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The Causes, Diagnosis and Treatment of Nail Disorder

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Abstract
The anatomy of the human finger consists of three parts. The nail plate, nail bed and matrix start from the posterior structure. Nails and cuticles are special cuticles that protect delicate fingers and toes from trauma and serve as a tool or weapon. Nail problems occur in people of all ages. Unless a person suffers from malnutrition, diet is not usually responsible for abnormal nail changes. Some nail conditions require professional treatment by a doctor or dermatologist, while others respond to simple self-help techniques and simple lifestyle changes. If in doubt you should seek medical attention. Nail disease is a common reason for dermatological consultation. They are evaluated by clinical examination, Dermatoscopy, visual examination, microbiology (including mycology) and histopathological examination. Medicinal Herbs are a great way to care for and heal your body. Before doing anything, the doctor must first know the cause. The herb is available in dry alcohol, glycerin and other forms of alcohol.

Keywords
Histopathological Dermatoscopy

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INTRODUCTION:
Nails and cuticles are special cuticles that protect delicate fingers and toes from trauma and serve as a tool or weapon. The anatomy of the human finger consists of three parts. The nail plate, nail bed and matrix start from the posterior structure [1]. The nail plate serves as a protective layer on the dorsal surface of each distal phalanx of the hands and feet. Permanent matrix nails are nails. It is important for the integrity, appearance and growth of different parts of the nail apparatus, including the surrounding tissues and the phalanx bone [2]. Other duties include protection as well as defensive or striking, drawing, and cosmetic purposes. This review focuses on various nail diseases that occur due to physiological changes in the body [3]. Nail diseases account for 10% of dermatological disorders and affect a large number of older people [4].

Health Benefits of Nails
Did you know that your nails can tell you something about your overall health? Health or physical illness is shown as a family **that penetrates** the nails. They vary in shape and size due to systemic problems that prevent their growth. A small white spot here, a slight **tinge of pink** there, or skin redness or swelling could be signs of an illness. Problems with your liver, lungs, or heart can be revealed by your nails. Read on to discover secrets that nails can hide.[5]

Senile Changes in Nails
It is believed that senile changes in the nails are caused by peripheral degeneration, often caused by arteriosclerosis. Even if the nail plate is exposed to

the sun [7,8], UV rays can contribute to such changes. Trauma, biological abnormalities, infections, dermatological or systemic diseases and them

A) Treatment also contributes.

The calcium and iron content of older nails increases and decreases with age.

B) Changes in histology

The size of nail plate keratinocytes increases with the number of 'pertinax bodies', which are remnants of keratinocyte nuclei. A blood clot is seen in the dermis of the nail bed damage to the ducts and elastic fibers, especially under the dark circles.

C) Change in the growth of nails

Fingers and hands grow at an average rate of 0.1 mm/day (3.0 mm/month) and 0.03 mm/day (1.0 mm/month). In the elderly, nail growth rate decreases by approximately 0.5% per year between the ages of 25 and 100. As shown by Oreintreich and Scharp (1967), [6] nail growth decreases by an average of 38% over a ten-year period. and nine. In this study, the decline in nail growth in females was greatest by age six; then no change was observed from to eight years, whereas in men the rate was more pronounced from six to eight years. [6]

D) Discoloration of nails

Senile nails can be light, dark and opaque; Its color varies from white (leukonychia) or yellow to black or grey. [11] Leukonychia can be true (due to matrix involvement), total, subtotal, transverse, punctate, or longitudinal; pseudoleukonychia (exogenous origin) observed in onychomycosis with keratin granulation after nail application; and visible leukonychia (due to background changes).

Finger problems and information [12,13,14,15]

Nails support and protect the sensitive tips of the fingers and toes. Fingers also help us grasp things, press buttons, or unfasten them. The toe grows three times faster than the finger.

Nail problems occur in people of all ages. Unless a person suffers from malnutrition, diet is not usually responsible for abnormal nail changes. Some nail conditions require professional treatment by a doctor or dermatologist, while others respond to simple self-help techniques and simple lifestyle changes. If in doubt you should seek medical attention.

Toe problems can affect people of all ages but are more common in the elderly. Common causes of finger problems include injuries, infections, and skin conditions such as eczema and psoriasis. Common causes of foot problems include trauma, ill-fitting shoes, poor mobility, muscle weakness, and infection. Minor problems are best treated by a chiropractor.

Nail Structure Nails are made of a protein called keratin. This is the same protein that makes up skin and hair. Nails grow from cells growing under the nail, and these cells then overlap and become stronger. This is called keratinization. The strength, thickness and growth speed of nails are characteristics we inherit from our parents.

