

SURGICAL TRAINING FOR EXCELLENCE IN PEDIATRIC UPPER LIMB

The **Surgical Training for Excellence in Pediatric Upper Limb (STEP-UL)** is designed to provide fellows with the specialized clinical skills and surgical expertise necessary to manage complex upper limb conditions in children and adolescents.

Fellows will actively engage in the following core activities:

- **Didactic Curriculum:** Weekly educational lectures and grand rounds focused on pediatric upper extremity anomalies.
- **Clinical Case Conferences:** Formal presentations and multidisciplinary discussions of complex cases.
- **Outpatient Clinics:** Hands-on experience in evaluation, diagnosis and treatment of pediatric patients
- **Surgical Training:** Advanced intraoperative experience in reconstructive and congenital hand surgery.
- **Academic Development:** Participation in specialized courses, national conferences, and departmental training workshops

Educational Program

The primary goal of **STEP-UL** is to offer **advanced subspecialty training** in the physical examination, diagnostic workup, and comprehensive treatment- both conservative and surgical- of pediatric upper limb conditions.

Furthermore, the Fellow is expected to contribute to the field through **scholarly activity**. This includes full integration into the Unit's ongoing research initiatives and the opportunity to lead or co-author original manuscripts for peer-review scientific publications.

Patient Care

Fellows in the **STEP-UL** will progressively acquire competencies during their training in both clinical (consultations, ward rounds, sessions) and surgical aspects. The fellow's competencies will include:

- Evaluating all new patients by obtaining a medical history.
- Performing a complete physical examination.
- Interpreting imaging studies.
- Identifying associated syndromes and ordering additional tests.
- Evaluating movement analysis tests as well as esc

Preoperative Evaluation of Patients

With regard to preoperative preparation, the fellow is expected to perform the following prior to surgery:

- Review the medical history, physical examination, laboratory tests, and appropriate imaging studies for all patients scheduled for surgery.

- Develop an operative plan, including patient positioning, incision site, surgical approach, and treatment plan.
- The fellow will have access to discussion forums with the rest of the department staff to address concerns, ask questions regarding the procedure, and receive postoperative instructions.
- Perform preoperative evaluations of all pediatric hand patients (in coordination with hand residents), including a review of the medical history, recommended literature, relevant physical findings, and a specific plan.

In the operating room, the fellow is expected to:

- Be in the operating room before the patient enters and assist the anesthesiologist with questions regarding the medical history, the surgical site, and patient positioning. Additionally, the fellow must locate imaging studies and request intraoperative imaging if needed for the surgery.
- Participate in the positioning and preparation of the patient during surgery.
- Assist with all major procedures as directed by the attending surgeon, and is expected to perform procedures at an appropriate level under the supervision of the attending surgeon.
- Prepare the surgical report and write postoperative orders as indicated for a specific patient and case after consulting directly with the attending surgeon. These orders must include specific information regarding the use of antibiotics, pain medications, and physical therapy.

Inpatient Clinical Care

The fellow is expected to:

- Conduct rounds with residents and provide the appropriate attending physician with an updated status of all patients. Any problems that arise during the night must be reviewed with the attending physician, and a treatment plan will be developed. The fellow will be primarily responsible for all patients whom they assisted during surgical procedures. This primary responsibility requires a thorough understanding of the patient's condition, knowledge of all laboratory tests, X-rays, and vital signs, as well as the clinical course.
 - Document progress notes in the medical record, including data regarding the patient's complaints, vital signs, physical examination, laboratory tests, radiological images, as well as the patient's condition and treatment plan for that day, and any follow-up tests to be performed.
 - Communicate effectively with residents and the rest of the staff. This person will have primary responsibility for inpatient care and is expected to follow up on requested tests, evaluate the results, and notify the chief resident, fellow, or attending physician before leaving at the end of the day.
- Any pending laboratory tests or X-rays must be signed off by the on-call physician.
- Work as part of a team with pediatricians and pediatric residents.

