



# Nails—They Mean More Than You Think!—Part 1

Take a good history.  
You'll be amazed at what you find out!

BY KENNETH B. REHM, DPM

## Objectives and Goals

- 1) To understand the importance of nail pathology in clinical practice.
- 2) To appreciate the diagnostic opportunities available through a good history and physical in a patient with nail disease.
- 3) To be able to create a differential diagnosis through careful investigation of the nail pathology.
- 4) To understand the significance of proper diagnosis and treatment of nail disorders.
- 5) To identify medical conditions and co-morbidities that accompany different nail conditions.
- 6) To define the parameters of the decision-making process of treating diseased toenails in clinical practice.
- 7) To empower the podiatric physician to consider the whole patient when developing a treatment plan for diseased toenails.

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Following this article, an answer sheet and full set of instructions are provided (pg. 134).—Editor

"Though the world may be a jungle, not all abnormal nails are fungal"—Anonymous

**W**e used to call it C&C, literally meaning cutting corns and calluses. In reality, it was a

cipher used to indicate the routine trimming of toenails, corns, and calluses—treatments considered to be the most mundane of all podiatric

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services, held in low esteem by podiatrists and other medical professionals alike, even though they

as world-class hospital and surgical privileges. Yet the core of what originally was podiatry—i.e., the routine prophylactic care of corns, calluses, and diseased toenails—has remained

and financially rewarding, as well as providing a great service to your patients.

Analogous to the pattern and types of callus formations that are markers for biomechanical abnormalities, diseased toenail patterns can be a marker for systemic and topical diseases, and now raise the professional and commercial status of treating those long thick discolored dystrophic and fungal toenails. Toenail diseases are now being treated by many different medical specialties, particularly with the continuing popularity of oral and topical medications, and now with the advent of laser therapy and the widespread advertisements of such.

We as podiatric physicians and surgeons, however, are the best at nail care. Therefore, we should take pride and ownership of this special area of practice. As such, a more formal approach toward the diseased toenail is warranted. A protocol would do justice to the diagnosis and treatment of diseased toenails. The remainder of this article expands on the idea of developing

## Psoriatic nail disease often mimics onychomycosis.

proved to be invaluable services.

Podiatric physicians and surgeons have since gained high status in the world of medicine through outstanding education and training as well

the least prestigious of all podiatric treatments provided. This is, of course, in spite of this type of routine care being one of the top reasons why patients go to podiatrists. Some

podiatrists actually refuse to do routine care on their patients and delegate that to lower level practitioners, or refer this kind of work to podiatric physicians and surgeons who relish that type of work.

Hold on to



Figure 1: Gnawed nails due to chronic nail biting



Figure 2: Allergic and chemical contact injury to toes



Figure 3: Fungal infection of the toenails

## The diagnostic possibilities are even expanded by the geneticist and pediatrician who look at nail pathology as a sign of inherited disease.

that ego, Docs! The subject of diseased toenails has never been so popular among both patients and the medical profession, what with television and print ads persistently affirming the need for treating these conditions. The need has never been greater and can be academically, professionally,

a protocol for treatment of diseased toenails.

Because of the intricacy involved in the diagnosis of nail pathology, complaints, problems, and disease, this set of issues should be approached in the same medically professional way as any medical or podiatric problem. A history and physical examination focused at revealing the cause of the nail pathology must be performed and a diagnosis made before any treatment is rendered.

Very often, toenails are sometimes too-quickly deemed onycholy-

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mycotic when, in fact, a myriad of pathological conditions can exist. Making the diagnosis of specific nail pathology is often formidable. The differential diagnosis includes, but is not limited to, nail signs of systemic disease, trauma, infection, endocrine

The diagnostic possibilities are even expanded by the geneticist and pediatrician who look at nail pathology as a sign of inherited disease and an aid in the assessment of syndromes seen at birth. Nail disease is often traumatic or subject to the effects of faulty biomechanics and can cause painful and infected digits

### An initial diagnostic work-up of toenail disease should first include taking a detailed history.

problems, pregnancy, psoriasis, eczema, vitamin deficiencies, nutritional disorders, lichen planus, onychogryphosis, primary nail disorders, and neoplasms of the nail.



