



# Assessment and Management of Distal Lower Extremity Pain

*Here's a review of the diagnosis and treatment of some common foot and ankle conditions.*

## Objectives

After completing this CME, the reader should be able to:

- 1) Apply evidence-based strategies to the evaluation of patients presenting with pain and discomfort to the distal lower extremities.
- 2) Differentiate among rheumatologic and neurologic causes of joint and limb pain by using the patient history, physical examination findings, and appropriate diagnostic studies, if warranted.

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Following this article, an answer sheet and full set of instructions are provided (p. 228).—**Editor**

By Peter Vannucchi, DPM

## Introduction

Pain among adults in the United States is one of the most common reasons that patients see doctors, and it is estimated that almost ten percent of these patients have moderate to severe non-cancer-related pain, and about 40 percent are not seeking treatment for their chronic pain.<sup>1</sup>

The following is a list of some

common conditions seen in a podiatric practice, along with some sug-

gestions on their diagnosis and treatment

*Plantar fasciitis accounts for about ten to fifteen percent of foot pain, prompting medical visits.*

## Plantar Fasciitis

The plantar fascia is a thickened fibrous aponeurosis originating at the medial tuberosity of the calcaneus and running forward forming the longitudinal arch of the foot. Its inflammation accounts for about ten to fifteen percent of foot pain prompting medical visits.<sup>2</sup> It is among the five most common foot

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and ankle injuries seen in professional athletes and not uncommonly is bilateral.

Achilles tendonitis affects the superior attachment to the calcaneus, but plantar fasciitis occurs over the medial attachment of the plantar heel, and often shows tenderness along the plantar fascia. The risk factors are multifactorial and include increase in weight-bearing activity. Plantar fasciitis is common in runners. Other contributing factors include 1) obesity 2) decreased ankle dorsiflexion from swelling, 3) tight or weak gastrocnemius and soleus muscles, and the Achilles tendon, 4) too high or

too low arches, 5) abnormal foot mechanics, and 6) improper shoes

*Heel pain can be categorized into three types: neurologic, skeletal entrapment and soft tissue causes.*

with inadequate arch supports. Plantar fasciitis is sometimes seen with heel spurs as well.

## Diagnosis

A cardinal sign of plantar fasciitis is a sharp heel pain with the first couple of steps in the morning. This pain generally eases up gradually over an hour. Palpation over the medial tubercle of the calcaneus usually reproduces the pain. Other provocative maneuvers for diagnosis include passive dorsiflexion of the toes or having the patient stand on tip toes and toe walk, which will generally reproduce the pain.<sup>3</sup>

## Therapy

The first line of treatment of plantar fasciitis includes rest and cold packs, anti-inflammatory med-

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**TABLE 1**  
**Differential Diagnosis of Heel Pain**

	Disease or Injury	Differentiating Clinical Features
<b>Neurologic Causes (Entrapment Syndromes)</b>	Neurological causes  Tarsal tunnel syndrome  Medial calcaneal branch of the posterior tibial nerve entrapment  Abductor digiti quinti nerve entrapment	Radiating burning pain, numbness and tingling, especially at night  Diffuse symptoms over plantar surface  Medial and plantar heel symptoms  Burning pain in heel pad area
<b>Skeletal Causes</b>	Skeletal entrapment  Calcaneal stress fracture activity  Paget's disease  Tumor  Calcaneal apophysitis (Sever's disease)	Bony point tenderness  Pain with weight-bearing; worsens with prolonged weight-bearing  Bowed tibias, kyphosis, headaches  Deep bone pain; constitutional symptoms late in the course  Posterior heel pain in adolescents
<b>Soft Tissue Causes</b>	Fat pad syndrome  Heel bruise  Bursitis  Plantar fascia rupture  Tendonitis	Atrophy of heel pad  History of acute impact injury  Usually retrocalcaneal; swelling and erythema of posterior heel  Sudden acute, knife-like pain, ecchymosis  Pain with resisted motions

## Assessment...

ications, and stretching to increase dorsiflexion. Shoe modifications and avoiding walking barefoot can help. Over-the-counter arch supports and orthotics may be of some benefit.

