JUMP GAIT

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JUMP GAIT – GENERAL

I. One of several categories of crouch gait
   a. Jump gait – Combination of knee flexion and ankle equinus
   b. Apparent equinus – knee flexion with neutral ankle
   c. Calcaneal crouch – excessive knee flexion and excessive ankle dorsiflexion

II. Forces at each level each plane affect other levels and planes
   a. E.g. Plantarflexion-knee extension couple
   b. Lever arm dysfunction

III. Sagittal kinematics
   a. Ankle – equinus throughout stance and swing
   b. Knee
      i. Flexion from terminal swing through midstance
      ii. Knee extension at/near normal by terminal stance
         1. Progressive knee extension in stance may make child appear to “jump”
   c. Hip – near normal sagittal kinematics

JUMP GAIT – TREATMENT

I. Nonsurgical versus surgical
   a. Nonsurgical
      i. Bracing/Splinting
      ii. Serial casting (for equinus)
      iii. Therapy – including quad strengthening and hamstring stretching
      iv. Home program
      v. Botulinum toxin (off label use)
   b. Surgical (SEMLS)
      i. Address all affected levels and planes

II. Ankle
   a. Dynamic equinus
      i. Bracing
ii. Botulinum toxin injections (off-label use)

iii. PT (? E-stim?)

b. Fixed equinus
   i. Serial casting
   ii. Surgical lengthening
      1. Gastrocnemius recession much preferred to TAL due to much lower risk of overlengthening

III. Knee
a. Non-surgical
   i. Knee immobilizers (typically at night)
   ii. PT – hamstring stretching/quad strengthening/gait
   iii. Botulinum toxin (off label indication)

b. Surgical
   i. Hamstring lengthening
      1. Medial typically preferable to medial/lateral
         a. Medial/lateral
            i. Slightly (a few degrees) more correction
            ii. Much higher rate of recurvatum (especially in jump gait due to plantarflexion/knee extension couple)