Nail structures include:

- Nail matrix - located under the skin at the back of the nail, where nail growth is visible
- Nail plate - the visible part of the nail
- Nail bed - the nail plate sits on top of the nail bed. . The nail plate appears dark due to the blood-rich capillaries in the nail bed.
- Lunula – crescent-shaped shape sometimes seen beneath the nail plate.
- Nail sheath – the soft layer of skin that holds the nail. Plate at position
- Cuticle - the small cuticle layer on the top of the nail.

Nail Condition

Many conditions can affect our nails, with different causes and treatments. A healthy nail plate is pink and the nail appears white as it emerges from the nail bed. Common causes of nail discoloration include:

- Nail polish
- Nicotine from smoking
- Hair dyes Certain infections used in chemotherapy
- Melanoma.

Nail plate removed when the nail plate is removed from the nail bed, it appears white. Common causes include:

- Excessive cleaning under the nails.
- Cleaning the nails with strong chemicals such as formalin

Ingrown nails older people are at greater risk. The causes are:

- Fungal infection

Ribbed nails

Ribs that run across the length or width of the nail plate can have **many** causes, including:

- Fungal infection
- Neglect
- Injury
- Poor circulation
- Arthritis **of** the **fingers**
- **Change in** gait **(gait)**
- **Inappropriate** shoes
- Psoriasis.

Ribbed nails

Ribs that run the length or width of the nail plate can have many causes, including:

- Age-related changes
- Cuticle damage

- Cuticle overload
- Fever or illness
- Eczema
- Rheumatoid arthritis
  - Peripheral vascular disease
  - Lichen planus infection.

Cracking of the nail

In this case, the lightened nail plate splits or bed. Common causes are:

- Having constantly wet hands, especially while using soap and washing detergents
- Frequent wetting of hands, especially with soap and hand washing.
- Light, permanent damage, such as a normal nail or a nail used as a tool (for example, to separate teeth).

Rough or broken nails

Nails may be thick or cracked. This is a normal aging process for the nails to harden. Trimming, shaping, and nail care by a podiatrist can improve the health of your nails and help diagnose and treat more serious nail problems. Ingrown or split toenails can benefit from regular professional attention**.**

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Bacterial nail infections

Staphylococcus aureus bacteria is the cause of nail infections. The infection usually first settles in the skin under the nail (near the nail). If left untreated, the infection can develop further, causing inflammation and swelling. It is often associated with candida infection, especially if it is chronic. Activities that make a person more susceptible to bacterial nail infections include**:**

- Keeping hands wet
- Pay attention to cuticles
- Excessive nail biting, which can spread infected cells
- Eczema around the fingers.

Inflammation of the skin around the nail - paronychia

The skin around the nail can become infected with bacteria, most commonly Staphylococcus aureus. This condition is called paronychia. Symptoms may include pain, redness and swelling around the fringe, as well as yellow-green discharge.

Treatment of paronychia includes:

- Keeping your feet as dry as possible
- Use of protective creams, ointments and antifungals
- Antibiotic treatment (in severe cases).

Chronic paronychia (where the condition persists for a long time) is difficult to treat. With chronic paronychia, the nail may become crooked and discolored, and the skin in the affected area may blister. Sometimes the inflammation spreads from one nail to another. List of common microbes responsible for chronic paronychia.

Fungal infections

Fungal infections, such as tinea, are transmitted from person to person and can infect the fingers or toes. If left untreated, the nail bed itself can become infected. People with diabetes or compromised immune systems are at higher risk of developing fungal infections.

Symptoms of nail infection depend on the cause but may include:

- Elevation of the nail plate in the nail bed
- Swelling of the nail plate
- Nail plate cracks

Discoloration, usually in streaks

- White, yellow or green smelly discharge
- Flaking and pitting of the surface of the nail plate.

Treatment for fungal infection includes:

- Antifungal preparations applied topically (directly to the nail) or taken orally (by mouth)
- Professional trimming, shaping and care of the toenail by your podiatrist.

Trauma to the Nail

Nail biting **or** forceful **nail biting can cause a** variety **of problems, including:**

- Injury to the nail bed
- Elevation of the nail plate
- Loss of nail plate
- Growth of the nail plate if the nail matrix is damaged.

Big toes

One of the most common problems treated by podiatrists is bunions. **Big toes are often affected by** this painful condition. Possible **causes are:**

Improper **nail cutting**

- Trauma (such as stubbing your toe)
- Nails that are **bent too much at** the edges and dig into the skin
- Wearing tight shoes.

