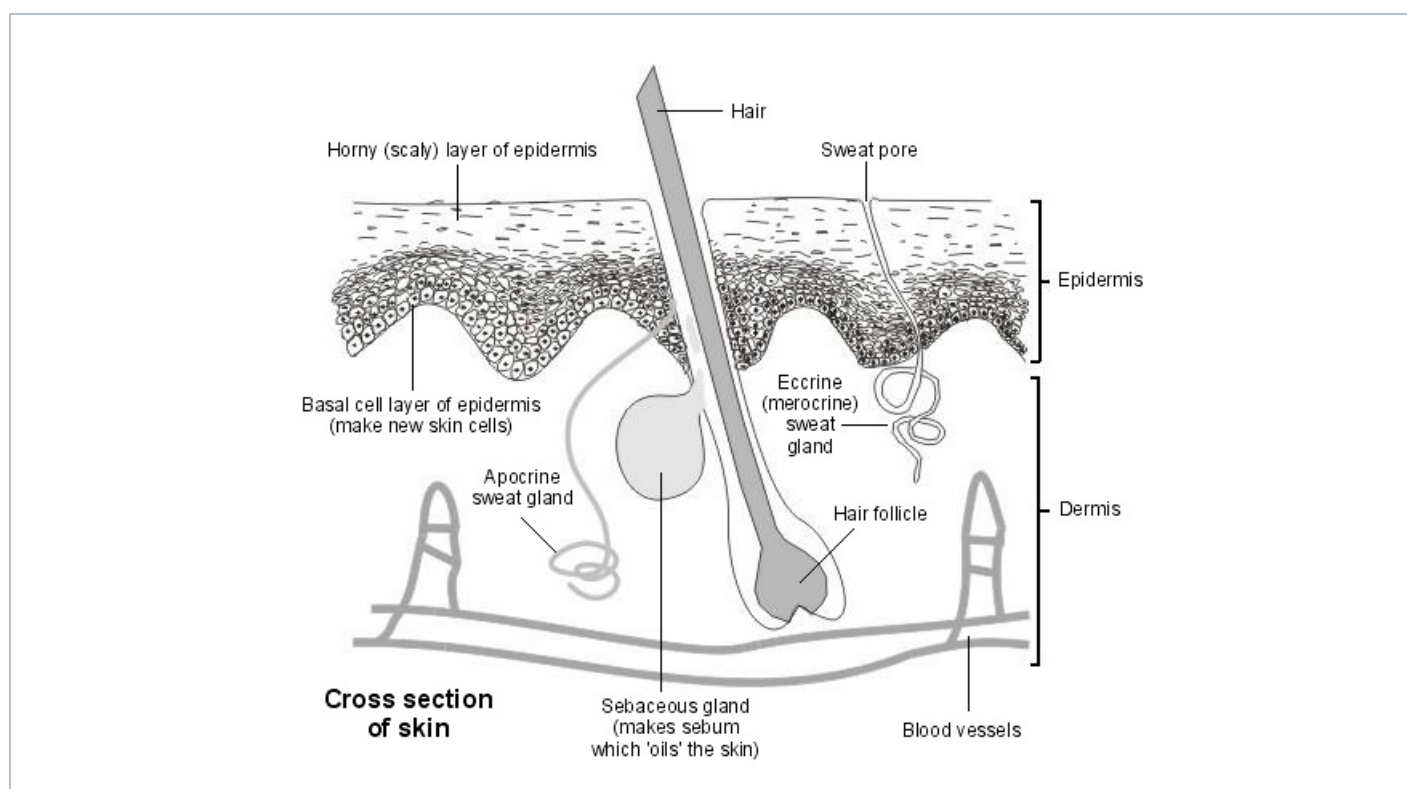


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# Hidradenitis Suppurativa

Hidradenitis suppurativa (HS) is a long-term (chronic) skin condition. The cause is unknown. Inflammation of the apocrine sweat gland-bearing areas leads to painful and repeated lumps of pus (boils or abscesses). Suppuration means formation or discharge of pus. These areas (commonly the armpits and groin) leak pus and are difficult to heal. Eventually, scarring occurs. Treatments include antibiotic lotions or medicines, or an operation to remove the affected skin area. A newer treatment works by blocking a chemical of the immune system that causes inflammation in the body.

## The skin and sweat glands



There are two different types of sweat gland in the skin on the human body. These are:

- **Apocrine** sweat glands.
- **Eccrine** (or **merocrine**) sweat glands.

### Apocrine sweat glands

These are larger than the eccrine sweat glands and are found only in the skin on certain areas of the body. These areas include:

- The underarms (axillae).
- Under the breasts and around the nipples
- In the groin and genital region.

