MacOrtho

## TRAUMA

## ROTATION SPECIFIC GUIDELINES

In keeping with the specific standards of accreditation (2009) this rotation assumes administrative support and university affiliation.

Specific to the site we offer these areas of focus for the resident;

**Junior:**

1. Perform a thorough history, physical and order investigations for the emergent single limb injured patient
2. Become proficient in the closed management of adult fractures in the ER. Including appropriate casting techniques for both upper and lower extremity fractures
3. Understand the approach to a trauma patient and triage the injuries appropriately
4. Become proficient in ATLS assessment and basic management skills. Be able to describe life saving interventions such as chest tubes, central lines, intubation and surgical airways.
5. Appropriately work up outpatient trauma patients and order appropriate investigations
6. Become proficient in interpreting x-rays and CT scans of severe fracture patterns
7. Be exposed to multiply traumatized patients
8. Develop an understanding of surgical indications for common extremity fracture care
9. Understand biomechanical principles that underlie the use of orthopaedic hardware including different plate, nail and screw utilities.

**Senior:**

1. Be able to function as a trauma team leader.
2. Be able to perform life saving interventions such as chest tubes, central lines, intubation and surgical airways
3. Appropriately triage the operative management of the multiply injured patient
4. Be able to describe multiple surgical approaches to each joint and bone of the appendicular skeleton
5. Interview and work up outpatient trauma patients in an efficient manner
6. Become proficient in the interpretation of x-rays, CT scans and MRIs of traumatized limbs and be able to integrate them into a surgical plan
7. Become efficient at post operative care of the trauma patient
8. Be proficient at formulating post operative care pathways for trauma
9. Develop an approach to extremity non-union care including work-up, management and surgical planning.

Following the Goals and Objective is an outline of teaching available/ caseload in those areas for the junior and senior resident.

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The resident, upon orientation will review the Resident specific and College specific goals with his/her preceptor to ensure adequate focus throughout the rotation.

## I. MEDICAL EXPERT

### Junior/Senior

Upon completion of the trauma rotation the resident will be able to;

- Demonstrate appropriate core knowledge based on their level of training
- Understand the spectrum of orthopedic trauma practice
- Appreciate the structure of health care in the setting including
- Access to tertiary care, stabilization and investigation of patients for transfer
- Resource allocation and health care infrastructure
- Practice Management – Group and Solo
- Life Balance

## TECHNICAL KNOWLEDGE

### Junior

The junior resident will be expected to;

- Gain exposure to common surgical approaches to each joint and bone of the appendicular skeleton and be able to describe multiple surgical approaches to each joint and bone of the appendicular skeleton
- Gain proficiency in basic intra operative fracture reduction techniques
- Become proficient with the use of drills, taps and screws including lag screw technique
- Assist in the exposure and closure of all trauma cases
- Assist multiple limb injured cases
- Demonstrate an understanding of damage-control orthopaedic principles and indications
- Demonstrate an understanding of open fracture management
- Become proficient with common intramedullary fixation techniques including appropriate surgical exposure, start points and surgical steps.
- Demonstrate understanding of external fixation techniques and principles
- Demonstrate understanding of common fracture classification systems and their implications on management:
    - Neer's proximal humerus
    - Jupiter's distal humerus
    - Letournel's acetabulum
    - Schatzker's tibial plateau
    - Hawkins Talus
    - Sanders calcaneus

- Demonstrate profiency in common orthopaedic trauma surgical exposures including the following approaches:
  - Volar Henry/Modified Henry approach to the distal radius
  - 2-incision approach to both bone forearm fractures
  - Posterior utilitarian approach to the elbow
  - Subcutaneous exposure of the clavicle
  - Lateral approach to the hip or femur
  - Medial parapatellar approach to the knee
  - Direct lateral and medial approach to the ankle

**Senior**

The medical expert role will be based on the volumes of clinical cases. There is always a concern amongst residents that they will be unable to get the expert knowledge which they require through a trauma rotation. This could perhaps be addressed with a pre-rotation discussion of the individual residents learning objectives and to guide him/her in how this expert knowledge is attained whilst in a trauma rotation, e.g. personal learning projects, online assessment tools/ Examinations.

