

## **Hand and Upper Extremity Division – Hand Rotation**

### 1. Rotation Goals and Objectives by Core Competency

#### **General Goals & Objectives PGY 3 Year**

##### **A. Patient Care**

- 1) Learn the essentials concerning performing a history and physical examination focused on the hand and upper extremity.
- 2) Learn how to interpret plain radiographs of the hand and upper extremity
- 3) Develop the skills for recognizing, evaluating, and treating common hand problems in adults and children.
- 4) Demonstrate common non-operative skills
  - a. Splint and cast application
  - b. Aspirations/injections of joints, cysts, and sites of common tendonitis
  - c. Closed reductions for fractures and joint dislocations
- 5) Demonstrate appropriate surgical etiquette, skills, and technical competencies
  - a. Participate in marking correct surgical site and identifying correct procedure
  - b. Patient positioning, preparation, and draping of the patient
  - c. Being able to function as a first assistant to the surgeon
  - d. Being able to perform in the capacity of surgeon when deemed capable
- 6) Demonstrate the ability to care for patients postoperatively
  - a. Wound care
  - b. Pain management
  - c. Antibiotic regimen
  - d. Principles of Hand therapy post-operatively
  - e. Reporting medical concerns to the attending surgeon when recognized.
- 7) Work effectively with other members of the treating team (nurses, attending physicians, other residents)

## **B. Interpersonal and Communication Skills**

- 1) Be able to listen to patients' concerns and express sensitivity and empathy for their medical problems
- 2) Explain the risks and goals of surgery to patients and their families and alternatives to surgery (perform informed consent for simple procedures)
- 3) Establish an effective patient-doctor relationship.
- 4) Establish an appropriate level of communication and relationship with ancillary staff:
  - a. Refrain from abusive behavior
  - b. Be courteous
  - c. Report staff who are disrespectful and do their duties in a less than satisfactory manner
- 5) Write legible notes with legible signatures and accurate times and dates.

## **C. Professionalism**

- 1) Be sensitive and responsive to differences in culture, gender, age, and impairments in patients and staff.
- 2) Be reliable
- 3) Be respectful of the opinions of other healthcare professions
- 4) Be able to express opinions in a manner that is sensitive to others

## **D. Medical Knowledge**

- 1) Working knowledge of common adult and pediatric hand and upper extremity diagnoses:
  - a. Compressive neuropathies
  - b. Arthritis of the hand and upper extremity
  - c. Wrist ligament disorders
  - d. Hand and upper extremity tendonitis
  - e. Hand and upper extremity infections
  - f. Hand and upper extremity fractures
- 2) Recognize, understand, and treat common pediatric hand anomalies.
- 3) Accurately diagnose and treat common traumatic hand injuries involving the bony and soft tissues.

- 4) Learn the general principles of wound healing and treatment of soft tissue deficits in the hand and upper extremities

#### **E. Practice Based Learning and Improvement**

- 1) Ability to analyze the effectiveness of his or her own interpretative problem skills and surgical skills
- 2) Agility to use available information technology to obtain and manage information
- 3) Be receptive to constructive criticism

#### **F. Systems-Based Practice**

- 1) Demonstrate ability to provide cost-effective care with appropriate use of diagnostic tests and appropriate use of pharmacological agents.
- 2) Utilization of the health care system to provide optimal patient care outside the hospital system.
- 3) Ability to fully utilize the chain of command in both the supervision of subordinates and the interaction with seniors
- 4) Ability to recognize emergencies and communicate the problems to the appropriate personnel
- 5) Be able to be efficient in time management in issues pertaining to patient care both in and out of the operating room.

## **2. Resident Supervision**

The resident is a part of the hand service, providing care to the patients in the office, the clinic, in the hospital, and in the operating rooms. The resident will perform his or duties under the direct supervision of the hand surgery staff. All patients evaluated by the resident will be discussed with and examined by the attending surgeon as well. The resident's daily activities are managed by the primary faculty of this particular rotation for the junior resident by Dr. Gene Deune and well as the other members of the Hand Surgery faculty: Dr. Thomas Brushart, Dr. Dawn Laporte, and Dr. Heather Lochner. This will provide the opportunity for immediate feedback.

Surgical procedures are performed under the direct supervision the attending physician at all times, including nights, weekends, and holidays. The surgical attending determines when the resident has achieved sufficient abilities to perform independently and in the supervision of other residents and students.

The resident reports directly to the attending surgeon. The attending surgeon, at a minimum is immediately available by telephone or pager or, when on call, within 30 minutes by request on site.

For inpatient and emergency department consults, the attending-on-call should be contacted and will be responsible for the treatment, the staffing of any operative intervention, seeing the patient during the hospitalization, and any outpatient follow-up. For questions regarding inpatients or patients in the PACU, the attending surgeon for that patient should be contacted. For any hand emergencies for an established patient, the attending of record should be called to formulate the treatment plan.