The main difference between apocrine and the more common eccrine sweat glands is that apocrine glands release their fluid (secretions) into the hair follicles, rather than directly on to the skin. The secretions are a thick, milky fluid, which can easily be turned into smelly body odour by germs (bacteria). The secretions from apocrine glands do not appear to have any specific function. They contain pheromones which are chemicals that are supposed to help humans find a mate!

The apocrine glands only start working at puberty, due to the action of the hormone changes that occur at this time.

### Eccrine (merocrine) sweat glands

There are many more of these smaller sweat glands. They are found all over the body, with the largest numbers being found on:

- The palms of the hands.

- The soles of the feet.
- The forehead.

These sweat glands release sweat directly on to the skin surface through pores. They are located in the skin but not as deep as the apocrine glands. This sweat is watery and clear; it contains various salts and other waste chemicals the body needs to get rid of. The sweat helps to cool us down and is also secreted as an emotional response - for example, when anxious or stressed.

The nervous system controls both types of sweat glands. However, each type responds via different nerve fibres and different chemical messengers (neurotransmitters).

## What is hidradenitis suppurativa?

Hidradenitis suppurativa is a long-term (chronic) inflammatory skin disease with recurrent boil-like lumps. These boils often become bigger and turn into collections of pus (abscesses). The abscesses leak pus and become difficult to heal.

The problem affects only areas of the skin containing **apocrine** sweat glands.

Commonly, the problem affects the groin and armpits. Other areas are sometimes affected such as under the breasts and on the vulva, the scrotum, the buttocks and the skin in front of the anus (the perineum). Women tend to develop it more commonly in the armpits, groin and under the breasts. Men more commonly develop disease that affects the skin around the anus.

The wounds caused by the boils and abscesses heal poorly, leaving scars. In severe cases, the pus tunnels down under the skin surface. The tunnels (channels) formed are called sinus tracts. Multiple areas of hidradenitis can become linked under the skin surface, by a network of interconnected sinus tracts. This means the inflammation (and sometimes infection) travels deeper and becomes more widespread.

The eventually healed areas are full of thick scar tissue. The scarring left behind can be as unsightly as the discharging wounds.

## Is hidradenitis suppurativa known by any other names?

Hidradenitis suppurativa is known by several other names, which can cause confusion. These are:

- Acne inversa
- Apocrine acne
- Verneuil's disease
- Apocrinitis
- Velppeau's disease

## What causes hidradenitis suppurativa?

The cause is not well understood. It is thought to happen due to blockage of the hair follicles on the skin, or the sweat gland openings themselves. This blockage could be from sweat itself, or skin secretions, such as sebum from the sebaceous glands. The blocked sweat gland continues to make sweat. The sweat cannot escape on to the skin surface and so is forced deeper into surrounding tissue. Germs (bacteria) that normally live on the skin surface may have been trapped in the blocked gland or hair follicle. The germs can multiply in warm moist surroundings. As the sweat is forced back deeper into the tissues, it takes with it the germs. This leads to inflammation and sometimes to infection. This is how the hard boil-like lumps are thought to form to start with. As the problem becomes worse, abscesses, which contain pus, develop.

It may also be that the sweat glands in some people don't develop correctly and completely. These glands might not allow the sweat they make to reach the skin surface. Instead, the sweat is trapped and travels into the surrounding tissues. There may also be an excessive response by the body's immune system, causing the inflammation.

## Who develops hidradenitis suppurativa?

Around 1 in every 100 people in Europe have hidradenitis suppurativa, meaning it is quite common. Many people will have very mild problems with it.

Hidradenitis suppurativa usually affects people between puberty and middle age. It is three times more common in women than in men. It is rare in Asian people and far more common in white-skinned people (Caucasians) or Afro-Caribbean people.

Hidradenitis suppurativa only develops after puberty. This is because the sweat glands are activated by hormones called sex hormones, the levels of which increase during puberty. The problem tends to improve for women if they take the **combined oral contraceptive (COC) pill** (often just called the 'pill'), or if they are pregnant. It rarely occurs after the menopause. These things all suggest that hormones play a part in causing this disease.

The disease can run in families (about 1 in 3 cases) but the exact pattern of inheritance is not known.

Hidradenitis suppurativa is more common in overweight or obese people and in cigarette smokers. Obesity and smoking are not direct causes. However, they can be thought of as risk factors. Hidradenitis suppurativa also seems more common in people with acne and possibly in women with **polycystic ovary syndrome**.

## What are the signs and symptoms of hidradenitis suppurativa?

Hidradenitis suppurativa usually starts with a single inflamed, boil-like, firm, raised skin lump (nodule). Sometimes this stage can result in itching but usually there is discomfort or pain.