Figure 4: Paronychia and bacterial infection of toenail area

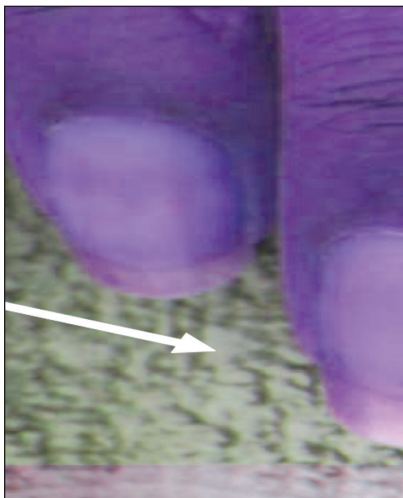


Figure 5: Splinter hemorrhages on the nail bed

which are often observed and treated by podiatric physicians and surgeons.

The gerontologist addresses the effects of impaired circulation, multiple drugs, abnormal gaits as well as bone and joint changes in the elderly. The bony defects that affect nail health and development are revealed by the orthopedist, podiatrist, and rheumatologist as well. The infectious disease specialist and mycologist are experts in revealing nail pathology rooted in fungal infections and diseases such as AIDS. Dermatologists are familiar with every aspect of nail pathology diagnosis and treatment, and are adept at recon-

### Initial History

Good medical practice dictates that a complete history be performed before proceeding with the examination. The initial history for a patient with a chief complaint of nail-related disease, therefore, should comprise sophisticated inquiry for the purpose of discovering the appropriate historical background that would reveal any of the seven basic causes of nail disease:

- 1) Injuries
- 2) Infections
- 3) Diseases
- 4) Poisons
- 5) Medications
- 6) Nutritional Deficiency
- 7) Normal Aging

1) Injuries that may cause a permanent deformity in the nail unit include crushing the base of the nail, matrix, or nail bed. Chronic picking or rubbing of the skin behind the nail plate can cause median nail dystrophy which causes a lengthwise split or ridged appearance of the nail plate. Long-term exposure to chronically walking or working in wet areas or wearing wet shoes can lead to deformities such as nail bed attachment problems, brittle and peeling nails, as well as yeast and fungal infections

### A basic cause of nail disease is nutritional deficiency.

ciling the relationship of pathological nails, skin disease, and systemic conditions.

Podiatric physicians and surgeons are the specialists in the foot, which includes the toenails. Their expertise embodies and encompasses each of the medical professions that consider disease of the toenails their purview. Podiatrists should therefore be considered the definitive authorities in the area of toenail disease, able to diagnose and manage nail pathology in a way that supersedes and surpasses the approach, analysis, recommendations, and outcomes of any other professionals who treat the nails.

of the toenails (Figure 1).

To facilitate making a prompt and accurate diagnosis, the patient should be asked to bring to the office all nail-care products, soaks, soaps, and nail instruments that are used to care for the feet and nails, and have all nail polish removed.

Various cosmetics, nail polish, chemical irritants, strong soaps, and nail products can alter the chemistry and pH of the toenails and surrounding skin, and can adversely affect the health of the nail by causing allergic or contact irritation, allergy, inflammation, a caustic or burn reaction to

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the skin, nail folds, and nail matrix (Figure 2).

2) Infections are a common source of nail deformities, nail loss, or changes in nail color. Fungus or yeast normally cause changes in the color, texture, and shape (Figure 3) of the nail. Bacterial infection can cause complete nail loss as well as a complete change in nail color, or a painful area of abscess, purulence, inflammation or redness under the nail or in or around the nail borders and skin (Figure 4). Splinter hemorrhages (Figure 5) (red streaks in the nail bed) result from certain infections of the heart valves.

3) Diseases

There are many nail symptoms and primary nail diseases, as well as many systemic diseases that have nail signs and symptoms as part of the clinical picture. There are almost 400 medical conditions that cause nail pathology. Therefore, getting a good medical history can be quite revealing and is the foundation of a good diagnosis of nail disease.

To elucidate and clarify the major systemic causes of nail pathology, other than injuries or infections mentioned above, the following categorization will prove helpful.