The second line of therapy would include custom orthotics. Night-splints, casts, and immobilization are sometimes tried, as well as extra corporeal shock therapy. Surgery may be indicated if patients do not improve in six to twelve months.<sup>4</sup>

### Exercises

Exercise can often be effective. Have patients stretch their toes dorsally, which stretches the plantar fascia. Have patients take a fruit or vegetable can and have them roll it under their feet to stretch the plantar fascia. Exercise requires patience and discipline as it usually takes six to eight months for plantar fasciitis to completely resolve. The earlier you initiate therapy, the better chance you have of benefiting the patient.

### Heel Pain

Heel pain can be categorized into three types: Neurologic, skeletal entrapment and soft tissue causes.

### Diagnosis (Table 1)<sup>5</sup>

### Treatment Strategies

Some of the treatment strategies for heel pain management might include: life style changes, rehabilitation psychological evaluations, pharmacology, injection modalities, surgical intervention, and neuromodulation, and in all these diverse therapies, one must always consider patients' co-morbidities and drug contraindications. None of these treatment strategies, however, are written in stone.

### Non-pharmacological Approaches

- Exercise therapy
- Physical and occupational therapy
- Relaxation techniques
- Chiropractic therapy

**TABLE 2**  
**Synovial Fluid Analysis**  
*Clues to an Etiology*

	White Cell Count	Red Cell Count
Normal	<200	Low
Osteoarthritis	<2,000	Low
Rheumatoid	2,000-20,000	Low
Gout/pseudogout	>50,000	Low
Septic	>50,000	Low
Trauma	Low	High

- Complementary medicine (e.g., manipulative techniques, acupuncture, yoga, and massage)<sup>6</sup>

### Pharmacological Management

The treatment for mild heel pain includes aspirin, ibuprofen, naprox-

*According to a national health survey (2003-2005 Data) nearly 50 million adults have an arthritis diagnosis, of these nearly 20 million have arthritis and arthritis attributable activity limitation.*

en, and cox-2 inhibitors (e.g., Celebrex). But some of these NSAIDs may be associated with an increased risk of cardiovascular disease.

Tylenol is also a good choice, but its mechanism for action is not fully understood; it has fewer G.I. side-effects than NSAIDs/cox-2 inhibitors.

Other classes of analgesic agents that may be used include: local anesthetics, steroids (prostaglandin and leukotriene inhibition), anti-convulsants (gabapentin and pregabalin), antidepressants (tricyclics, MAOIs, serotonin reuptake inhibition) and opioids (effective for moderate to severe pain).<sup>7</sup>

### Arthropathy

According to a national health survey (2003-2005 Data) nearly 50 million adults have an arthritis diagnosis, and of these nearly 20 million have arthritis and arthritis-attributable activity limitation.<sup>8</sup> Arthritis and rheumatic disease are the leading causes of disability in the elderly population and the projected prevalence of people over 65 years with arthritis or chronic joint disease is expected to increase from 13.2 percent in 2010 to 20 percent by 2030.<sup>9</sup>

### Polyarticular Arthritis

The differential diagnosis of polyarticular arthritis should include rheumatoid, osteoarthritis, pseudogout, septic arthritis, psoriatic arthritis, spondyloarthropathy, Lyme disease and parvovirus.

Look at the hand for clues to diagnosis. Osteoarthritis usually involves the distal interphalangeal and proximal interphalangeal joints, but not the metatarsal phalangeal joints. Rheumatoid arthritis is primarily seen in the proximal and metacarpal joints and is usually symmetrical and not usually seen in the distal interphalangeal joints. Psoriatic arthritis and crystal-induced arthritis (gout and pseudogout) and sarcoidosis may affect any hand joint and are often asymmetrical.

