

Sore throat

Quick reference guide for pharmacists

2022



FIP Development Goals



International
Pharmaceutical
Federation

Colophon

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International Pharmaceutical Federation (FIP)
Andries Bickerweg 5
2517 JP The Hague
The Netherlands
www.fip.org

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Author:

Rúben Viegas, FIP practice development and transformation projects coordinator

Editor:

Gonçalo Sousa Pinto, FIP lead for practice development and transformation

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Acknowledgements

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Foreword

From the president of the International Pharmaceutical Federation

For FIP, self-care is a fundamental pillar of universal health coverage due to the important role it plays in the sustainability of health systems. Pharmacists are ideally placed to support informed self-care by empowering patients to make better health choices, lead healthier lives and adequately manage illness, especially in the case of minor ailments and symptoms. In particular, colleagues working in the community pharmacy setting have an important role in improving the health literacy (including self-care literacy and medication literacy) of their community in different areas of self-care. Community pharmacists can support self-care through a range of products and services, thereby avoiding unnecessary visits by patients to general practitioners or emergency departments.

FIP's work on self-care aligns with FIP Development Goals 15 (People-centred care) and 18 (Access to medicines, devices and services). Furthermore, FIP Development Goal 21 (Sustainability in pharmacy) is aligned with this programme of work, due to the contribution of self-care to the efficiency of health systems, to cost savings and to the improved use of resources (financial, workforce and infrastructure).

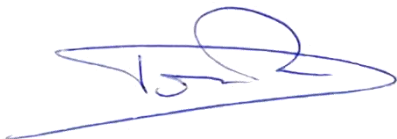
In 2019, FIP and the Global Self-Care Federation published a [joint policy statement](#) highlighting the responsibilities of pharmacists in dispensing self-care products, supporting patients with education, collaboration with other healthcare providers and encouraging individuals to make proactive life choices. Last year, FIP developed a comprehensive handbook on "[Empowering self-care: A handbook for pharmacists](#)", which includes both policy elements of self-care and practical guidance for pharmacists on key self-care topics.

Sore throat is a common condition that is usually self-limiting but leads to frequent consultations with community pharmacists. Pharmacy teams can play a supportive role in the identification of symptoms and their respective management through non-prescription medicines, as well as non-pharmacological interventions.

Also, because sore throat is one of the most common symptoms leading to unwarranted use of antibiotics, pharmacists can play an important role in the screening and referral of patients, in addition to educating them about the consequences of the inappropriate use of antibiotics.

As a community pharmacist, I hope you will find this publication useful for your work and easy to use. I hope this guidance will serve as a reminder of the importance of this topic and how, as pharmacists, we can effectively contribute to better health and more sustainable health systems.

FIP is proud to support the advancement of self-care globally and is committed to equip and empower pharmacy professionals and their organisations to deliver self-care interventions in the communities that they serve.



Dominique Jordan

1 Introduction

Supporting and empowering individuals to responsibly engage in self-care is an important part of pharmacists' daily practice around the world.¹ The ability to engage in self-care empowers patients to take on active roles in the management of their health and well-being. Self-care is an important contributor to universal health coverage (UHC) through savings in healthcare expenditure and the reallocation of resources by means of reduced use and pressure on healthcare systems.² For example, patient education and assessment conducted by pharmacists in addition to supporting the informed choice of non-prescription medicines could relieve the burden placed on healthcare systems, such as in primary care facilities or emergency departments, by patients seeking consultation for minor ailments, and lessen the reliance on prescription-only medicines.³

The World Health Organization (WHO) has developed several resources on self-care interventions and their classification.⁴ Interventions include "evidence-based quality drugs, devices, diagnostics and/or digital technologies which can be provided fully or partially outside of formal health services and can be used with or without the support of a health worker".⁵ By 2030, there will be an estimated shortage of 18 million healthcare workers worldwide.³ This shortage highlights why self-care, though not a novel concept, has been brought into the spotlight in recent years.⁶

Important aspects of self-care include the reallocation of healthcare resources, healthcare cost savings, improved emergency preparedness and improved healthy lifestyle and health literacy. These aspects are hindered by factors that include structural and regulatory barriers, pharmacists' perceptions, the need for health literacy and workload efficiency, lack of remuneration models, education and workforce development and interprofessional teamwork.⁷

As highly accessible healthcare professionals, pharmacists are essential in advocating for and assisting individuals and families with self-care.⁶ The key role that pharmacists can play in self-care is acknowledged as supporting, promoting and overseeing self-care interventions to individuals in their communities, leading to improved health outcomes. Pharmacists can also have a role as programme managers and in policy-making roles in their country or region.⁶