Practice-Based Learning and Improvement

With a strong commitment to evidence-based medicine, the Pediatric Upper Extremity Unit actively promotes the study of scientific evidence and clinical judgment to provide the best possible clinical care. Upon graduation, the fellow will be able to critically analyze available research and then formulate and implement a sound, evidence-based clinical plan.

The fellow is expected to develop a research project in collaboration with the supervising staff. This project is expected to be reasonably complete by the end of the academic year and ready for presentation at meetings (SEOP, SECMA, EPOS...). In addition, a manuscript must be submitted to a peer-reviewed journal. The fellow acquires formal research skills through extensive exposure to research methodology, study design, and critical data review, enabling them to conduct formal research in their future practice setting. The fellow is encouraged to participate in a second project in which they work with one of the residents and assist them in the presentation and publication processes.

Interpersonal and Communication Skills

Due to the interdisciplinary nature of the program, the fellow gains experience in interpersonal and communication skills by working with patients in a team setting that includes hand surgeons, orthopedic surgeons, primary care specialists, physical therapists, neurologists, radiologists, occupational therapists, and rehabilitation specialists.

Professionalism

As part of the Orthopedics Service, the fellow is expected to actively participate in teaching orthopedic surgery residents and medical students during their fellowship. Teaching takes place in the following settings:

- Weekly clinics
- Operating room
- Emergency room on-call

Program Design

Educational Component

The Pediatric Upper Extremity Unit offers a comprehensive core curriculum. Fellows are expected to attend and contribute to all components of the program and will be assigned specific lectures and topics to present. All presentations must be carefully prepared and delivered, including a thorough review of all relevant literature.

Expectations

- Perform an accurate and thorough medical history and a complete physical examination of all patients seen in the clinical setting.
- Develop a differential diagnosis in the clinic based on the medical history, physical examination, and interpretation of radiographic findings, and present it to the attending surgeon.
- Generate an accurate, clear, concise, and comprehensive medical history, including the chief complaint, history of the current illness, medications, allergies, personal, obstetric, and family history, surgical history if applicable, evaluation of imaging studies, and an assessment that includes the differential diagnosis and treatment plan.
- Present a concise summary and re-evaluate patients prior to the meeting with the attending surgeon. This will include the date of surgery, the diagnosis, the procedure performed, and the recent history.

- When not evaluating a patient individually, the fellow is expected to observe the attending surgeon during the patient encounter and be available to discuss the patient's care, treatment, and instructions afterward.
- Fellows are expected to review the operating room schedule with the entire Service during the weekly General Preoperative Session to maximize the comprehension of complex surgical cases.

The **STEP-UL** Fellow is expected to:

- Review the patient's medical history.
- Review relevant imaging studies.
- Confirm that reports, consent forms, and other documentation are correct.
- Discuss relevant cases with the attending physician.
- Conduct a literature search and read and be prepared to summarize at least one significant relevant article.

Evaluations

At the end of every two months, the fellow must be evaluated by the assistant professor in charge of the **STEP-UL**. The evaluation will consist of two components. One component will be theoretical, involving basic and advanced questions related to the pediatric upper limb. There will also be a practical component, which will assess the diagnostic process, decision-making, and practical surgical skills.

AREAS OF KNOWLEDGE

The **STEP-UL** provides in depth-training on congenital anomalies, acquired conditions, and pathologies affecting growing patients. Fellows will gain a comprehensive understanding of these conditions and develop core competencies in:

- **Clinical Assessment:** Specialized physical examination and differential diagnosis of the pediatric upper limb.
- **Pathogenesis & Diagnostics:** Understanding etiopathogenesis and determining the need for essential complementary studies.
- **Treatment Planning:** Evaluating functional and aesthetic needs to decide on conservative vs. surgical management and optimal timing for intervention.
- **Surgical Proficiency:** Mastering diverse surgical techniques through hands-on experience and evidence-based practices.
- **Communication skills:** Effectively counseling parents regarding their child's condition, treatment options, and realistic expectations.

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