

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Adult Reconstruction Rotation – PGY-2

By the end of the PGY-2 rotation in Adult Reconstruction, the resident should be able to:

Medical Knowledge:

1. Based on a careful history and physical exam, the resident will be able to propose a rational approach to the evaluation of patients with pain at various intervals after a total hip replacement.
2. Differentiate the bursal and soft tissue diseases about the hip/knee and then outline a treatment plan during office sessions, clinic and rounds.
3. Distinguish other diseases predisposing to arthritis (Paget's Disease, AVN, Charcot arthropathy, ochronosis) - **optional**.
4. Obtain an accurate history and perform a thorough physical exam on patients with an inflamed knee and knee. They will be able to generate differential diagnosis of this condition with the pertinent positives and negatives of these disorders: rheumatoid arthritis, septic arthritis, acute/chronic osteomyelitis, primary/post traumatic, osteoarthritis, gout, psuedogout, SLE, Reiter's disease, ankylosing spondylitis, PVNS, hemophilia, osteonecrosis. The resident must be able to formulate a plan for the work-up of these patients including laboratory and radiographic evaluation.
5. Explain preoperative planning of standard total hip/knee replacement.
6. Understand the general principles and surgical technique for the cemented/cementless femoral and acetabular components.
7. Understand the classification of acetabular and femoral deficiencies.
8. Understand the classification of tibial and femoral deficiencies about the TKA.
9. Based on a careful history and physical examination, the resident will be able to formulate an approach to the evaluation of patients with pain at various intervals after a total hip and knee replacement.
10. Explain the rationale for implant selection (type, size, and configuration) for primary and revision THA/TKA cases.
11. Understand basic biomaterials issues in total joint arthroplasty. Discuss the following materials and their use in orthopaedic implants: Ceramics, polyethylene, metals, and methyl methacrylate.
12. Understand the perioperative considerations for THA and TKA including: preoperative medical evaluation; blood conservation; DVT prophylaxis; and rehabilitation.
13. Understand the principles of femoral and pelvic osteotomies and be able to draw accurate preoperative plans for the procedure.

Patient Care:

1. Remove complex hardware around the hip and knee.
2. Evaluate the painful total hip arthroplasty.
3. Summarize the indications for hip/knee arthrodesis and illustrate the techniques commonly used.
4. Describe the indications for a resection arthroplasty and synovectomy of the hip.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic disorders is absolutely necessary.
2. Present on an Orthopaedic Surgery topic within one month following the specific rotation.

Systems-Based Practice:

1. Follow Hospital guidelines when completing all discharge and operating room reports.
2. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

Wayne State University School of Medicine
Department of Orthopaedic Surgery

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Adult Reconstruction Rotation – PGY-4

By the end of the PGY-4 rotation in Adult Reconstruction, the resident should be able to:

Medical Knowledge:

