CONDITION

Foreign object - inhaled

An inhaled foreign object is food or another item that accidentally enters and may block part of the airway.

WHAT IT IS
Food or another object lodged in the airway

BODY SYSTEM
Lungs and breathing

MAIN SYMPTOMS
Choking, coughing, wheezing, difficulty breathing

WHAT CAUSES IT
Accidental breathing-in of food or objects

HOW IT IS DIAGNOSED
Bronchoscopy, supported by examination and imaging

MAIN TREATMENT
Airway first aid and bronchoscopic removal

CAN IT BE CURED?
Yes - removal usually clears the airway

IS IT AN EMERGENCY?
Sometimes - inability to breathe, speak, or cough

LONG-TERM OUTLOOK
Usually excellent after prompt, complete removal

Overview

An inhaled foreign object is something that enters the airway instead of passing down the food pipe to the stomach. This is also called foreign body aspiration. Food is a common cause, but small toys, pieces of plastic, dental material, tablets, and other objects can also be inhaled.

The object may become stuck in the throat, windpipe, or one of the breathing tubes inside a lung. A large object can completely block airflow and cause choking. A smaller object may allow some air to pass but still irritate or obstruct part of the lung.

Complete airway blockage is an emergency. However, not every inhaled object causes dramatic symptoms. After an early coughing or choking episode, a person may appear better even though the object remains in place. Persistent coughing, one-sided wheezing, repeated chest infections, or breathing difficulty may develop later.

Children are affected more often because they explore objects with their mouths and have narrow airways. Adults can also inhale objects, particularly when swallowing is impaired.

Symptoms

Symptoms often begin suddenly while eating or handling a small object. The person may choke, cough forcefully, gag, or struggle to breathe.

Possible symptoms include:

A complete blockage can prevent the person from speaking, coughing, or breathing. They may clutch their throat, become confused, or lose consciousness.

Symptoms can become less obvious if the object moves farther into a breathing tube. A child may return to play after coughing, or an adult may think the food has cleared. Over the following hours, days, or weeks, there may be a continuing cough, fever, unpleasant-smelling mucus, or repeated pneumonia in the same area of the lung.

Symptoms that improve do not always prove that the object has come out.

- Sudden coughing or choking
- Noisy breathing or a high-pitched sound when breathing in
- Wheezing, sometimes heard mainly on one side
- Shortness of breath or rapid breathing
- Difficulty speaking or crying
- Chest, throat, or neck discomfort
- A weak, ineffective, or silent cough
- Blue or grey lips or skin from too little oxygen

Causes and risk factors

The immediate cause is accidentally breathing in an item. This often happens when a person takes a sudden breath while food or another object is in the mouth.

In young children, common circumstances include eating while running, laughing, crying, or playing. Small, firm, round, or compressible foods and loose toy parts can fit into a child's airway. Balloons and pieces of balloon are particularly difficult to remove because soft material can form a tight seal.

An adult may be more likely to inhale something if they have:

Dental appliances, fragments of teeth, and medical equipment can occasionally enter the airway during a procedure. In some adults, inhalation happens without a clearly remembered choking event.

- A condition that affects swallowing, alertness, or muscle control
- A stroke, dementia, Parkinson's disease, or another neurological condition
- Poorly fitting dentures or reduced sensation in the mouth
- Sedation for a medical or dental procedure
- Reduced alertness from alcohol, medicines, or illness

Diagnosis

A clinician will ask what happened, what may have been inhaled, and whether there was sudden choking or coughing. They will listen to the lungs and check breathing and oxygen levels. Reduced air entry or wheezing on one side can suggest a blockage, but the examination may also be normal.

A chest or neck X-ray may show a metal or other visible object. Many foods, plastics, and organic materials do not appear directly on an X-ray. Instead, imaging may show trapped air, collapse of part of a lung, or pneumonia. A normal X-ray does not rule out an inhaled object.

CT scanning can provide more detail in selected stable cases, particularly when the history is uncertain. It is not a substitute for immediate airway treatment when someone is choking.

Bronchoscopy is the test that can confirm the diagnosis. A bronchoscope is a narrow instrument passed through the mouth or nose into the airway. It contains a light and camera, and it can usually be used to remove the object at the same time.

If there was a convincing choking event or ongoing concerning symptoms, bronchoscopy may be needed even when an X-ray looks normal.

Treatment and management

Treatment depends on whether the airway is completely blocked.

If the person can cough strongly and breathe, encourage them to keep coughing. Do not put fingers into their mouth unless an object is clearly visible and easy to grasp. A blind finger sweep can push it deeper.

If they cannot breathe, speak, or cough effectively, call emergency services immediately. Give age-appropriate choking first aid if you know how. This generally involves back blows followed by the recommended thrusts, but the technique differs for infants, children, pregnant people, and adults. Follow instructions from the emergency call handler. Begin cardiopulmonary resuscitation, or CPR, if the person becomes unresponsive and is not breathing normally.

Even if first aid seems to remove the object, medical assessment may be needed after a severe choking episode. Part of the object may remain, or the airway may have been injured.