Generally, with psoriatic arthritis there is nail involvement and psoriatic rash on flexural surfaces of both the arms and legs. Laboratory for differential should include synovial fluid analysis, which too often is not done. It can give you a tremendous amount of information (Table 2).<sup>10</sup>

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**Assessment...****Laboratory Findings**

The normal white blood cell (WBC) count for synovial fluid is usually less than 1,000. With osteoarthritis it might be slightly elevated (1,000 or 2,000). With rheumatoid arthritis and all inflammatory arthropathies cell counts range from 2,000 to 20,000 but the latter number is rare.

Because of the intense inflammatory reaction in gout and pseudogout, the WBC can be up to 50,000. In septic arthritis, WBC count can be above 50,000, and even up to 100,000. With trauma, you will see a lot of red cells but a very low number of white blood cells.

**Evaluation of Polyarthropathy**

Depending on the patient's presentation, you need to do laboratory studies, CBC, ESR, chemistry panel, ANA, rheumatoid factor, etc. On our surgery ward we sometimes erred when we would get ER admissions for acute flare-ups of gout. The patient would come in and we would order blood work and the uric acid would be 6.8 mmg and normal about half the time. That is because the inflammatory reaction also caused increased excretion of urate from the kidneys and what you had to do is check the uric acid three or four weeks later—if you are dealing with gout it most likely will be elevated. We would put the patient on oral colchicine but even more often we'd use intra-articular corticosteroid or NSAID therapy.

With gout and pseudogout you need a special microscopic crystal analysis of synovial fluid under polarized light to determine the pres-

ence of birefringent crystals, and you are going to be right in 80 percent of cases with a presumptive diagnosis. Remember, you cannot rule out septic arthritis. In fact, septic arthritis is more common in patients with gout and that is the one thing you do not want to miss. Septic arthritis can completely destroy a joint in 24 to 48 hours.

**Gout**

There has been a tremendous increase in the prevalence of gout over the past 30 years. Gout is

also markedly rising in postmenopausal women because they are not taking hormones like they were ten years ago. These hormones were protective against the increase of serum uric acid. Gout now affects a little less than five percent of elderly women and a little less than seven percent of elderly men in the United States.<sup>11</sup>

The prevalence of gout is increasing because physiological hyperuricemia is theoretically any value above 6.8 mg/dl regardless of what your lab tells you. Uric acid begins to precipitate out in the joints when its level rises above 6.8 mg/gl. There is a significantly higher percentage of both men and women who are hyperuricemic today than in the past 30 years and this is not going to change. The reason for this is the increase in obesity and as well as the increased consumption of beer, red meat, shell fish, wild game in western states and, particularly, organ meat. Perhaps the worst offender is the sucrose in soft drinks.

There is also increased longevity with more chronic disease such as heart disease, hypertension, diabetes, metabolic syndrome, as well as chronic kidney disease with hy-

*There is a positive rheumatoid factor in up to eight percent of the general population*

*It is absolutely critical that treatment for RA should be started early—not five or ten years later.*



Figure 1: Close-up of Heberden's nodes affecting index and middle fingers.

peruricemia. Gout can be precipitated by increased use of diuretics, aspirin, and niacin.

**Treatment**

Some of the more common drugs used to treat acute gout include naproxen, prednisone, and oral colchicine. Patient co-morbidity and drug contraindications must be considered in treatment selection.

**Rheumatoid Arthritis**

Early diagnosis is critical for the initiation of therapy and the prevention of multiple crippling, which can occur later on. What you do the first three months of therapy can make a big difference ten years later. In the early stages, a rheumatologist should be consulted. Confirmed cases of synovitis in one or more joints in the absence of an alternative diagnosis such as lupus or gout might better explain the synovitis.

**Laboratory Findings**

Laboratory findings include rheumatoid factor (RF) which may be negative in the early stages, but become positive in 80 percent of patients later on. There is a positive rheumatoid factor in up to eight percent of the general population; antinuclear antibodies (ANA) pre-

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sent in approximately 40 percent of rheumatoid arthritis patients who may have anemias from chronic diseases.<sup>12</sup> A positive RA factor is not unique to patients with rheumatoid arthritis. It can be elevated with aging and other connective tissue diseases such as Sjögren's syndrome, SLE, dermatomyositis etc., as well as with chronic infection (e.g., endocarditis, hepatitis).