Pharmacists routinely inform and educate patients on effective ways to manage minor ailments and prevent disease through a relationship of trust and loyalty. Pharmacists are also well trained to effectively educate patients and provide evidence-based advice on a broad range of topics, including self-care interventions and the use of non-prescription medicines in the treatment of minor ailments.⁸

Among other consequences, low health literacy can lead to medication non-adherence and the incorrect use of antibiotics. Patients who are unable to access and understand the necessary information on prescribed medication regimens may feel less engaged in managing their own health, which can lead to non-adherence, poor management of chronic conditions and a higher likelihood of hospitalisation.⁹

The routine use of antibiotics for sore throat is not recommended. Sore throat is one of the most common upper respiratory tract infections where inappropriate and unjustified antibiotics use occurs.¹⁰ There are increasingly more studies on the use of rapid tests to differentiate between viral and bacterial throat infections to guide antibiotics prescription and minimise the misuse of antibiotics for infections caused by viruses or other non-bacterial agents.¹¹⁻¹³

Sore throat is a common condition that is usually self-limiting but leads to frequent consultations with community pharmacists. Pharmacy teams can play a supportive role in the identification of symptoms and their respective management through non-prescription medicines, as well as non-pharmacological interventions. Pharmacists also play an important role in the screening and referral of patients in addition to educating them and monitoring their medicines use.

This brief publication provides guidance on sore throat management by community pharmacists, expanding on the previous FIP publication "[Empowering self-care: A handbook for pharmacists](#)". An overview of the causes, symptoms and management options for sore throat will be detailed in the following chapters, including resources and highlighted information for the pharmacy team.

2 Causes of sore throat (infectious and non-infectious)

During winter, a high number of visits to general practitioners and to pharmacies are related to a dry, scratchy and painful feeling in the throat that worsens with swallowing or talking. These signs are indicative of sore throat and they generally have no significant long-term harmful effects on health. Although it is a self-limiting condition in most cases, the high prevalence of sore throat can lead to a high number of visits to family doctors or emergency departments, thereby placing a significant and unnecessary burden on health systems.¹⁴

There are several causes of sore throat, including:^{15, 16}

Viral infections

These are the most common cause of sore throat, and include:

- Common cold;
- Influenza;
- Mononucleosis, commonly caused by the Epstein-Barr virus;
- Measles;
- Chickenpox, caused by the varicella zoster virus;
- Croup, most often caused by a parainfluenza virus; and
- Coronavirus disease 2019 (COVID-19), caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).

Allergies

These can be, for example, to pets, dust, pollen or moulds. The runny nose produced by the allergy can create a postnasal drip, which will inflame and irritate the throat, worsening the symptoms.

Factors related to the environment

These include:

- Dry air, especially indoor air, can irritate the throat. The chance of this happening increases when the person breathes through the mouth.
- Air pollution, airborne chemicals and irritants, for example, tobacco smoke (either through smoking or through exposure to second-hand smoke).

Factors related to habits

These include:

- Mouth breathing at night while sleeping;
- Muscle strain when talking longer or louder than normally without rest;
- Drinking alcohol can also irritate the throat; and
- Eating spicy foods.

Gastro-oesophageal reflux disease

GORD is a disorder where the stomach acids reach the oesophagus, irritating it. In this case the patient will present other clinical symptoms such as regurgitation of the stomach content, heartburn, hoarseness and a sensation of a lump in the throat.

