



[Authoritative facts](#) about the skin from the [New Zealand Dermatological Society Incorporated](#).

[Home](#) | [Skin signs and systemic disease](#)

Acanthosis nigricans

What is acanthosis nigricans?

Acanthosis nigricans (AN) is a skin disorder characterised by darkening ([hyperpigmentation](#)) and thickening (hyperkeratosis) of the skin, occurring mainly in the folds of the skin in the armpit (axilla), groin and back of the neck.

Acanthosis nigricans is not a skin disease per se but a cutaneous sign of an underlying condition or disease.

There are two important types of acanthosis: benign and malignant. Although classically described as a sign of internal malignancy, this is very rare. Benign types, sometimes described as 'pseudoacanthosis nigricans' are much more common.

What causes acanthosis nigricans?

The cause for acanthosis nigricans is still not clearly defined but it appears to be related to insulin resistance. It has been associated with various benign and malignant conditions. Based on the pre-disposing conditions, acanthosis nigricans has been divided into 7 types.

Types of acanthosis nigricans (AN)	
Type	Characteristics
Obesity-associated acanthosis nigricans	<ul style="list-style-type: none"> • Most common type of AN • May occur at any age but more common in adulthood • Obesity often caused by insulin resistance
Syndromic acanthosis nigricans	<ul style="list-style-type: none"> • Defined as AN that is associated with a syndrome, e.g. hyperinsulinaemia, Cushing's syndrome, polycystic ovary syndrome, total lipodystrophy
Benign acanthosis nigricans	<ul style="list-style-type: none"> • Also referred to as acral acanthotic anomaly • Thick velvety lesion most prominent over the upper surface of hands and feet in patients who are in otherwise good health • Most common in dark-skinned people, especially those of African American descent
Drug-induced acanthosis nigricans	<ul style="list-style-type: none"> • Uncommon, but AN may be induced by several medications, including nicotinic acid, insulin, systemic corticosteroids and hormone treatments
Hereditary benign acanthosis nigricans	<ul style="list-style-type: none"> • AN inherited as an autosomal dominant trait • Lesions may manifest at any age, infancy, childhood or adulthood
Malignant acanthosis nigricans	<ul style="list-style-type: none"> • AN associated with internal malignancy • Most common underlying cancer is tumour of the gut (90%) especially stomach cancer • In 25–50% of cases, lesions are present in the mouth on the tongue and lips

Mixed-type
acanthosis nigricans

- Patients with one type of AN whom also develop new lesions of a different cause, e.g. overweight patient with obesity-associated AN who then develops malignant AN

What are the features of acanthosis nigricans?

- Thickened brown velvety textured patches of skin that may occur in any location but most commonly appear in the folds of the skin in the armpit, groin and back of the neck.
- Papillomatosis (multiple finger-like growths) is common on cutaneous and mucosal surfaces.
- Skin tags often found in and around affected areas.
- Pruritus (itching) may be present.
- AN lesions may also appear on the mucous membranes of the oral cavity, nasal and laryngeal mucosa and oesophagus.
- Lesions involving the mucosa, palms and soles tends to be more extensive and more severe in malignant AN.
- Patients with malignant AN tend to be middle-aged, not obese and lesions develop abruptly.

Acanthosis nigricans



What is the workup for acanthosis nigricans?

It is very important to differentiate acanthosis nigricans related to malignancy from that related to benign conditions. Tumours in malignant AN are usually very aggressive and spread quickly. Death often occurs soon after. If malignant AN is suspected in a patient without known cancer, it is extremely important to perform a thorough workup for underlying malignancy and identify a hidden tumour. If the tumour can be successfully treated, the condition may resolve.

Other causes of AN may be identified by screening for insulin resistance and diabetes mellitus.

What is the treatment for acanthosis nigricans?

The primary aim of treatment is to correct the underlying disease process. Often correcting the underlying cause

results in resolution of the lesions.

- Correct hyperinsulinaemia through diet and medication
- Lose weight with obesity-associated AN
- Excise or treat underlying tumour
- Stop offending medicines in drug-induced AN

In hereditary AN, lesions tend to enlarge gradually before stabilising and/or regressing on their own.

There is no specific treatment for AN. Treatments considered are used primarily to improve cosmetic appearance and include topical retinoids, dermabrasion and laser therapy.

Final outcome of AN varies depending on the cause of AN. Benign conditions either on their own or through lifestyle changes and/or treatment have good outcomes. However, the prognosis for patients with malignant AN is often poor. The associated cancer is often advanced and the average survival of these patients is approximately 2 years.

Related information On DermNet: Other web sites:

Related information

On DermNet NZ:

- [Cutaneous markers of internal malignancy](#)
- [Sign of Leser-Trelat](#)
- [Florid cutaneous papillomatosis](#)
- [Skin pigmentation](#)

Other websites:

- emedicine dermatology, the online textbook
 - [Acanthosis nigricans](#)
 - [Paraneoplastic Diseases](#)

Books about skin diseases:

See the [DermNet NZ bookstore](#)

Author: Vanessa Ngan, Staff writer

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.

Created 2004. Last updated 26 Dec 2006. © 2008 NZDS. Disclaimer.