Contact information:

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Deb Wagner (Deune Office)  
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### 3. Clinical Activities

#### **Monday**

Mondays are generally academic days for Dr. Deune. Occasionally, there are add on cases or multi-service cases with other orthopedic surgeons, particularly Dr. Attar, Dr. McFarland, or Dr. Frassica. Should there be no cases, the resident should help Dr. Brushart or scrub on other orthopedic cases.

#### **Tuesday**

Tuesdays is a full clinic day for Dr. Deune on the 5<sup>th</sup> floor of JHOC. Dr. Brushart sees patients on Tuesday mornings. The resident is expected to be with Dr. Deune during the day. The resident is given the opportunity to perform the initial evaluation of the patient followed by discussions of the history physical findings and proposed treatment plan. They are to see both return and new patient to round out their exposure to the complete care of the patient with hand concerns. The resident is also encouraged to see interesting cases and patients as they present in Dr. Brushart's clinic.

#### **Wednesday**

Wednesdays are spent with Dr. Deune in the operating room. Most of the cases done on Wednesdays are in the Johns Hopkins Outpatient center, although occasionally there are cases done in Weinberg. At 4:30 PM, the Hand Division meets to review cases for the coming week and any anticipated challenges or problems. From 5 to 6 pm, the Hand attendings meet with the Hand resident. The resident will have completed assigned reading on specific topics and the hour will be devoted to reviewing question from the OITE and self-assessment exams relevant to these topics.

## **Thursday**

The entire Thursday morning is devoted to the didactics program for the residents. After the didactics are done, the resident should spend the time with Dr. Deune in the operating room.

## **Friday**

Dr. Deune has morning clinic on the 8<sup>th</sup> floor of JHOC in the Plastic Surgery clinical area. The resident should attend the clinic. The patients on Friday Clinics are a mixture of hand patients and non-hand reconstructive patients. Occasionally, there are cases in the afternoon. Should there be no cases, the resident can use the time for non-clinically related academic pursuits.

### 4. Required Readings

- Week 1 – Old Trumble “Anatomy” – Chapter 1
  
- Week 2 – Hand Fractures, Carpal Fractures (Chapters 1,2, 14, 16)
  
- Week 3 - DRUJ, TFCC, Distal Radius (Chapters 6, 8, 9, 12)
  
- Week 4 - Fingertip Amputations, Infections (Chapters 32, 35)
  
- Week 5 - Peripheral Nerves, Brachial Plexus (Chapters 23, 26)
  
- Week 6 - Flexor and Extensor Tendons (Chapter 20, 21)
  
- Week 7 - Nerve Compression, Tendon Transfers (Chapter 24, 25, 28)
  
- Week 8 - Arthritis, Kienbock’s (Chapters 40, 41, 43, +/- 18)

- Week 9 - Thumb, Flaps (Chapters 4, 5, 38)
- Week 10 - Tendonitis, Dupuytren's, Congenital (Chapters 22, 31, 49)

Hand Surgery Recommended readings:

- Selections from article database arranged by topics
- Review of anatomy using Primal Pictures Interactive Anatomy DVD

## 5. Didactic Activities

This particular rotation will be 5 weeks long out of a 10-week block, split between Dr. Deune and Dr. Peterson. The didactic sessions are conducted on Wednesday afternoons at 5 pm with the resident presenting the questions of the OITE. The discussions are conducted with the attendings present.

Periodically, throughout the year, there are motor skills sessions during the Thursday morning didactic presentations. These are performed at the motor skills laboratory at Johns Hopkins Bayview Medical Center. Recent topics have included upper extremity nerve compression, finger and flexor tendon injuries, and distal radius fractures. A characteristic session will consist of a one-hour grand rounds on the topic provided by the attending. This will be followed by two to three hours dissection with guidance from multiple Hand attendings. The residents will have been provided with a DVD made by the primary attending previous to this session, and will be held responsible for reviewing this material so that the dissections and operative procedures are focused and effective.

## 6. Weekly Schedule

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
AM	Check for add on cases	Deune Clinic – 5 <sup>th</sup> flr JHOC	Deune OR	Grand Rounds, Didactics	Deune Clinic – 8 <sup>th</sup> flr JHOC
PM		Deune Clinic – 5 <sup>th</sup> flr JHOC	Deune OR	Deune OR	Check for add on cases
			430PM Hand Mtg		
			500PM Didactics Conf		

