Fellow Hand and Wrist Goals & Objectives

Scope of Education

This hand surgery educational program is designed to educate physicians in the art and sciences of hand surgery and to develop a competent hand surgeon who is capable of independent function. This program will provide experience in the repair, resection, and reconstruction of defects of form and function of the hand; in the design, construction, and transfer of flaps and the transplantation of tissues, including microsurgery of multiple tissues; in surgical and ancillary methods of treatment of tumors; in management of complex wounds; and in the use of alloplastic materials. The goal is for the fellow to be proficient in all aspects of hand and upper extremity surgery.

Below are the goals and objectives unique to each participating site.

Site-specific goals and objectives:

Carolinas Medical Center

Fellows will gain experience in...
- Level I trauma reconstruction including complex fracture reconstruction, tendon repair/transfers
- Advanced microsurgical skills including replants, nerve and artery repairs, and free tissue transfers
- Arthroplasty of the elbow, shoulder, wrist and hand
- Resident education
- Myers Park Clinic
- Congenital hand deformity correction (pollicization, syndactyly, polydactyly)

Carolinas Medical Center - Mercy

- Inpatient and outpatient surgical skills including arthroscopy, fractures and nerve and tendon repair
- CMC Mercy houses an anatomy lab with monthly anatomy dissections and arthroscopic simulator that are used by the fellows

Novant Presbyterian Hospital including Charlotte Orthopaedic Hospital, Matthews Medical Center

Fellows will gain experience in...
- Inpatient and outpatient surgical skills including arthroscopy, fractures, and nerve and tendon repair

Charlotte Surgery Center, Mallard Creek Surgery Center & Matthews Surgery Center

- Exclusively outpatient ambulatory surgery centers. The majority of cases are carpal tunnel, trigger finger, CMC arthroplasty and other short duration common surgical hand procedures.
- Additionally, fellows will learn the pros and cons of the business side of hand surgery in terms of ownership.

Office

Fellows will gain experience in...
- History taking
- Physical examination of the upper extremity
- Injections
- Interpretation of radiographic studies
- Casting and other office based procedures
- Additionally, congenital hand clinic, brachial plexus clinic, and amputee clinic is held monthly in the office
- Many didactic sessions from the lecture schedule are held here
- Microscope

Patient Care

Demonstrates all elements of mastery assigned to the PGY-3 and 4 level residents.

Demonstrates ability and expertise at coordinating the activity of the Hand Surgery Service in conjunction with the Hand Resident. This includes direct supervision of the 3rd/4th year residents when appropriate.

Assists the Hand Resident in following all in-house patients and ensures that any patients seen in the ER for a hand-related problem are appropriately followed up after discharge.

In addition to all treatment and surgical approaches assigned to the PGY-3 and 4 levels of training, the Fellow should possess competency in the following:

- Tetraplegia (tendon transfers)
- Advanced arthroscopic techniques, including TFCC Repair and Feldon Wafer resection
- Microsurgical techniques including nerve repair, digital revascularization and digital/thumb replantation
Triangular fibrocartilage repair – Open
The diagnosis and treatment of congenital hand deformities
Use of autografts and allografts in hand reconstruction
Vascularized bone grafts in hand reconstruction – scaphoid
Flexor tendon reconstruction
Extensor tendon reconstruction

Demonstrates an understanding and expertise in the salient points of hand and wrist history and physical examination, in addition to the provision of diagnoses, necessary radiographic evaluations most appropriate to the differential diagnosis being entertained, and appropriate treatment algorithms based on the patient and the diagnosis.

Possesses proficiency in pre-operative evaluation of patients in both the office and the emergency room settings.

Demonstrates a basic understanding of the goals of treatment, such as bony fixation (and the techniques used therefore), tendon repair (and associated techniques), vessels and nerve repair and skin coverage when treating combined injuries of the hand.

Demonstrates an understanding of the priorities of treatment, which include the revascularization of devitalized parts, bony and tendon fixation and delayed nerve reconstruction and skin coverage.

Demonstrates knowledge of relevant surgical approach to the treatment of all hand surgical problems taken to the operating room on both elective and emergent basis.

Possesses knowledge of relevant local anatomy, including knowledge of the cutaneous nerves in the area of skin incision.

Assumes responsibility for appropriate operating room setup, including the physical placement of the lights, surgical assistants, scrub nurse or technologist and radiology technicians.

Demonstrates an understanding of the fundamentals of dissection and identification of anatomical parts

Demonstrates competency in the supervision of in-hospital patient admitting process.

Responsible and competently supervises chief and junior orthopaedic residents as well as any ancillary staff involved in the admitting process.

Demonstrates competency in performing all surgical procedures relating to the upper extremity. Autonomy on surgical cases will be assigned as warranted by skill and comfort level of fellow with attending assistance readily available.

Assumes responsibility for the supervision of all postoperative patient orders and care, including postoperative therapeutic treatments as well as the prescription of necessary medications.

Demonstrates competency in directing patient care from initial consult to the postop setting. Effective supervision with affiliated health care teams, including physical therapists, occupational therapists, social workers, psychologists, psychiatrists, infectious disease experts, trauma experts in the instance of multiply injured patients, and other teams.

Medical Knowledge

Possesses knowledge and demonstrates expertise in the discussion of the natural history of hand injuries, such as fractured phalanges or metacarpals, joint dislocations, flexor and extensor tendon injuries and combined injuries to the hand.