The nodule either slowly disappears (between 10 and 30 days) or remains (persists) to become a draining (suppurative) collection of pus (abscess). Abscesses are usually very painful.

Eventually, healing occurs but the affected skin is permanently damaged, leaving deep scarring. In more severe disease the affected areas spread. Either single or multiple abscesses occur. The formation of tunnels (channels), called sinus tracts, causes the overlying skin to feel hard and lumpy (indurated).

A staging system (Hurley's staging) can be used to describe the severity of the disease:

- **Stage 1** - here there are either single or multiple areas affected but the abscesses are separate from one another. There is no scarring or sinus tract formation.
- **Stage 2** - involves recurrent abscesses which can be single or multiple. Although there are sinus tracts, the affected areas are usually widely separated.
- **Stage 3** - generally, large areas are affected with multiple interconnected sinus tracts and abscesses.

For some people, the disease is extremely distressing and painful, with a constant succession of new nodules and abscesses forming as soon as older ones have finally healed.

## Do I need any tests to diagnose hidradenitis suppurativa?

There are no tests used to diagnose hidradenitis suppurativa. The diagnosis is usually based on the typical signs and symptoms that a person may have.

Sometimes hidradenitis suppurativa is confused with other similar-looking skin conditions such as common boils, collections of pus (abscesses), skin infections and ingrowing hairs. Other diseases can cause tunnels (channels) known as sinus tracts - for example, **Crohn's disease**. Tests might be needed to exclude these other conditions, although they often have many other symptoms.

Sometimes, if there are signs of infection, small samples (swabs) can be taken. This is to see what germs (bacteria) are growing in the pus. This can help in deciding whether antibiotic medicines (and which ones) should be used.

Occasionally, it might be helpful to **test your blood for sugar (glucose)** to make sure you do not have diabetes. This is because skin infections are more common in people with diabetes. Your doctor might also take blood tests to make sure you are not **anaemic** and to monitor the level of infection or inflammation.

**Scans, such as CT scans**, are not needed to diagnose the condition. They may, however, be used in very severe disease, to plan surgery, as it is important to know where the sinus tracts go and how deep they are.

## What is the treatment for hidradenitis suppurativa?

### General advice

Try to **lose weight if you are obese**, and **stop smoking if you smoke**.

Also, the following may help relieve some of your symptoms:

- Wear loose-fitting cotton clothing. Avoid tight underwear.
- Wash the affected areas carefully and gently, preferably using an antibacterial or antiseptic soap or shower gel. This is to try to get rid of germs (bacteria) on the skin. (**Note:** it is normal to have germs harmlessly living on the skin.)
- Avoid shaving affected areas, such as the underarms.
- Avoid using deodorants and antiperspirants if the underarms are affected and avoid perfumes on affected areas too.
- You can use a hot flannel to hold against affected areas and encourage the collections of pus (abscesses) to come to a 'point', so that they start draining. A tense hard abscess that has not burst is more painful than one where the pus is draining out.
- Try to minimise heat exposure and sweating. This might mean avoiding sitting next to the fireplace, or avoiding intense exercise in the gym.
- Try to minimise getting affected areas moist. Tampons may be better than sanitary pads for women.
- Some people have found that certain diets help symptoms. Diets being studied are diets low in dairy products, and low glycaemic-index diets. However there is not yet any evidence that making changes in diet is helpful. (A low glycaemic index diet can be a healthy way to lose weight, however, if you are overweight. Weight loss is thought to benefit people with hidradenitis suppurativa.)

## Medical treatment

It is difficult to control hidradenitis suppurativa with medical treatment. The aim is to catch the disease in its early stages and to treat and control milder forms of the disease. Medical treatment means using medicines, either on the skin (topically), or by mouth. Examples of medical treatment include:

- **Topical antibiotics.** The one usually prescribed is **clindamycin**. This is a lotion used twice a day on the affected area for three months.
- **Short courses of antibiotic tablets.** These can be used when there are new abscesses. The aim is to try to stop the infection from spreading and to help the abscess heal more quickly. Generally, a short course of antibiotics will last for two weeks.
- **Prolonged courses of antibiotic tablets.** These are usually used for their anti-inflammatory action. They are prescribed for at least 3-6 months. Some antibiotics which may be used are:
  - **Lymecycline**
  - **Tetracycline**
  - **Erythromycin**
  - **Doxycycline**
  - **Clindamycin with rifampicin**
- **Trial of the combined oral contraceptive (COC) pill** can be used. A trial of up to 12 months may be needed before deciding whether the skin has improved. Some COC pills (such as Dianette® or Yasmin®) **might** be better than others. They counteract some of the more 'male' hormone effects such as skin oiliness and spots. Contraceptive pills are, of course, only suitable for women. Not all women can safely use the COC pill, as contraceptive pills can have serious side-effects in some women. Your GP can discuss with you whether it is safe to use the COC pill.
- **Retinoids.** **Acitretin** and **isotretinoin** are sometimes used. These are vitamin A-based medicines and should only be prescribed by a skin specialist (dermatologist). These medicines work by stopping the secretion of sebum from sebaceous glands. They also help the normal shedding of dead skin cells in the hair follicles, preventing pore blockage. They must not be taken in pregnancy, due to the risk of birth defects.
- **Corticosteroid tablets (steroids),** such as **prednisolone**, may be used in short courses to reduce inflammation. Long courses of steroids are not usually advised. This is because they can cause serious side-effects such as 'thinning' of the bones (osteoporosis), weight gain, high blood pressure, cataracts and mental health problems. **See the separate leaflet called Oral Steroids for more details.**
- **Medicines that affect the immune system** may be used for severe cases. These medicines can only be prescribed by a specialist (such as a dermatologist) and your treatment must be carefully monitored. This is because there are potentially very serious side-effects. The most promising of these treatments are anti-TNF medicines such as adalimumab. TNF stands for tumour necrosis factor. TNF is a chemical produced by the immune system which causes inflammation in the body. Anti-TNF medicines block excess TNF, thus preventing inflammation. Research studies show this to be very effective. It has to be given by injection under the skin. Another similar medicine called infliximab may also be effective, but has not been approved for this use yet in the UK. Other older medicines which affect the immune system which are occasionally used, such as **ciclosporin**.
- **Dapsone** (usually used to treat leprosy) is used in hidradenitis suppurativa for its anti-inflammatory action.

## Surgical treatment

Long-standing hidradenitis suppurativa often requires surgery. Generally, this would be performed **under general anaesthetic**. The surgical procedure chosen depends on the grade or extent of the hidradenitis suppurativa. Surgical treatments include:

- **Incision and drainage** - this means piercing (lancing) a tense, hard abscess and allowing the pus to drain out. This is most appropriate for grade 1 hidradenitis suppurativa, and a course of antibiotic tablets would usually be given afterwards. Usually this is not the best treatment option for single lumps, as they usually come back.
- **Wide-scale removal (excision) of affected areas** - this can be used for grade 2 and 3 disease. For stage 2 disease, the sinus tracts are surgically removed. In stage 3 disease, the operation needs to be more extensive, as the tracts and scarring go deeper and larger areas are involved. This means a lot of scarred, infected tissue has to be removed. Often skin grafts and other plastic surgery techniques are needed.
- **Deroofing and skin-tissue-saving excision** is a less major operation option.
- **Carbon dioxide laser treatment** can be used as an alternative to conventional surgery (where available) and dependent on the severity of the disease. The diseased tissue is 'vapourised' leaving an open wound which is left to heal. Admission to hospital overnight is not normally needed. Other similar options being studied are another type of laser treatment called Nd:YAG laser, and intense pulsed light treatment.

## Are there any complications from having hidradenitis suppurativa?

The main complication is scarring of the skin and deeper tissues. In severe cases, this can cause swelling of the arm (if the armpit was affected) or of the leg (if the groin was affected). This is called lymphoedema. This means that the fluid (lymph) drainage from the limb is affected and the fluid builds up, causing the swelling. It is a difficult problem to treat and cure; often, tight elastic compression garments have to be worn long-term.

Other complications include:

- A general feeling of being unwell and tired (malaise).
- **Depression.**
- Long-term (chronic) infection leading to problems such as **anaemia**, kidney problems and low levels of protein in the blood.
- Joint pains and inflammation (arthropathy).

- **Skin cancer.** This is rare but has been reported in very severe long-term hidradenitis suppurativa.
- **Fistula formation.** A fistula occurs when channels, called sinus tracts, tunnel into other parts of the body, such as the bowel or bladder (this is rare).

## What is the long-term outlook (prognosis)?

The prognosis is very variable. Not everyone progresses from stage 1 to stage 3.

For many affected people, hidradenitis suppurativa is a painful and debilitating condition. It has a tendency to flare up regularly, gradually causing more problems. Deep scarring and formation of tunnels (channels), called sinus tracts, are not uncommon.

Some people have mild (stage 1) disease only. Early surgical treatment *can* (in some cases) cure the disease and stop it from returning. In rare cases, the condition goes away on its own without treatment.

The condition can prevent normal working and social activities (for example, swimming). Psychological problems are common, as are difficulties in sexual relationships. These problems can either be directly due to the pain and messiness of the condition or to embarrassment and body image problems. As a result, it can cause a less good quality of life.

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