

Intradermal and compound naevi

See also the separate [Black and Brown Skin Lesions](#) article.

What are intradermal naevi?^[1] ^[2]

Intradermal naevi are a form of melanocytic naevus. A melanocytic naevus (or 'mole') is a common benign skin lesion due to a local proliferation of pigment cells (melanocytes). A brown or black melanocytic naevus contains the pigment melanin, so may also be called a pigmented naevus.

An intradermal naevus has naevus cell nests in the dermis, and presents as a papule, plaque or nodule with a pedunculated, papillomatous or smooth surface.

Intradermal naevi appear to have the same degree of pigmentation as the surrounding skin. They are the classical skin or fleshcoloured 'mole', elevated from the skin's surface, that most people would recognise as such. The melanocytes do not impart their pigmentation to the lesion because they are located deep within the dermis, rather than at the dermo-epidermal junction (as is the case for junctional naevi/compound naevi).

Intradermal naevi may appear spontaneously or grow from a pre-existing pigmented mole. They usually develop from the end of childhood onwards and may appear at any stage throughout adulthood, although they are probably quite rare as a new phenomenon after the age of 60. Intradermal naevi have the following characteristics:

- Skin-coloured lesion (ie the same degree of pigmentation as the surrounding skin).
- Small (5 mm-1 cm).
- Raised from the surface of the skin (rounded, dome-shaped, pedunculated or warty appearance).
- May be associated with hair growth (particularly in older patients).

Intradermal naevi epidemiology^[3]

Intradermal naevi are extremely common, as are all the melanocytic naevi. Indeed they affect so many people that some consider that they cannot be classed as a pathological entity - rather, a normal variant.

Intradermal naevi symptoms

- Intradermal naevi do not present that often, as most people recognise them as a benign dermatological phenomenon.
 - They may be detected coincidentally during a consultation, or brought up as a 'whilst I'm here' phenomenon.
 - They are most likely to present if they are newly noticed.
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Visual appearance of intradermal naevi



By Unknown photographer, Public domain, via Wikimedia Commons

Differential diagnosis^[4]

- History and appearance of intradermal naevi are fairly characteristic and so they are not usually confused with other lesions.

- They may resemble early [basal cell carcinoma](#) or a [neurofibroma](#).
- Basal cell carcinoma will usually have a shorter history, be noted to be growing quite quickly and have associated telangiectasia.
- Where there is doubt as to the diagnosis then excision biopsy will resolve the question.

Investigations

- None is usually required.
- If there has been significant recent growth of intradermal naevi then consider excision biopsy to exclude basal cell carcinoma.
- Where a previously non-pigmented lesion develops pigmentation then excision biopsy should be carried out.

Intradermal naevi treatment and management

- No treatment is required unless the patient is concerned about the lesion's cosmetic appearance or there are suspicions of an alternative diagnosis.
- Excision biopsy may be used for diagnostic purposes.
- Shave and cautery (dermal electrosurgical shave excision) are a good method for removing them, with apparently better cosmetic results than excision biopsy.^[5]
- Injection of local anaesthetic directly into the lesion before shaving may improve the cosmetic result.^[6]
- Facial lesions may be best removed for cosmetic purposes by a dermatological surgeon or plastic surgeon, particularly in young patients, due to the high risk of medicolegal claims in this area of practice if there is a poor cosmetic outcome.

Complications and prognosis

- Intradermal naevi have no complications as such and are benign, slow-growing lesions.
- If they occur in the external auditory meatus they can obstruct the auditory canal and impair hearing.^[7]

- There are potential complications associated with their removal.

Prognosis is excellent, as it is a benign lesion with no risk of transformation to melanoma.

Compound naevi^[2]

Compound naevi have nests of naevus cells at the epidermal-dermal junction as well as within the dermis, and present as a central raised area surrounded by a flat patch.^[1]

Compound naevi are dark brown in colour. Compound naevi are considered to be benign neoplasms of melanocytes if they arise in later life.^[8]

Compound naevi arise from a flat (junctional) naevus that exists earlier in life and may have a raised central portion of deeper pigmentation with surrounding tan-brown macular pigmentation. Pigmentation may be uneven within the naevus but is usually symmetrically distributed. Compound naevi are usually of a round/oval shape and roughly 2 mm-7 mm in diameter. They may exist with a variable degree of pigmentation and even be the same colour as the surrounding skin. Their name is derived from the fact that they contain junctional melanocytes (responsible for their pigmentation) and intradermal melanocytes (responsible for the elevation of the lesion).

