available from: <https://www.uptodate.com/contents/treatment-of-attention-deficit-hyperactivity-disorder-in-children-beyond-the-basics?csi=8dcbe62a-3274-4ff8-a798-42b1ebe0ac3c&source=contentShare>. Accessed, 13 October 2023.
2. Searight HR, Robertson K, Smith T, Perkins S, Searight BK. Complementary and alternative therapies for pediatric attention deficit hyperactivity disorder: A Descriptive Review. *ISRN Psychiatry*. 2012;2012:1-8. <https://doi.org/10.5402/2012/804127>.
3. Sarris J, Kean J, Schweitzer I, Lake J. Complementary medicines (herbal and nutritional products) in the treatment of attention deficit hyperactivity disorder (ADHD): A systematic review of the evidence. *Complementary Therapies in Medicine*. 2011;19(4):216-27. <https://doi.org/10.1016/j.ctim.2011.06.007>.
4. Whitney E, Rolfes S. 2016. *Understanding nutrition*. 14th ed. Stamford: Cengage Learning, pp. 395-422.

TRANSFORMING THE TREATMENT OF DRY EYES

Visu Ophthalmic Eye Range by Adcock Ingram



VisuXL® 10 ml¹

VisuXL®

Everyday solution for moderate to severe dry eyes.¹

- Preservative free¹
- Sterile for **6 months** after opening²
- Compatible with contact lenses¹

Contains:¹

- Cross-linked hyaluronic acid sodium salt, Coenzyme Q10, and Vitamin E TPGS



VisuEVO® 10 ml³

VisuEVO®

Relieves dry eye disease by reducing excessive evaporation of the tear film, which is caused by inflammatory conditions on the surface of the eye.³

- Preservative free³
- Sterile for **60 days** after opening³
- Compatible with contact lenses³

Contains:³

- Omega-3 essential fatty acids, Vitamins A & D, and Ultra-filtered phospholipids



VisuXL® Gel 10 ml⁴

VisuXL® gel

VisuXL® Gel is the first smart gel, incorporating all the benefits of traditional liquid and standard gel treatments for dry eyes.⁴

- Preservative free⁴
- Sterile for **6 months** after opening⁴
- Compatible with contact lenses⁴
- Indicated for both day and night use⁴

Contains:⁴

- Cross-linked sodium carboxymethylcellulose, Coenzyme Q10, and Vitamin E TPGS

Footnote: TPGS – D-α Tocopherol polyethylene glycol 1000 succinate⁴

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References: 1. VisuXL®. Professional Information. September 2017. 2. VisuXL® Instructions for use [Data on file]. 3. VisuEVO® Approved Package leaflet. Information for the user. 4. VisuXL® Gel Instructions for use. **VisuXL® 10 ml bottle. Composition:** 100 ml of VisuXL® contains: 100 mg of cross-linked hyaluronic acid sodium salt; 100 mg of Coenzyme Q10; 500 mg of Vitamin E TPGS (D-α-tocopheryl-polyethylene glycol 1000 succinate); buffered isotonic solution up to 100 ml. **VisuEVO® Ophthalmic Solution. Composition:** Liposomes from soya phospholipids, algae oil (DHA+EPA), Vitamin A palmitate, Vitamin D, disodium EDTA, PEG 400, Boric acid, Sodium tetraborate, buffered isotonic buffered with pH 7.20. **VisuXL® Gel. Composition:** Each 100 ml of VisuXL® Gel contains: Coenzyme Q10 100mg, Vitamin E TPGS (D-α-tocopheryl-polyethylene glycol 1000 succinate) 500 mg, cross-linked sodium Carboxymethylcellulose 400 mg, Poloxamer 407 9000 mg, Disodium EDTA 100 mg, buffered isotonic solution q.s. to 100 ml. For full prescribing information refer to the approved package insert. **Applicant:** Genop Healthcare (Pty) Ltd. PO BOX 3911, Halfway House, 1685, South Africa. Tel 0861 436 674. Co. Reg. No. 1984/011575/07. www.genop.co.za. Marketed by Adcock Ingram Healthcare (Pty) Ltd. Reg. No. 2007/019928/07. Private Bag X69, Bryanston, 2021, South Africa. Tel +27 (00) 11 635 0000. www.adcock.com. 01/2023/PROMO/16

TRANSFORMING THE TREATMENT OF DRY EYES

Xailin Ophthalmic Eye Range



1 Xailin Fresh 30 x 0.4 ml¹

Daily, single-dose solution for soothing and lubricating dry, red and irritated eyes.¹

- ◆ Preservative free¹
- ◆ Single dose units¹
- ◆ Sterile until opening¹



2 Xailin Hydrate 10 ml²

Lubricate and protects the eyes and provide **immediate relief** of dry eye sensations.²

- ◆ Preservative-free (in the eye)²
- ◆ Multidose drops²
- ◆ Sterile for 28 days after opening²



3 Xailin[®] Plus 0.2 % HA 10 ml³

Preventative eye drop that moisturises and alleviates dry eye symptoms due to **prolonged screen time, contact lens use or environmental factors.**³

- ◆ Preservative free³
- ◆ Sterile for 3 months after opening³



4 Xailin Gel 10 g⁴

Lubricate and protect the eye in certain eye conditions and provide long-lasting relief of dry eye sensations.⁴

- ◆ Preservative-free (in the eye)⁴
- ◆ Multidose eye gel⁴
- ◆ Sterile for 28 days after opening⁴



5 Xailin Night 3.5 g⁵

Provides strong soothing **night-time relief** of dry eye sensations. Acts as a barrier against moisture loss. **Ideal for use at bedtime.**⁵

- ◆ Preservative free⁵
- ◆ Multidose eye ointment⁵
- ◆ Sterile for 60 days after opening⁵



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Footnote: g – gram; w/v – weight per volume; w/w – weight per weight; *due to its specific physical, viscoelastic properties and the ability to adhere to the cornea, improves tear film stability and restores comfort of vision⁵

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References: 1. Xailin Fresh Package Insert, VisuFarma February 2017. 2. Xailin Hydrate Package Insert, VisuFarma November 2016. 3. Xailin[®] Plus Package Insert, VisuFarma November 2021. 4. Xailin Gel Package Insert, VisuFarma November 2016. 5. Xailin Night Package Insert, VisuFarma December 2016.

For full prescribing information refer to the approved package insert. **Applicant:** Genop Healthcare (Pty) Ltd. PO BOX 3911, Halfway House, 1685, South Africa. Tel 0861 436 674. Co. Reg. No. 1984/011575/07. www.genop.co.za. Marketed by Adcock Ingram Healthcare (Pty) Ltd. Reg. No. 2007/019928/07. Private Bag X69, Bryanston, 2021, South Africa. Tel +27 (00) 11 635 0000. www.adcock.com. 03/2023/PROMO/48.