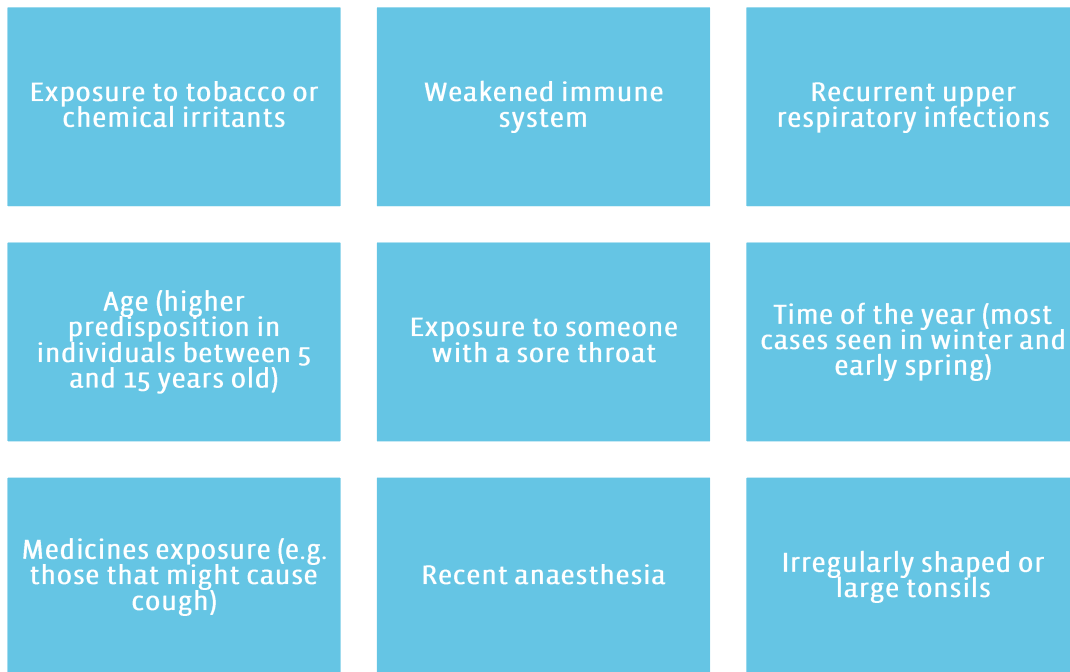
Bacterial infection

This is the less common scenario. When sore throat is due to a bacterial infection, generally it is caused by *Streptococcus pyogenes*, group A streptococcus. When the sore throat is caused by streptococcus, this is commonly referred to as “strep throat”.

In adults, 5 to 15% of sore throat cases are caused by a bacterial infection (strep throat). This number increases to 30% in children.¹⁷ Where a viral infection causes sore throat, it will be frequently accompanied by other symptoms, including cough, runny nose, hoarseness and sometimes conjunctivitis.

Bacterial infections (for example, strep throat) include symptoms such as fever, white patches on the throat, which are tonsillar exudates indicating the presence of a bacterial infection, and generally high levels of inflammation locally.¹⁸

The likelihood of presenting sore throat increases with:⁴⁵



Pharmacists may encounter different individuals with many symptoms associated with these causes and should assess the feasibility of providing self-care advice or refer the patient to a medical doctor for evaluation. In Chapter 3, the most common symptoms of sore throat are described.

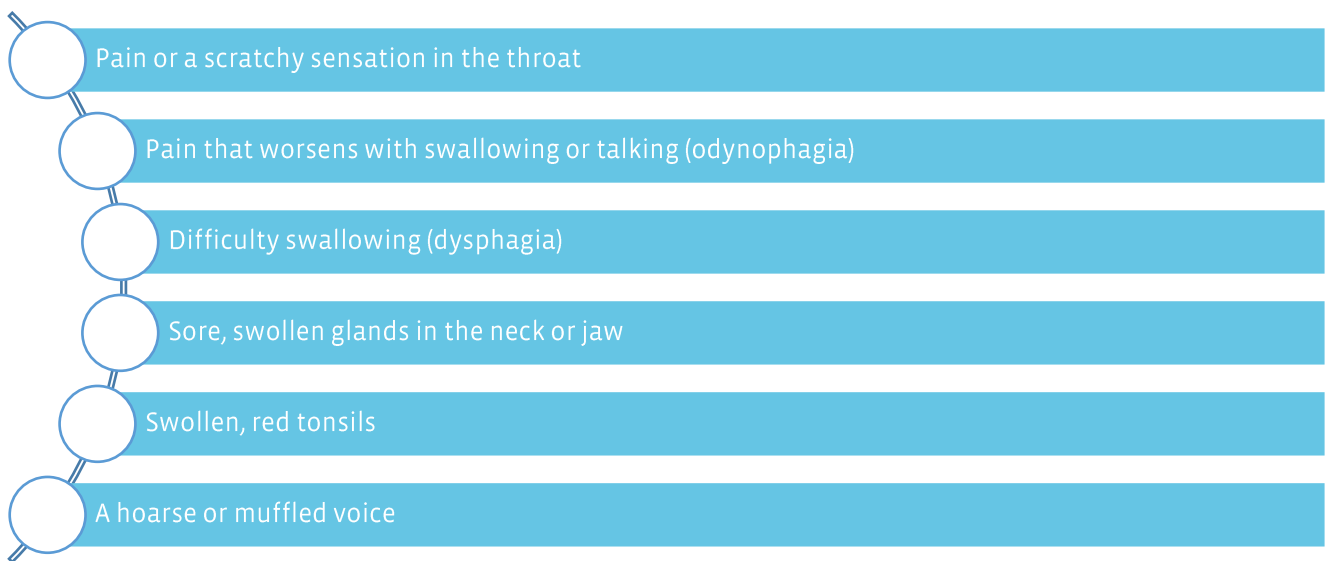
The causes of sore throat are summarised in the video below:



