PEDiatric ORTHOPEDIC AND SPORTS MEDICINE ROTATION

1. **DURATION**: one month

2. **ELIGIBILITY**: PL-1

3. **POSITIONS**: One resident per block

4. **FACILITIES/RESOURCES**:
   i. Pediatric Orthopedic Clinic, WR-B
   ii. Naval Orthopedic and Sports Medicine Clinic, Annapolis
   iii. Physical Therapy Clinic, WR-B

5. **TEACHING STAFF**:
   i. LTC Jefferson Jex, Chief of Pediatric Orthopedics, WR-B
      301-319-7743
      Other contacts for cast clinic: Ms. Sacha Afsharkhah and HN Kevin Gibbons
   ii. LCDR Terrence Anderson, Pediatric Orthopedics, WR-B
   iii. CDR Nicholas Cardinale, Orthopedic and Sports Medicine Clinic, Annapolis
        410-293-1755
   iv. Ms. Philomena Lai, Physical Therapy Clinic, WR-B

5. **SCHEDULE**:
   i. 1-2 day per week: Pediatric Orthopedic Clinic, WR-B or FBCH
   ii. 1-2 days per week: Naval Orthopedic and Sports Medicine Clinic, Annapolis
   iii. ½ day per week at WR-B Cast Clinic (**DO NOT LEAVE THIS ROTATION WITHOUT APPLYING A SPLINT OR CAST WITH YOUR OWN HANDS**)  
   iv. ½ day every 1-2 weeks at WR-B Physical Therapy Clinic

Contact rotation liaison, Dr. Angela Lantang (general pediatrics) 4 weeks in advance if you have not already heard from her. You may take 1 week of leave on this rotation.

“The best way to schedule this rotation is to make yourself a calendar using a word-processing program. Fill in your continuity clinics, leave and any post-call days or other pediatric residency commitments. Next, call "Mo" [now 'Sacha'] and schedule in the pediatric orthopedic clinics at WR-B and FBCH. Then ask [Sacha] for the best days to work in the cast clinic (you will be told Monday is the busiest day and that’s true, but it’s also the busiest day at the Naval Academy, so don’t spend all of your Monday mornings in the cast clinic). Then plan to work at the USNA for the rest of the days. Find out which days the USNA Staff is in the OR. You can join them there, or do independent study or one of your other requirements during that time.”

– former resident
(prior to 2016)
6. **TEXTBOOK:**

   i. *Fundamentals of Pediatric Orthopedic, 3rd Edition* (Staheli)
      Resident is to read the book in its entirety as independent study

   ii. *Physical Exam of the Spine & Extremities*
       by Stanley Hoppenfeld (chapters 1, 7, 9)

   iii. *Netter’s Concise Orthopaedic Anatomy,* by Jon C. Thompson
       [Dr. Lantang’s copy]

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**Primary Goals for the Pediatric Orthopedic and Sports Medicine Rotation and Pediatric Competencies**

1) **GOAL:** Prevention and Screening (Orthopedics). Understand the pediatrician's role in preventing and screening for orthopedic injury, disease and dysfunction.
   a) Screen for developmental dysplasia of the hip in the newborn nursery and at appropriate health maintenance visits:
      i) Use competent physical examination techniques.
      ii) Use radiographs and ultrasonography appropriately.
      iii) Educate parents about the rationale for screening and referral.
      iv) Refer when indicated.
      v) Introduce parents to the management options that the orthopedist may offer.
   b) Screen for scoliosis on routine examinations (by exam and scoliometer) and refer as needed.
   c) Describe school-based scoliosis screening programs and the benefits and inherent limitations of such strategies.
   d) Counsel families regarding risks and prevention of orthopedic injuries sustained from play near motor vehicles, lawn mowers, snow blowers, farm equipment, bicycles, snowmobiles, motorbikes and all-terrain vehicles.
   e) Advise families about optimal weight and style of backpacks in order to prevent back injury.

2) **GOAL:** Normal vs. Abnormal (Orthopedics). Differentiate normal variants from pathologic orthopedic conditions.
   a) Distinguish normal variations in foot, knee and leg development.
   b) Distinguish normal variations in gait and posture.
   c) Order and interpret (with the assistance of the radiologist) common diagnostic imaging procedures when evaluating and managing patients with orthopedic conditions: plain radiographs, body MRI, CT scan, radionuclide bone scans.

3) **GOAL:** Undifferentiated Signs and Symptoms (Orthopedics). Evaluate and appropriately treat or refer presenting orthopedic signs and symptoms.
   a) Create a strategy to determine if the following presenting signs and symptoms are caused by an orthopedic condition, and if so, treat or refer appropriately:
      i) Limp
ii) Musculoskeletal pain
iii) Refusal to walk or gait disturbance
iv) Refusal to use a limb
v) Swollen or painful joint
vi) Bowed legs or knock-knees
vii) In-toeing or out-toeing

4) GOAL: Common Conditions Not Referred (Orthopedics). Diagnose and manage common orthopedic conditions that generally do not require referral to an orthopedist.
   a) Recognize and manage the following conditions, with appropriate referral for physical therapy services for rehabilitation when indicated:
      i) Calcaneal apophysitis
      ii) Clavicular fracture
      iii) Annular ligament subluxation/nursemaid's elbow
      iv) Elbow medial epicondyle apophysitis/little league elbow
      v) Erb's palsy or Klumpke's palsy
      vi) Femoral anteversion and retroversion
      vii) Pes planus (flat feet)
      viii) Internal and external tibial torsion
      ix) Low back strain
      x) Metatarsus adductus
      xi) Muscle strains
      xii) Non-displaced finger and toe fractures
      xiii) Tibial tuberosity apophysitis (Osgood-Schlatter disease)
      xiv) Overuse syndromes
      xv) Patellofemoral syndrome
      xvi) Inversion/eversion ankle sprains
      xvii) Thrower's shoulder/epiphysiolysis
      xviii) Soft tissue contusion
      xix) Subluxation of the patella or shoulder
      xx) Torticollis
      xxi) Growing pains
      xxi) Transient synovitis