A retained object is usually removed during bronchoscopy under sedation or general anaesthesia. A rigid bronchoscope is often used for children because it helps control the airway while the object is removed. Flexible bronchoscopy may be used in adults or in selected situations.

Clinicians may also treat complications such as low oxygen, airway swelling, or pneumonia. Antibiotics like amoxicillin or doxycycline are not automatically required after every aspiration; they are used when there is evidence of a bacterial infection or another clear reason.

Rarely, an object cannot be removed through a bronchoscope. Surgery may then be required.

Complications

The main immediate complication is complete airway obstruction, which prevents oxygen from reaching the lungs and brain.

A smaller retained object can block drainage and airflow in one part of a lung. This may lead to:

A sharp object may puncture the airway. Air can then leak around the lung, although this is uncommon.

Complications are more likely when diagnosis and removal are delayed. Some lung changes improve after removal, while established airway damage may need longer-term follow-up.

- Pneumonia or a collection of infected material
- Collapse of part of the lung, called atelectasis
- Air trapping and overexpansion beyond the blockage
- Bleeding or damage to the airway wall
- Scar-like tissue growing around the object
- Bronchiectasis, meaning permanently widened and damaged breathing tubes

Prevention

Many inhalation events can be prevented, although it is not possible to remove every risk.

Give young children foods that match their chewing ability and prepare them in safer shapes and textures. Children should sit while eating and be supervised without being rushed. Discourage eating with a mouth full while running, laughing, or playing.

Keep coins, batteries, beads, pen caps, toy parts, deflated balloons, and other small items out of young children's reach. Follow toy age labels and check toys for loose or broken pieces.

Anyone with swallowing difficulties may benefit from a formal swallowing assessment. Recommended changes might include altering food texture, changing how meals are supervised, or adjusting posture while eating. These changes should be based on that person's swallowing needs.

During dental care or other procedures, healthcare teams use barriers, positioning, and retrieval methods to reduce the chance that equipment enters the airway.

Living with it and what to expect

An inhaled foreign object is usually a single event rather than a lifelong condition. Once the object is removed completely and there is no major lung injury, breathing often returns to normal. Coughing or throat irritation can continue for a short time after bronchoscopy because the airway has been irritated.

Follow-up is guided by what was inhaled, how long it was present, and whether infection or lung damage developed. A clinician may arrange another examination or chest image to confirm that the affected lung has reopened and infection has cleared.

People treated after a long delay may take longer to recover. Persistent bronchiectasis can cause an ongoing cough, mucus, or repeated infections and may require specialist lung care. This is not the usual outcome after prompt removal.

If swallowing problems contributed, the risk of another episode remains until those problems are addressed. A swallowing specialist may recommend safer ways to eat and drink. Families of young children can reduce future risk by reviewing food preparation, mealtime habits, and access to small objects.

When to get medical help

Call emergency services now if someone:

Give appropriate choking first aid while help is coming. Do not delay the call while trying to retrieve an object.

Seek urgent medical assessment after a witnessed or strongly suspected inhalation if coughing, wheezing, noisy breathing, chest discomfort, or shortness of breath continues. A child who had a clear choking episode should be assessed promptly if there is any concern that the object was not expelled, even if they now appear comfortable.

Arrange follow-up after treatment if fever, increasing cough, unpleasant-smelling mucus, breathing difficulty, or chest pain develops. These symptoms may indicate infection, a remaining fragment, or another complication.

Routine follow-up may also be advised after bronchoscopy or pneumonia. Keep these appointments even if symptoms have improved.

- Cannot breathe, speak, cry, or cough effectively
- Has a silent or very weak cough during choking
- Develops blue or grey lips or skin
- Becomes confused, very drowsy, or unconscious
- Has severe or rapidly worsening breathing difficulty

Common questions

Can something enter my lung without me knowing?

Yes. A sudden coughing or choking event may be brief or forgotten, especially in a young child or an adult with reduced sensation or memory. Some people are investigated only after developing persistent cough, one-sided wheezing, or repeated pneumonia.

Will an inhaled object always show on an X-ray?

No. Metal and some other dense materials are usually visible, but food, wood, and many plastics are not. An X-ray may instead show indirect signs such as trapped air or lung collapse. It can also look normal.

Can I cough the object out myself?

A strong cough can expel an object, so someone who is breathing and coughing effectively should keep coughing. Do not assume it has cleared if symptoms continue or the object is not seen. Severe choking requires emergency first aid and an emergency call.

What if food just "went down the wrong pipe"?

Brief coughing while eating is common and may clear a small amount of food or liquid. If

breathing returns fully to normal and no symptoms remain, a retained object is less likely. Continuing cough, wheezing, fever, chest discomfort, or breathlessness needs medical assessment.

How do clinicians remove an inhaled object?

Most retained objects are removed with a bronchoscope passed into the airway under sedation or anaesthesia. Small grasping tools, baskets, or suction can be used through the instrument. Open surgery is rarely needed.

Can the object move after it has been inhaled?

Yes. Coughing or changes in position can move an object between breathing tubes. Symptoms may change or briefly disappear, but the object can cause a new blockage elsewhere. Changing symptoms after a choking event still need assessment.

Sources

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