WHAT ARE SINUSES?

Sinuses are air-filled spaces or cavities within the skull that are lined with mucus membranes. Humans have four pairs of sinuses:

1. **Frontal sinuses** – in the forehead
2. **Ethmoid sinuses** – between the eyes
3. **Maxillary sinuses** – behind the cheeks
4. **Sphenoid sinuses** – deep behind the ethmoids

The tiny hairs (cilia) in the sinuses make sure mucus gets dispelled. But an increase in mucus production due to viral, bacterial or fungal infections can block the sinuses, which leads to sinusitis.
The Causes of Sinusitis

Sinusitis, or the inflammation of the sinuses, can be caused by any of the following:

- Allergic reactions\(^{1c,4c}\)
- Nasal polyps\(^{4d}\)
- Dehydration\(^{2b}\)
- Medications\(^{2b}\)
- Viral infections\(^{4a}\)
- Bacterial infections\(^{4a}\)
- Fungal infections\(^{4b}\)
- Dehydration\(^{2b}\)
- Nasal polyps\(^{4d}\)
- Medications\(^{2b}\)

**WHAT IS SINUSITIS?**

Sinusitis is the inflammation of the air cavities within the passages of the nose\(^{1a}\).

**How to Spot Sinusitis**

Here are some common symptoms to look out for in both acute and chronic sinusitis:

- Congestion in the nose\(^{3a}\)
- Pain and swelling in the sinus areas\(^{3a}\)
- Decreased sense of smell\(^{3a}\)
- Headache, toothache, earache and eye pain\(^{3a}\)
- Productive cough – especially at night\(^{3a}\)

Discoloured discharge can be found in severe cases of sinusitis\(^{3a}\), while a post-nasal drip that irritates the throat is associated specifically with chronic sinusitis\(^{3a}\).
Sinusitis Due to a Cold or the Flu

Let’s take a step-by-step look at how sinusitis usually develops from a common cold:

1. During a cold the mucus membranes in the nasal cavity swell up and block the openings of the sinuses.
2. More air in the sinuses is absorbed into the bloodstream.
3. Pressure inside the sinuses decreases, drawing fluid into the sinuses and causing discomfort.
4. The build-up of trapped fluid encourages bacteria to multiply.
5. White blood cells and more fluid enter the sinuses to fight off the bacteria.

Sinusitis in Children

At first, it can be tricky to distinguish sinusitis from an upper respiratory tract infection in children. Sinusitis is, however, usually the suspect when pus-filled nasal discharge continues for more than 10 days, and the patient remains tired with a persistent cough.

DIAGNOSIS: TOP TIP
Ask your patient whether they are experiencing fever and chills, because when these develop it may mean the infection has spread beyond the sinuses. Knowing the exact symptoms will help you establish what the best course of action is.

Key Symptoms of Sinusitis

**FACIAL PAIN**
Facial pain and tenderness

**PRODUCTIVE COUGH**
Especially at night

**TOOTHACHE**
Caused by pressure on surrounding nerves and tissues

**EARACHE**
Caused by pressure on surrounding nerves and tissues

**EYE PAIN**
Caused by pressure on surrounding nerves and tissues

**DISCOLOURED NASAL DISCHARGE**
In severe cases

**POST-NASAL DRIP**
This irritates the throat tissue and is associated with chronic sinusitis

**HEADACHE**
Due to pressure in blocked sinuses, bending down can increase pain

**GENERAL FEELING OF FATIGUE**
Due to fever, immune response or coughing

**DECREASED SENSE OF SMELL**
Decreased sense of smell

**SWELLING**
Swelling over the infected sinus

**CONGESTION**
Congestion in the nose

**BAD BREATH OR HALITOSIS**
Possible bad breath or halitosis

**WHITE BLOOD CELLS**
and more fluid enter the sinuses to fight off the bacteria.

**GENERAL FEELING OF FATIGUE**
Due to fever, immune response or coughing

**CONGESTION**
Congestion in the nose

**EARACHE**
Caused by pressure on surrounding nerves and tissues

**EYE PAIN**
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Due to fever, immune response or coughing

**DECREASED SENSE OF SMELL**
Decreased sense of smell
WHAT IS CONGESTION?

When patients get sick, congestion refers to the stuffiness or fullness they experience in the nasal or breathing passageways and the sinuses when they get sick. Nasal and sinus congestion is usually caused by increased blood volume in the vessels that line the passages of the nose. This increase happens because white blood cells rush to the area to defend you. This narrows the air passages in your nose, which restricts airflow.

