COLDS AND FLU

1. Introduction

- **Common cold** is a self-limiting viral infection of the upper respiratory tract (1).
- **Transmission** is mainly from person to person by droplets when an infected person breathes, coughs, or sneezes, and by **hands** that touch contaminated surfaces and then the nose, mouth or eyes. Viruses can survive on hard surfaces for many hours (1).
- Children catch colds more often than adults. Colds and flu almost always settle without treatment; OTC medicines are used **only to relieve symptoms** (1).

> **Note – antibiotics**
>
> Colds and flu are **viral**; **antibiotics do not help** and cause side effects and antimicrobial resistance. In Iraq antibiotics are often requested and obtained without a prescription for colds. The pharmacist should explain this and **not dispense an antibiotic without a prescription**. A patient with signs of a bacterial complication (Section 3) should be referred (1).

2. Patient assessment

A- Age

Very young children and **frail older people** should be **referred**. Most OTC cold medicines are not suitable for children under 6 years (Section 6) (1).

B- Duration and onset

1- A **rapid** onset (over hours) of symptoms suggests flu; a **gradual** onset suggests a cold (1).

2- The symptoms of the common cold usually last for 7–14 days. Some symptoms, such as a cough, may persist after the worst of the cold is over (1).

C- Symptoms

1- Sore throat: often dry and sore; usually the **first sign** of a cold. Analgesics and lozenges are usually enough (1).

2- Runny/blocked (congested) nose: clear watery discharge at first, later thicker and often **coloured**. Coloured mucus is normal in a cold and **does not mean a bacterial infection**. Congestion is due to dilated blood vessels and swollen nasal lining (1).

3- Sneezing and cough: cough is due to throat irritation or post-nasal drip (1).

4- Fever: Patients with a cold often feel hot, but a high temperature (>38 °C) is unusual and suggests **flu** (1).

5- Aches and headache: A mild headache is common. Marked muscle and joint aches suggest flu. A **persistent or worsening frontal headache or facial pain** (above or below the eyes, worse on bending forward or lying down) suggests **sinusitis and requires referral for further investigations** (1).

6- Earache: common in children with colds, due to blockage of the Eustachian tube. Most cases settle within **2–3 days** with paracetamol or ibuprofen (watchful waiting). **Refer** if pain persists, if there is discharge from the ear, or if the child is unwell (high fever, vomiting, very irritable or drowsy) (1).

7- Flu complications: Differentiating between colds and flu is needed. Flu is generally considered to be likely if (1):

1. **Temperature** ≥38 °C (37.5 °C in the elderly)
2. **At least one respiratory symptom** (cough, sore throat, nasal congestion, runny nose)
3. **At least one constitutional symptom** (headache, malaise, muscle aches, sweats/chills, prostration)

Flu generally settles with no need for referral; however, flu can be complicated by secondary lung infection (pneumonia); therefore, any patient with flu and **warning signs and symptoms of complication** (severe or productive cough with persisting high fever, delirium, pleuritic chest pain, or delirium) requires **referral** for further investigations (1). (However, reference 8 recommends referring any patient with symptoms indicative of flu) (8).

Feature	Common cold	Flu
Onset	Gradual (over a day or two)	Abrupt (over hours)
Fever	Usually absent or mild	**38 °C or higher** (37.5 °C in the elderly), sweats and chills
Main symptoms	Runny/blocked nose, sneezing, sore throat	Muscle aches, headache, weakness, dry cough, sore throat
Severity	Patient can usually carry on with daily activities	Often bed-bound; may send someone else to the pharmacy
Duration	7–14 days; cough may last up to 3 weeks	Fever settles in about 1 week; tiredness and cough may last 2 weeks more
Season	Any time of the year	Mainly winter

D- Previous history

1- Asthma: viral infections often trigger asthma attacks → **refer** (1).

2- COPD (chronic bronchitis): a cold or flu may cause an exacerbation (worse cough, purulent sputum, more breathlessness) → **refer** (1).

3- High-risk conditions: heart disease, kidney disease, diabetes, immunosuppression and pregnancy increase the risk of complications, especially with flu → **referral**.

Heart disease, hypertension, diabetes and hyperthyroidism also limit the use of oral decongestants (1).

E- Present medication

1- Check all medicines, because OTC cold remedies interact with several drugs (e.g. **beta-blockers** with decongestants; **sedatives** and **anticholinergic** drugs with antihistamines) (1).

2- Patients on **immunosuppressants** (e.g. long-term oral corticosteroids, ciclosporin, chemotherapy) → **refer**.

3- Failed medication: if suitable remedies have been used for a sufficient time without improvement → refer (1).