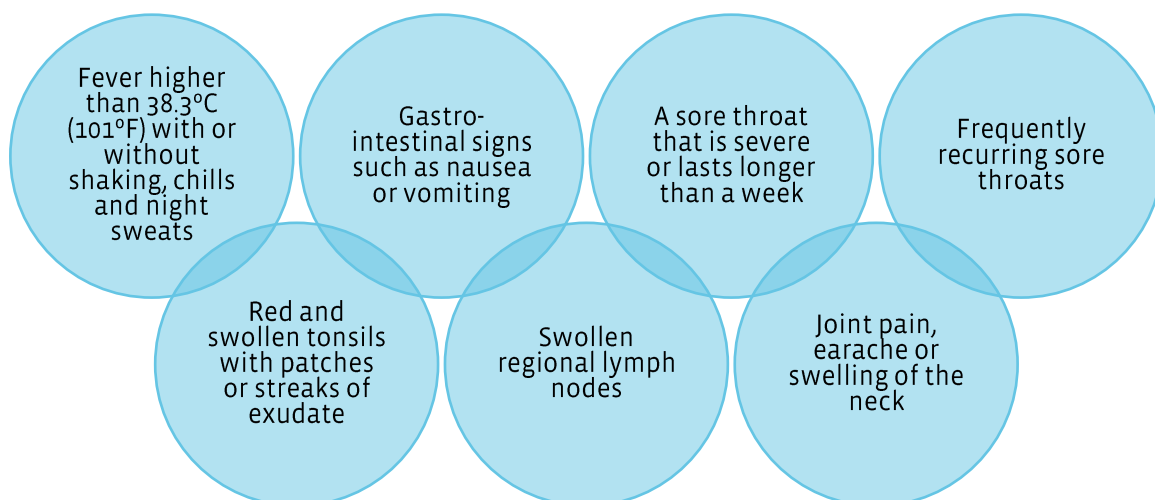
3 Patient experience of sore throat: symptoms, progression and duration

Sore throat is one of the most common problems for which patients consult their general practitioner or their pharmacist. As sore throat can be caused by a variety of agents or factors, it is common to have patient consultations on how to limit and improve symptoms. A survey of 13 countries with 5,196 respondents reporting a sore throat in the previous 12 months highlighted that almost half of the respondents had a sore throat three to four times per year, lasting between two and five days.¹⁹

Despite the variety of symptoms associated with sore throat, the most common ones are:¹⁵



Pharmacists should also look out for symptoms that may suggest the presence of bacteria, which suggests a case of strep throat. In these cases, pharmacists should refer the patient to a medical doctor, unless they have prescribing authority, as happens in some jurisdictions: These symptoms include:²⁰



Considering the above symptoms, it is important for both patients and pharmacists to understand the difference between a sore throat and strep throat. A sore throat is normally self-limiting, and the pharmacist can indicate a number of different treatment options that include both non-prescription medicines and non-pharmacological measures to help improve symptoms. On the other hand, a strep throat will be more severe and commonly includes symptoms like high fever and pus in the back of the throat that is caused by the presence of bacteria.²¹

It can be important to highlight the onset of duration as the symptoms for sore throat will develop gradually and will last for a few days. The onset of symptoms for a strep throat will be more abrupt and impact more severely the patient's quality of life and daily activities.

The difference between these is important because sore throat is one of the most common upper respiratory tract infections where inappropriate and unjustified antibiotics use occurs.²⁰ Pharmacists can support the responsible use of medicines and reduce the unnecessary use of antibiotics. Further, pharmacists can also support the identification of cases that can be managed with self-care options and the ones that need referral, thereby encouraging the distribution and good use of resources inside the healthcare system.

Sore throat, whether due to a viral or bacterial cause, is usually a self-limiting condition. In 40% of people, symptoms resolve within three days, and in 85% of people within one week, regardless of the cause of the sore throat.²² Even when antibiotics are used for bacterial infections, they only reduce symptoms of pain and inflammation by about 16 hours on average. Their main purpose is to prevent more serious complications, such as otitis media or peritonsillar abscess (commonly known as quinsy). This becomes of particular importance in certain vulnerable cohorts of patients, such as people undergoing chronic therapy with corticosteroids, patients with poorly controlled diabetes or those with immunosuppression.²³

It is also important for the pharmacist to provide clear safety netting and conditional referral guidance. This means advising the patient to be mindful of any signs of deterioration and the timescale for that, in which case they should consult again with their pharmacist or general practitioner. These aspects related to triage will be explored in Chapter 4.

