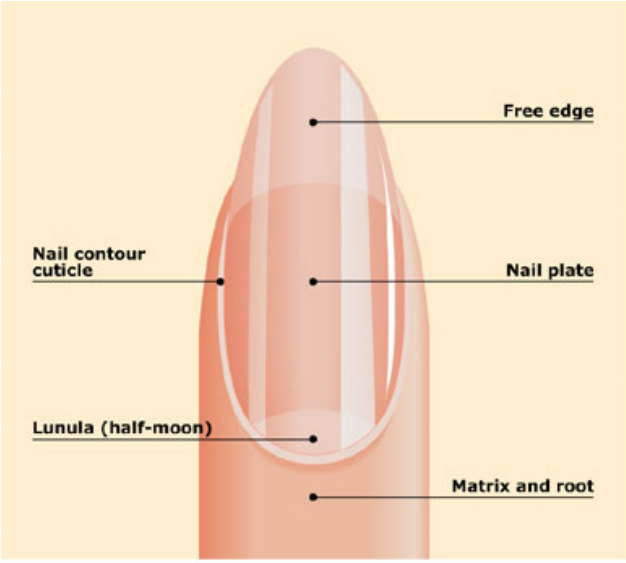
All About Nails

Properties and purpose of nails

Nails can claw, cut and tear. They can be used as a practical device for scratching, opening small fasteners and picking up objects. They also protect the tips of fingers and seem to be indispensable for the finger pad sensitivity.

In ancient times, nails served both as useful tools and a means of defence. Later, they took on a cultural connotation as in the grotesquely long fingernails of Chinese mandarins.
Today nails are an intrinsic part of one's appearance, although they still serve a functional purpose. Men, as well as women, are attaching more importance to nail care and grooming.



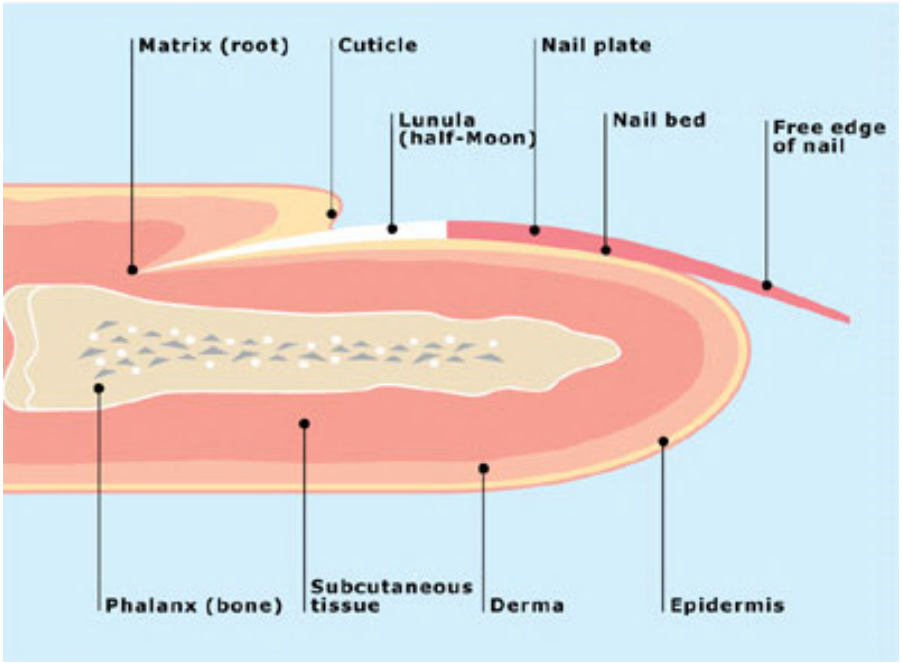
What is a nail?

The nail is a flexible plate of horny tissue, made up of keratin, i.e. epidermal cells formed in the root of the nail and hardened.

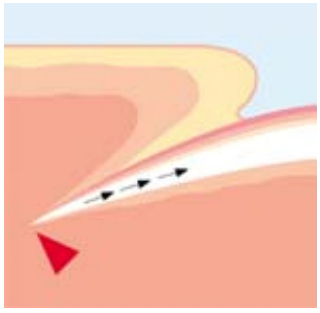
Various factors influence the development of this keratin sheet, the largest in the human body: its genetic composition, nutrition, health (nail state is its best reflection), environment, etc.

Besides keratin, there are highly moderated concentrations of mineral salts, such as sulphur, selenium, calcium and potassium.

What are its principal parts ?



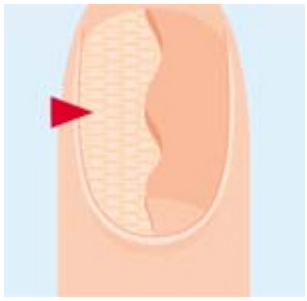
The matrix is the living portion found at the base of the nail. Here is where new cells develop and push the old, "dead" cells forward to form the nail plate. The quality and health of these cells determine the general condition of the nail as it grows beyond the matrix.