3. Red flags and referral

When to refer
Earache not settling after watchful waiting/analgesia/Pharmacy First intervention
In the very young
In the frail and old
In those with heart or lung disease, e.g. COPD, kidney disease, diabetes and a compromised immune system
With persisting fever and productive cough
With delirium
With pleuritic-type chest pain
Asthma

Treatment timescale (1)

Cold: see a doctor if not improving after about **2 weeks after symptom onset**, or earlier if worsening.

Flu: see a doctor if **no improvement after 1 week after symptom onset**, still significantly ill, or deteriorating.

4. Management

4.1 Non-drug measures and preventing spread

- **Rest** and **plenty of fluids** (fever increases fluid loss).
- **Saline nasal drops/sprays** loosen mucus and relieve congestion; safe at all ages and the **first choice in babies and young children** (1).
- **Steam** (e.g. sitting in a steamy bathroom) may help congestion. Do not use boiling water.
- **Hygiene:** wash hands with soap and water for at least 20 seconds (or alcohol gel >60%) (1).
- **Lozenges for sore throat**

4.2 Analgesics and antipyretics

Paracetamol or **ibuprofen** relieve fever, headache, sore throat, muscle aches and earache. They are the most useful medicines in colds and flu (1).

- **Paracetamol:** adults 500 mg–1 g every 4–6 hours; **max 4 g/day**. Children: dose by age/weight on the product. Warn about **duplication** – many cold and flu products already contain paracetamol.
- **Ibuprofen:** adults 200–400 mg three times daily after food; **max 1.2 g/day** (OTC). Avoid in active peptic ulcer, severe heart/kidney failure.
- **Aspirin: never in children under 16 years** (Reye's syndrome, a rare but occasionally fatal encephalopathy in children); generally, not preferred for colds.

4.3 Decongestants (sympathomimetics)

Decongestants constrict the dilated blood vessels in the nasal lining, so the swelling shrinks and the **blocked nose** is relieved (1).

A- Oral decongestants (pseudoephedrine, phenylephrine)

Oral decongestants stimulate the heart, raise blood pressure, and can raise blood glucose. They may also cause insomnia and restlessness. Therefore, oral sympathomimetics should be used with caution, or

avoided, in patients with the following: diabetes, coronary heart disease (e.g., angina), hypertension, and hyperthyroidism (1).

- **Pseudoephedrine:** adults and children ≥12 years 60 mg every 4–6 hours; **max 240 mg/day**.
- **Oral phenylephrine:** found **ineffective** as a decongestant at OTC doses; the FDA proposed removing it from OTC products (2024). It is found in many combination products but is not a useful choice (5).

B- Topical decongestants (nasal sprays/drops) (sympathomimetics)

Topical decongestants act quickly and cause few systemic effects, so they are **preferred for patients in whom oral decongestants are unsuitable** (hypertension, heart disease, diabetes, hyperthyroidism) (1).

Duration: maximum 7 days (5 days in children 6–12 years). Longer use causes **rebound congestion (rhinitis medicamentosa)** – the nose becomes more blocked when the drug wears off, and the patient keeps using it. Rebound does not occur with oral decongestants (1).

Table 1. Doses of common topical decongestants (2,6)

Drug	Age	Dose
Xylometazoline	**0.1% for** ≥12 years **0.05% for** 6–11 years	1–2 drops or 1 spray in each nostril 2–3 times daily
Oxymetazoline	0.05% for ≥12 years 0.025% for 6–11 years	2–3 drops/sprays in each nostril every 10–12 hours; max 2 doses in 24 hours

4.4 Antihistamines

Antihistamines can reduce a **runny nose and sneezing** through their antimuscarinic (drying) effect, but they **do not relieve nasal congestion**. On their own they are of little benefit in colds; they may give limited benefit in adults when combined with a decongestant and analgesic. **Non-sedating antihistamines** (loratadine, cetirizine) have little antimuscarinic effect and are **less effective** in colds – they are used for allergic rhinitis (1).

1. **Sedating antihistamines** (chlorphenamine, diphenhydramine, promethazine, triprolidine):

- **Side effects: drowsiness** (warn about driving), dry mouth, blurred vision, constipation, urinary retention, **confusion in the elderly**.
- **Avoid / caution:** closed-angle glaucoma, prostate enlargement/urinary retention, frail elderly, children under 6 years.

2. Non-sedating antihistamine: Examples of OTC non-sedating antihistamines are: Loratadine, fexofenadine, and cetirizine (1).

Note: Although drowsiness is rare, but the warning that these drugs may affect driving and skilled tasks is still present (5). Antimuscarinic adverse effects are not a significant problem with the non-sedating antihistamines (7).