The patient experience and symptom description for sore throat are summarised in the video below:



4 Triageing patients

As described in Chapter 3, patients complain of sore throat when they experience pain at the back of their mouth. Most people presenting with sore throat in primary care have a viral or bacterial infection, with a condition that can vary in severity according to the experienced symptoms.

Community pharmacists have a pivotal role to play in triaging patients and managing uncomplicated acute sore throat symptoms in the pharmacy. If the patient requires referral, pharmacists need to determine which healthcare setting the patient needs to be referred to, and with what timescales. Triageing is ideally based on a three-step approach: history-taking, clinical assessment and, when available, point-of-care diagnostic testing.

Triageing is ideally based on a three-step approach: history-taking, clinical assessment and, when available, point-of-care diagnostic testing.

Good history-taking is crucial when assessing sore throat symptoms, including both medication and non-medication related questions. Patients are usually the best source of information about themselves.¹⁹

Examples of questions pharmacists can ask patients:	Do you have any allergies?
	Do you suffer from acid reflux?
	Can you comfortably eat and drink?
	Does it hurt when you swallow?
	Do you have any headache, nausea, vomiting or abdominal pain?
	Do you have any ulcers in your mouth?
	How long have you had your symptoms for?
	Is there anything else other than the sore throat?
	What medicines are you taking?
	What other conditions do you have?

Figure 1. Risk assessment scores²⁴ (Adapted from Krüger K, Töpfner N, Berner R, Windfuhr J, Oltrogge JH: *Clinical practice guideline: Sore throat. Dtsch Arztebl Int* 2021; 118: 188–94. DOI: 10.3238/arztebl.m2021.0121)

Clinical assessment scoring tools — FeverPAIN, Mclsaac or CENTOR — can supplement history-taking, and have traditionally been used to support practitioners in differentiating between bacterial and viral infections. These tools ask targeted questions about symptoms that are distinct between the two causes.²⁵ Each of the criteria scores 1 point (Figure 1).

The higher the score, the higher the likelihood of a streptococcal cause, i.e., the presence of bacteria. Ideally, pharmacists should examine patients themselves to ascertain the presence of these symptoms, but if, for example, the consultation is virtual, this can be done by asking patients directly. It is important to note that even a high score of 4 or 5 is only associated with a 62–65% likelihood of isolating streptococcus.²⁶ To increase confidence in identifying bacterial infections, point-of-care testing is being used in some countries, in addition to clinical scoring tools, in community pharmacy settings.

FeverPAIN score

- Fever in the past 24 hours
- Purulence
- Attend within 3 days of symptom onset
- Inflamed tonsils
- No cough or coryza

Centor score

- Can't cough
- Exudate
- Nodes
- Temperature over 38°C (100°F)
- Young OR old modifier

Mclsaac score

- Tonsillar exudates
- Cervical lymphadenopathy
- Temperature over 38°C (100 °F)
- No cough
- Patient age

Point-of-care tests (POCTs) need to be used in parallel with clinical assessment. Since a percentage of the population are asymptomatic streptococcus carriers, they may produce a positive POCT without the characteristic symptoms of bacterial infection, as described by the clinical scoring tools. Such a positive result is not clinically relevant.

POCTs have been integrated in structured services offered by community pharmacies around the world. One service example is offered in Wales, UK, which involves clinical assessment using scoring tools, POCTs for patients who meet the threshold criteria, and antibiotic supply in the pharmacy if the test is positive and only after a discussion between the pharmacist and the patient. Research has shown that the service has been successful in reducing the workload of GPs and in reducing the prescribing of antibiotics, and did so in a safe way for patients. It was also found that there was a high degree of satisfaction from both pharmacists and patients, and in the case of patients satisfaction was not linked to antibiotic supply, which is important.²⁸

Once the pharmacist has completed a holistic assessment of the patient using, ideally, all these three approaches (history-taking, clinical assessment and, when available, point-of-care diagnostic testing), they can proceed with decision making about symptom management and treatment of the condition, as described in Chapters 5–7.