- Be able to formulate a surgical plan for common appendicular skeletal injuries and order appropriate equipment
- Become proficient at patient positioning and draping for surgical management of limb trauma
- Be able to perform common surgical approaches to the appendicular skeleton
  - Volar and dorsal wrist
  - Kocher elbow
  - Posterior and anterolateral humerus
  - Deltopectoral shoulder
  - Anterolateral, posteromedial tibial plateau
  - Anterior, Anteromedial, Anterolateral, Posteromedial, Posterolateral Ankle
  - Sinus Tarsi, Extensile Lateral to the Calcaneus
  - 2-incision approach to the Talus
  - Kocher-Langenbach acetabulum
- Become proficient at fracture reduction, temporary fixation and placement of definitive hardware
- Become proficient at surgical planning fracture fixation for advanced fracture patterns including distal humerus, proximal humerus, acetabulum, bicolumnar tibial plateau, plafond, talus and calcaneus fractures.
- Be able to work-up, manage and surgically plan an approach to nonunions

## II COMMUNICATOR

The resident will be expected to ESTABLISH and maintain therapeutic relationships with both patients and their families. Communication will be assessed in both written and verbal areas. A PATIENT ENCOUNTER FORM will be given to an undisclosed patient( s) to assess the patients perception of the encounter. (Document 2)

Areas of evaluation include;

1. The ability to take a focused history (observed H&P)
2. listening skills
3. information delivery to patients/family, e.g. informed consents ( Stacer)
4. Information delivery to colleagues, progress notes, orders etc.

(random assessment of documentation)

The trauma rotation will emphasize a patient centered approach in which the resident will be allowed to develop competency in learning to modify and explain information in a way that meets the needs of the individual patient. For assessment purposes the preceptor may require an arena of predetermined specific learning cases e.g. end of life discussion in hip fracture, changing level of care in the ICU patient, or dealing with a physician as patient for example.

**Junior**

- effective listening to patients and families
- appropriate respect for patient confidentiality and privacy
- accurate documentation of patient encounters

**Senior**

- effective delivery of information to patients to allow / encourage discussion and informed decision making.
- Deal with challenging communication issues/ e.g. angry family, miscommunication, poor prognosis etc.

## III COLLABORATOR

The resident will be required to demonstrate an ability to interact with all other health care professionals including family, nursing and other physicians. Respect for the roles of other professionals will be an important component of this area.

This area will be assessed through;

1. feedback from nursing staff
2. information from other multidisciplinary team members
3. other physician input.

Assessment of the resident in this area may be best objectified through specific minor projects. e.g.

1. collaborate with physio to design a post op protocol
2. collaborate with nursing regarding a patient safety issue

    e.g. design a common wait list strategy for partners in a community setting

## IV LEADER

The expectation of the resident is to utilize resources to balance patient care and to allocate finite resources wisely.

The resident will also be assessed in the ability to balance personal and professional activities and use their time to optimize patient care and CME.

Office administration, practice management and billing will be reviewed

Assessment
1. ability to utilize resources wisely
2. ability to time manage time correctly; promptness, prioritizing etc.
3. administrative ability;

The trauma rotation provides an excellent arena to teach and discuss practice management along with other managerial skills. Topics for review in this arena include;
1. negotiation skills
2. committee responsibilities e.g. role of the chair, Roberts rules, perhaps have the resident attend a meeting and discuss the interactions
3. how to get and give references
4. practice efficiency; Hospital, house and office
5. managing length of stay and waitlist.

## V SCHOLAR

The resident will demonstrate the abilities to ASSESS, APPRAISE, ACQUIRE and CONTRIBUTE to lifelong learning. Scholarship relates to the self discipline of evaluating, reporting and incorporating new evidence into practice.

This will be assessed through.
1. the ability of the resident to incorporate self directed as well as preceptor directed specific learning goals throughout the rotation.
2. the ability of the resident to teach other health professionals in order to enhance patient care.
3. the resident's ability to integrate new research into practices.
4. the residents' ability to critically appraise their knowledge base, and procedural techniques.

Evaluating of this area is once again difficult. The resident perhaps could be required to search out an evidence based change which could be incorporated into the practice where he/ she is located.

## VI HEALTH ADVOCATE

The resident is expected to consistently advocate for the health and care of the patient. This includes an ability to identify the important determinants of health care for the patient, both orthopedic and non-orthopedic. The resident should develop an understanding for the role of the surgeon in the health care system. This includes the role of the physician in recognizing and describing the health needs of the population.

This will be assesses though.
1. the resident interaction with the patient requiring concurrent care issues

2. the residents ability to negotiate for limited resources in patient prioritizing
3. the residents ability to coordinate care with perioperative services including ER team, Trauma team, ICU, Anesthesia and other surgical consult services.

It is imperative that the resident understands the need for advocacy of the patient as a group as well as an individual. Individual advocacy is usually well established in the early medical career but group advocacy integrates much later in practice.

In this arena evaluation is difficult; perhaps exposure to such areas as, speaking to the hospital foundation, administration, or the media could be covered.

## VII PROFESSIONAL

The resident will be expected in this rotation to adhere to a high standard of honesty, integrity, commitment, compassion, effectiveness, competence and altruism.
Other areas of professional behavior to be assessed are manners, presentation skills, personal appearance, utilization of feedback and other evaluation tools.