4.5 Combination products

Cold and flu products on the Iraqi market usually contain several ingredients (e.g. paracetamol + decongestant + antihistamine). A **decongestant is commonly combined with an antihistamine** because it treats the congestion the antihistamine does not, and may offset some of its drowsiness (1).

4.6 Other products (limited or no evidence)

- **Vitamin C:** does not prevent colds in the general population; high doses (>1 g/day) taken regularly shorten colds only slightly (about 8%). Not recommended for routine use. Effervescent tablets contain a lot of **sodium** – avoid in patients on a sodium-restricted diet (heart failure, hypertension) (1).

- **Zinc lozenges:** only limited evidence; not generally recommended (1).
- **Echinacea:** insufficient evidence to recommend a specific product; may cause allergic reactions and rash (1).

4.7 Choosing a product by symptom

Table 2. Practical choice (adults and children ≥12 years)

Main symptom	Suggested option	Avoid / note
Fever, aches, headache, sore throat	Paracetamol or ibuprofen	Avoid Duplication; avoid aspirin in <16 y
Blocked nose	Topical xylometazoline/oxymetazoline (≤7 days) or saline; oral pseudoephedrine if no contraindication	Oral form in hypertension, heart disease, diabetes, hyperthyroidism
Runny nose, sneezing	Sedating antihistamine (night) or combination with decongestant	Drowsiness; glaucoma, prostate, elderly
Cough	See the Cough lecture (honey, simple linctus, etc.)	
Sore throat	Lozenges	Age younger than 3 years
Children <6 years	Saline drops, fluids, paracetamol/ibuprofen, honey (>1 y)	No OTC cold medicines

4.8 Not recommended (للاطلاع)

Product	Reason
Antibiotics	Colds and flu are viral; antibiotics do not help and increase resistance. Not without a prescription (1).
Oral phenylephrine	Ineffective as an oral decongestant (FDA) (5).
Topical decongestants for more than 7 days	Rebound congestion (rhinitis medicamentosa).
Aspirin in children <16 years	Reye's syndrome.

5. Flu vaccination and antivirals (للاطلاع)

Vaccination: the flu vaccine is changed every year, so it must be given **every year**. Pharmacists should encourage it for people at high risk: **age ≥65**, chronic heart, lung (including asthma), kidney or neurological disease, diabetes, immunosuppression, **pregnant women**, residents of care homes, and health workers (including pharmacy staff). In Iraq, check the current Ministry of Health vaccination campaign and availability. There is **no vaccine for the common cold** (1).

Antivirals: oseltamivir and zanamivir (prescription-only) are used for **at-risk patients** with flu if started **within 48 hours** of symptom onset (36 hours for zanamivir in children). The pharmacist's role is to **recognise** these patients and **refer them promptly**. They are not needed for healthy people with uncomplicated flu (1).

6. Special populations

- **Children:** OTC cough and cold medicines (antihistamines, decongestants, cough suppressants, expectorants) must **not be given under 6 years**; for 6–12 years only after simple measures, one product, **max 5 days**. Use saline drops, fluids, paracetamol/ibuprofen (by weight). No aspirin under 16 years (1,3).
- **Pregnancy:** Pregnant women with flu are at high risk → refer; the flu vaccine is recommended in pregnancy (1).
- **Breastfeeding:** paracetamol is suitable; pseudoephedrine and sedating antihistamines may reduce milk supply or sedate the infant.
- **Elderly:** higher risk of complications – low threshold to refer.
- **Hypertension, heart disease, diabetes, hyperthyroidism:** avoid oral decongestants; use topical decongestants or saline instead.

7. Counselling

- Colds last about **1–2 weeks** (cough up to 3 weeks); flu fever settles in about a week. **Antibiotics will not help.**
- Rest, drink plenty of fluids, and stay away from others while you have a fever.
- Do not take two cold/flu products together, and do not take extra paracetamol with a product that already contains it (max 4 g/day).
- Use nasal decongestant sprays/drops for **no more than 7 days**.
- Sedating antihistamines cause **drowsiness**: do not drive or drink alcohol.
- Wash hands often and cover coughs and sneezes.
- **See a doctor if:** breathlessness, chest pain, coughing blood, confusion, high fever that persists, earache not settling in 2–3 days, or no improvement (cold ~2 weeks; flu 1 week).