1. Organization and Advanced Clinical Accumen.
 - a. Organize a systematic evaluation of these disorders including radiographic, laboratory tests, and appropriate ancillary studies.
 - b. Based on the information, the orthopaedic resident will be able to formulate a differential diagnosis and propose a treatment plan for these disorders: osteoarthritis (1o and 2o), rheumatoid arthritis, seronegative arthritis (AS, Reiters, psoriatic, IB related), septic arthritis, osteomyelitis, PVNS, hemophilic arthropathy, osteonecrosis, and Charcot arthropathy.
 - c. Explain the indications for knee fusion and be familiar with various methods of fusion.
 - d. Distinguish non-suppurative joint infections (fungal, tuberculosis, viral) and to recognize less common forms of secondary osteoarthritis (post-septic, Paget's Disease, hemochromatosis).
 - e. Evaluate and propose treatment for patients with anterior knee pain.
 - f. Understand preoperative planning for revision total hip arthroplasty
 - g. Know how to evaluate patients with painful THA's and make appropriate judgements based on data obtained from ancillary studies. The Senior Resident will be expected to be able to present the problem, analyze the data, and select a plan of action for these patients.
2. Complications: Management and Avoidance.
 - a. Know the early complications after THA/TKA and their management.
 - b. Know the late complications after THA/TKA and their management.
 - c. Evaluate patients with painful total joint arthroplasty and make appropriate judgements based on history, physical exam and ancillary studies. The Senior Resident will be expected to be able to present the problem, analyze the data, and select a plan of action for these patients at the Preoperative Evaluation Conferences.
 - d. Understand the treatment options for the infected THA/TKA including two-stage reconstruction.
 - e. Thoroughly comprehend arthroplasty complications and be able to formulate an approach to the treatment (and prevention) of these problems.
 - f. Understand the management and surgical approach to periprosthetic fractures about THA and TKA.
 - g. Understand the techniques for the surgical treatment of osteolysis about the primary THA and TKA.
3. Physiology, Implant Biology and Advanced Biomechanics.
 - a. Understand the immediate and long-term interactions between host bone and implants, bone remodeling and its implications about the THA (eg. calcar resorption – cementless stem ingrowth) and TKA.
 - b. Understand the biologic response to wear debris and be able to differentiate these from bone response to implants (osteolysis versus resorption).
 - c. Understand the tribiology (wear issues) associated with total joint arthroplasty.
 - d. Understand the design rational for THA and TKA implants as pertains to common complications (PF groove, elevated lip liners, anatomic versus straight stems, etc).
 - e. Understand the biomechanics of a TKA and osteotomy about the knee.

- f. Describe the pathogenesis of implant loosening (lysis, membrane formation, enzyme elevation) at the cement-bone and metal- cement interfaces.
- g. Discuss the principles and biomechanics of osteotomies about the hip/knee.
- h. Have a thorough understanding of the design rationale for THA and TKA implants.
- i. Have a thorough understanding of the use and indications of the primary cementless femoral component including: cementless femoral components (modular); cementless femoral component (extensively coated); hydroxyapatite coated implants; proximal fixation of the non-cemented stem; and the tapered femoral component.
- j. Understand the application of allografts for THA/TKA surgery.
- k. Thoroughly comprehend the principles of THA including: offset, leg length, range of motion, stability, and templating.

Patient Care:

1. Preoperatively plan for a cemented or cementless THA/TKA, and be able to competently perform uncomplicated THA/TKA surgery.
2. Perform amputations about the knee pre and post arthroplasty.
3. Perform various parts of standard revision THA/TKA, complex THA/TKA, and revision of the septic THA/TKA procedures.
4. Perform femoral allografting (intercalary or interpositional).
5. Reduce a dislocated hip and should know how to manipulate a hip under anesthesia to determine the stable range of motion.
6. Formulate an operative and non-operative plan of action to address the unstable THA.
7. Perform a complicated synovectomy about the THA/TKA.
8. Plan and carry out a successful cemented, hybrid, and cementless standard primaryTHA.
9. Preoperatively plan for and competently perform complicated THA surgery including: THA in the posttraumatic patient; complex primary acetabular replacement; complex primary femoral replacement; and hip fractures treated by arthroplasty.
10. Preoperatively plan for and competently perform complicated TKA surgery including: RA, flexion contractures, varus or valgus deformities.
11. Perform soft tissue releases about the knee to correct severe varus/valgus deformities with TKA.
12. Have the surgical skill to balance the flexion and extension gaps during TKA.
13. Plan for revision THA/TKA (including 2 stage for sepsis) and should be able to perform parts of this surgery.
14. Plan for and perform parts of revision of the femoral THA component utilizing cemented, uncemented, and extensively coated modular implants with or without bulk allografts and struts or impaction grafting techniques.
15. Plan for and perform parts of revision of the acetabulum by cementless acetabular reconstruction, structural grafting, bone packing and using cement with all polyethylene components and acetabular cages.
16. Perform a complete synovectomy in the revision THA/TKA.
17. Plan the approach for excision of heterotopic bone and carry out the procedure.
18. Plan for a femoral or pelvic osteotomy and be able to understand the approach and technique of this surgery.
19. Perform most of a hip/knee fusion.
20. Have developed not only competence in amputation surgery about the knee but also be able to discuss the rationale for amputation at various levels and the prosthetic options for this level.
21. Have and select the optimal flap to deal with soft tissue problems (eg. delayed healing, infection) after TKA.
22. Understand and be able to do parts of removal of failed hip and knee components and retained cement mantel.
23. Understand the principles, exposure and techniques of complex THA/TKA Reconstructions.
24. Understand the indications and techniques for the adjunct procedures used to treat AVN (eg. bone graft, vascularized bone graft).

