A simple solution right under our noses: Why nasal saline sprays deserve more attention in primary care

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Background

CARRii (Centre for Applied Respiratory Research & Innovation) is a UK research centre dedicated to enhancing lung health by supporting the implementation of high-quality research into clinical practice, with the aim of reducing hospital admissions, easing NHS winter healthcare pressures, and improving patient outcomes.[1]

Winter respiratory infections remain one of the most common reasons for consultations in primary care. Most of these infections are viral, self-limiting and not helped by antibiotics, yet they still account for a substantial proportion of consultations in both general practice and community pharmacy. For primary care clinicians, these encounters are familiar. Patients seek reassurance, symptom relief and sometimes antibiotics, and we must balance compassionate care with antimicrobial stewardship and limited appointment capacity.

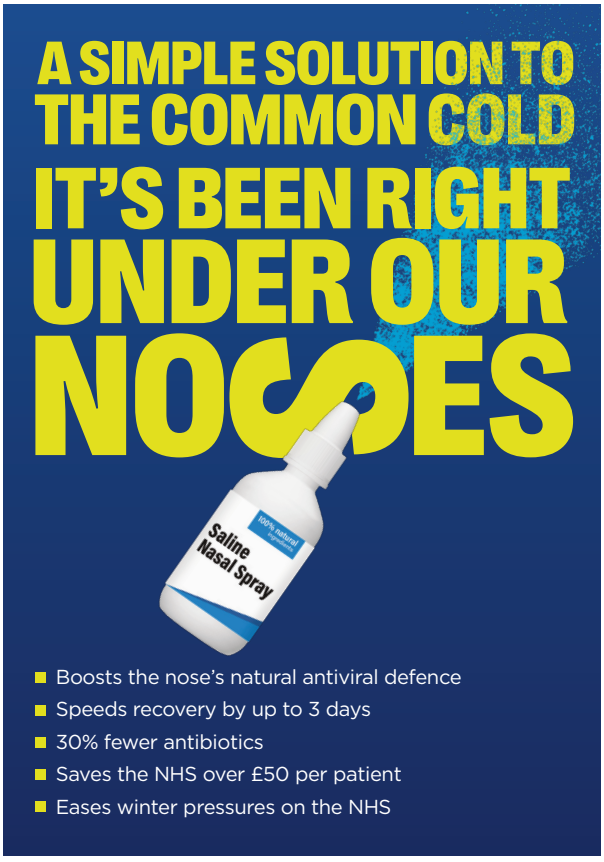
Emerging evidence suggests that something as simple as a saline nasal spray, used early in illness, may shorten symptom duration, reduce antibiotic use and support patient self-care. For primary care teams, this small inexpensive intervention could offer a practical addition to winter respiratory management.

Why the nose matters and why saline?

Respiratory viruses typically begin infection in the nasal mucosa, where they replicate before spreading further into the respiratory tract. Saline (sodium chloride) works directly at this early stage. Laboratory research has shown that chloride ions in saline enable nasal epithelial cells to produce hypochlorous acid, a naturally occurring antiviral substance capable of inhibiting viral replication.[2] Saline also helps clear mucus, wash away viral particles and soothe inflamed nasal passages. In effect, saline supports the nose's natural antiviral defences at the site where many respiratory infections begin.

Evidence from clinical trials

The evidence supporting the effectiveness of saline nasal sprays has strengthened considerably in recent years. The most notable study is the large UK Immune Defence Trial, published in *The Lancet Respiratory Medicine*.[3] This large-scale study included 13,799 adults who either experienced three or more respiratory tract infections per year or were identified as being at higher risk from respiratory



Using Saline Nasal Spray

Saline spray is clean, salty water. It isn't a medicine – the cells in your nose use salt to produce a natural antiviral defence which stops viruses multiplying. A large scientific study has shown that using saline spray can reduce the number of days your cold symptoms get in the way of normal activities by 3 days.

When should I use the spray?

