



## Continuing Professional Development



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## INVOLUTION (pincer, omega nail)

This term describes a nail which increases in transverse curvature along the longitudinal axis of the nail, reaching its maximum at the distal part. Three types of this condition exist and they produce a variety of symptoms.

Tile-shaped nails often occur in association with yellow nail syndrome, affecting both finger and toe nails. The nail increases in transverse curvature, while the lateral edges of the nail remain parallel.

Plicatured nails occur where the surface of the plate remains flat while one or both edges of the nail form vertical parallel sides hidden by the sulcus tissue. toenails and finger nails are affected and the condition causes considerable pain in the foot if the nail is thickened and subject to shoe pressure, with the development of onychophosis.

Pincer (omega, trumpet) nail dystrophy shows longitudinal curvature, which ranges from a minimal asymptomatic incurving to involution so marked that the lateral edges of the nail practically meet, forming a cylinder or roll; hence the names for this deformity. Lateral compression of the nail may result in strangulation of the soft nail bed tissues and the formation of subungual ulceration as the circulation to the nail bed and matrix is reduced. In all stages of the condition, the sulcus may become inflamed and may ulcerate, causing considerable pain.



## **Aetiology**

Although the precise cause of involuption is unknown, in toenails it is often associated with constriction from tight footwear or hosiery. In fingernails, an association with osteoarthritic changes in the distal interphalangeal joint has been shown and heredity may play a part, particularly where all the nails are affected. Some severe cases of involuption have an underlying exostosis of the terminal phalanx which must be excised.

## **Treatment**

In minor degrees, involuption produces little or no discomfort and the main consideration is to ensure that the nail is cut so that it conforms to the length and shape of the toe. The incurved edges, if thickened, should be reduced, and advice given about correctly fitting footwear and hosiery.

More severe cases may be treated conservatively with careful clearing of the sulcus and the fitting of a nail brace. Severe and painful involuption is likely to require a unilateral or bilateral partial nail avulsion with destruction of the nail matrix. Where lateral compression causes painful nail bed constriction and ulceration, a total nail avulsion with matrix destruction is the only means of providing relief. If an underlying subungual exostosis is detected this needs to be surgically removed.

(information from Neale's Common Foot Disorders-Diagnosis and Management: Churchill and Livingstone, fifth edition 1987)

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