CONDITION

Pharyngomaxillary space abscess

A pharyngomaxillary space abscess is a pocket of infection deep beside the throat and behind the jaw.

WHAT IT IS
Pus-filled infection deep beside the throat

BODY SYSTEM
Throat, mouth, and neck

MAIN SYMPTOMS
Severe throat pain, fever, swallowing difficulty, jaw stiffness

WHAT CAUSES IT
Bacterial infection spreading from nearby tissues

HOW IT IS DIAGNOSED
Contrast CT scan, examination, and drainage cultures

MAIN TREATMENT
Hospital antibiotics, airway support, and abscess drainage

CAN IT BE CURED?
Yes - with drainage and infection treatment

IS IT AN EMERGENCY?
Yes - especially with breathing or swallowing difficulty

LONG-TERM OUTLOOK
Usually full recovery with prompt treatment

Overview

A pharyngomaxillary space abscess is a collection of pus in a deep area beside the upper throat and behind the jaw. This area is often called the parapharyngeal or lateral pharyngeal space in modern medical writing.

The space contains or lies close to important nerves and blood vessels. It also connects with other spaces in the neck. An infection there can therefore affect swallowing, breathing, movement of the jaw, or nearby structures.

This condition is different from a simple sore throat. The infected area is deep and may not be clearly visible when someone looks inside your mouth. It usually needs urgent assessment in hospital, even if breathing is currently comfortable.

Treatment controls the infection, protects the airway, and removes pus when needed. With timely treatment, many people recover without lasting problems.

Symptoms

Symptoms often develop over several days, although they can worsen more quickly. They may be stronger on one side.

Common symptoms include:

A swelling may push the side wall of the throat inward, but this is not always easy to see. Some people have less obvious throat swelling despite a significant deep infection.

Breathing difficulty, noisy breathing, inability to swallow saliva, confusion, or rapidly increasing swelling are emergency symptoms. They can mean that the airway or the rest of the body is being affected.

Children may not describe their symptoms clearly. They may refuse food or drinks, drool, become unusually irritable, hold their head in an unusual position, or seem reluctant to move their neck.

- Severe sore throat or pain deep in the neck
- Fever, chills, or feeling generally unwell
- Pain or difficulty when swallowing
- Difficulty opening the mouth, called trismus
- Swelling under the jaw or along the side of the neck
- Ear pain without an obvious ear infection
- A muffled or changed voice
- Drooling because swallowing is painful
- Head or neck movement that increases the pain

Causes and risk factors

Most pharyngomaxillary space abscesses are caused by bacteria. More than one type of bacterium may be present.

The infection usually begins in nearby tissue and spreads into the deep neck space. Possible starting points include:

Sometimes the original source cannot be identified.

Factors that may make a deep neck infection more likely or harder to control include poorly controlled diabetes, reduced immune function, poor dental health, and delayed treatment of a dental or throat infection. These factors do not mean that someone will develop an abscess.

An abscess is not caused by cold weather, talking too much, or ordinary muscle strain. It is also not the same as uncomplicated tonsillitis.

- A tonsil or throat infection
- A dental infection, particularly from the back teeth
- An infection of a salivary gland
- Infection after an injury or procedure involving the mouth or throat
- A nearby deep neck infection

Diagnosis

Diagnosis begins with questions about your symptoms and a careful examination of your mouth, throat, jaw, and neck. The clinical team will check how well you can swallow, open your mouth, speak, and breathe.

Because the infection is deep, examination alone may not show its full size or location. A CT scan of the neck using contrast dye is usually the main imaging test. Contrast makes blood vessels and infected tissues easier to distinguish. The scan can show a pocket of pus, swelling around it, narrowing of the airway, and spread into another neck space.

An ultrasound may help with a more superficial swelling, but it cannot always reach or clearly show the pharyngomaxillary space. MRI can provide detailed images and may be used in selected situations, although it usually takes longer than CT.

Blood tests can look for signs of inflammation and the effects of infection on the body. Blood cultures may be taken if there is concern that bacteria have entered the bloodstream.

If pus is drained, a sample is normally sent to a laboratory. This can identify the bacteria and help the team choose a suitable antibiotic like amoxicillin or doxycycline . Treatment may need to begin before culture results are available.

Some people need a small flexible camera passed through the nose to examine the throat and airway. Numbing medicine is usually applied first.

Treatment and management

Treatment normally takes place in hospital. The immediate priorities are keeping the airway safe, treating the bacterial infection, and deciding whether the abscess needs drainage.

You may be monitored closely for changes in breathing, swallowing, blood pressure, or alertness. If airway swelling is significant, an anaesthesia and ear, nose, and throat team may become involved early. Airway support is tailored to the situation; only a minority of people need a breathing tube or a surgical airway.

Antibiotics are usually given into a vein at first. They are chosen to cover the bacteria commonly found in the mouth and throat. The choice may later change based on culture results, allergies, kidney function, or response to treatment. Once you are improving and can swallow safely, treatment may sometimes continue with antibiotic tablets or liquid.

Many established abscesses need drainage because antibiotics may not reach the centre of a pus-filled cavity effectively. Drainage can be performed through the mouth or through a small cut in the neck. The route depends on the abscess location, its size, nearby blood vessels, and whether other neck spaces are involved.

In selected cases, imaging shows inflamed tissue without a well-formed pocket of pus. This is called cellulitis or phlegmon. Close observation and antibiotics may be appropriate, with repeat assessment if improvement does not follow.