\* Disorders that affect the circulation to the limbs, or the amount of oxygen in the blood or delivered to the extremities are primary culprits of nail disease.

The amount of oxygen in the blood can be decreased by the presence of certain types of heart abnormalities, lung disease, cancer, or infection; and if the nails are affected, the problems show up as clubbing (Figure 6).

Considering organic and functional arterial disease, up until re-



Figure 6: Clubbing of the toenails

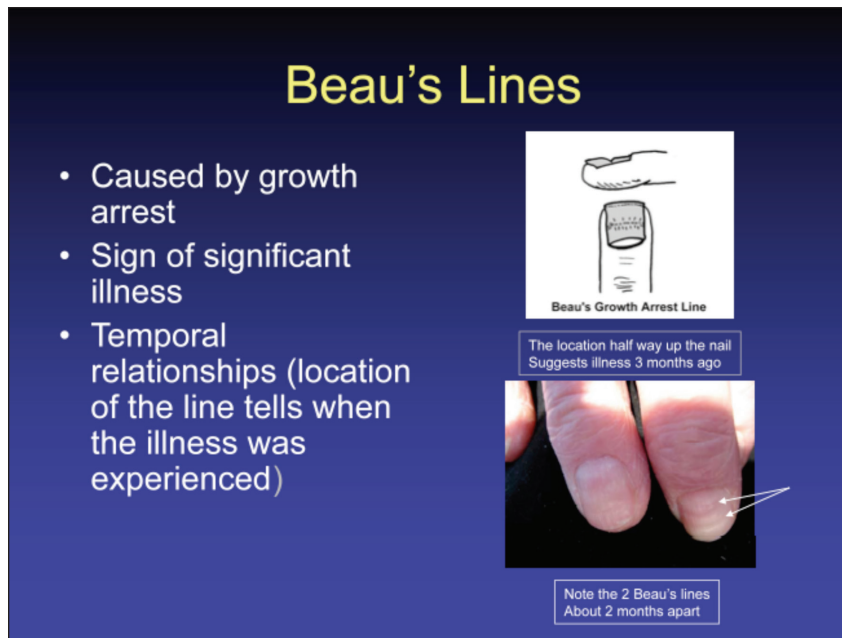


Figure 7: Beau's lines with permission from Dr. Mark Williams, University of Virginia

cent research, it was thought that nail changes occur infrequently in vascular disease—the exception was thought to be confined mostly to necrosis or ulceration in the nail of the affected digit.

Scleroderma, however, was known to cause the nails to undergo

differences between nail changes in functional vasospastic arterial disease and organic arterial occlusion.

In all varieties of functional vasospastic disease, including Raynaud's disease and phenomena, scleroderma, peripheral neuritis, leprosy, and sclerodactylia, a con-

**Nail fold and cuticle changes are commonly seen in vasospastic arterial disease.**

atrophy, thickening, and deformation. And recent research shows that in peripheral vascular disease, disturbances are frequent, with Beau's lines indicating periods of retarded growth, partial loosening, atrophy, distortion, or finally destruction by gangrene (Figure 7).

There are, however, significant

dition called pterygium exists (Figure 8). This is a condition where there is a notable thinning of the proximal nail fold, with a gradual merging into the translucent cuticle. This epidermal membrane can advance as much as 3 millimeters over the nail plate and can adhere to its outer surface.

Interestingly, this condition is very often a marker for impending scleroderma. This condition is also seen in onychophagia (Figure 1) (the practice of biting one's nails) and commonly in the last two toenails in apparently normal persons. It is interesting to note that there is a fairly common normal form of pterygium, which is not characterized by thin-

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ning of the proximal nail fold. All nail changes can be reversed as the vasospasm is reversed.

tally, sometimes over the whole nail plate. The white spread is due to a buildup of a substance called keratohyalin and explains the condition of total leuconychia.

tional vasospastic and organic vascular disease is related to onycholysis, where the nail is loosened and painlessly shed. Infections of the nails and surrounding tissues, as well as chronic subungual infection seen in relation to ischemic osteomyelitis and associated subungual abscess, may be seen in all types of vascular disease to the extremities. Also, acral ulcerations may involve the nail structures and show non-prejudice to the type of dysvascular conditions present.

