PROCEDURE

Skin lesion aspiration

Skin lesion aspiration uses a thin needle to sample or drain fluid from a lump in or beneath the skin.

PURPOSE
Sample or drain fluid from a skin lump

PROCEDURE TYPE
Diagnostic or therapeutic; minimally invasive needle procedure

WHERE IT IS DONE
Outpatient clinic, procedure room, or bedside

ANAESTHESIA
None or local anaesthetic; sedation is uncommon

HOW LONG IT TAKES
Usually 10 to 30 minutes

PREPARATION
Usually none; review blood thinners and allergies

RECOVERY
Same day; avoid driving only if sedated

MAIN RISKS
Bleeding, infection, nondiagnostic sample, fluid recurrence

RESULTS
Fluid appearance immediately; laboratory results usually within several days

Overview

Skin lesion aspiration is a procedure in which a healthcare professional puts a thin, hollow needle into a lump in or just beneath your skin. A syringe attached to the needle draws out fluid or cells.

The procedure may be used to find out what a lesion contains, relieve pressure, or both. "Lesion" is a general medical term for an area of tissue that looks or feels different from the surrounding skin.

The name can refer to two related procedures. Fine-needle aspiration collects a small number of cells or fluid for laboratory examination. Therapeutic aspiration removes a larger amount of fluid to reduce swelling or discomfort.

Aspiration is not the same as removing the whole lesion. For example, draining a skin cyst removes its contents but leaves the cyst wall behind. The cyst may therefore fill again.

Why the procedure is performed

Your healthcare team may recommend aspiration when a lesion appears to contain fluid or when a small cell sample could help guide care. Examples include a suspected cyst, collection of pus, blood-filled swelling, or an unexplained lump beneath the skin.

The procedure can help:

The appearance of the withdrawn fluid can provide immediate information, but it does not always give a final diagnosis. Laboratory testing may still be necessary.

- Show whether a lump contains clear fluid, blood, pus, or thicker material
- Collect cells for examination under a microscope, called cytology
- Collect fluid for testing, such as a bacterial culture
- Reduce pressure or discomfort in a fluid-filled lesion
- Help decide whether observation, medication, drainage, or surgery is needed

Who should and should not have it

Aspiration may be suitable if your lesion is likely to contain fluid, is easy to reach safely, or can provide useful cells through a needle. It can be a quick way to investigate a lump without making a larger cut.

It is not the best test for every skin lesion. A punch, shave, or excisional biopsy may be more useful when the laboratory needs to see how cells are arranged within the tissue. This tissue structure can be important when assessing a solid, changing, or pigmented lesion.

Aspiration may be avoided or delayed when:

Do not stop aspirin, warfarin, clopidogrel, apixaban, or another blood thinner on your own. Your treating team will balance the reason you take it against the procedure's bleeding risk.

Needle aspiration alone may not drain a skin abscess fully, especially if the pus is thick or divided into several pockets. Incision and drainage, which creates a small opening, is often more effective for an abscess.

- The lesion may be made up of blood vessels, making blind needling unsafe

- The needle cannot reach it safely
- A useful sample is unlikely to be obtained
- You have a bleeding disorder that has not been addressed
- A blood-thinning medicine requires a specific procedure plan
- You cannot remain still enough for the needle to be placed safely
- Complete drainage or surgical removal is more appropriate

How to prepare

Most skin lesion aspirations require little preparation. Eating and drinking are usually allowed because sedation is rarely needed. If sedation is planned for an unusual reason, you may receive fasting and transport instructions.

The treating facility's own instructions take priority over general information in this article.

Before the procedure, tell the team about:

Wear clothing that makes the area easy to reach. You may be asked to remove jewellery or dressings near the lesion.

- Blood thinners and medicines that affect clotting
- Bleeding disorders or previous problems with bleeding
- Allergies or reactions to local anaesthetics, adhesives, or antiseptics
- Previous procedures or treatment involving the lesion
- Signs that the lesion has recently changed or become infected

What happens during the procedure

You will usually sit or lie in a position that keeps the lesion steady and accessible. The professional performing the procedure will examine the area. Ultrasound may be used if the lesion is deep, small, or close to structures that should be avoided.

The skin is cleaned with an antiseptic. Local anaesthetic may be injected to numb the area, although a very fine needle procedure may be performed without it. The numbing injection can briefly sting.

A sterile needle attached to a syringe is inserted into the lesion. Suction is applied to withdraw fluid or cells. The needle may be repositioned within the lesion, and more than one sample may

be taken.

Collected cells may be placed on microscope slides or in a container for cytology. Pus or other fluid may be sent for culture to look for infection. If the aim is drainage, the professional will remove as much fluid as can safely be withdrawn.

The needle is then removed. Pressure is applied to limit bleeding, followed by a small dressing. The needle portion often takes only a few minutes, although preparation and specimen handling make the full appointment longer.