WHAT IS A DECONGESTANT?

A decongestant reduces the swelling in the passages of your nose and allows you to breathe more easily. Decongestants are often available in spray form, often with xylometazoline or phenylephrine, and in oral form, often with pseudoephedrine.

What Can Your Patients Do About Congestion?

- Inhale steam over a hot basin or from a vaporiser
- Place hot, wet towels over the sinuses
- Consume hot drinks
- Flush the nose with saline spray
- Use a decongestant

Urgent Assistance!

Complications of sinusitis include:

1. Swelling of the tissue around the eye
2. Vision changes
3. Severe headaches
4. Confusion
5. Meningitis/Neck stiffness
6. Rare fungal infections

Patients with such symptoms/conditions should seek medical treatment immediately.
CASE STUDY

Spencer, 39, Nature Photographer

• Spencer has come to the pharmacy to ask for advice.
• He tells you that his nose is blocked and that he is experiencing facial pain.
• He also cannot smell anything and his head and ears are aching.
• On top of this, he’s feeling lethargic.
• He would like to know what OTC product he can take to help him get over his symptoms and focus on his next shoot.

Spencer tells you that the symptoms started 48 hours before he came to your pharmacy. He’s feeling fatigued and a bit shivery and he says his face aches above and underneath his eyes, but he does not have discoloured discharge or a post-nasal drip that he’s aware of. He has not taken any other medication for his symptoms yet.

Diagnosis:

You establish that Spencer has sinusitis. It’s likely a cold or the flu that’s lead to Spencer’s condition, but it’s not a severe case of sinusitis, as he doesn’t have discoloured nasal discharge. It’s also an acute case as it only recently started and he doesn’t have a post-nasal drip.

Module 3  Sinusitis and Congestion

Ask the following questions

• How long have the symptoms lasted for?
• Where is he experiencing facial pain?
• How severe is his headache?
• Does he have toothache?
• Does he have a fever?
• Does he have a cough?
• Does he have discoloured nasal discharge?
• Is he experiencing a feeling of malaise?
• Does he have a post-nasal drip?
• Has he taken any other medicine for the condition?
• Is he experiencing problems with his vision?
Treatment

You can recommend the following OTC products to help Spencer cope with the symptoms of sinusitis:

1. Sinutab® Sinus Allergy
   Congestion & Pain

   Symptomatic relief of:
   - Mild to moderate sinus and allergy pain
   - General discomfort associated with fever
   - Nasal and sinus congestion
   - Hay fever, influenza and common cold

   If the pain Spencer is experiencing is severe, you can also recommend:

2. Sinutab® Sinus Pain Extra
   Strength

   Symptomatic relief of:
   - Severe sinus pain
   - General discomfort associated with fever
   - Nasal and sinus congestion
   - Hay fever, influenza and common cold

   If the congestion is bothering him too much and disrupting his regular functions, he can use Sinutab® Nasal Spray to alleviate this.

3. Sinutab® Nasal Spray

   Symptomatic relief of:
   - Nasal congestion caused by colds, hay fever, allergic rhinitis and sinusitis

Disclaimer: As per the Medicines and Related Substances Act, 1965, Section 22A(4) and (5), S1 and S2 product recommendations can only be made by a pharmacist, pharmacist intern or a pharmacist’s assistant acting under the personal supervision of a pharmacist.

Dosage

- **Adults & children over 12 years:**
  2 tablets every 6 – 8 hours. Do not exceed 8 tablets in 24 hours.

- **Children under 12 years:**
  Not recommended.

- **Adults & children over 12 years:**
  One spray into each nostril 2 – 3 times per day, as required. Do not exceed 3 sprays per day. Do not use for more than three days.

- **Children 6 – 12 years:**
  A half to 1 tablet every 6 hours. Do not exceed 4 tablets in 24 hours.

- **Children under 6 years:**
  Not recommended.
How Sinutab Nasal Spray works

Sinutab® containing xylometazoline reduces the symptoms of nasal congestion\(^{13,14}\)

Xylometazoline starts to work in 2 minutes\(^{17}\)

Xylometazoline has a direct effect on alpha-adrenergic receptors, reducing swelling of the inflamed nasal membranes – by shrinking dilated blood vessels. By easing nasal congestion, it may also improve sinus ventilation and drainage to ease sinus pressure and pain\(^{12,13,15,16}\)

Xylometazoline helps cold sufferers breathe freely for up to 10 hours so they can get on with their day\(^{17}\)

The decongestant effect of xylometazoline 0.1% nasal spray at 1 hour\(^{17}\)

\[\text{Mean upper airway conductance (cm}^3/\text{s)}\]

\[
\begin{array}{cc}
\text{Xylometazoline} & 384.23 \\
\text{Saline} & 226.42 \\
\end{array}
\]

\[\text{P}<0.00001\]

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Why Choose Sinutab®

Sinutab® has a unique range specifically formulated to treat all types of upper respiratory congestion and allows you to breathe more freely.