It is important to note that the nail changes discussed in relation to organic and functional peripheral vascular disease are indeed sensitive indicators of the severity of the disease.

As part of the discussion on peripheral vascular disease of any type, the subject of painful nails should be examined. Nails themselves are not painful. When a healthy patient complains of painful nails, it is usually due to an ingrown toenail, infection, abscess, subungual exostosis, or trauma to the surrounding tissues or underlying bone.

When a dysvascular patient complains of painful nails, especially toenails, the clinical picture may be quite different. The patient may complain of pain on or around the nails, but the tissues are hyperesthetic, and the slightest pressure from any source, whether it is from shoes or just touching the digit, gives rise to more pain than expected. This is, more often than not, interpreted as an ingrown toenail causing the pain, whether there is an ingrown toenail there or not.

The nail symptoms here could be a result of ischemic hyperesthesia and have nothing to do with the nail itself. Relief from pain of this sort is obtained by cessation of weight bearing and increasing the circulation to the digit.

**Splinter hemorrhages are usually associated with red streaks in the nail bed.**

Nail changes in organic arterial occlusive disease are a result of ischemia. Whether the occlusive disease is arteriosclerosis or the less common thromboangiitis obliterans, there is a marked distortion of the nail plate. There are no accompanying nail fold and cuticle changes seen in vasospastic diseases. Linear growth of the nail plate is retarded such that the nail does not have to be trimmed for months or even years. The nail plate becomes thick, heavy, and rough. The roughening is due to transverse parallel ridging. The nail plate is usually darkened, either because of contained pigment or soiling of the thick ridges. This thickened and darkened nail plate obscures all visibility to the nail bed and can progress to a grossly deformed claw nail, called onychogryphosis (Figure 10).

Reversal of the nail changes can take place if the occlusive disease is repaired, and is often used as an indicator of the success of any circulation augmentation therapy.

**Diffusion of the Lunula**

A condition called diffusion of the lunula is due to pronounced ischemia. It is very common in leprosy and other dystrophic conditions affecting the circulation to the extremities. This condition is characterized by the white lunula spreading dis-

**Functional Vasospastic and Organic Vascular Disease**

Nail pathology seen in both func-



Figure 8: Pterygium of toenails, with the typical nail changes in vasospastic disease showing widening of the cuticle and thinning of the nail fold.



Figure 9: Typical nail changes in organic arterial disease showing ridging, thickening, and discoloration of the nail plate due to ischemia



Figure 10: Severe dystrophic nail and onychodystrophy

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It is very important to consider the traumatic consequences of doing any type of definitive toenail procedure on a patient with impaired circulation, such as necrotic changes to the digit. This is true if the patient really does have an ingrown toenail, but caution is especially warranted if the patient does not.

**Kidney Disease**

Nails affected by kidney disease are damaged by the nitrogen buildup in the blood. This shows up in the nails as Beau's Lines, koilonychia, leuconychia, and half-and-half nails (Figure 11).


**Liver Disease**

Pale nails (or white nails) can be a sign of liver disease. The liver manufactures blood proteins and when this is abnormal, it shows up in the nails in this way. This condition can also indicate anemia, which is a common side effect of the medications used to treat hepatitis C.


Clubbing of the toenails can be

## Terry's Half and Half Nails

- Proximal portion is white (edema and anemia) and the distal portion is dark
- These nails imply either renal or liver disease
- In renal disease there is a brown band at the junction of the erythema and the free edge



Liver disease (no brown line)



Renal disease (brown line)

Figure 11: Terry's half and half nails indicative of kidney or liver disease. Permission from Dr. Mark Williams

run across the fingernails horizontally, have been linked to low levels of the protein albumin, an important component of blood that is made in the liver (Figure 12).

Terry's nails, a condition marked by the tip of each nail having a dark

hemorrhages, telangiectasias, capillary loops in proximal nail folds, periungual erythema, and thin nail plates are significantly more common in patients with systemic lupus erythematosus than in persons without.

