



Complete Summary

GUIDELINE TITLE

Intermetatarsal neuroma.

BIBLIOGRAPHIC SOURCE(S)

Academy of Ambulatory Foot and Ankle Surgery. Intermetatarsal neuroma. Philadelphia (PA): Academy of Ambulatory Foot and Ankle Surgery; 2003. 6 p. [15 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Academy of Ambulatory Foot and Ankle Surgery. Intermetatarsal neuroma. Philadelphia (PA): Academy of Ambulatory Foot and Ankle Surgery; 2000. 17 p.

The guideline is reviewed and updated twice a year as needed (in May and October).

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory information has been released.

On April 7, 2005, after concluding that the overall risk versus benefit profile is unfavorable, the FDA requested that Pfizer, Inc voluntarily withdraw Bextra (valdecoxib) from the market. The FDA also asked manufacturers of all marketed prescription nonsteroidal anti-inflammatory drugs (NSAIDs), including Celebrex (celecoxib), a COX-2 selective NSAID, to revise the labeling (package insert) for their products to include a boxed warning and a Medication Guide. Finally, FDA asked manufacturers of non-prescription (over the counter [OTC]) NSAIDs to revise their labeling to include more specific information about the potential gastrointestinal (GI) and cardiovascular (CV) risks, and information to assist consumers in the safe use of the drug. See the [FDA Web site](#) for more information.

Subsequently, on June 15, 2005, the FDA requested that sponsors of all non-steroidal anti-inflammatory drugs (NSAID) make labeling changes to their products. FDA recommended proposed labeling for both the prescription and over-the-counter (OTC) NSAIDs and a medication guide for the entire class of

prescription products. All sponsors of marketed prescription NSAIDs, including Celebrex (celecoxib), a COX-2 selective NSAID, have been asked to revise the labeling (package insert) for their products to include a boxed warning, highlighting the potential for increased risk of cardiovascular (CV) events and the well described, serious, potential life-threatening gastrointestinal (GI) bleeding associated with their use. FDA regulation 21CFR 208 requires a Medication Guide to be provided with each prescription that is dispensed for products that FDA determines pose a serious and significant public health concern. See the [FDA Web site](#) for more information.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **

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SCOPE

DISEASE/CONDITION(S)

Intermetatarsal neuroma

GUIDELINE CATEGORY

Diagnosis

Treatment

CLINICAL SPECIALTY

Podiatry

INTENDED USERS

Podiatrists

GUIDELINE OBJECTIVE(S)

To provide recommendations for the diagnosis and treatment of intermetatarsal neuroma

TARGET POPULATION

Patients with intermetatarsal neuroma

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. History, including an evaluation of the chief complaint (nature, location, duration, onset, course, anything that improves or exacerbates symptoms, and any previous treatment) and past medical history (allergies, medications, medical history, surgical history, family history, social history)
2. Physical examination, including peripheral vascular, neurological, and orthopedic exams
3. Diagnostic procedures, including radiographic examination, laboratory tests, electrodiagnostic studies, current perceptual threshold ultrasound echography, magnetic resonance imaging (MRI), computed tomography (C-T) scan, positron emission tomography (PET) scan

Treatment

1. Nonsurgical treatment, such as padding and strapping (taping), orthotics, shoe modifications, oral anti-inflammatory medications (NSAIDs), anti-inflammatory injectables (i.e., corticosteroids), injection of local injectables (i.e., peripheral nerve block), injection of sclerosing agents (i.e., Vitamin B-12, alcohol), analgesics, physical therapy
2. Surgical treatment, such as neurectomy (excisional, electrocautery, radiocautery, laser), osteotomy of adjacent metatarsal(s), tendon lengthening/tenotomy/capsulotomy, severing of the intermetatarsal ligament
3. Postoperative management, including radiographs, follow-up visits, and weight bearing/immobilization

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline development process began with a thorough MEDLINE search as well as a "call for papers" from the membership of the Academy of Ambulatory Foot and Ankle Surgery at large.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Drafts of the guidelines were reviewed in detail by each member of the Board of Trustees.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

- I. Diagnosis:
 - A. History: This may include any of the following:
 1. An evaluation of the chief complaint (including the nature, location, duration, onset, course, anything that improves or exacerbates, and any previous treatment).
 2. The past medical history (including allergies, medications, medical history, surgical history, family history, and social history).
 - B. Physical examination may include:

1. Peripheral vascular
2. Neurological (are sensorium in the area intact or altered?)
3. Orthopedic
 - a. Palpation may produce:
 - i. A palpable "click" (Mulder's sign)
 - ii. Pain/symptoms via lateral pressure
 - iii. Digital splaying/juxtaposing
 - iv. Palpable interdigital mass
 - v. Pain upon palpation (Direct to the intermetatarsal space)
 - b. Associated deformities
- C. Diagnostic procedures may include:
 1. Radiographic examination: X-ray examination may be used to rule out bony pathology (differential diagnosis). X-rays may be weight bearing, partial weight bearing, or non-weight bearing.
 2. Laboratory tests: Used to rule out inflammatory disease, degenerative joint disease, systemic illness (again, differential diagnosis)
 3. Electrodiagnostic studies: Possibly useful in ruling out other pathology (i.e. tarsal tunnel syndrome), but not definitive in establishing a diagnosis of intermetatarsal neuroma.
 4. Current perceptual threshold (neurometer CPT test) may be used as indicated.
 5. Ultrasound echography
 6. Magnetic resonance imaging (MRI), computed tomography (C-T) scan, or positron emission tomography (PET) scan
- D. Differential diagnosis may include:
 1. Fracture
 2. Osteochondritis
 3. Arthritis
 4. Neoplasms (malignant/benign), (nodules i.e., rheumatoid)
 5. Capsulitis
 6. Bursitis
 7. Tendonitis
 8. Synovitis
 9. Neuritis
 10. Tarsal tunnel syndrome
 11. Peripheral neuropathy
 12. Reflex sympathetic dystrophy
 13. Vascular insufficiency
 14. Multiple neuromas may be present in the same foot