Sinutab® Nasal Spray
Sinutab® Sinus Pain Extra Strength
Sinutab® Sinus Allergy Congestion & Pain
Sinutab® Saline Spray

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<table>
<thead>
<tr>
<th>SINUS</th>
<th>NOSE</th>
</tr>
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<tbody>
<tr>
<td><strong>Sinutab® Sinus Pain Extra Strength</strong></td>
<td><strong>Sinutab® Nasal Spray</strong></td>
</tr>
<tr>
<td>Indication: Congestion + Severe Pain Relief + Allergy</td>
<td>Nasal Congestion</td>
</tr>
<tr>
<td><strong>Symptomatic relief of:</strong></td>
<td><strong>Fast (2 min) and long lasting (10 hours) relief from Nasal congestion caused by colds, allergic rhinitis, hay fever, sinusitis</strong></td>
</tr>
<tr>
<td>Severe sinus pain</td>
<td>Supports treatment of nasal decongestion</td>
</tr>
<tr>
<td>Malaise &amp; Fever</td>
<td>• Cleans &amp; Moisturizes nasal passages</td>
</tr>
<tr>
<td>Nasal &amp; Sinus congestion</td>
<td><strong>Sinutab® Saline Spray</strong></td>
</tr>
<tr>
<td>Hay fever, influenza &amp; common cold</td>
<td>Isotonic Saline Solution</td>
</tr>
<tr>
<td><strong>Active Ingredients</strong></td>
<td><strong>Size</strong></td>
</tr>
<tr>
<td>Pseudoephedrine 30 mg*</td>
<td><strong>20s</strong></td>
</tr>
<tr>
<td>Starts to work in 30 mins*</td>
<td><strong>10 ml</strong></td>
</tr>
<tr>
<td>Lasts up to 8 hours*</td>
<td></td>
</tr>
<tr>
<td>Codeine 10 mg*</td>
<td><strong>15 ml</strong></td>
</tr>
<tr>
<td>Starts to work in 1 hour*</td>
<td>* Per ml</td>
</tr>
<tr>
<td>Lasts 4 – 6 hours*</td>
<td></td>
</tr>
<tr>
<td>Chlorpheniramine Maleate 2 mg*</td>
<td><strong>Paracetamol 500 mg</strong>*</td>
</tr>
<tr>
<td>Starts to work in 30 min*</td>
<td><strong>Chlorpheniramine Maleate 2 mg</strong>*</td>
</tr>
<tr>
<td>Lasts up to 8 hours*</td>
<td></td>
</tr>
<tr>
<td>Xylometazoline hydrochloride 1 mg*</td>
<td><strong>Starts to work in 30 min</strong>*</td>
</tr>
<tr>
<td>Starts to work in 2 minutes*</td>
<td></td>
</tr>
<tr>
<td>Lasts up to 10 hours*</td>
<td></td>
</tr>
<tr>
<td>Paracetamol 500 mg**</td>
<td><strong>Starts to work in 30 – 60 min</strong></td>
</tr>
<tr>
<td>Starts to work in 30 – 60 min**</td>
<td></td>
</tr>
<tr>
<td>Lasts 4 – 6 hours**</td>
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</tbody>
</table>

**Size**

- **24s & 12s**
- **20s**
- **10 ml**
- **15 ml**

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SINUTAB® Sinus Pain Extra Strength. Each tablet contains:
Pseudoephedrine Hydrochloride 30 mg, Codeine Phosphate 10 mg,
Chlorpheniramine Maleate 2 mg, Paracetamol 500 mg. Reg No. 37/5.8/0260.

SINUTAB® Nasal Spray. Xylometazoline Hydrochloride 1 mg per
ml (0.1 % w/v). Reg. No. P/16.1/184.

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Which of the following ingredients helps manage pain rather than decongestion?

a. Xylometazoline
b. Phenylephrine
c. Pseudoephedrine
d. Paracetamol

You’ve reached the end of the module. You can test your knowledge right away while the info is fresh, or you can complete the full Class Test in one go once you reach the end of this Study Pack. See the back page of the booklet for more details on how to complete and submit your test.

References


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