In patients with systemic sclerosis, periarteritis nodosa, Wegener granulomatosis and dermatomyositis/polymyositis, the diseases are punctuated by the presence of splinter hemorrhages, capillary loops in the proximal nailfolds, an increase in longitudinal curvature, transverse curvature, and a white dull color of the nail plates. In rheumatoid arthritis, splinter hemorrhages, red lunula, and white dull color are more common findings (Figure 13).

Proximal nail fold involvement is a central finding in this set of diseases. A careful clinical examination of the nail and a capillary microscopy study of the proximal nail fold may be diagnostic for these connective tissue collagen disorders.

**Amyloidosis**

Amyloidosis is a disease where one or more body organs accumulate insoluble proteins. It can be a sequela of inflammatory diseases such as rheumatoid arthritis. The nails can become flaky, crumbly, brittle, and dystrophic.

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### Erythema in the proximal nail fold is more common in persons with systemic lupus erythematosus.

a sign of decompensated liver disease, which happens when the liver is damaged to the extent that it impairs its functioning (Figure 6).

Mee's Lines or Muehrcke's Lines, appearing as double white lines that

band, is potentially due to the liver's impairment in producing albumin.

**Connective Tissue Disease and Collagen Disorders**

Patients with this category of disorders commonly experience a wide gamut of nail changes. These nail changes are so consistent, they can be used with standard diagnostic tools to establish an accurate diagnosis of a number of disorders.

E r y t h e m a in the proximal nail fold, splinter

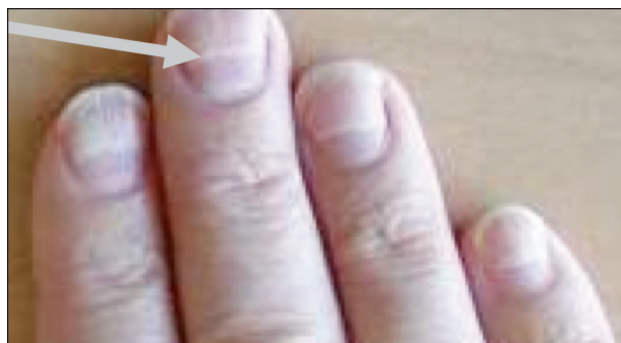


Figure 12: Mee's lines or Muehrcke's lines can time the event from location on the nail. These are associated with illness, heavy metal poisoning or chemotherapy.



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Approximately 10% of people afflicted with lichen planus, a T-Cell immunologic disease associated with Hepatitis C, develop resultant nail pathology. This shows up as pitting, longitudinal lines and linear depressions of the nail plate, as well as severe dystrophy and complete destruction of the nail bed.

**Skin Cancer and Melanomas**

The most common of the cancers that involve the nail unit is melanoma. Nail unit melanoma accounts for about 1% of melanomas in white-skinned individuals. Acral lentiginous melanoma is the most common type of melanoma diagnosed in African-Americans and Asians. It is usually diagnosed in persons between the ages of 40 and 70 years of age. It is thought to arise from trauma, being most common in the thumb and great toe. It

is not from sun exposure, as commonly thought.

Melanoma of the nail unit, usually a variation of acral lentiginous melanoma (occurring on the palms of the hands and the soles of the feet) can also be part of nodular melanoma or desmoplastic melanoma. It is

- Periungual melanoma when it originates from the skin adjacent to the nail plate.

**Hormonal Imbalance/Deficiency**

Because the nails are dependent upon proper protein synthesis, the proper interplay and balance of the

**Proximal nail fold involvement is a central finding in connective tissue collagen disorders.**

associated with either the great toenail or the thumbnail.

Melanoma of the nail unit can also be categorized as:

- Subungual melanoma when it originates from the nail matrix (Figure 15).
- Ungual melanoma (Figure 14) when it originates from the nail bed under the nail plate, or

body's hormones are fundamental to the health of the nails. When there is hormone deficiency or imbalance, the nails are affected.