## Pharmacotherapy

It is absolutely critical that treatment for RA should be started early—not five or ten years later. If you look at conventional x-rays, the damage of sclerotic arthritis will be present in 15 percent of early cases. Again this is not something you want to wait and treat with NSAIDs and corticosteroids. A brief delay makes a significant difference later on.

We now know it is better to start methotrexate in appropriate doses early on. If the patient is not in remission in four to six months, then use of the newer biological agents should be initiated. Some of the newer biological drugs can put the patient in remission and not just control the symptoms and signs of RA, they suppress inflammation and appear to reset the rate of progression.<sup>13</sup>

## Osteoarthritis

Osteoarthritis is generally seen in patients over 50 years of age. The clinical signs may include morning stiffness lasting less than 30 minutes, although sometimes stiffness can last for an entire day. There may be swelling with bony tenderness and enlargements, with no palpable warmth. In advanced cases, there may be Heberden's nodes (Figure 1).<sup>14</sup> in the distal phalangeal joints of the hand. X-ray exams will show joint space narrowing with osteophyte formation

and sclerosis of the underlying bone. Always do standing films to see the joint space narrowing, which is more apparent in the knees than in the ankle and foot.

## Treatment

The treatment goal is to alleviate the pain and rectify any me-

***Duloxetine and pregabalin are the only two agents currently FDA-approved to treat pain from DPN.***

chanical misalignment and address joint instability. Drug therapy includes acetaminophen in high doses (usually 3g daily), but is less effective if the patient is already re-

ceive short term relief and may be safer than oral NSAID because they carry a lower dose (only about ten percent potency).<sup>15</sup>

Intraarticular corticosteroids can be very helpful and provide short-term relief (weeks to months). Glucosamine and chondroitin sulfate may have some benefit in moderate to severe osteoarthritis, but their mechanism of action is unclear and there is no evidence that they slow the disease progression.

Physical therapy often will improve stability and lessen pain, as does weight loss with exercise to improve physical functions and reduce pain. Hydrotherapy and heat/cold application also provide some benefit. Arthroscopic surgery for osteoarthritis of the knee and ankle is generally done on elderly individuals and those who have high risk for deep venous thrombosis. But the long-term benefits are often disappointing. If all other modalities fail, it is better to con-

**TABLE 3**  
**Distal Symmetric Polyneuropathy**  
*Differential Diagnosis*

Type	Examples
Metabolic/Endocrine	Diabetes, uremia, pernicious anemia, hypothyroidism
Inflammatory/Infiltrative	Sarcoidosis, Lyme disease, amyloidosis, HIV
Neoplastic	Carcinoma, myeloma, lymphoma, leukemia
Toxic	Alcohol, heavy metals, hydrocarbons, chemotherapeutics
Traumatic	Entrapment syndrome
Autoimmune	Multifocal motor neuropathy, Guillain-Barre syndrome, CIDP
Vascular	Diabetes, vasculitis
Congenital/Familial	Charcot-Marie-Tooth

ceiving NSAIDs. Oral NSAIDs are considered more effective than acetaminophen but have higher toxicity. If there is high risk for gastrointestinal side-effects, consider using COX-2 inhibitors or adding H2 blockers PPI or misoprostol. Topical NSAIDs (diclofenac) can

sider total knee and even ankle replacement.

## Neuropathy

An estimated 1.5 percent of adults have some type of neuropathic pain. There are diverse etiologies including

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## Assessment...

diabetes, herpes zoster, HIV/AIDS, phantom limb pain, spinal cord injury, and nutritional abnormalities.<sup>16</sup> The distal polyneuropathy differential diagnosis is in Table 3. The initial work-up to evaluate distal neuropathy should include complete blood count, complete metabolic panel (electrolytes and liver functions), vitamin B12, folate levels, thyroid function tests, hemoglobin A1c, and erythrocyte sedimentation rate. HIV, antinuclear antibodies (ANA), and Rheumatoid Factor (RF) should be considered as well. Nerve conduction studies may be indicated if the diagnosis is not clear after laboratory evaluation.