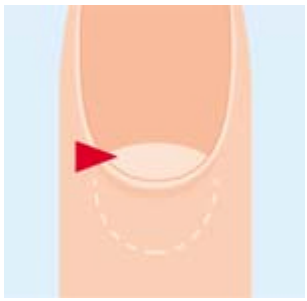
The matrix is supplied by numerous blood vessels and nerves which provide the nourishment necessary for the production and growth of nail tissue.

This is the most sensitive part of the whole nail structure and can easily be damaged through mistreatment. Any accident or abuse can impede normal growth and cause discolouration and ridges or other irregularities to appear on the nail plate. These eventually grow out unless serious injury has resulted in permanent damage to the nail.

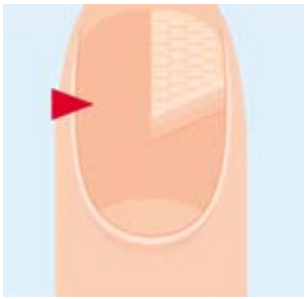
Everything that happens to the human body can relate itself through nails and the after-effects of childbirth or illnesses such as high fever, pneumonia, etc. can be translated by furrows that form on the lunula and gradually grow out with the nail. Even psychological shocks can affect the matrix and appear on the surface of the nail as uneven or deep grooves.



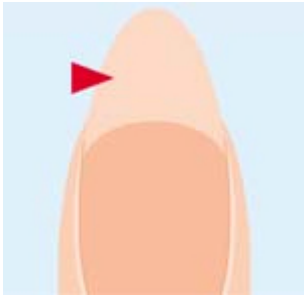
The nail bed is the continuation of the matrix. Acting as a support bed for the nail plate, it plays a vital role in the health, colour and texture of the nail. The nail plate is joined to the nail bed by a series of minute connecting ridges that run from the matrix to just short of the fingertip, where the nail detaches to form a free edge.



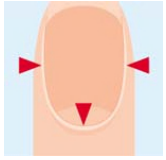
The lunula or half moon, that whitish crescent at the base of the nail, is the only visible portion of the matrix. It is not always prominent, although it usually is visible on the thumbnail, diminishing in size until the little finger, where it is usually not visible.



The nail plate is the visible part of the nail from lunula to free edge. It is composed of compressed skeleton cells produced in the matrix and contains no blood or nerves. Normally pale pink in colour, it may become white or bluish depending on temperature and other physical conditions. Although the nail plate seems to be one single piece, it is actually three layers separated by minute amounts of moisture and fat. These layers vary in consistency, the external layer being the hardest and the inner layer, which adheres to the nail bed, the softest.



The nail tip or free edge is the free part of the nail bed and protrudes beyond the end of the finger. How far is a matter of taste. This is the most vulnerable part of the nail and can easily be damaged by impact, incorrect filing, etc.



The cuticle is the rim of skin framing the nail plate that protects the hardening nail. The cuticle is constantly discarding old cells and producing new ones. Unless this tissue remains soft and pliable, it can grow onto the surface of the nail where it becomes unsightly, splits into hangnails and can even impede nail growth.

How does the nail grow?

The nail originates in the matrix as part of the epidermis, or outer layer of the skin. It hardens and thickens through a process called keratinization, becoming less firmly attached to the nail bed, which explains the white of the lunula. As growth continues, the nail becomes thinner and again fixes itself firmly to the nail bed, taking on a pinkish tone.

Depending on individual growth rate, it takes from 3 to 5 months for a nail to grow completely.

Nails generally grow faster and stronger in summer than winter, and grow faster on the right hand of right-handed person, the left hand of a left-handed person. The growth rate may be also more rapid during pregnancy.

Healthy nails and a balanced diet

"You are what you eat" is a popular saying, and certainly one's fingernails reflect one's diet. Dietary deficiencies not only prevent nails from growing normally, but also can cause weakness and brittleness, two of the most exasperating problems.

Vitamins, calcium and minerals are particularly important to the growth and maintenance of strong, healthy nails.

A vegetarian diet can weaken the nails as it produces imbalance due to the lack of animal proteins. Similarly, a poorly balanced weight-reduction diet is not beneficial to the health of the nails.

What are some causes of damaged nails?

Just as poor health and dietary deficiencies can inhibit the growth of a nail, so can illness and diet influence the condition of otherwise sound nails. Resulting damage can be of short-term duration and requires immediate attention. Internal causes should be referred to a qualified doctor or dermatologist for treatment.

Internal causes: In general, any circulatory condition that reduces the supply of blood to the matrix of the nail prevents it from receiving proper nourishment and developing normally. Other health problems that can affect the nails include glandular disorders, poor metabolism, allergies, anemia, deficiencies of calcium, certain amino acids and other essential nutrients.

External causes: A healthy nail can be damaged in many ways, including the following:

- direct contact with solvents, strong detergents and other cleaning products,
- over-exposure to sunlight or dry atmospheric conditions,
- heavy pressure or strong blow against a hard object,
- application of nail polish directly to the nail plate, without protection of preliminary base coat.

Most of nail problems can be alleviated through the use of specially formulated MAVALA treatment products.