5) GOAL: Conditions Generally Referred (Orthopedics). Recognize, provide initial management, and refer appropriately conditions that usually require orthopedic referral.
   a) Describe appropriate non-operative treatment options (if they exist)
   b) Recognize, provide initial management of and refer appropriately the following conditions:
      i) Avascular necrosis of the femoral head/Legg-Calve-Perthes disease
      ii) Signs of child abuse
      iii) Cervical spine injury
      iv) Compartment syndromes
      v) Talipes equinovarus
      vi) Developmental dysplasia of the hip
      vii) Fractures and dislocations not listed above, including stress fractures
      viii) Knee ligament and meniscal tears or disruptions
      ix) Limb length discrepancies
x) Osteochondritis dissecans
xi) Osteomyelitis
xii) Reflex sympathetic dystrophy
xiii) Diskitis
xiv) Scoliosis with >20 degree curve
xv) Septic joint
xvi) Slipped capital femoral epiphysis
xvii) Spondylolysis or spondylolisthesis
xviii) Subluxation of the knee or shoulder
xix) Benign and malignant bone tumors

6) GOAL: Diagnostic and screening procedures.
   a) Describe the following tests or procedures, including how they work and when they
      should be used; competently perform those commonly used by the pediatrician in
      practice.

      AP, Lateral, Oblique, Open mouth, Flexion/Extension C-Spine
      AP, Lateral, Side Bending, Supine Extension Scoliosis
      AP, Lateral, Oblique Lumbrosacral
      AP Pelvis and Frog-leg Lateral Hip
      AP, Lateral Hip
      Standing AP Hip
      Osteotomy views of Hip and Pelvis
      AP, Lateral Shoulder, Humerus, Elbow, Forearm
      Standing Hip-Ankle
      Scanogram of lower extremity
      Bone age of right hand
      AP, Lateral femur and tibia/fibula
      AP, Lateral, Flexion, Sunrise Knee
      AP, Lateral, Oblique of Ankle and Foot

7) SPECIFIC ROTATION OBJECTIVES:
   a) Attend the weekly Pediatric Orthopedic clinics at Walter Reed-
   b) Work in the Walter Reed-Bethesda Cast Room for at least three half-days on three
      separate days
   c) Care for general pediatric patients at pediatric continuity clinic once per week
   d) Work at the Naval Health Clinic Annapolis Orthopedic Clinic at the U.S. Naval Academy
      on all other days
   e) Follow physical therapist at least two half-days in the month.
8) PEDIATRIC COMPETENCIES:

**PATIENT CARE/ MEDICAL KNOWLEDGE**

The resident should acquire basic knowledge of pediatric orthopedic disease and become comfortable with the diagnosis and treatment of common pediatric injuries. The resident should be able to identify orthopedic and sports medicine conditions requiring referral in infants, children, and adolescents in the ambulatory setting.

- Provide family-centered patient care that is development- and age-appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.
  - Use a logical and appropriate clinical approach to the care of patients presenting for specialty care, applying principles of evidence-based decision-making and problem-solving.
  - Describe general indications for subspecialty procedures and interpret results for families.
- Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a pediatrician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.
  - Acquire, interpret and apply the knowledge appropriate for the generalist regarding the core content of this subspecialty area.
  - Critically evaluate current medical information and scientific evidence related to this subspecialty area and modify your knowledge base accordingly.

**Goal II: INTERPERSONAL SKILLS AND COMMUNICATION**

- Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.
  - Provide effective patient education, including reassurance, for a condition(s) common to this subspecialty area.
  - Communicate effectively with primary care and other physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care.
  - Maintain accurate, legible, timely and legally appropriate medical records, including referral forms and letters, for subspecialty patients in the outpatient and inpatient setting.

**Goal III: PRACTICE BASED LEARNING AND IMPROVEMENT**

- Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.
  - Identify standardized guidelines for diagnosis and treatment of conditions common to this subspecialty area and adapt them to the individual needs of specific patients.
Identify personal learning needs related to this subspecialty; systematically organize relevant information resources for future reference; and plan for continuing acquisition of knowledge and skills.

**Goal IV: PROFESSIONALISM**

- Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
  - Demonstrate personal accountability to the well-being of patients (e.g., following up on lab results, writing comprehensive notes, and seeking answers to patient care questions).
  - Demonstrate a commitment to carrying out professional responsibilities.
  - Adhere to ethical and legal principles, and be sensitive to diversity.

**Goal V: SYSTEMS-BASED PRACTICE**

- Understand how to practice high-quality health care and advocate for patients within the context of the health care system.
  - Identify key aspects of health care systems as they apply to specialty care, including the referral process, and differentiate between consultation and referral.
  - Demonstrate sensitivity to the costs of clinical care in this subspecialty setting, and take steps to minimize costs without compromising quality.
  - Recognize and advocate for families who need assistance to deal with systems complexities, such as the referral process, lack of insurance, multiple medication refills, multiple appointments with long transport times, or inconvenient hours of service.
  - Recognize one's limits and those of the system; take steps to avoid medical errors.

Gregory H. Gorman, MD MHS
CAPT MC USN
Program Director

Angela Lantang, DO
General Pediatrician
Orthopedic-Sports Medicine Rotation Liaison