Demonstrates proficiency in the application of all upper extremity splints and casts.

Demonstrates an in-depth understanding of the anatomy and pathology of the upper extremity including:

a) Wound closure, including skin grafts, tissue flaps (local, regional, and distant), and free microvascular tissue transfer;

b) Fingertip injuries;

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c) **Tenorrhaphy**, including flexor tendon repair and graft, implantation of tendon spacer, extensor tendon repair, and tenolysis/tenodesis;

d) **Tendon transfer and tendon balancing;**

There is an annual tendon transfer course provided by the faculty for the residents and fellows.

e) **Nerve repair and reconstruction**, including upper extremity peripheral nerves, nerve grafts, neurolysis, neuroma management, nerve decompression, and transposition;

f) **Management of fractures and dislocations**, including phalangeal or metacarpal with and without internal fixation; carpus, radius, and ulna with and without internal fixation; and injuries to joint ligaments;

g) **Bone grafts and corrective osteotomies**;

h) **Management of arthritis**, including synovectomy, arthroplasty (with and without implant), arthrodesis; joint repair and reconstruction, including contracture release and management of stiff joints; tendon sheath release;

i) **Thumb reconstruction**, including pollicization, toe-hand transfer, and thumb metacarpal lengthening;

j) **Osteonecrosis**, including Kienböck's disease;

k) **Tumors**, benign and malignant;

l) **Dupuytren’s contracture**;

m) **Replantation and revascularization**;

n) **Amputations**;

o) **Fasciotomy, deep incision and drainage for infection, and wound debridement;**

p) **Congenital deformities**, including syndactyly, polydactyly, radial aplasia, and others;

q) **Management of upper extremity vascular disorders and insufficiencies**;

r) **Foreign body and implant removal**;

s) **Thermal injuries**;

l) **Rehabilitation and therapy**;

u) **Arthroscopy**;

v) **Upper extremity pain management**;

**Practice-Based Learning & Improvement**

In addition to the competencies listed for the PGY-3 and 4 level trainees, the Fellow:

- Demonstrates competency in the application of critical thinking and in the appraisal of clinical studies read in the peer reviewed literature as well as in the treatment of patients.

- Responsibly performs preoperative examination in the holding area of the patients on whom hand surgery is being performed.

- Responsibly confirms the surgical site.

- Responsibly directs education for the Chief and junior residents as well as the medical students on the team.

- Conducts one publishable research project related to the upper extremity during his/her fellowship.

- Conducts one quality improvement project to present during his/her fellowship.

- Effectively supervises the conduct of the Anatomy (dissection) Learning Sessions for the Upper Extremity Service.

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Successfully maintains a record of all operative cases via the ACGME website. Weekly review by the program coordinator and monthly review by program director.

**Interpersonal & Communication Skills**

Demonstrates communication skills that result in an effective information exchange with patients, their families and caregivers, and other physicians and members of the health care team.

Create and sustains a therapeutic and ethically sound relationship with patients and their families.

Able to effectively use listening skills in communication with all parties involved in patient care.

Able to effectively provide information via various methods.

Able to work effectively with other members of the team, specifically medical assistants, Chief Residents, Hand Fellows and hand therapists.

Seeks necessary help from hand therapists for the provision of appropriate care to the patient when necessary.

**Professionalism**

Demonstrates a commitment to carry out professional responsibilities, an adherence to ethical principles and standards and a sensitivity to the diverse patient population encountered in the city of Charlotte.

Demonstrates professionalism and a responsiveness to a patient’s sensitivity to age, culture and gender.

Understands and demonstrates the ability to obtain an informed consent from a patient which includes the presentation of the natural history of both surgical and non-surgical care of the patient’s condition.

Demonstrates an understanding of the value of patient confidentiality.

Demonstrates sensitivity to the culture, age, gender, and disabilities of fellow health care professionals.

Demonstrates appropriate conduct in the timely completion of the dictated operative notes, chart operative summaries and discharge summaries as well as clinic notes.

All physicians share responsibility for promoting patient safety and enhancing quality of patient care. Graduate medical education must prepare fellows to provide the highest level of clinical care with continuous focus on the safety, individual needs, and humanity of their patients. It is the right of each patient to be cared for by fellows who are appropriately supervised; possess the requisite knowledge, skills, and abilities; understand the limits of their knowledge and experience; and seek assistance as required to provide optimal patient care. Fellows must demonstrate the ability to analyze the care they provide, understand their roles within health care teams, and play an active role in system improvement processes. Graduating fellows will apply these skills to critique their future unsupervised practice and effect quality improvement measures. It is necessary for fellows and faculty members to consistently work in a well-coordinated manner with other health care professionals to achieve organizational patient safety goals.

**System-Based Practice**

Demonstrates appropriate conduct in the timely completion of the dictated operative notes, chart operative summaries and discharge summaries as well as clinic notes. Understands how the delay of these activities impacts patient care throughout the system on the whole.

Effectively partners with other members of the health care team.

Serves as an example for the remaining members of the team, including the Chief and Junior Resident as well as 3rd and 4th year medical students.

_I have reviewed the Fellow Hand and Wrist Goals & Objectives and have been informed of my performance criteria._

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Fellow Date