### Treatment for Distal Polyneuropathy (DPN)

Some of the difficulties associated with treating neuropathic pain are intensified by the presence of long standing myths, usually related to chronic pain. One such myth is that chronic pain is easy to treat. Other myths include beliefs that if the patient pain improves, the disability and depression which often accompany pain will spontaneously resolve.<sup>17</sup>

No treatment can reverse nerve injury. Treatments are generally palliative with the goal to reduce pain and discomfort. Duloxetine and pregabalin are the only two agents currently FDA-approved to treat pain from DPN. Other useful drugs include antidepressants and anticonvulsants, and opioids. Topical agents, such as lidocaine and capsaicin, have shown demonstrated efficacy and with diabetic neuropathy tight diabetic control may help prevent or delay progression of these symptoms.<sup>18</sup>

Remember, patients on metformin may have vitamin B12 deficiency because the drug blocks B12 absorption from food intake. You should consider measuring yearly B12 levels in patients on chronic

metformin or administering a yearly injection of Vitamin B12 (1000mcg). The symptoms of DPN may take up to 18 months to improve and may never completely resolve.

### Summary

- Distal limb pain is a frequent complaint seen in podiatric offices.
- The common etiologies can be divided into soft tissue, joint or neuro-pathic causes. Careful history will help pinpoint most soft tissue etiologies, and diagnostic studies are not usually necessary to initiate treatment.
- Septic arthritis must be ruled out in patients presenting with red, swollen painful joints.

• Accurate diagnosis of lower extremity pain has enormous implications for short and long term treatment planning and it is a process rather than a one-time event.

• Our patients are a shared responsibility across specialty lines. The consequence of incorrect or missed diagnosis can result in inappropriate treatment that potentially worsens the condition and can lead to prolonged patient suffering.

• Always consider orthopedic, rheumatologic, or neurologic referrals in difficult cases.

• Remember, guidelines are the beginning and not the end of all learning. ■

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See answer sheet on page 229.

1) By some estimates, plantar fasciitis accounts for about \_\_\_\_\_ of foot pain prompting a medical visit.

- A) 1–2 %
- B) 4–8 %
- C) 10–15 %
- D) over 20 %

2) A cardinal sign of plantar fasciitis is \_\_\_\_\_.

- A) Sharp heel pain in the first couple of steps in the morning, which gradually eases up.
- B) A stabbing shooting pain behind the plantar first metatarsophalangeal joint.
- C) Cramping leg and ankle pain after standing all day.
- D) Numbness, burning, and tingling on the plantar foot and toes.

3) According to a recent national survey, how many adults have a diagnosis of arthritis?

- A) 5 million.
- B) 10 million.
- C) 20 million.
- D) 50 million.

4) Polyarticular arthritis includes which of the following?

- A) Rheumatoid arthritis (RA).
- B) Osteoarthritis (OA).
- C) Septic arthritis.
- D) All of the above.

5) Which of the following statements are true in regard to diagnosing polyarthropathy?

- A) Osteoarthritis usually involves DIP and PIP joints, but not MCP joints.

B) Rheumatoid arthritis often includes PIP and MCP involvements, usually symmetrically but does not usually include DIP joints.

C) Psoriatic arthritis and crystal-induced arthritis may affect any hand or foot joint, often asymmetrically.

D) All of the above.

6) The normal white blood cell count of synovial fluid is \_\_\_\_\_.

- A) Less than 1,000.
- B) Less than 2,000.
- C) Less than 20,000.
- D) Above 50,000.

7) With gout and pseudogout the normal synovial fluid white cell count is \_\_\_\_\_.

- A) Less than 1,000.
- B) Less than 2,000.
- C) Between 5,000 and 10,000.
- D) Greater than 50,000.

8) Which arthropathy requires special microscopic examination under polarized light to confirm?

- A) Rheumatoid arthritis.
- B) Osteoarthritis.
- C) Tophaceous gout.
- D) Septic arthritis.

9) Gout prevalence is markedly rising in post-menopausal women because \_\_\_\_\_.