## **Hand and Upper Extremity Division**

### 1. Rotation Goals and Objectives by Core Competency

#### **General Goals & Objectives PGY 4 Year**

##### **B. Patient Care**

- 1) Learn the essentials concerning performing a history and physical examination focused on the hand and upper extremity
- 2) Learn the principles of interpreting a plain radiograph of the hand and upper extremity
- 3) Recognize the historical symptoms of compression neuropathy and upper extremity arthritis
- 4) Know the appropriate evaluation for compression neuropathy, wrist ligament injury
- 5) Demonstrate common non-operative skills
  - a. Splint application
  - b. Cast application
  - c. Joint aspiration/injection
  - d. Fracture manipulation
  - e. Joint reduction
  - f. Carpal tunnel and trigger digit injection
- 6) Demonstrate appropriate operating room skills/technical competency:
  - a. Patient positioning and preparation and draping of the patient
  - b. Assisting with retractors and lights
  - c. Carpal tunnel release and ulnar nerve transposition
  - d. Thumb CMC arthroplasty
  - e. Irrigation and debridement of infections in the hand and upper extremity
- 7) Demonstrate the ability to care for patients postoperatively:
  - a. Wound care
  - b. Antibiotic prophylaxis
  - c. Pain management
- 8) Consistently mark patients with initials prior to surgery and drape the initials into the surgical field.
- 9) Consistently perform the surgical time out prior to incision
- 10) Report medical errors to the attending surgeon when recognized
- 11) Organize and supervise the interns, junior and senior residents, and paramedical staff in the daily care of the service patients

- 12) Develop patient management plan for patients admitted directly to the hospital

### **C. Interpersonal and Communication Skills**

- 1) Able to listen to patients' concerns and express sensitivity and empathy for their medical problems
- 2) Explain the risks and goals of surgery to patients and their families and alternatives to surgery (perform informed consent for simple procedures)
- 3) Establish an effective patient doctor relationship – attire, grooming, manner of speech, concern, and commitment
- 4) Establish an appropriate level of communication and relationship with ancillary staff:
  - a) Refrain from abusive behavior
  - b) Be courteous
  - c) Report staff who are disrespectful and do their duties in a less than satisfactory manner
- 5) Be able to use legible handwriting and print one's name under all signatures
- 6) Date and time all note

### **D. Professionalism:**

- 1) Sensitive and responsive to differences in culture, gender, age, and impairments of both patients and staff
- 2) Reliable in the performance of responsibilities
- 3) Respectful of the opinions of other healthcare professionals
- 4) Ability to express opinions in a manner that is sensitive to others

### **E. Medical Knowledge**

- 1) Working knowledge of common hand and upper extremity pathology
  - a) Compression neuropathy
  - b) Arthritis of hand and upper extremity
  - c) Wrist ligament disorders
  - d) Hand and upper extremity tendinitis
  - e) Hand and upper extremity infections
  - f) Hand and upper extremity fractures
- 2) Working knowledge of common fractures
  - a) Boxer's
  - b) Bennett's
  - c) Metacarpal
  - d) Distal radius

## **F. Practice Based Learning and Improvement**

- 1) Ability to analyze the effectiveness of his or her own interpretative, problem solving, and surgical skills
- 2) Ability to use available information technology to obtain and manage information
- 3) Receptive to constructive criticism

## **G. Systems-Based Practice**

- 1) Demonstrate ability to provide cost-effective care:
  - a. Utilization of appropriate diagnostic tests
  - b. Appropriate use of antibiotics
- 2) Utilization of the healthcare system to provide optimal patient care outside the hospital system
- 3) Ability to fully utilize the chain of command in both the supervision of subordinates and the interaction with seniors
- 4) Ability to recognize emergencies and communicate the problem to appropriate personnel

## **2. Resident Supervision (Hand Service)**

The resident is part of the hand surgery team, providing care of patients in the clinic, the hospital, and the operating room. The resident acts under the direct supervision of the hand surgery staff. All patients evaluated by the resident will be discussed with and examined by the attending surgeon as well. The resident's daily activities are managed by the faculty – Drs. Thomas Brushart, Dawn LaPorte, E. Gene Deune, and Heather Lochner. This provides the opportunity for immediate feedback.

Surgical procedures are performed under the direct supervision of an attending physician at all times, including nights, weekends, and holidays. The surgical attending determines when a resident should and has achieved independence in procedures, and in supervising other residents and students.

The resident reports directly to the attending surgeon. The attending surgeon, at a minimum, is immediately available by telephone or pager or, when on call, within 30 minutes by request on site.

For inpatient and emergency department consults, the attending “on call” that week should be contacted and will be responsible for treatment plan, staffing any operative intervention, following the patient during admission and any outpatient follow-up. For questions regarding inpatients or patients in PACU, the attending surgeon for that patient should be contacted. For any hand emergencies on a non-hand call week (for example, orthopaedic inpatient, trauma patient), contact the hand faculty member who is in the clinic or operating room that day or, if no one available, contact Dawn LaPorte, M.D.