Recovery and what to expect afterward

Mild soreness is common once the local anaesthetic wears off. A small bruise or spot of blood beneath the dressing can also occur. Pain should generally improve rather than become steadily worse.

You can usually eat and drink normally immediately afterward. Sedation-related restrictions apply only if you were given a sedative.

Keep the dressing in place for the period stated by your facility. Avoid rubbing or soaking the puncture site until it has closed. Your team may advise limiting strenuous activity involving that area for the rest of the day, particularly if the lesion was large or bled easily.

You can usually drive yourself home if you had no sedation and can safely control the vehicle. Do not drive if you received sedation, feel faint, or the location of the procedure limits safe movement.

Most people return to desk work the same day or the following day. Physical work may require a short break if it puts pressure on the puncture site.

Risks and possible complications

Skin lesion aspiration is less invasive than an open biopsy, but it still has risks.

Possible problems include:

A nondiagnostic result does not mean that something serious was found. It means the sample could not answer the clinical question. Another aspiration, imaging test, or tissue biopsy may be recommended.

Cysts often return after aspiration because the cyst wall remains. An abscess may also persist if thick pus or separate pockets cannot pass through the needle.

- Temporary pain, tenderness, or bruising
- Bleeding or a collection of blood under the skin
- Infection at the needle site
- Injury to nearby tissue, particularly with a deep lesion
- A sample that does not contain enough cells for an answer
- Fluid collecting again after drainage

Results and follow up

The professional performing the aspiration can immediately see whether the syringe contains clear fluid, blood, pus, or thicker material. This appearance may help with the next step, but it is not always a final result.

Cytology requires a laboratory specialist to examine the collected cells. A bacterial culture takes time because microorganisms must grow before they can be identified. Results are commonly available within several days, although timing is set by the laboratory and the tests requested.

Your follow-up plan may include monitoring the area, reviewing laboratory findings, checking that an infection has improved, or discussing another procedure. Ask how you will receive the result and whom to contact if you have not heard within the expected time.

Alternatives

The main alternatives offer different amounts of information or treatment.

For some infections, medication may be part of treatment. Antibiotics like amoxicillin or doxycycline alone do not reliably empty a walled-off collection of pus.

- Observation: Avoids a procedure when a lesion appears harmless and is not troublesome, but provides no sample and may allow the lesion to grow or change
- Ultrasound or other imaging: Shows whether a lump is solid or fluid-filled without breaking the skin, but often cannot identify the exact cell type
- Punch or shave biopsy: Removes a piece of tissue and preserves more tissue structure, but creates a larger wound and may leave a scar

- Excisional biopsy: Removes the whole lesion and provides the most tissue, but usually needs stitches and leaves a longer scar
- Incision and drainage: Usually empties an abscess more effectively than needle aspiration, but requires a larger opening and wound care
- Complete cyst removal: Removes both the contents and cyst wall, reducing the chance of return, but involves surgery and a scar
- Surface swab: Is easy and painless, but may not represent organisms deeper inside a lesion

When to call your healthcare team

Mild soreness, a small bruise, and a tiny spot of blood on the dressing are usually part of routine recovery. Mention ongoing discomfort or refilling of the lesion at routine follow-up.

Contact your healthcare team promptly if you develop increasing redness, warmth, swelling, drainage, fever, worsening pain, or bleeding that returns after pressure. Also call if the lesion rapidly fills again or the dressing repeatedly becomes soaked.

Seek emergency care for bleeding that does not stop after firm continuous pressure, fainting with ongoing bleeding, difficulty breathing, or swelling of the face or throat.

Common questions

Will I be asleep?

Usually not. Most aspirations are performed while you are awake, with either no anaesthetic or a local anaesthetic. Sedation is uncommon.

Can I drive home?

Usually, yes, if you did not receive sedation and the procedure does not affect safe control of the vehicle. Arrange a driver if your facility tells you sedation will be used.

How painful is it?

You may feel a brief sting from local anaesthetic and pressure or a pinching sensation when the needle enters. Mild soreness afterward is common, but severe or increasing pain is not expected.

When will I know the result?

The fluid's appearance is known immediately. Cytology or culture results usually take several

days, and some specialised tests take longer.

Can the lesion come back after aspiration?

Yes. Aspiration removes fluid or cells but may not remove the lesion's wall or underlying tissue. Cysts and other fluid collections can refill.

Is aspiration the same as a biopsy?

Fine-needle aspiration is a type of sampling procedure, but it collects loose cells rather than a larger piece of tissue. A tissue biopsy may provide more detail when cell arrangement is important.

Sources

- DermNet New Zealand. Fine needle aspiration
- RadiologyInfo.org, American College of Radiology and Radiological Society of North America. Ultrasound-Guided Fine Needle Aspiration Biopsy
- Infectious Diseases Society of America. Practice Guidelines for the Diagnosis and Management of Skin and Soft Tissue Infections: 2014 Update
- British Association of Dermatologists. Epidermoid and pilar cysts
- NHS. Biopsy