- **Use as soon as you feel the first signs of a possible cold**
- **Spray 6 times each day, with 2 sprays in each nostril every time**
- **Spray when you first get up and throughout the day**
- **Keep using it for 2 days after symptoms go away, to stop the infection coming back**

How to use:

- **Put nozzle in nostril. Aim towards the side of the nose at a 45-degree angle**
- **Apply 2 sprays in each nostril**
- **Don't breathe in deeply while spraying**
- **Sniff gently after spraying**

Common questions about the spray

Q: I often have symptoms that might be a sign of a cold starting - can I use the spray often?

A: It is fine to use the spray as often as you need. Experts agree that even using the spray every day is totally safe - it may also help with cold-like symptoms due to allergies.

Q: Are there any side effects of using the spray?

A: Some people find that using it a lot can make their nose a little dry. You can pause or reduce how much you are using the spray if you find this. If you accidentally spray or sniff the saline too far up your nose this may sting but it will not cause harm.

This information has been produced by health experts at the University of Southampton. The advice is based on scientific and medical studies.

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infection. Participants were randomly assigned to one of four groups: usual care, isotonic saline spray, antiviral spray or a wellbeing programme. Saline and antiviral sprays were used up to six times per day, either at the first sign of infection or following exposure.

Compared with usual care, those using saline experienced:

- Three days shorter illness duration (12 days vs 15 days)
- Less severe symptoms and less disruption to daily activities
- 30% fewer antibiotic prescriptions
- Estimated NHS savings of more than £50 per patient

Other studies[3-5] in both adults and children have also shown reductions in illness duration and household transmission when saline irrigation or drops are used early in infection.

Individually these gains may appear modest. But respiratory infections occur millions of times each winter. Even small improvements in recovery time and antibiotic use could translate into meaningful benefits for patients and the health system.

What this means for primary care: For clinicians, saline nasal spray offers something valuable: a practical recommendation that patients can act on early in viral illness.

Supporting early self-management: Primary care increasingly emphasises empowering patients to manage minor illness safely at home. Advising saline spray at the first sign of symptoms gives patients a clear and constructive step to take, rather than simply waiting for symptoms to pass.

Supporting antibiotic stewardship: Antibiotic prescribing decisions can be influenced by patient expectations and consultation pressures. Being able to recommend a simple intervention associated with reduced antibiotic use can strengthen conversations about why antibiotics are not appropriate for viral infections.

Potential system benefits: Shorter illness duration may mean fewer repeat consultations, faster return to work or school, and reduced pressure across primary care services.

Implementation is simple

Importantly, saline sprays are safe, inexpensive and widely available over the counter. Unlike many healthcare innovations, this one requires no new pathways, training programmes or prescribing systems. Practices could consider:

- Recommending saline spray at the first sign of cold or flu symptoms
- Including saline advice in acute respiratory infection consultations
- Adding guidance to practice websites and patient self-care information
- Aligning advice with community pharmacy teams

It is important to emphasise that the evidence relates specifically to saline (saltwater) solutions, not topical decongestant sprays.

A small change worth considering

Winter respiratory infections will always be part of primary care. But simple interventions that support early self-care and reduce illness burden are valuable additions to the clinician's toolkit. Saline nasal spray may not feel like a dramatic innovation. Yet its low cost, strong safety profile and growing evidence base make it a practical option for clinicians to recommend.

Sometimes improving respiratory care is not about new medicines or complex technology. Sometimes it is about ***recognising a simple solution right under our noses.***

Key Practice Points

- Respiratory viruses replicate initially in the nasal mucosa, making the nose an important early target for intervention.
- Saline nasal spray supports natural antiviral defences and helps clear viral particles from the nasal passages.
- Early use has been associated with three days shorter illness duration and 30% fewer antibiotic prescriptions in a large UK trial.
- Saline sprays are safe, inexpensive and available over the counter.
- Primary care teams can encourage early use at the first sign of respiratory symptoms as part of self-care advice.

References

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