25. Know the indications for, and the techniques of, soft tissue releases and neurectomy about the hip.
26. Know the principles and the application of using autografts and allografts for the defects associated with THA/TKA.
27. Be able to state the principles of osteotomy for medial and lateral compartment arthritis.
28. Should be competent in planning these cases and demonstrate proficiency in performing distal femoral or upper tibial osteotomies.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Act in a consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic surgical disorders is absolutely necessary.
2. The resident will demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. The resident will present on an Orthopaedic Surgery topic within one month following the specific rotation.
4. The resident will locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
5. The resident will use information technology to optimize learning.
6. The resident will systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Systems-Based Practice:

1. Demonstrate an understanding of the cost/benefit of prescriptions and tests ordered.
2. Justify continued LOS in an acute care setting based on clinical findings and available benchmark data or a prescription for DME or pharmaceuticals to a 3rd party payor.
3. Follow Hospital guidelines when completing all discharge and operating room reports.
4. Understand how the health care organization affects surgical practice.
5. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

General Orthopaedics Rotation – Elective

By the end of the PGY-5 rotation in General Orthopaedics, the resident should be able to:

Medical Knowledge:

1. Know the appropriate local anesthesia or conscious sedation for the safety and comfort of the patient during emergency room orthopaedic procedures.
2. Understand the necessary elements of the examination of the orthopaedic patient in the office or clinic setting, including the elicitation of an appropriate history, physical examination techniques, imaging studies, and necessary laboratory studies.
3. Understand the treatment options (operative and non-operative, where appropriate) available to the patient based on pertinent findings of the patient assessment and be able to explain the pros and cons of the options to the patients and family, and recommend appropriate care of the patient's condition.
4. Understand the short and long term outpatient follow-up for patients as appropriate to their conditions.
5. Understand the limits of his or her own knowledge, of the available facilities in managing orthopaedic patients, and arrange consultation with more experienced or specialized personnel and appropriate facilities as needed.

Patient Care:

1. Instruct and supervise the junior residents in the performance of the goals and objectives of the junior residents.
2. Instruct and supervise the junior residents in the appropriate techniques for general orthopaedic procedures.
3. Demonstrate the ability to effectively manage the responsibilities of call duty, including supervision and instruction of the junior residents.
4. Demonstrate the assessment and management of orthopaedic injuries and illnesses commonly encountered in the emergency room, including appropriate physical and imaging examinations, recognition of important features of the condition, and the appropriate type of procedure required for initial treatment.
5. Demonstrate the manual techniques for initial management of commonly encountered orthopaedic and hand problems in the emergency room (i.e., reduction of fractures and dislocations, treatment of lacerations involving joint or tendon, examination of soft tissue injuries of joint or muscle, and aspiration of joint or fluid collection).
6. Demonstrate appropriate immobilization and dressing techniques for commonly encountered orthopaedic problems.
7. Instruct and consult on the evaluation of emergency room patients and oversee the effective triage patients having injuries of illnesses that are considered to be orthopaedic emergencies (i.e., acute or imminent septic disease, infections, open fractures, compartment syndrome, etc.).
8. Demonstrate physical examination techniques appropriate to the patient's chief complaint and history, and arrange further studies as needed.
9. Perform a basic interpretation of imaging and laboratory study findings in the context of the patient's history and examination.
10. Demonstrate the appropriate pre-operative work-up of orthopaedic patients, including the appropriate problem-focussed orthopaedic physical examination, functional assessment, and imaging studies.
11. Perform an appropriate screening pre-operative history and physical examination, and refer for further studies as needed for pre-operative clearance for the procedure in question.
12. Participate in the definitive management, including surgical intervention when appropriate, of conditions commonly encountered by the general orthopaedist (i.e., traumatic injuries of the spine and extremities, arthritic conditions involving the spine and extremities, orthopaedic infections, acute and chronic athletic injuries involving bone, muscle, ligament, and tendons).
13. Evaluate and determine appropriate interventions for the orthopaedic and post-operative issues that arise in the care of post-operative patients (i.e., pain control, bleeding and drainage, fevers, traction and post operative stabilization).