Pain relief, fluids, and support with eating are also important. You may temporarily need fluids through a vein if swallowing is too painful or unsafe. A dental infection, infected tonsil, or other original source may require additional treatment after the immediate infection is controlled.

Complications

Complications are less likely when the infection is recognised and treated promptly. They occur because the pharyngomaxillary space is close to the airway, major blood vessels, nerves, and other connected neck spaces.

Possible complications include:

These complications are not inevitable. Hospital monitoring and drainage are intended to identify and prevent them where possible.

- Swelling that narrows or blocks the airway
- Spread into other deep areas of the neck
- Infection spreading into the chest

- Sepsis, the body's harmful whole-body response to infection
- Infection or clotting in a major neck vein
- Bleeding caused by damage to a nearby artery
- Temporary or lasting problems involving nearby nerves
- A return of the abscess if the original source remains

Prevention

A pharyngomaxillary space abscess cannot always be prevented. Some develop even when an earlier infection seemed mild or was treated appropriately.

Good dental care may reduce the chance of an abscess that begins in a tooth. This includes regular dental check-ups, brushing with fluoride toothpaste, and arranging dental assessment for persistent tooth pain, gum swelling, or facial swelling.

Seek medical or dental advice for a throat, mouth, or dental infection that is worsening rather than improving. New difficulty swallowing, opening the mouth, or moving the neck needs prompt assessment.

If you have diabetes or another condition that affects immune function, following your established care plan may help your body respond to infection. It does not remove the risk completely.

The abscess itself is not prevented by avoiding everyday contact with someone who has had one.

Living with it and what to expect

This is usually an acute condition rather than a lifelong illness. The active infection generally develops over days and is treated during a hospital stay. Recovery time is influenced by the infection's size, its source, whether it has spread, and whether drainage was required.

Pain, swelling, and swallowing often begin to improve after the infection is controlled. Tiredness and throat discomfort can continue for days or weeks. A wound from surgical drainage may need short-term care.

Before leaving hospital, you should understand how to take any remaining antibiotic course, care for a wound if present, and return for follow-up. Follow-up may involve an ear, nose, and throat specialist, dentist, or another team responsible for the original source.

A repeat scan is not required for everyone. It may be considered if symptoms do not improve as expected, return after treatment, or were linked to an unusual finding.

Most people can return gradually to their normal activities after recovery. Lasting restrictions are not usually needed. Recurrence is possible, particularly if an infected tooth, salivary problem, or another source has not been corrected.

When to get medical help

A suspected pharyngomaxillary space abscess needs urgent medical assessment. Do not wait for a routine appointment if you have severe one-sided throat or neck pain together with fever, trouble swallowing, jaw stiffness, or neck swelling.

Call emergency services if you or someone with you has:

After treatment, seek urgent advice if fever, swelling, swallowing difficulty, or worsening pain returns. Mild soreness that is steadily improving can usually be discussed at planned follow-up.

- Difficulty breathing or noisy breathing
- Inability to swallow saliva or continuous drooling
- Rapidly increasing mouth, throat, jaw, or neck swelling
- Blue, grey, or unusually pale lips or skin
- Fainting, severe drowsiness, or confusion
- Heavy bleeding from the mouth or throat

Common questions

Is a pharyngomaxillary space abscess the same as a tonsil abscess?

No. A peritonsillar abscess forms beside a tonsil. A pharyngomaxillary space abscess is deeper and farther to the side of the throat. A tonsil infection or peritonsillar abscess can sometimes spread into this deeper space.

Can the abscess go away without treatment?

It is not safe to rely on this. A deep abscess may enlarge or spread even when symptoms briefly seem stable. Hospital assessment is needed to decide whether antibiotics alone are appropriate or drainage is required.

Is it contagious?

The abscess itself is not passed from person to person. An infection that came before it, such as some viral or bacterial throat infections, may be contagious. The clinical team can advise on precautions based on the identified cause.

Will I need surgery?

Not everyone needs the same procedure. A well-formed or large collection of pus often needs drainage. Antibiotics and close observation may be used when imaging shows inflammation without a drainable collection, provided the airway is safe and the person is responding to treatment.

How long does recovery take?

Improvement often begins after effective antibiotics and drainage, but complete recovery can take longer. The timing is affected by the severity of infection, its source, and any complications. Fatigue or mild discomfort may continue after the main symptoms settle.

Can it come back?

Yes, although recurrence is not expected in everyone. It is more likely if the original source, such as an infected tooth, remains untreated or if the infection was not fully cleared. New fever, swelling, or swallowing difficulty needs prompt reassessment.

Sources

- MSD Manual Professional Edition. "Parapharyngeal Abscess." Merck & Co.
- National Center for Biotechnology Information. "Deep Neck Infections." StatPearls , NCBI Bookshelf.
- Vieira F, Allen SM, Stocks RMS, Thompson JW. "Deep Neck Infection." Otolaryngologic Clinics of North America . 2008;41(3):459-483.
- Maroldi R, Farina D, Ravanelli M, Lombardi D, Nicolai P. "Emergency Imaging Assessment of Deep Neck Space Infections." Seminars in Ultrasound, CT and MRI . 2012;33(5):432-442.
- Boscolo-Rizzo P, Stellin M, Muzzi E, et al. "Deep Neck Infections: A Study of 365 Cases Highlighting Recommendations for Management and Treatment." European Archives of Oto-Rhino-Laryngology . 2012;269:1241-1249.