II. Nonsurgical Treatment

- A. Goals of treatment: Conservative (nonsurgical) treatment is primarily geared to relieving symptomatology. In most cases, conservative care should be utilized prior to surgery.
- B. Types of treatment:
 1. Padding and strapping (taping)
 2. Orthotics
 3. Shoe modifications
 4. Oral anti-inflammatory medications (NSAIDs)
 5. Anti-inflammatory injectables (i.e., corticosteroids)
 6. Injection of local injectables (i.e., peripheral nerve block)
 7. Injection of sclerosing agents (i.e., Vitamin B-12, alcohol)

- 8. Analgesics
- 9. Physical therapy
- III. Surgical Treatment
 - A. Goals of treatment: The goal of surgical treatment is not only to relieve the symptom(s), but to correct the underlying deformities, and to improve function as well.
 - B. The primary reasons for surgical treatment are:
 - 1. Failure of nonsurgical treatment
 - 2. Impracticality of nonsurgical treatment
 - 3. The patient desires correction of a presenting deformity that is painful and/or causes a degree of loss of function.
 - 4. The patient is informed of the procedure(s) to be performed, the treatment alternatives, and the reasonable risks involved, and elects to have surgical intervention.
 - C. Site of surgery: The surgical treatment of intermetatarsal neuroma may be performed in the doctor's office. The hospital or ambulatory surgical center may also be appropriate.
 - D. Anesthesia: Local anesthesia is sufficient, unless there are extenuating circumstances.
 - E. Hemostasis: Absence of bleeding is not required.
 - F. Surgical preparation: Aseptic preparation ("usual" aseptic scrub, prep, draping, and sterile technique).
 - G. Preoperative lab: Necessity based upon the patient's past medical history and current medical status.
 - H. Prophylactic antibiotics: At the discretion of the surgeon (or based upon requirement: i.e., mitral valve prolapse).
 - I. Pathological analysis of surgically removed tissue: recommended.
 - J. Bilateral or multiple surgeries: May be performed at the same surgical session, or in different surgical sessions.
 - K. Second opinion: At the option of the patient or doctor.
- IV. Surgical Procedures for the Treatment of Intermetatarsal Neuroma

These may include:

- A. Neurectomy
 - 1. Excisional
 - 2. Electrocautery
 - 3. Radiocautery
 - 4. Laser
- B. Osteotomy of adjacent metatarsal(s) may be used for intermetatarsal neuroma in the event that the metatarsal is malpositioned or malformed, and that the purpose of the osteotomy is for treatment of both the neuroma and the pathological metatarsal as well.
- C. Tendon lengthening/tenotomy/capsulotomy may be used for intermetatarsal neuroma in the event that the purpose of these procedures is both for treatment of the neuroma and the soft tissue pathology.
- D. Severing of the intermetatarsal ligament.
- V. Postoperative Management
 - A. Radiographs: Necessary only if there is accompanying osseous and/or soft tissue surgery.

- B. Postoperative visits: In the absence of complications, the patient should initially be seen within the first week following the procedure(s). Subsequent visits are determined by the procedures performed and the postoperative course.
- C. Weight bearing/immobilization: Based upon the procedures performed and upon the individual patient, full, partial, or non-weight bearing may be utilized. A postoperative shoe may be indicated. Generally, a surgical dressing is applied in the immediate postoperative period. This is modified with time and the postoperative course. The return to a normal shoe is based upon the procedure(s) performed and the postoperative course of the individual patient. Casting is usually not necessary.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Treatment may relieve symptomatology and improve function.

POTENTIAL HARMS

Postoperative Complications

- Numbness
- Edema
- Recurrence
- Pain
- Digital or metatarsophalangeal joint instability
- Hematoma
- Stump neuroma
- Infection
- Painful and/or hypertrophic scar formation
- Reflex sympathetic dystrophy
- Vascular complications
- Gangrene
- Fibrosis (intermetatarsal)
- Tissue necrosis
- Plantar fat pad atrophy

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 (revised 2003 Sep)

GUIDELINE DEVELOPER(S)

Academy of Ambulatory Foot and Ankle Surgery - Medical Specialty Society

SOURCE(S) OF FUNDING

Academy of Ambulatory Foot and Ankle Surgery (AAFAS)

GUIDELINE COMMITTEE

Preferred Practice Guidelines Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

The committee consisted of five (5) members who were board certified, had a minimum of ten (10) years of clinical practice experience, and a minimum of five (5) years of teaching experience.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the Academy of Ambulatory Foot and Ankle Surgery (AAFAS) (formerly the Academy of Ambulatory Foot Surgery), 1601 Walnut Street, Suite 1005, Philadelphia, PA 19102; Web site, www.academy-afs.org.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on October 12, 2000. The information was verified by the guideline developer as of December 8, 2000. This summary was updated by ECRI on December 19, 2003. The information was verified by the guideline developer on December 29, 2003. This summary was updated on May 3, 2005 following the withdrawal of Bextra (valdecoxib) from the market and the release of heightened warnings for Celebrex (celecoxib) and other nonselective nonsteroidal anti-inflammatory drugs (NSAIDs). This summary was updated by ECRI on June 16, 2005, following the U.S. Food and Drug Administration advisory on COX-2 selective and non-selective non-steroidal anti-inflammatory drugs (NSAIDs).

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