**Hypothyroidism**

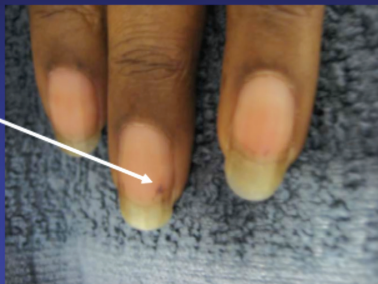
Hypothyroidism can cause impairment to the digital circulation. This can result in the nail beds appearing pale and dysvascular. Hyper- and hypothyroidism cause dry brittle nails, as well as softening of the nails and onycholysis. Brittle nails, which can be a marker for osteoporosis, a condition that is often coincident with diminishing estrogen levels, can also be a reflection of menopause

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**A condition called diffusion of the lunula is due to pronounced ischemia.**

## Splinter Hemorrhages

- Caused by hemorrhage of distal capillary loops
- Note thickness
- Associations
  - SBE
  - SLE
  - Trichinosis
  - Pityriasis rubra pilaris
  - Psoriasis
  - Renal failure



Splinter hemorrhages tend to be fat.

Figure 13: Splinter hemorrhages can be associated with connective tissue disease, and collagen disorders. By permission from Dr. Mark Williams



Figure 14: Nail apparatus melanoma



Figure 15: Amelanotic subungual melanoma

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and/or osteoporosis. Brittle nails also show up in parathyroid hormone deficiency. Pregnancy can also result in brittle nails, as well as groove formation, split nails, and onycholysis. Vertical lines on the nails are typically part of the clinical picture of growth hormone deficiency.

**Diabetes Mellitus**

Although diabetes mellitus is a result of a hormone abnormality, the importance of this condition warrants a category by itself. It is generally thought, although oft-disputed, that persons with diabetes mellitus are at higher risk for onychomycosis. Kidney disease and peripheral vascular disease, as previously discussed, have their effects on the nails and are commonly part of the diabetes syndrome. Peripheral neuropathy, aside from the vascular



Figure 16: Yellow nails and longitudinal ridging in diabetes mellitus.

teemed Dr. Phil Gardner, may he rest in peace, that “given a good enough history, the patient will actually tell you what is wrong; you just have to listen!” **PM**

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**Vertical lines on the nails are typically part of the clinical picture of growth hormone deficiency.**

component of diabetes, can manifest itself as dry skin and brittle, dry nails.

Longitudinal ridging and yellow toenail syndrome is a common finding in patients with diabetes mellitus (Figure 16), Due to the fact that podiatric physicians and surgeons are so well-versed in the workup of the diabetic patient, more detail is not warranted in this discussion.

The three most common causes of nail diseases have been carefully discussed. However, there are four more culprits of nail pathology that need to be presented in this paper.

The reader would benefit from the recurring utterance of the es-

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SEE ANSWER SHEET ON PAGE 135.

- 1) The following condition is most often associated with toenail disease that mimics onychomycosis:
  - A) Pterygium
  - B) Psoriatic nail disease
  - C) Hailey-Hailey disease
  - D) Darier's disease
- 2) The following medical specialty is most likely to incorporate nail pathology in their practice?
  - A) Gastroenterology
  - B) Hematology
  - C) Virologist
  - D) Geneticist
- 3) An initial diagnostic work-up of toenail disease should first include \_\_\_\_\_.
  - A) Taking a detailed history
  - B) Clipping of the toenail
  - C) Removal of toxic nail polish
  - D) Identification of any ingrown nail borders
- 4) A basic cause of nail disease is:
  - A) Talipes equinus
  - B) Uncompensated rearfoot varus
  - C) Nutritional deficiency
  - D) Abnormal shoe wear
- 5) Permanent deformity of the nail unit is most likely caused by
  - A) Rheumatoid arthritis.
  - B) Raynaud's disease and phenomena.
  - C) Onychophagia.
  - D) Long-term exposure to wet areas.
- 6) Nail fold and cuticle changes are commonly seen in:
  - A) Organic occlusive disease
  - B) Vasospastic arterial disease
  - C) Thromboangiitis obliterans
  - D) Venous insufficiency
- 7) Peripheral vascular disease is associated with:
  - A) Transverse parallel ridging
  - B) Onychogryphosis
  - C) Beau's lines
  - D) All of the above
- 8) Pterygium is commonly associated with the following:
  - A) Irreversible nail changes
  - B) Onychocryptosis
  - C) Sclerodactylia
  - D) Thickening of the proximal nail fold
- 9) Diffusion of the lunula is due to the following:
  - A) Extensive osteoarthritic spurring
  - B) Nail bed melanoma
  - C) Pustular psoriasis
  - D) Pronounced ischemia
- 10) Acral ulcerations are commonly associated with:
  - A) Only certain types of dysvascular conditions
  - B) Deeper nail structures
  - C) Peripheral vasodilation
  - D) Hyperesthesia
- 11) The following should be considered in a patient complaining of painful toenails:
  - A) Nails themselves are not painful
  - B) Referred pain from neuromas
  - C) Hypothyroidism
  - D) Kidney disease
- 12) Nails affected by kidney disease are damaged by
  - A) Carbon dioxide buildup in the blood
  - B) Elevated AST in the blood
  - C) Nitrogen buildup in the blood
  - D) Low ALT enzymes
- 13) Beau's Lines, half-and-half nails and/or leuconychia are a common problem in:
  - A) Liver disease
  - B) Osteoporosis of the distal phalynx
  - C) Bowen's disease
  - D) Kidney disease
- 14) The following are associated with liver disease:
  - A) Pale nails
  - B) Clubbing of the toenails
  - C) Mee's lines
  - D) All of the above
- 15) Splinter hemorrhages are usually associated with
  - A) Red streaks in the nail bed
  - B) A foreign body
  - C) Retinal bleeding
  - D) Abnormal prothrombin time