14. Recommend and arrange as necessary, appropriate post-operative or post-procedure care, including pain control, activity status including immobilization and/or therapeutic exercise, wound management and appropriate nursing or custodial care for orthopaedic patients upon discharge.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Act in a consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic surgical disorders is absolutely necessary.
2. The resident will demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. The resident will present on an Orthopaedic Surgery topic within one month following the specific rotation.
4. The resident will locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
5. The resident will use information technology to optimize learning.
6. The resident will systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Systems-Based Practice:

1. Demonstrate an understanding of the cost/benefit of prescriptions and tests ordered.
2. Justify continued LOS in an acute care setting based on clinical findings and available benchmark data or a prescription for DME or pharmaceuticals to a 3rd party payor.
3. Follow Hospital guidelines when completing all discharge and operating room reports.
4. Understand how the health care organization affects surgical practice.
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Foot and Ankle Rotation – PGY-3

By the end of the PGY-3 rotation in Foot and Ankle Surgery, the resident should be able to:

Medical Knowledge:

1. Understand the gross anatomy and histology of the normal foot.
2. Understand the kinematics, kinetics, and wear characteristics of adult foot and ankle biomechanics.
3. Understand neuromuscular and neurologic diseases as they apply to the foot and ankle (i.e., ALS, CP, CVA, CMT, Diabetes Mellitus, Myelodysplasia, etc).
4. Understand localized entrapment neuropathies such as anterior tarsal tunnel, digital nerve compression, Morton's neuroma, and sural nerve compression.
5. Understand circulatory disturbances such as arterial aneurysm, distal arterial occlusive disease, lymphedema, and thrombosis.
6. Understand the dermatologic and nail disorders of the nail and adjacent soft tissue.
7. Understand common tumors of the foot and ankle such as giant cell tumors, fibroma, ganglion, lipoma, etc.
8. Understand infectious and noninfectious inflammatory disorders of the foot and ankle such as bursitis and plantar fasciitis.
9. Understand the principles and complications of rheumatoid foot and ankle.
10. Understand the examination, diagnosis, and evaluation of hallux valgus, hallux rigidus, hallux varus, and metatarsus primus varus.
11. Understand and identify the different types of forefoot and toe deformities.
12. Understand gout and periarticular alterations such as calcific deposits, subtalar arthrodesis, metatarsal head resection, and ankle joint arthrodesis.
13. Understand and identify the different types of foot and ankle fractures and dislocations
14. Understand hindfoot pathology such as calcaneal spurs, fasciitis, bursitis, Achilles tendonitis, varus, valgus of the heel.
15. Understand and identify stress fractures of the fibula, metatarsals, navicular, and tibia.
16. Understand the treatment of adult clubfoot.
17. Understand the etiology and treatment of cavus foot
18. Understand the classification, roentgenographic evaluation, and treatment (both operative and non operative) of flatfoot or pes planus.
19. Understand ligament reconstruction of the ankle.

Patient Care:

1. Interpret plain radiographs, CAT scans, MR Imaging, etc.
2. Perform procedures related to the forefoot (i.e., partial matrixectomy, resection of tailor's bunion, bunionectomy, removal of interdigital neuroma, hallux interphalangeal fusion with tendon transfer).
3. Perform procedures related to the rearfoot (i.e., triple arthrodesis, resection of Haglund's deformity, tarsal tunnel release, plantar fascial stripping, achilles tendon repair).
4. Perform procedures related to the ankle such as ankle arthroscopy, repair of OCD of the talus, and ankle fusion.