A summary of triage options for sore throat is presented in the short video below:



5 Pharmacological management options for sore throat

The majority of sore throat cases are viral and self-limiting. Therefore, the aim of medication is to relieve symptoms and discomfort while the infection runs its course. The goal of the pharmacological options usually available in the pharmacy is to reduce local pain and inflammation. These include:²⁹

- Analgesics such as paracetamol (or acetaminophen), aspirin and ibuprofen;
- Local anaesthetics such as lidocaine (or lignocaine) and benzocaine;
- Antibacterial and antifungal agents, such as chlorhexidine, cetylpyridinium chloride and benzalkonium chloride, or povidone iodine;
- Local anti-inflammatories such as benzydamine and flurbiprofen;
- Topical antiseptics such as hexylresorcinol, amylmetacresol and dichlorobenzyl alcohol.

Evidence is generally lacking for rigorous trials of treatments for non-infectious sore throat. Despite that, there are enough data to suggest there may be several effective strategies for symptom management.³⁰ There is good evidence to show that simple systemic analgesia — for example, paracetamol, aspirin and ibuprofen — is effective in reducing the pain associated with sore throat.³¹ The formulation and dosage should be adapted to the age and preferences of the patient. Aspirin is contraindicated in children and teenagers owing to the risk of Reye's syndrome.³²

Oral corticosteroids used for a short period can reduce pain on swallowing but lack effect on the clinical course of the infection.³³ This option should be considered as part of a shared decision making process with the interprofessional healthcare team because these drugs are potent anti-inflammatory agents that have side effects associated with them.³⁴ They can be useful in more severe cases and, since some people asking for antibiotics are probably only seeking relief for pain, sometimes they can avoid the use of an antibiotic.³⁵

Topical anaesthetics (such as lidocaine and benzocaine) can be used to provide local relief in the throat, despite them having a generally short duration of action and thus requiring frequent dosing to sustain analgesia. The advantages of these are that they seem to have minimal side effects and can be given to most patients.³² Formulations include sprays and lozenges that can incorporate different analgesic and anaesthetic components.³⁶ Anti-inflammatories (e.g., flurbiprofen and benzydamide) have an advantage over local anaesthetics in that they do not generally anaesthetise the entire mouth.³⁷ Simple measures such as sucking lozenges that contain a topical antiseptic (such as hexylresorcinol, amylmetacresol or dichlorobenzyl alcohol)^{36,38} may also be helpful in reducing the feeling of soreness, creating a “warm” sensation and reducing pain overall. There is little evidence to support the use of non-medicated lozenges.³⁸

Antimicrobial resistance is one of the major public health threats³⁹ at global level due to the impact on health systems caused by resistant strains of bacteria. The use of antibacterial and antifungal agents should not be routinely recommended since the vast majority of sore throats are caused by viral infections,⁴⁰ against which they have no action.

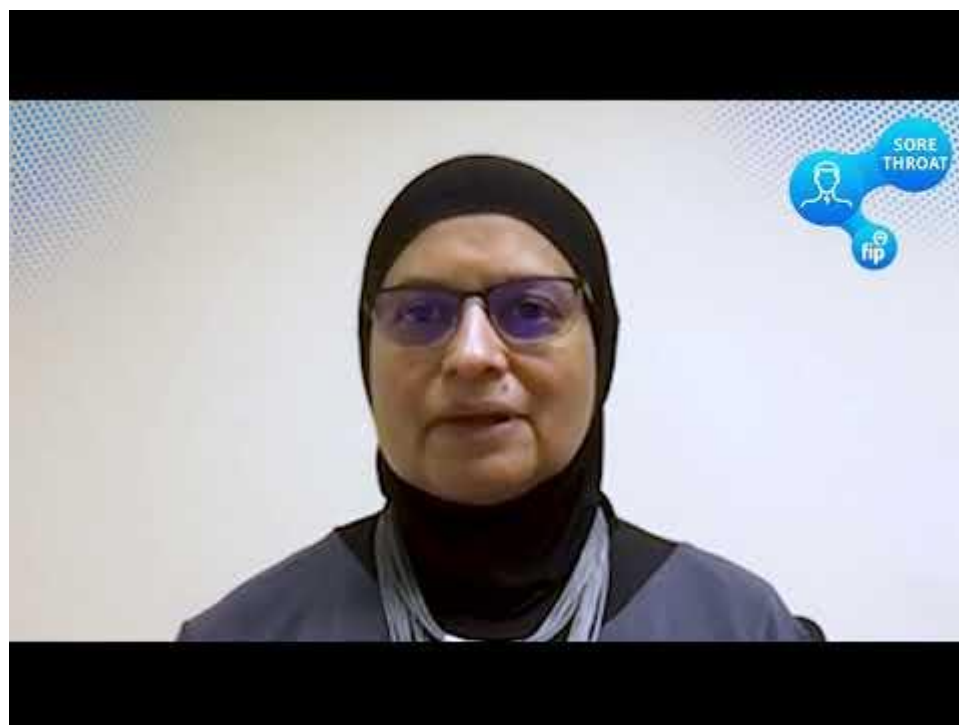
Despite this fact, there are still many countries around the world where this unwarranted use of antibiotics occurs, for reasons such as pleasing the patient and lack of testing to confirm the presence of bacteria.⁴¹ Around the world, first-line treatment options for confirmed bacterial infections are antibiotics that fall into the category of penicillin-based medicines. Cephalosporins or macrolides are the groups most frequently recommended as second-line antibiotics.⁴²

