Knee and Foot Surgery in Adults with Cerebral Palsy

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I. General Problems: Ambulatory vs Nonambulatory Patients
   a. Loss of Function
   b. Loss of Strength
   c. Loss of walking ability
   d. Loss of balance
   e. Skin problems and ulceration
   f. Shoe and Orthotic wear problems

II. Knee Problems
   a. Femoral Anteversion
      i. Correction with Femoral Osteotomy
   b. Internal or External Tibial Torsion
      i. Correction with Tibial and Fibular Osteotomies
   c. Hamstring Contractures
      i. Non Operative Treatment
         1. Botulinum Toxins
         2. Physical Therapy
         3. Bracing
      ii. Operative Treatment
         1. Surgical Lengthening of the hamstrings
   d. Knee Contractures: Flexion
      i. Serial Casting
      ii. Distal Femoral Extension Osteotomy
   e. Patella Alta and Patellar Fractures
      i. Patellar tendon distalization
      ii. Patellar Tendon Reefing
   f. Genu Varum, Genu Valgum
      i. Treatment with osteotomies
   g. Meniscus Tears
      i. Anterior meniscus tears in patients with recurvatum
   h. Ligament Injuries
      i. Acute injuries of ACL, MCL
      ii. Chronic injuries in patients with genu varum and genu valgum
III. Ankle and Foot Problems
   a. Equinus
      i. Botulinum Toxins
      ii. Lengthening of gastrocsoleus muscles
      iii. Distal Tibial Closing Wedge Osteotomy
   b. Equinovarus
      i. Botulinum Toxins
      ii. Lengthening of gastrocsoleus muscles
      iii. Role of tendon transfers
          1. Split Anterior Tibial Tendon Transfer (SPLATT)
          2. Split Posterior Tibial Tendon Transfer (SPOTT)
      iv. Selective Osteotomies
      v. Selective Fusions
          1. Talonavicular Joint
          2. Calcaneoncuboid Joint
          3. Talocalcaneal Joint
      vi. Triple Arthrodesis
   c. Cavovarus Feet
      i. Selective Osteotomies
      ii. Selective Fusions
   d. Equinovalgus
      i. Botulinum Toxins
      ii. Lengthening of the gastrocnemius muscles
      iii. Selective Osteotomies
      iv. Selective Fusions
   e. Calcaneous
      i. Tenotomy of anterior tibialis tendon
      ii. Selective Fusions
   f. Hallux Varus and Dorsal Bunions
      i. Fusion of the MTP joint
   g. Lesser Toe Problems
      i. Hammer Toes
      ii. Mallet Toes

IV. Therapies
V. Orthotic Management
   a. Knee Bracing
   b. KAFO
   c. AFO
   d. SMO
   e. In Shoe Orthotics
   f. Shoe Wear alterations
I. General Problems of Adult Orthopedic Issues
   a. Epidemiology of Aging Patients with CP
   b. Orthopedic Pathophysiology in CP
   c. What operations should be considered in Adults?
   d. Who should be performing these procedures?
   e. Where should they be performed? Childrens Hospital vs Adult Hospital?
   f. Perioperative mgt issues?
   g. Outline of Course

II. Hip Problems
   a. Hip dysplasia in CP
   b. Pathophysiology of spastic hip dysplasia
   c. Progression of Degenerative Joint Disease
   d. What is the incidence of hip pain in adults with CP?
      i. Literature review
      ii. Do we know true % in today's world?
   e. Review of treatment of neuromuscular hip dysplasia in children
      i. Goals of treatment
      ii. Surgical procedures
         1. Soft tissue procedures
         2. Femoral osteotomy
      iii. Outcomes of treatment
   f. Surgical treatment for adult hips in CP
      i. Soft tissue procedures – for hygiene and ease of care
      ii. Salvage procedures – for pain and DJD
   g. THA
      i. Surgical procedure
      ii. Specific risks in adult CP population
      iii. Outcomes in the literature
      iv. Who should do it?
      v. Where should it be done?
   h. Resection/Salvage procedures
III. Spine Problems

a. Scoliosis
   i. Prevalence
   ii. Progression of Neuromuscular deformity
   iii. Delayed decision until young adulthood
   iv. Surgical management
      1. Who should do it?
      2. Where should it be done?
   v. Outcomes
      1. QoL improvements
      2. Complications

b. Spine deformity after spasticity mgmt
   i. After SDR
   ii. After Baclofen pump

c. Spondylolysis and Spondylolisthesis
   i. Prevalence in CP
   ii. Conservative treatment
   iii. Operative treatment

d. Lumbar Stenosis
   i. Progression of scoliosis
   ii. Progression to radiculopathy/myelopathy
   iii. Conservative treatment
   iv. Operative treatment


e. Cervical Stenosis
   i. Common in dystonic/athetoid
   ii. Progression to radiculopathy/myelopathy
   iii. Conservative treatment
   iv. Operative treatment
References


12. Muthusamy K, Chu HY, Friesen RM, Chou PC, Eilert RE, Chang FM. Femoral head