5. Perform amputations (i.e., digital disarticulation, Syme's amputation, Lisfranc's amputation, Chopart's amputation, below knee amputation, calcaneotomy).
6. Perform trauma procedures related to the foot and ankle (i.e., ORIF of displaced phalangeal fractures, ORIF of Lisfranc fracture dislocation, ORIF of talar fractures, etc.).

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic disorders is absolutely necessary.
2. Demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. Present on an Orthopaedic Surgery topic within one month following the specific rotation.

Systems-Based Practice:

1. Follow Hospital guidelines when completing all discharge and operating room reports.
2. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Hand Surgery Rotation – PGY-2

By the end of the PGY2 rotation in Hand Surgery, the resident should be able to:

Medical Knowledge:

1. Understand the anatomy and pathophysiology of the Intrinsic Muscles and Digital Extensor Mechanism, including the following: extrinsic extensor mechanism, interosseous muscles, lumbrical muscles, and hypothenar muscles.
2. Understand hand evaluation and anesthesia for operative hand procedures, including the following: history, equipment needed, examination itself, metacarpal block, wrist block of the median, ulnar and radial nerves, blocks around the elbow, regional block, brachial plexus block, supraclavicular block, interscalene block, subclavian perivascular approach, infraclavicular block, and axillary block.
3. Understand Compressive Neuropathies of the Upper Extremities, including the following: common compressive neuropathies, pathogenesis, history, carpal tunnel syndrome, pronator syndrome, anterior interosseous syndrome, ulnar tunnel syndrome, cubital tunnel syndrome, radial nerve, radial tunnel syndrome, posterior interosseous syndrome, thoracic outlet syndrome, and cervical root compression.
4. Understand and recognize the various infections of the hand including such aspects as etiologic factors, general considerations, and antibiotic therapy.
5. Understand and recognize specific hand infections such as pulp abscess, cellulitis, paronychia, pyogenic arthritis, web space abscess, acute suppurative tenosynovitis, furuncle, herpetic whitlow, bites, erysipeloid.
6. Understand the etiology, pathophysiology, anatomy, treatment, surgical technique, and diagnosis of compartment syndromes.
7. Understand how to diagnose fractures of the hand.
8. Understand the anatomy of the wrist and wrist mechanics.
9. Understand the treatment of fractures and ligament injuries of the wrist.
10. Understand the etiology, diagnosis and treatment of tenosynovitis of the hand and forearm.
11. Understand the characteristics, pathogenesis, diagnostic features, and management of osteoarthritis of the hand and wrist.
12. Understand the characteristics, history, pathogenesis, management, and indications for surgery of rheumatoid arthritis.
13. Understand the etiology, embryology, classification, and treatment for congenital anomalies of the hand such as short below elbow deficiency, phocomelia, brachydactyly, radial deficiency, ulnar deficiency, cleft hand, syndactyly, trigger thumb, etc.
14. Understand the reasons for splinting, splinting principles, the types of splinting, and the indications.
15. Understand the types of nail and nailbed injuries, the importance of the nail and the principles of treatment for these injuries.
16. Recognize the different types of benign tumors of the hand and wrist such as ganglion, lipomas, benign giant cell tumors, epidermal cysts, etc.
17. Understand the principles, definition, indications, and prerequisites of tendon transfers to the hand.

Patient Care:

1. Perform incision and draining procedures such as paronychia, felon, finger abscesses, and suppurative flexor tenosynovitis.
2. Perform open and closed treatment of extra-articular fractures of the finger, hand, wrist, and forearm.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.

3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic disorders is absolutely necessary.
2. Present on an Orthopaedic Surgery topic within one month following the specific rotation.