A summary of the pharmacological measures that can be used for sore throat is shown below:⁴³

Systemic analgesics/ anti-inflammatories	<ul style="list-style-type: none"> • Considered to manage pain associated with sore throat (e.g., paracetamol or ibuprofen) • Should be given according to the adequate dose for each individual, including adequate formulation and dosage for children • Aspirin is contraindicated in children
Oral corticosteroids	<ul style="list-style-type: none"> • May provide short relief of the pain associated with swallowing • Can be useful in cases of severe inflammation
Topical analgesics and anti-inflammatories (lozenges or sprays): benzocaine, lidocaine, benzydamine, flurbiprofen	<ul style="list-style-type: none"> • May help to reduce pain locally • Different formulations should be used according to the manufacturer's instructions
Topical antiseptics (lozenges or sprays): hexylresorcinol, amylmetacresol and dichlorobenzyl alcohol)	<ul style="list-style-type: none"> • Can help in reducing the feeling of soreness and the growth of pathogens • Little evidence was found on non-medicated lozenges
Antibiotics	<ul style="list-style-type: none"> • Should only be considered when a case of strep throat is confirmed with a test or where a prescription is provided by another healthcare professional

[The Sore Throat & Antibiotic Resistance \(STAR\) study](#), found that in the six months that preceded the study, 50% of the respondents of the survey had taken antibiotics for a respiratory condition like a sore throat. This study suggests that there are some factors contributing to the overuse of antibiotics: 61% of adults under 35 believe antibiotics are effective for a sore throat, and almost half (45%) of this age group do not know how to treat respiratory conditions without antibiotics.

A summary of pharmacological management options for sore throat and a video about antimicrobial resistance are provided in the videos below:



6 Non-pharmacological management and healthy lifestyles for sore throat

Pharmacists can support different non-pharmacological measures that can improve sore-throat-related symptoms. The main goal of non-pharmacological measures is to soothe the throat and relieve local pain and inflammation. Some tips and options to advise patients include:

Get plenty of rest;

Drink warm liquids that feel soothing to the throat, such as hot tea with honey, soup broth, ginger tea, or warm water with lemon, as well as drinking plenty of liquids;

Soothe the throat area with a piece of hard candy or a lozenge (this can also be done with honey or propolis);

Turn on a cool mist humidifier to add moisture to the air;

Rest the voice until the throat feels better and cover the neck; and

Avoid smoking and places with a lot of smoke .

The non-pharmacological options for sore throat are summarised in the video below:



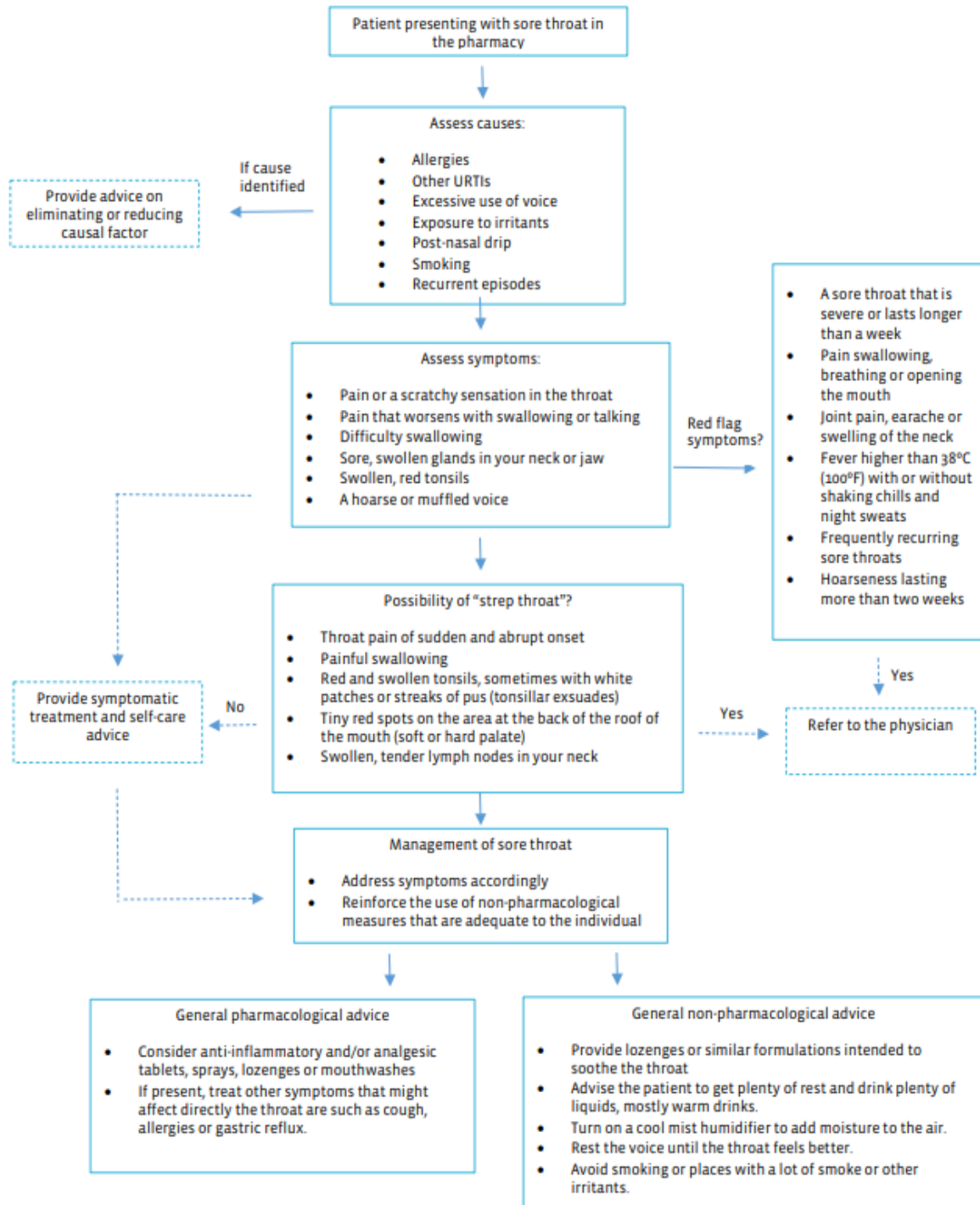
7 Tips and resources for managing sore throat in the community pharmacy

Presented here is some useful information and resources for sore throat management that pharmacists can use in their practice.

- Australian commission on safety and quality in health care – factsheet: should I take antibiotics?
- NHS UK – Sore throat
- Health Direct (Australia) – Sore throat
- Health Direct (Australia) – Strep throat
- News in health (USA) – Soothing a sore throat
- Management of Respiratory Disorders and the Pharmacist's Role
- Global Respiratory Infection Partnership resources
- CDC checklist - Virus or Bacteria
- Centor and McIsaac scores
- When to worry about a sore throat
- Government of Ireland's Sláintecare Integration Fund
- OSF healthcare, What to know about strep throat
- Health navigator NZ, Sore throat

Figure 2 represents a flowchart from a previous FIP publication. It highlights the different decisions that can be made when encountering a patient with sore throat⁴⁴ and can be used as a stand-alone tool.

- [Australian commission on safety and quality in health care – factsheet: should I take antibiotics?](#)
- [NHS UK – Sore throat](#)
- [Health Direct \(Australia\) – Sore throat](#)
- [Health Direct \(Australia\) – Strep throat](#)
- [News in health \(USA\) – Soothing a sore throat](#)
- [Management of Respiratory Disorders and the Pharmacist's Role](#)
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- [When to worry about a sore throat](#)
- [Government of Ireland's Sláintecare Integration Fund](#)
- [OSF healthcare, What to know about strep throat](#)
- [Health navigator NZ, Sore throat](#)

Figure 2. Flowchart summary for sore throat management⁴⁴

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International
Pharmaceutical
Federation

Fédération
Internationale
Pharmaceutique

Andries Bickerweg 5
2517 JP The Hague
The Netherlands

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T +31 (0)70 302 19 70
F +31 (0)70 302 19 99
fip@fip.org

-
www.fip.org

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