- A) They are not taking hormonal replacement therapy.
- B) They eat more red meat and drink beer.
- C) They are less sexually active.
- D) They avoid eating red meats, shellfish, and foods high in purines.

10) Physiologically hyperuricemia is theoretically any value

above \_\_\_\_\_ because at this point uric acid begins to precipitate out into the joints.

- A) 2.4 mm/dl
- B) 4.2 mm/dl
- C) 6.8 mm/dl
- D) 8.6 mm/dl

11) Gout can be precipitated by the use of which class of drugs?

- A) Antibiotics.
- B) Hormonal agents.
- C) Diuretics.
- D) Anticonvulsants.

12) There is a positive rheumatoid factor in what percent of the general population?

- A) 2 %
- B) 8 %
- C) 12 %
- D) 20 %

13) Heberden's nodes in the distal phalangeal joints are a clinical sign of \_\_\_\_\_.

- A) Septic arthritis.
- B) Hypothyroidism
- C) Osteoarthritis.
- D) Foreign body.

14) It is estimated that what percent of the adult population has some type of neuropathic pain?

- A) Less than 1.0%.
- B) About 1.5%.
- C) Greater than 2.0%.
- D) Greater than 5.0%

15) Nerve conduction studies may be indicated if the diagnosis of what class of disease is uncertain after laboratory evaluation?

- A) Myopathy.
- B) Arthropathy.
- C) Peripheral arterial disease.
- D) Neuropathy.

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16) Duloxetine and pregabalin are the only two drugs currently FDA approved to treat \_\_\_\_.

- A) Obesity.
- B) Neuropathy.
- C) Plantar fasciitis.
- D) Achilles tendonitis.

17) Long-term use of metformin has been found to induce \_\_\_\_.

- A) Vitamin D malabsorption.
- B) Achilles tendonitis.
- C) Vitamin B12 deficiency.
- D) Hypothyroidism.

18) Why is joint aspiration necessary for an acutely inflamed joint?

- A) To rule out crystal arthritis.
- B) To rule out septic arthritis.
- C) To rule out rheumatoid arthritis.
- D) None of the above.

19) Initial evaluation of peripheral neuropathy should include \_\_\_\_.

- A) CBC and complete metabolic panel.
- B) Vitamin B-12 and folate levels.
- C) Thyroid function tests and HBAIC.
- D) All of the above.

20) Lucy, a 42 year old female, hobbles into your office complaining of right heel and foot pain that has gotten worse the last few weeks. The pain is more severe when she gets up in the morning, improves after a few minutes and then gets worse again later in the day. She started her new waitressing job six weeks ago. Physical exam reveals tenderness to palpation in the medial aspect of her right heel and also in the middle of the plantar aspect of her foot near the heel. What is the most likely cause of her pain?

- A) Heel spur.
- B) Plantar fasciitis.
- C) Achilles tendonitis.
- D) Morton's neuroma.

See answer sheet on page 229.

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exam during your current enrollment period. If you are not enrolled, please send \$20.00 per exam, or \$149 to cover all 10 exams (thus saving \$51\* over the cost of 10 individual exam fees).

### Facsimile Grading

To receive your CPME certificate, complete all information and fax 24 hours a day to 1-631-563-1907. Your CPME 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 CPME 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 CPME program, the fee is \$20 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 CPME 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 CPME 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 \$20 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 CPME 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 \$20.00 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 \$139.00 (thus saving me \$61 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.

Over, please

**EXAM #4/11**  
**Assessment and Management**  
**of Distal Lower Extremity Pain**  
**(Vannucchi)**

**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 |

**LESSON EVALUATION**

Please indicate the date you completed this exam

\_\_\_\_\_

How much time did it take you to complete the lesson?

\_\_\_\_\_ hours \_\_\_\_\_ minutes

How well did this lesson achieve its educational objectives?

\_\_\_\_\_ Very well \_\_\_\_\_ Well

\_\_\_\_\_ Somewhat \_\_\_\_\_ Not at all

What overall grade would you assign this lesson?

A B C D

Degree \_\_\_\_\_

Additional comments and suggestions for future exams:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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