Systems-Based Practice:

1. Follow Hospital guidelines when completing all discharge and operating room reports.
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Hand Surgery Rotation – Elective

By the end of the PGY-5 rotation in Hand Surgery, the resident should be able to:

Medical Knowledge:

1. Understand the embryology, anatomy, and evaluation of vascular disorders of the hand such as tumors, thrombosis, aneurysms, cannulation injuries, etc.
2. Understand the evaluations, management objectives, pathophysiology, burn depth, complications, prognostic factors, and treatment of burns and high pressure injection injuries.
3. Understand the anatomy and pathophysiology of the intrinsic muscles and digital extensor mechanism, including the following: extrinsic extensor mechanism, interosseous muscles, lumbrical muscles, and hypothenar muscles.
4. Understand hand evaluation and anesthesia for operative hand procedures, including the following: history, equipment needed, examination itself, metacarpal block, wrist block of the median, ulnar and radial nerves, blocks around the elbow, regional block, brachial plexus block, supraclavicular block, interscalene block, subclavian perivascular approach, infraclavicular block, and axillary block.
5. Understand Compressive Neuropathies of the Upper Extremities, including the following: common compressive neuropathies, pathogenesis, history, carpal tunnel syndrome, pronator syndrome, anterior interosseous syndrome, ulnar tunnel syndrome, cubital tunnel syndrome, radial nerve, radial tunnel syndrome, posterior interosseous syndrome, thoracic outlet syndrome, and cervical root compression.
6. Understand and recognize specific hand infections such as pulp abscess, cellulitis, paronychia, pyogenic arthritis, web space abscess, acute suppurative tenosynovitis, furuncle, herpetic whitlow, bites, and erysipeloid with attention to etiology and treatment.
7. Understand the diagnostic and treatment options for fractures of the hand.
8. Understand the principles of amputations and replantations, including definitions, instrumentation, preparation of amputated part, viability factors, surgical technique, vessel repair, postoperative care, failing replant, contraindications, and levels of amputation.
9. Understand the anatomy of the wrist and wrist mechanics.
10. Understand the treatment of fractures and ligament injuries of the wrist (i.e., scaphoid, progressive perilunate dislocation, Lunate-Kienbock's Disease, carpal instability).
11. Understand the characteristics, pathogenesis, diagnostic features, and management of osteoarthritis of the hand and wrist.
12. Understand the etiology, pathophysiology, anatomy, treatment, surgical techniques, and diagnosis of compartment syndromes.
13. Understand the history, features, etiology, anatomy, pathology, treatment, and long-term results of Dupuytren's Disease.
14. Understand the anatomy, goals, treatment principles, and treatment methods for skin coverage of the fingertip and hand wounds.
15. Understand the types of nail and nailbed injuries, the importance of the nail and the principles of treatment for these injuries.
16. Understand the selection process for definitive coverage and the methods of coverage of fingertip and hand wounds.
17. Understand the anatomy, physiology, classification, and nerve regeneration and repair of peripheral nerves.
18. Understand the principles, definition, indications, and prerequisites of tendon transfers to the hand.
19. Understand the etiology, diagnosis and treatment of tenosynovitis of the hand and forearm.
20. Understand the characteristics, history, pathogenesis, management, and indications for surgery of rheumatoid arthritis
21. Understand the etiology, embryology, classification, and treatment for congenital anomalies of the hand such as short below elbow deficiency, phocomelia, brachydactyly, radius deficiency, ulnar deficiency, cleft hand, syndactyly, trigger thumb, etc.
22. Understand the reasons for splinting, splinting principles, the types of splinting, and the indications for splinting.

23. Recognize the different types of benign tumors of the hand and wrist such as ganglion, lipomas, benign giant cells, epidermal cysts, etc.
24. Understand the pathophysiology, clinical presentation, classification, testing, treatment, and prevention of the painful upper extremity.