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16) Which nail disorders are more common in persons with systemic lupus erythematosus?

- A) Increase in longitudinal curvature of the nail plate
- B) Dull white color of the nail plate
- C) Erythema in the proximal nail fold
- D) Ingrown toenails

17) Proximal nail fold involvement is a central finding in:

- A) Nail bed malignancies
- B) Cardiovascular diseases
- C) Pulmonary diseases
- D) Connective tissue collagen disorders

18) The most common of the malignancies that involve the nail unit is:

- A) Bowen's disease
- B) Melanoma
- C) Squamous cell carcinoma
- D) Lentiginous melanoma

19) Melanoma of the nail bed is best characterized as:

- A) Subungual, unguinal or periungual
- B) Superficial, deep, or intermediate
- C) Subacute, acute, or chronic
- D) Subclinical, clinical, or dormant

20) Vertical lines in the nail plate are typically part of the clinical picture of \_\_\_\_\_.

- A) Hyperthyroidism
- B) Hypothyroidism
- C) Growth hormone deficiency
- D) Parathyroid hormone deficiency

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Please call (631) 563-1604 if you have any questions. A personal operator will be happy to assist you.

Each of the 10 lessons will count as 1.5 credits; thus a maximum of 15 CME credits may be earned during any 12-month period. You may select any 10 in a 24-month period.

***The Podiatry Management Magazine CME program is approved by the Council on Podiatric Education in all states where credits in instructional media are accepted. This article is approved for 1.5 Continuing Education Contact Hours (or 0.15 CEU's) for each examination successfully completed.***

**Home Study CME credits now  
accepted in Pennsylvania**

**SEE ANSWER SHEET ON PAGE 135.**

# Enrollment/Testing Information and Answer Sheet

**Note:** If you are mailing your answer sheet, you must complete all info. on the front and back of this page and mail with your credit card information to: **Podiatry Management, P.O. Box 490, East Islip, NY 11730.**

## TESTING, GRADING AND PAYMENT INSTRUCTIONS

(1) Each participant achieving a passing grade of 70% or higher on any examination will receive an official computer form stating the number of CE credits earned. This form should be safeguarded and may be used as documentation of credits earned.

(2) Participants receiving a failing grade on any exam will be notified and permitted to take one re-examination at no extra cost.

(3) All answers should be recorded on the answer form below. For each question, decide which choice is the best answer, and circle the letter representing your choice.

(4) Complete all other information on the front and back of this page.

(5) Choose one out of the 3 options for testgrading: mail-in, fax, or phone. To select the type of service that best suits your needs, please read the following section, "Test Grading Options".

