

Cavus Foot Decision-making

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I. GENERAL TREATMENT PRINCIPLES

- A. Individualize; diagnose underlying neurologic cause and treat it if possible
- B. Consider patient age, location of deformity, severity of structural change, flexibility
- C. Underlying neuromuscular disorder may not be treatable, and muscle imbalance often not reversible, thus foot deformity may progress
- D. Goals of treatment: plantigrade, flexible, painless foot with balanced muscles
- E. Attempt to correct deformities, preserve motion and function, balance remaining muscles
- F. Need to consider possible salvage treatment if condition progresses after surgery
- G. Educate patient and family; further problems and subsequent treatment likely

II. NONOPERATIVE TREATMENT

- A. Important, but often unsuccessful; these deformities are often progressive, and disease is frequently advanced by the time patient presents for treatment
- B. Shoe modifications: low heel
- C. Foot orthosis to unload painful callus
- D. Bracing-hindfoot orthosis, ankle-foot orthosis

III. OPERATIVE TREATMENT

- A. Indications: pain and impairment from callosities, ankle instability/repeated sprains, progressive deformity
- B. Soft tissue reconstruction: plantar fascia release, tendon transfer, tendon lengthening, posteromedial release
- C. Osteotomies
 - 1. Calcaneus
 - 2. Metatarsal: proximal metatarsal, single or multiple (Watanabe 1990)
 - 3. Combined calcaneal osteotomy and metatarsal osteotomy and plantar fasciotomy (Sammarco 2001)
 - 4. Midfoot procedures: osteotomy, arthrodesis, osteotomy with arthrodesis (Wulker 2002, Wicart 2006, Wilcox 1985, Jahss 1980, Cole 1983, Japas 1968, Giannini 2003)

- D. Arthrodesis-severe deformity, stiffness, arthritis, failed operations
 - 1. Limited hindfoot arthrodesis
 - 2. Triple arthrodesis-subtalar, talonavicular, calcaneocuboid (Wetmore 1989, Wukich 1989)
- E. Other: Gradual distraction osteotomies with external fixation
- G. Clawtoes:
 - 1. Hallux procedures
 - 2. Lesser toe procedures

IV. RESULTS OF TREATMENT

- A. Summary of published, unpublished literature

V. COMPLICATIONS, FAILURES

- A. Results of treatment may not be stable over time because of progression of the disease
- B. Nonunion: osteotomy, arthrodesis
- C. Arthritis after osteotomies and arthrodeses
- D. Incomplete correction
- E. Gradual distraction osteotomies with external fixation: tendency for recurrence

VI. SURGICAL DECISION-MAKING

- A. Algorithm complex
- B. Subsequent treatment likely
- C. Principles

VII. REFERENCES

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