Patient Care:

1. Perform incision and draining procedures such as paronychia, felon, finger abscesses, and suppurative flexor tenosynovitis.
2. Perform primary and delayed primary repair of extensor tendons (i.e., finger, hand, wrist, forearm).
3. Determine anesthesia for finger, hand, and wrist surgeries.
4. Perform nerve decompression of the wrist, forearm, and elbow (median nerve, ulnar nerve, radial nerve).
5. Perform split thickness skin grafting, fasciotomies/escharotomies of the finger, hand, forearm, and arm.
6. Perform amputation of the following: digits, hand, wrist, forearm, elbow, arm, shoulder level.
7. Perform open and closed treatment of intra and extra-articular fractures of the finger, hand, wrist, and forearm.
8. Perform decompression and tenosynovectomy of the flexor and extensor tendons due to stenosing tenosynovitis or rheumatoid tenosynovitis.
9. Perform surgical treatment of arthritis (finger small joint fusion technique, thumb reconstruction, wrist OA, etc.).
10. Perform partial or radical facieotomies, wound closure with Z-plasty, and skin grafting as it relates to Dupuytren's disease.
11. Perform procedures related to nail bed repairs and coverage of finger and hand wounds (i.e., STSG, FTSG, cross finger flap, thenar flap, etc.).
12. Perform nerve repairs with or without grafting and transposition.
13. Perform flexor tendon repair at zones 1-5 and primary or delayed primary repair.
14. Successful completion of the microsurgery course in technique and surgical sequence of replantation of the digit, hand, wrist, forearm, and arm.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Act in a consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic surgical disorders is absolutely necessary.
2. The resident will demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. The resident will present on an Orthopaedic Surgery topic within one month following the specific rotation.

4. The resident will locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
5. The resident will use information technology to optimize learning.
6. The resident will systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Systems-Based Practice:

1. Demonstrate an understanding of the cost/benefit of prescriptions and tests ordered.
2. Justify continued LOS in an acute care setting based on clinical findings and available benchmark data or a prescription for DME or pharmaceuticals to a 3rd party payor.
3. Follow Hospital guidelines when completing all discharge and operating room reports.
4. Understand how the health care organization affects surgical practice.
5. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Musculoskeletal Tumor Service – PGY-3

Goals. The goal of the musculoskeletal tumor rotation is to provide a broad education in caring for patients with musculoskeletal tumors to allow for successful passage of the American Board of Orthopaedic Surgeons Certifying exam.

Musculoskeletal tumor knowledge

Residents will be able to demonstrate sufficient knowledge about musculoskeletal tumors. In order to do so, the following minimal literature is recommended for study while on this rotation.

	LECTURE TITLE	Orthopaedic Knowledge Update (OKU) – Musculoskeletal Tumors 2* ~ Chapters ~	A Clinical Guide to Primary Bone Tumors)** ~ Pages ~
1	Overview, Diagnosis and Staging of Musculoskeletal Tumors	1, 32	3-25; 58-66
2	Radiographic Considerations in Musculoskeletal Tumors	21, 3	26-57
3	Benign Bone and Cartilage lesions	8 - 11	67-122
4	Benign Fibrous, cystic, and Giant Cell lesions of Bone	12, 13	127-147
5	Miscellaneous Lesions (Mimickers)	7	278-288
6	Malignant Lesions Of Bone and Cartilage	16-18, 20	181-236; 257-268
7	Synovial Lesions	23, 28	123-126
8	Other Malignant Bone Tumors	19, 20	238-256; 269-277
9	Bone Metastasis	38-42	289-291
10	Soft Tissue Lesions, Benign	21-26	-
11	Soft Tissue Sarcoma	30, 33-35	-
12	Unknowns – Quiz (optional)	-	-

*Orthopaedic Knowledge Update (OKU) – Musculoskeletal Tumors 2: AAOS, Bone & Joint Decade 2002, 2nd Edition 2007 (ISBN 13: 978-0-89203-408-6)

**A Clinical Guide to Primary Bone Tumors (Purple Book): Williams & Wilkins 1998 (ISBN 0-683-30255-8)

Residents will be assessed for their knowledge via faculty evaluations and feedback, as well as OITE exams.