Contact information:

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### 3. Clinical Activities

#### **Monday**

Mondays are devoted largely to Dr. Brushart's surgeries. These include two days per month of outpatient surgery, one full day of inpatient surgery and one day of pediatric surgery. Additionally, on the first Monday of the month the afternoon is devoted to the multidisciplinary Brachial Plexus Clinic held at the Kennedy Krieger Institute.

#### **Tuesday**

Resident spends Tuesday with Drs. Brushart and Deune in the multidisciplinary Hand Clinic. Residents are provided with the opportunity to perform the initial evaluation of patients followed by discussion of the history, physical findings and proposed treatment plan. They are also afforded the opportunity to obtain follow-up on patients that they have seen previously in the operating room. With both a Plastic and Orthopaedic hand surgeon working together this provides a wide variety of clinical material.

#### **Wednesday**

Wednesday is spent with Dr. LaPorte. Morning is devoted to outpatient surgeries and the afternoon to a busy Hand Clinic. At 4:30 the entire Hand Division meets to review cases for the coming week and any anticipated challenges or problems. From 5 to 6 p.m. the Hand attendings meet with the Hand resident. The resident will have completed assigned readings on specific topics and the hour will be devoted to reviewing questions from the OITE and self-assessment exams relevant to these topics.

## **Thursday**

The entirety of Thursday morning is devoted to the didactic program for the entire resident body. Thursday afternoon is then spent in the operating room with Dr. LaPorte.

## **Friday**

Friday is devoted to operating with Dr. Lochner. Dr. Lochner has a special interest in pediatric and congenital hand problems and this time provides a unique exposure to this aspect of hand surgery.

### 4. Required Readings – Hand Surgery Update

Week 1 -	Old Trumble “Anatomy” – Chapter 1
Week 2 -	Hand Fractures, Carpal Fractures Chapters 1, 2 Chapters 14, 16
Week 3 -	DRUJ, TFCC, Distal Radius Chapters 6, 8, 9 and 12
Week 4 -	Fingertip Amputations, Infections Chapters 32, 35
Week 5 -	Peripheral Nerves, Brachial Plexus Chapters 23, 26
Week 6 -	Flexor and Extensor Tendons Chapters 20, 21
Week 7 -	Nerve Compression, Tendon Transfers Chapters 24, 25, 28
Week 8 -	Arthritis, Kienbock’s Chapters 40, 41, 43 (+/- 18)
Week 9 -	Thumb, Flaps Chapters 4, 5, 38

Week 10 - Tendinitis, Dupuytren's, Congenital  
Chapters 22, 31, 49

“Hand Surgery recommended readings – selections from database of articles arranged by topic and available electronically”

Review of anatomy using Primal Pictures Interactive Anatomy DVD”

## 5. Didactic Activities

The Hand Rotation is 10 weeks long. The Hand Surgery Update IV text is divided into ten topical subsets. Each one of these represents required reading for a given week. On Wednesday afternoon the Hand resident meets with all of the Hand attendings at 5 p.m. for the didactic conference. This consists of discussion of the required reading with review of all the relevant in-training and self-assessment exam questions for the past several years. This discussion is often supplemented with required reading from the selected reading lists provided by Dr. Tom Trumble and by Dr. Peter Stern.

At the beginning of the rotation, residents are provided with a copy of the Primal Pictures DVD on the hand. This provides them with a complete review of hand anatomy and surgical approaches in an interesting format which allows them to perform digital dissections and operative procedures. This is a very effective review of hand anatomy.

Periodically throughout the year there are motor skills sessions during the Thursday morning didactic presentations. These are performed at the motor skills laboratory at Johns Hopkins Bayview Medical Center. Recent topics have included upper extremity nerve compression, finger and flexor tendon injuries, and distal radius fractures. A characteristic session will consist of a one hour grand rounds on the topic provided by the attending. This will be followed by two to three hours dissection with guidance from multiple Hand attendings. The residents will have been provided with a DVD made by the primary attending previous to this session, and will be held responsible for reviewing this material so that the dissections and operative procedures are focused and effective.

## 6. Hand Division Weekly Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1st Monday/Month Brushart – KKI PM	Hand Clinic Lochner – KKI LaPorte GSS	LaPorte OR – AM Lochner Clinic - AM	Resident Didactic Lochner – WM Laporte - OR	Lochner –OR Laporte – Union Memorial
Dr. Brushart – OR Lochner – Mt Washington	LaPorte GSS	LaPorte - Clinic	Lochner – WM Laporte - OR	Laporte – OR Laporte – Union Memorial
Dr. Brushart - OR	Dr. Deune LaPorte GSS – PM	Laporte – OR 4:30 - Hand Meeting	Lochner – WM Laporte - OR	Lochner –OR Laporte – Union Memorial
Dr. Brushart - OR		Laporte – OR 5:00 - Didactic Conference		Laporte – Union Memorial