The **doctor's treatment** depends on the severity of the injury, but he **can also remove part of** the ingrown nail with local anesthesia.

Suggestions to prevent nails from ingrown **are as follows:**

- Try **to keep** your nails straight rather than applying **them all** the way.
- Wear comfortable shoes that fit **well and do not pinch** your toes.

Skin and nail diseases

Skin diseases such as psoriasis, eczema (dermatitis), lichen planus or lupus can affect the nails. Irregularities **can be holes, indentations** or nails.

Abnormal nail shapes

Abnormal nail shapes, such as brittle nails, may be caused by iron deficiency.

Nail tumors. Nails can be infected with tumors, including cervical cancer, often caused by human papillomavirus (HPV) infection. Melanoma can also affect the nails.

Varicose veins in the nail. These are thin lines of blood that run along the nail bed. The causes include trauma, anemia, infective endocarditis (inflammation of the heart lining) and some diseases such as rheumatoid arthritis. Other Diseases and Nails

Some diseases that can affect the shape, integrity and color of our nails are:

- Lung disease
- Heart disease
- Kidney disease
- Liver disease
- Thyroid disease.

Congenital nail disease

Some nail problems are congenital (present at birth). This includes nail syndrome, in which nails become damaged or lost.

Aging and Nails

As our body ages, the growth rate of our fingers and toes tends to slow down. Protein changes in the nail plate cause nails to become thinner and more prone to breakage. Discoloration and swelling are also common.

DIAGNOSIS AND TREATMENT OF NAIL PROBLEMS:

Any unusual **changes** in **your nails should be** monitored by a doctor. Consult **your doctor for treatment or** possibly a **referral to a dermatologist. If the cause of your nail problem is not immediately apparent, your doctor may take** a sample of your **nail and** subnail **for laboratory analysis.** Hand ulcers **usually respond to treatment** rather **than** infection.

Depending on the cause, treatment may include:

- Antibiotics for bacterial infections
- Antifungals, especially oral tablets, for nail fungal infections
- Treatment of all types of skin infections
- Advice on proper nail care.

Self-Help Measures for Healthy Nails Ways to reduce the risk of nail problems include:

- Maintain good hygiene.
- Wear protective gloves for wet work such as washing dishes.
- Avoid harsh chemicals such as strong soaps.
- Avoid or reduce the use of chemicals such as hair dye.
- Be careful with quotes.
- Do not clean under your nails too often or too harshly.
- Do not leave cuticles behind when doing a manicure at home.
- Resist the urge to bite or tear your nails; Use your nails.
- Don't bite your nails.
- Remove fake nails carefully and according to the manufacturer's instructions.
- No smoking.
- Wash your hands frequently, especially after washing.
- Don't forget to apply moisturizer to your nails and cuticles.
- Quickly treat eczema complaints on your hands.
- To prevent fungal infections, avoid sharing towels, always dry thoroughly after showering (especially between the toes), and wear towels in public bathing areas such as your local gym or swimming pool.
- Make sure your shoes fit well and have sufficient air space.

TREATMENT:

Drug Therapy

The diseased nail can be removed, and the doctor may prescribe oral tablets or medications to be applied to the nail surface. Terbinafine (Lamisil), itraconazole (Sporanox), or oral fluconazole (Diflucan). Onychomycosis sinks into the nail and makes treatment difficult. Primary treatment methods are ineffective. Oral terbinafine (Lamisil) appears to be an effective treatment for fungal infections with fewer side effects than other oral medications. Terbinafine has also been shown to be an effective treatment for high-risk patients, such as those with type 2 diabetes or HIV infection. [17] Oral itraconazole (Sporanox) may be a suitable treatment for fungal or non-dermatophytic fungal onychomycosis. Oral fluconazole (Diflucan) is also an effective treatment for onchomycosis. The effects of oral medication may not be seen for up to 12 to 18 months. Long-term rates of oncomycosis are estimated to be between 20% and 50%. To provide appropriate treatment for patients with nail disease, the severity of nail disease, skin disease, and/or presence of joint disease must be carefully evaluated. Behavioral approaches that reduce Koebner's condition, especially regarding shoe fitting, nail care, and manual labor, are also important components of the intervention. [19] Topical or intralesional corticosteroids, as well as vitamin and D3 analogs, are the most recommended treatment for nail fungus. Because of the low absorption rate in this area, studies show that using