## TEST GRADING OPTIONS

### Mail-In Grading

To receive your CME certificate, complete all information and mail with your credit card information to:

**Podiatry Management**

**P.O. Box 490, East Islip, NY 11730**

**PLEASE DO NOT SEND WITH SIGNATURE REQUIRED, AS THESE WILL NOT BE ACCEPTED.**

There is **no charge** for the mail-in service if you have already en-

rolled in the annual exam CME program, and we receive this exam during your current enrollment period. If you are not enrolled, please send \$25.00 per exam, or \$195 to cover all 10 exams (thus saving \$55 over the cost of 10 individual exam fees).

### Facsimile Grading

To receive your CME certificate, complete all information and fax 24 hours a day to 1-631-563-1907. Your CME certificate will be dated and mailed within 48 hours. This service is available for \$2.50 per exam if you are currently enrolled in the annual 10-exam CME program (and this exam falls within your enrollment period), and can be charged to your Visa, MasterCard, or American Express.

If you are *not* enrolled in the annual 10-exam CME program, the fee is \$25 per exam.

### Phone-In Grading

You may also complete your exam by using the toll-free service. Call 1-800-232-4422 from 10 a.m. to 5 p.m. EST, Monday through Friday. Your CME certificate will be dated the same day you call and mailed within 48 hours. There is a \$2.50 charge for this service if you are currently enrolled in the annual 10-exam CME program (and this exam falls within your enrollment period), and this fee can be charged to your Visa, Mastercard, American Express, or Discover. If you are not currently enrolled, the fee is \$25 per exam. When you call, please have ready:

1. Program number (Month and Year)
2. The answers to the test
3. Your social security number
4. Credit card information

In the event you require additional CME information, please contact PMS, Inc., at **1-631-563-1604**.

## ENROLLMENT FORM & ANSWER SHEET

Please print clearly...Certificate will be issued from information below.

Name \_\_\_\_\_ Soc. Sec. # \_\_\_\_\_

Please Print: FIRST MI LAST

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Charge to:  Visa  MasterCard  American Express

Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

**Note: Credit card is the only method of payment. Checks are no longer accepted.**

Signature \_\_\_\_\_ Soc. Sec.# \_\_\_\_\_ Daytime Phone \_\_\_\_\_

State License(s) \_\_\_\_\_ Is this a new address? Yes \_\_\_\_\_ No \_\_\_\_\_

**Check one:**  I am currently enrolled. (If faxing or phoning in your answer form please note that \$2.50 will be charged to your credit card.)

I am not enrolled. Enclosed is my credit card information. Please charge my credit card \$25.00 for each exam submitted. (plus \$2.50 for each exam if submitting by fax or phone).

I am not enrolled and I wish to enroll for 10 courses at \$195.00 (thus saving me \$55 over the cost of 10 individual exam fees). I understand there will be an additional fee of \$2.50 for any exam I wish to submit via fax or phone.



**EXAM #2/15**  
**Nails—They Mean More Than You Think!—Part I**  
**(Rehm)**

**Circle:**

- |             |             |
|-------------|-------------|
| 1. A B C D  | 11. A B C D |
| 2. A B C D  | 12. A B C D |
| 3. A B C D  | 13. A B C D |
| 4. A B C D  | 14. A B C D |
| 5. A B C D  | 15. A B C D |
| 6. A B C D  | 16. A B C D |
| 7. A B C D  | 17. A B C D |
| 8. A B C D  | 18. A B C D |
| 9. A B C D  | 19. A B C D |
| 10. A B C D | 20. A B C D |

**Medical Education Lesson Evaluation**

Strongly agree [5]	Agree [4]	Neutral [3]	Disagree [2]	Strongly disagree [1]
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- 1) This CME lesson was helpful to my practice \_\_\_\_
- 2) The educational objectives were accomplished \_\_\_\_
- 3) I will apply the knowledge I learned from this lesson \_\_\_\_
- 4) I will make changes in my practice behavior based on this lesson \_\_\_\_
- 5) This lesson presented quality information with adequate current references \_\_\_\_
- 6) What overall grade would you assign this lesson?  
A B C D

How long did it take you to complete this lesson?  
\_\_\_\_ hour \_\_\_\_ minutes

What topics would you like to see in future CME lessons?  
Please list :

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