Self-regulation in these areas is imperative. The resident will be expected to be accountable for all behaviors and recognize the boundaries between professional and personal realms.

Professionalism also includes self- directed learning and evaluation.
This may be assessed through;

1. personal learning projects
2. creation of learning objective for the rotation
3. self assessment skills and simulation.

Reviewed and approved by the RPC
January 18, 2022

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**TRAUMA APPENDIX 1**

**RESIDENT TRAUMA ROTATION**

NAME______________________________
PGY LEVEL_______________
SUPERVISOR________________

Rotation Goals and Objectives

- See attatched

__ Reviewed by resident

SPECIFIC GOALS / Resident discussion

_ Reviewed by resident

Expected responsibilities

- Call
- OR Coverage
- Clinic Coverage

Mid Rotation Evaluation;

Final Evaluation

| BEGINNING OF ROTATION | END OF ROTATION |
|---|---|
| ____________________ Signature (Resident) | ____________________ Signature (Resident) |
| ____________________ Signature (Attending) | ____________________ Signature (Attending) |
| | ____________________ Signature (CTU) |

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## Trauma

## Cases which the resident would be expected to master during the rotation

**Junior:**

Clinical Trauma Rotation

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3. Understand the approach to a trauma patient and triage the injuries appropriately
4. Become proficient in ATLS assessment and basic management skills. Be able to describe life saving interventions such as chest tubes, central lines, intubation and surgical airways.
5. Appropriately work up outpatient trauma patients and order appropriate investigations
6. Become proficient in interpreting x-rays and CT scans of severe fracture patterns
7. Be exposed to multiply traumatized patients
8. Demonstrate an understanding of damage-control orthopaedic principles and indications
9. Demonstrate an understanding of open fracture management
10. Demonstrate understanding of common fracture classification systems and their implications on management:
    - Neer’s proximal humerus
    - Jupiter’s distal humerus
    - Letournel’s acetabulum
    - Schatzker’s tibial plateau
    - Sanders calcaneus

Surgical objectives:

1. Gain exposure to common surgical approaches to each joint and bone of the appendicular skeleton
2. Gain proficiency in basic intra operative fracture reduction techniques
3. Become proficient with the use of drills, taps and screws including lag screw technique
4. Assist in the exposure and closure of all trauma cases
5. Assist multiple limb injured cases
6. Become proficient with common intramedullary fixation techniques including appropriate surgical exposure, start points and surgical steps.
7. Demonstrate understanding of external fixation techniques and principles
8. Demonstrate profiency in common orthopaedic trauma surgical exposures including the following approaches:
    a. Volar Henry/Modified Henry approach to the distal radius
    b. 2-incision approach to both bone forearm fractures
    c. Posterior utilitarian approach to the elbow

d. Subcutaneous exposure of the clavicle
e. Lateral approach to the hip or femur
f. Medial parapatellar approach to the knee
g. Direct lateral and medial approach to the ankle

**Senior:**

Clinical Trauma Rotation

1. Be able to function as a trauma team leader.
2. Be able to perform life saving interventions such as chest tubes, central lines, intubation and surgical airways
3. Appropriately triage the operative management of the multiply injured patient
4. Be able to describe multiple surgical approaches to each joint and bone of the appendicular skeleton
5. Interview and work up outpatient trauma patients in an efficient manner
6. Become proficient in the interpretation of x-rays, CT scans and MRIs of traumatized limbs and be able to integrate them into a surgical plan
7. Become efficient at post operative care of the trauma patient
8. Be proficient at formulating post operative care pathways for trauma
9. Develop an approach to extremity non-union care including work-up, management and surgical planning.

Surgical objectives:

1. Be able to formulate a surgical plan for common appendicular skeletal injuries and order appropriate equipment
2. Become proficient at patient positioning and draping for surgical management of limb trauma
3. Be able to perform common surgical approaches to the appendicular skeleton:
    a. Volar and dorsal wrist
    b. Kocher elbow
    c. Posterior and anterolateral humerus
    d. Deltopectoral shoulder
    e. Anterolateral and posteromedial tibial plateau
    f. Anterior, Anteromedial, Anterolateral, Posteromedial, Posterolateral Ankle
    g. Sinus Tarsi, Extensile Lateral to the Calcaneus
    h. 2-incision approach to the Talus
    i. Kocher-Langenbach acetabulum
4. Become proficient at fracture reduction, temporary fixation and placement of definitive hardware
5. Assist at pelvic and acetabular fixation and participate in surgical planning
6. Become proficient at surgical planning fracture fixation for advanced fracture patterns including distal humerus, proximal humerus, acetabulum, bicolumnar tibial plateau, plafond, talus and calcaneus fractures.

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