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Bromhidrosis

Bromhidrosis is also known as osmidrosis and bromidrosis. The common name for this condition is body odour or BO.

What is bromhidrosis?

Bromhidrosis is a condition of abnormal or offensive body odour, to a large extent determined by apocrine gland secretion, although other sources may play a role. Sudoriferous (sweat) glands are divided into two types: apocrine and eccrine.

Eccrine glands

- Found over the entire body and produce a dilute salt solution in response to increased body temperature.
- Eccrine sweat is normally odourless but can start to smell if bacteria get a chance to break down the stale sweat. It can also assume an offensive odour after ingestion of various substances, including foods (e.g. garlic, curry), alcohol, or certain medications.

Apocrine glands

- Found in limited areas, most notably the underarms, breasts and groin region and produce a thick secretion that contains pheromones ("personal scent").
- Apocrine sweat is odourless when it first appears on the skin but within an hour bacteria that normally live on the skin break down the sweat to produce an offensive body odour.
- Body odour is worse if there are more bacteria present or the level of apocrine sweat production is high.

Apocrine bromhidrosis is the most common type of bromhidrosis and results from the bacterial breakdown of apocrine sweat, essentially all within the armpit area. Fatty acids and ammonia are the major products of bacterial breakdown and the odour has been described as pungent, rancid, musty or "sour and sweet".

Who gets bromhidrosis and what is the cause?

Although both types of bromhidrosis may occur in people of all races, sex and age, some differences do exist between the two types.

Apocrine bromhidrosis

- Believed to be more common in dark-skinned ethnic groups (individuals of African ancestry appear to have the largest and most active apocrine glands)
- Possibly associated with a positive family history in Asian people
- Only occurs after puberty, as the apocrine glands are not active until puberty is reached
- More common in men than women, which may be a reflection of greater apocrine gland activity in men than in women
- Skin usually appears normal except when bromhidrosis is associated with concomitant skin condition such as [erythrasma](#)
- *Corynebacterium* species are the most common bacteria found in the armpit and have been shown to produce the offensively smelling fatty acids.

Eccrine bromhidrosis

- Occurs in all races
- May be rarely caused by metabolic disorders, e.g. amino acid disturbances (trimethylaminuria [fish odour syndrome]), sweaty feet syndrome, odour of cat syndrome
- Possibly caused by ingestion of certain foods or medications
- Bromhidrosis caused by bacterial degradation of the skin protein keratin may be associated with maceration and a thick mat of moist keratin present on the skin
- The role of excessive eccrine secretion ([hyperhidrosis](#)) in causing bromhidrosis is unclear. It may promote the spread of apocrine sweat and cause further bacterial overgrowth and decomposition, or it may improve the symptoms of bromhidrosis by flushing away the more smelly apocrine sweat.

How is the diagnosis made?

The clinician's perception of smell is the only tool needed to diagnose bromhidrosis. Taking a medical history may reveal diseases or conditions that contribute to the occurrence of bromhidrosis e.g. obesity, diabetes mellitus, and intertrigo.

One distinction the clinician must be aware of is the difference between the true bromhidrosis patient and the bromhidrosiphobic individual. Bromhidrosiphobic patients have a morbid dread of bodily odours and their sensory delusions can be an early warning sign of schizophrenia.

What is the treatment for bromhidrosis?

The two main factors to consider when treating bromhidrosis are to:

- Keep the number of naturally occurring skin bacteria to a minimum
- Keep skin in the area, namely the armpit in apocrine bromhidrosis, as dry as possible

Improved hygiene and topical therapy are the main treatment options for mild cases of bromhidrosis and may include the following.

- Washing the underarm at least twice daily with germicidal soap
- Regular shaving of underarm hair to prevent accumulation of bacteria and sweat on hair shafts
- Prompt removal of sweaty clothing
- Use of topical deodorants
- Treatment of coexisting skin conditions such as [intertrigo](#), [erythrasma](#) and [trichomycosis axillaris](#)
- [Electrolysis](#) to remove hair shaft and follicle

If hyperhidrosis is a contributing factor, this needs to be treated first, usually with the use of [antiperspirants](#).

The treatments described above do not offer a cure for bromhidrosis and results can often be short lived and incomplete. A visit to a specialist physician may provide more permanent treatment options, and include:

- removal of apocrine sweat glands by superficial [liposuction](#)
- removal of apocrine sweat glands by surgical excision

If hyperhidrosis is a contributing factor, this needs to be treated first, usually with the use of antiperspirants. If this fails and the hyperhidrosis is a problem in its own right, then the following options may be considered:

- anticholinergic or beta-blocking drugs
- iontophoresis
- botulinum toxin injection
- chemical or surgical sympathectomy

These treatments may not help the bromhidrosis, however, as this condition is often independent of hyperhidrosis and, as mentioned above, may in some cases actually be helped by associated hyperhidrosis.

For further details on these options see [hyperhidrosis](#): treatment available from a specialist.

Related information

References:

- Book: Textbook of Dermatology. Ed Rook A, Wilkinson DS, Ebling FJB, Champion RH, Burton JL. Seventh edition. Blackwell Scientific Publications.

On DermNet NZ:

- [Hyperhidrosis](#)
- [Antiperspirants](#)

Other websites:

- [Bromhidrosis](#) - emedicine dermatology, the online textbook

Books about skin diseases:

See the [DermNet NZ bookstore](#)

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DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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