Compound naevi epidemiology

Melanocytic naevi in the general population are exceedingly common in congenital and acquired form. Their prevalence is so high that some believe they cannot even be considered an abnormality or pathological entity, as most people with light-coloured skin will have at least a few.^[9] Compound naevi are much more common in ethnic groups with light skin but they still have an appreciable prevalence in those with more pigmented skin. Congenital melanocytic naevi occur in approximately 1% of newborns at birth. Acquired melanocytic naevi are usually seen from the age of one year, peak in number during the second and third decades of life and disappear between the seventh to ninth decades.^[10]

Presentation

Compound naevi symptoms

- Establish if the lesion is congenital or acquired (compound naevi are acquired).
- When a lesion presents medically it is important to ascertain whether there have been any associated symptoms such as:
 - Enlargement.
 - Change in shape or size.
 - Change in pigmentation.
 - Itchiness/pain/irritation.
 - Bleeding.

Signs of compound naevi

- Examine the lesion in bright light, preferably daylight if available.
- Use drawings or photography to note the site(s), size or shape and pigmentation of the lesion.
- Establish that the lesion has the typical pattern of pigmentation and is raised from the level of the skin.
- Distinguish from other similar raised benign tumours of the skin:
 - Dermatofibromas tend to feel firm or hard on palpation, whereas compound naevi are softer.
 - Seborrhoeic warts tend to have a 'stuck-on' appearance, rather than blending into the surrounding skin.
 - Melanoma tends to be darker, have an irregular border, be asymmetrical and have recently grown.

Visual appearance of compound naevi



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Differential diagnosis^[4]

- [Malignant melanoma](#).
- Lentigines.
- Atypical mole (dysplastic naevus).
- Other melanocytic naevi.
- [Pyogenic granuloma](#) (usually reddish but may be brown).
- Seborrhoeic keratosis.
- Acanthoma.
- Histiocytoma.

- Skin tag (acrochordon).
- [Actinic keratosis](#).
- Neuroma.
- [Squamous cell carcinoma](#).
- Naevi of Ota and Ito.

Investigations

- No investigations are indicated in the case of a common, acquired compound naevus that has not undergone any recent change.
- Some dermatologists may use dermoscopy to try to distinguish the nature of pigmented lesions.^[11]
- If there is any suspicion of malignant melanoma then the investigation of choice is excision biopsy.

Compound naevi treatment and management

- If the diagnosis of compound naevus is clear and there has been no change in a long-standing lesion then reassurance and monitoring of the lesion are all that is usually required.
- Where there is any doubt as to the diagnosis of compound naevi, perform excision biopsy or refer for dermatological advice.
- Perform excision biopsy whenever the lesion has:
 - Grown.
 - Become symptomatic.
 - Developed asymmetry.
 - Developed an irregular border.
 - Altered its degree or pattern of pigmentation.
 - Developed satellite lesions.

Complications and prognosis

Compound naevi are benign lesions. They do not cause complications and they have an excellent prognosis.

Further reading

- [Improving outcomes for people with skin tumours including melanoma](#); NICE Guidance (May 2010 update)
- [Almazan-Fernandez FM, Fernandez-Pugnaire MA, Hernandez-Gil J, et al; Homogeneous blue pattern: A rare presentation in an acral congenital melanocytic nevus. Dermatol Online J. 2010 Aug 15;16\(8\):10.](#)
- [Ferreira L, Jham B, Assi R, et al; Oral melanocytic nevi: a clinicopathologic study of 100 cases. Oral Surg Oral Med Oral Pathol Oral Radiol. 2015 Sep;120\(3\):358-67. doi: 10.1016/j.oooo.2015.05.008. Epub 2015 May 28.](#)

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Authored by:	Peer Reviewed by: Dr Laurence Knott	
Originally Published: 20/11/2023	Next review date: 25/03/2022	Document ID: doc_4067

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