0.05 percent clobetasol propionate as a gel or cream in the periungual area may have only a minor effect on a patient's symptoms. A 24-week study was conducted on 28 patients with hydroxypropyl chitosan and hydroxypropyl chitosan lacquer. The intervention was well received by all patients and resulted in a 72% reduction in perforation and a 60% reduction in leukonychia and onycholysis. Other effective treatments for nail psoriasis include tacrolimus, fluorouracil, topical cyclosporine, tazarotene, and anthralin. In severe cases, radiotherapy may be used. [21]

Further information [22]

• Removal or removal of sores

Supplements

Any form of malnutrition can impair the growth of nails. These dietary recommendations may help reduce symptoms. Avoid foods that may contain allergens, such as dairy, wheat (gluten), corn, preservatives and food additives. A doctor may recommend food intolerance testing. Avoid processed foods, use healthy fats in food, reduce excess fat, avoid unnecessary coffee and other toxins, alcohol and tobacco, drink 6-8 glasses of water a day and get minutes of physical activity, at least 30 minutes a day. Omega-3 fatty acids, probiotic supplements, L-glutamine, etc. Nutritional supplements such as can help with malnutrition. [24]

Medicinal Herbs

Medicinal Herbs are a great way to care for and heal your body. Before doing anything, the doctor must first know the cause. The herb is available in dry alcohol, glycerin and other forms of alcohol. A teaspoon of green tea can be added to a glass of hot water to make tea. It is recommended to drink 2-4 glasses of water a day. The tincture may be used alone or in combination as indicated. Tea tree oil, green tea and reishi mushroom are examples of herbs that can be used. [25]

Homeopathy

Many studies have been conducted to determine the effectiveness of various homeopathic medicines. Professional homeopaths may recommend one or more of the following treatments for nail problems, based on their prior knowledge and medical knowledge. Homeopathy treats the body, mind and soul. Expert homeopaths take all these factors into consideration when choosing the best treatment for a particular individual. For example, marigold and Sulfur water. [26]

Acupuncture

Acupuncture can help with body **functioning, digestion,** and resolving medical problems. [27]

Preventing common nail problems [28,29,30]

Apply nail oil regularly throughout the day. Make sure to press the oil into the nails and droops. Wear gloves when working in your garden or when the weather gets cold. Wear rubber gloves or disposable plastic pants to protect your hands from excess water, liquids, and other chemicals.

1. If **possible, wash** your fingers weekly after showering.

a) Do not cut your nails short.

b) Use a **nail file** and sharp cuticle **clippers or** scissors to cut your finger. **Simple and well-groomed nails** are not susceptible to damage.

2. Wash **your fingers** after bathing **every month.**

a) Trim well and leave your nails a little longer at the corners to avoid sharp points cutting your skin.

b) If you have a chronic medical condition such as diabetes, peripheral artery disease, or a medical condition that causes problems in your body, **talk to** your doctor about the best way to treat your toes before removing them yourself.

3. Be very careful when cutting **the child's** nails.
4. Avoid trimming your droops. Even a small cut on **the edge of** your nail can cause infection.
5. Do not bite or tear **when hungry.**

To prevent nail infections [31,32]

1. Keep your feet dry. Dry feet are less likely to develop infections. Apply powder to feet if necessary.
2. Wear clean, dry socks. Change socks once a day or more often if changed.
3. Wear wide shoes that allow air to circulate around the feet. 4. Wear swim shoes or shower shoes when using public pools, spas and showers.

To avoid problems with artificial nails [33,34]

1. Try to connect the electric nail with a single nail. Wait a few days to see if there is any redness, swelling, pain, or swelling around or under the nail, or if there is separation between the nail and the nail bed.
2. Do not apply nail polish if the nail or the skin around the nail appears irritated or infected.
3. If the fake nail is not loose from the nail bed, dip your finger in rubbing alcohol for 15 seconds before touching the nail again. This releases the space between the nails.
4. Do not wear fake nails for more than 3 months at a time. Give the natural nails a month's rest before reapplying the nails.

CONCLUSION:

Nail disease can occur at any age. Approximately half of nail infections are due to infectious diseases, 15% are due to inflammatory or metabolic conditions, and 5% are due to deformities and disorders. Nail disease is a common reason for dermatological

consultation. They are evaluated by clinical examination, dermatoscopy, visual examination, microbiology (including mycology) and histopathological examination. Bacterial nail infections are rarer than colonization. Groups at high risk for nail infections include diabetics, dialysis patients, organ transplant recipients, and cancer patients.

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