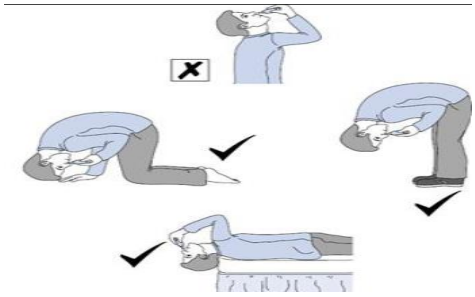
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ملحق: الأسئلة التي يسألها الصيدلي لمريض الزكام والإنفلونزا وكيف يتصرف

السؤال	كيف أتصرف حسب الجواب
١ـ منو المريض؟ وشكد عمره؟ (وإذا امرأة: حامل أو مرضع؟)	أقل من ٦ سنوات: لا أدوية زكام؛ أعطي قطرة ملحية وسوائل وباراسيتامول أو آيبوبروفين حسب الوزن. الرضّع وكبار السن الضعفاء: أحيل بسهولة. الحامل المصابة بإنفلونزا: **إحالة بنفس اليوم**.
٢ـ شنو الأعراض اللي عندك؟	رشح، انسداد أنف، عطاس، التهاب بلعوم: **زكام** ← أعالج حسب العرض الرئيسي.
٣ـ الأعراض بدت فجأة لو بالتدريج؟	فجأة مع حرارة وآلام عضلات: **إنفلونزا**. بالتدريج: **زكام**.
٤ـ عندك حرارة؟ شكد؟	حرارة ٣٨ أو أكثر: احتمال إنفلونزا أو كورونا ← راحة بالبيت. حرارة عالية مستمرة مع سعال ببلغم أو ألم صدر أو ضيق نفس: **إحالة عاجلة** (ذات الرئة).
٥ـ عندك صداع؟ وين؟ يزيد من تنحني لگدّام؟	صداع خفيف: مسكّن. ألم بالوجه أو الجبهة يزيد بالانحناء: **التهاب جيوب**؛ إذا أكثر من ١٠ أيام ويسوء أو تورّم حول العين: **إحالة**.
٦ـ عندك ألم بالأذن؟ شديد لو خفيف؟	أعطي باراسيتامول أو آيبوبروفين وأنتظر ٢–٣ أيام. إذا استمر أو طلع إفراز من الأذن أو الطفل تعبان: **إحالة**.
٧ـ عندك أمراض ثانية؟ (ضغط، قلب، سكر، غدة درقية، ربو، أمراض صدرية، كلى، مناعة)	ضغط/قلب/سكر/درقية: **لا مزيل احتقان فموي**؛ أعطي بخاخ أنف أو محلول ملحي. ربو أو COPD يسوء: **إحالة**. مريض عالي الخطورة بإنفلونزا: **إحالة**.
٨ـ تاخذ أدوية؟ شنو؟	حاصرات بيتا: **لا مزيل احتقان**. منوّمات أو مهدئات: **لا مضاد هستامين مسبّب للنعاس**. مثبطات مناعة أو كورتيزون طويل: **إحالة**.
٩ـ استعملت علاج لحالتك؟ شنو؟ ومن متى؟ نفعك؟	دواء مناسب لمدة كافية بدون فائدة: **إحالة**. انتبه لتكرار الباراسيتامول من أكثر من منتج.

طريقة استعمال قطرة وبخاخ الأنف





قطرة الأنف

١ـ نظّف الأنف من المخاط أولاً.

٢ـ استلقِ على السرير مع تدلية الرأس من الحافة بحيث تكون فتحة الأنف للأعلى (أسهل وضعية)، أو انحنِ بالرأس للخلف.

٣ـ ضع العدد المطلوب من القطرات داخل الأنف، وابقَ بنفس الوضعية دقيقتين تقريباً مع تحريك الرأس يمين ويسار، حتى تنتشر القطرة ولا تنسكب خارج الأنف.

بخاخ الأنف

١ـ نظّف الأنف جيداً.

٢ـ ارفع الغطاء ورجّ البخاخ. عند استعماله لأول مرة أو بعد عدم استعماله لعدة أيام، اضغط عدة مرات بالهواء حتى يبدأ بالرش.

٣ـ أغلق فتحة الأنف الثانية بالإصبع، وأدخل رأس البخاخ في الأنف مع توجيهه **للخلف وللجانب الخارجي** (بعيداً عن الحاجز الأنفي) وليس للأعلى.

٤ـ خذ شهيقاً خفيفاً من الأنف وفي نفس الوقت اضغط على البخاخ.

٥ـ أخرج الزفير من الفم وليس من الأنف، وتجنّب تنظيف الأنف لمدة ربع ساعة تقريباً.

٦ـ كرّر نفس الطريقة مع فتحة الأنف الثانية، ونظّف رأس البخاخ بعد الاستعمال. البخاخ لشخص واحد فقط.