Metatarsus Adductus Clinic Guidelines - Orthopaedic Practice

**Definition**

a. An adduction or medial deviation of the forefoot and is recognized as a contracture at the tarsometatarsal joints (1)
b. Adduction and a varying degree of supination of the forefoot, often associated with mild valgus angulation or the heel and medial tibial torsion (2)
c. Heel/hindfoot is not in equinus (4)
d. Heel bisector Classification

e. Flexibility classified according to extent of passive abduction of the forefoot against the stabilized hindfoot with reference to the heel bisector.
   i. Flexible: Abduction beyond the midline heel bisector
   ii. Partly flexible: Abduction only to the midline
   iii. Inflexible: No abduction possible

**Pathogenesis/Natural History**

a. Spontaneous resolution to normal in 83% (1) to 95% (4) of cases by age one
b. Pathogenesis is unknown but is believed to result from intrauterine crowding or positioning (4)

**Clinical Presentation**

a. Deformity usually present at birth but may not present until the first year of life (3)
b. Incidence estimated to be as high as 1 in 100 births (4)
Evaluation
a. Neuromuscular exam
b. Assessment of the foot, assess for degree of flexibility (4)
c. Evaluate for hip dysplasia or other congenital orthopedic conditions(4)
d. Evaluate heel bisector line (1)
e. Identify: flexible, partially flexible, inflexible

Differential Diagnosis
a. Dynamic hallux varus
b. Internal rotation of the foot
c. Metatarsus primus varus
d. Skewfoot
e. Tibial torsion
f. Clubfoot

Diagnostic Tests
a. Radiographs- not needed unless child has failed casting
b. Xerox of feet
**Treatment Options**

Mild/Moderate Flexible & approximately 7 months of age

No intervention passively correctible deformity will spontaneously correct on its own by age 1 (3,4)

- Educate families that the deformity should not interfere with normal development and that the child will have no restrictions or limitations in any sports or activities (4).
- Follow-up PA/NP at 7 months of age
- Offer casting if child is chunky or very young using long leg plaster
  - If chunky/very young long leg plaster
  - Other children short leg plaster

Moderate/Severe Inflexible Serial Casting:

- Inflexible: Initiate treatment immediately
- If present at 8 months may initiate serial casting as the percentage of favorable outcomes decreases if treatment was initiated after the patient was more than 8 months of age (1)
- If flexible, partially flexible at 8 months may cast
- Follow-up post casting to ensure no recurrence

**Follow up Recommendations**

- If flexible & less than 7 months
  - f/u as needed at 7 months
- Bi-weekly for 6-8 weeks if treating with plaster casts (2)
- Follow-up with surgeon:
  - Over age 2 years old
  - Rigid/Inflexible after casting
  - Operative treatment is not needed or desirable in patients who have mild or moderate deformities past age 2yo(3)

**Evidenced Based Literature Review**