Interpersonal Communication Skills

- The resident must be able to demonstrate the ability to communicate effectively and educate patients about their care.
- The residents must efficiently and accurately convey patient information to both other physicians as well as other medical professionals.
- Residents must be team players and work with each other to provide for the best patient care.
- Resident evaluation for interpersonal skills is done by faculty evaluations, morbidity and mortality report, patient evaluations and pre-operative planning.
- Verbal feedback is provided along the course of the rotation

Professionalism

- All residents must demonstrate integrity in the care of the patients interaction,
- Demonstrated lack of integrity is grounds for failure.
- All residents must comply with the dress and grooming standards of the University of Michigan House Officer guidelines.
- Residents will be punctual for all meetings.
- They must demonstrate cultural sensitivity to both patients and others of the medical care team.
- Evaluation of professionalism is by faculty evaluations, patient evaluations, and physician assistant evaluations.

Practice-Based Learning and Improvement

- Residents will be asked to review clinical cases and/or small series and in reviewing this case series the resident should also be able to do a pertinent literature search and be able to come to conclusions about care. This is demonstrated in morbidity and mortality report and in case-based reading.
- Evaluations are by faculty evaluations, morbidity and mortality evaluations, and journal club evaluations.

System-Based Practice

- Musculoskeletal tumor service coordinates care with a number of different medical care teams including oncology, the operating room, and the cancer center.
- Residents must be able to demonstrate an understanding of the issues surrounding these patients who often have complex problems.
- The residents must participate in multi-disciplinary conferences.
- They must demonstrate that they are able to coordinate the surgical plan for the patient in the operating room and coordinate any special instruments that are needed.
- Resident assessments are via faculty evaluations, patient evaluations, M&M presentations and ancillary staff evaluations.

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Pediatric Orthopaedics Rotation – PGY-2

By the end of the PGY-2 rotation in Pediatric Orthopaedics, the resident should be able to:

Medical Knowledge:

1. Know the appropriate local anesthesia or conscious sedation for the safety and comfort of the pediatric patient during office orthopaedic procedures.
2. Understand the special elements of the initial and follow-up examination of the pediatric orthopaedic patient in the office or clinic setting, including working with families, the non-verbal child, the child with developmental disabilities, and adolescents.
3. Understand normal and abnormal growth and development, including embryology, osseous growth, muscular growth, growth rate, developmental milestones, and timing, especially secondary sexual characteristics.
4. Introduction of skeletal dysplasias including defects of tubular bone (achondroplasia, MED, SED), disorganized cartilage and/or fibrous components (Ollier's), and local or regional malformations of bone.
5. Understand the characteristics, pathogenesis, diagnostic features, and management of constitutional diseases with bone pathology (rickets, mucopolysacchar, Ca/Phosphorous disorders), metabolic (rickets, osetomal, renal osteodys, hypophosphates, parathyroid, thyroid, heavy metal, juvenile osteoporosis, hypervitamin, scurvy, infectious hyperostosis), connective tissues (Ehlers Danlos, Marfan's, Down's), and short stature.
6. Understand the etiology, embryology, classification, diagnosis, and treatment of genetic disorders, including autosomal dominant, autosomal recessive, sex-linked dominant, sexlinked recessive, chromosomal disorders, and multifactorial disorders. Be able to identify which diseases can be identified through amniocentesis.
7. Understand the etiology, diagnosis, and treatment of hematologic disorders (Gaucher's hemoglobinopathies, hemophilia) neoplasia (cysts, fibrous cort, EG), chondroblastoma, giant cell tumor, Ewing's, osteosarcoma, fibrous dysplasia, soft tissue sarcoma.
8. Understand the characteristics, pathogenesis, diagnostic features, and management of muscular dystrophies (Duchenne, Becker, limb Girdle, FSH, cong dyst, hypotonic, myotonic, cong myopath), inflammatory myopathies (polio, SMA, HMSNs), myelodysplasia, spondyloarthropathies, cervical spine (cong malform, hypermobility), and spinal deformities (scoliosis, kyphosis, spondylosis, and spondylolisthesis.).
9. Understand underlying processes with upper limb (deficiencies and malformations), hop (CDH, coxa vara, synovitis, Legg Perthes, idio chondrolysis), leg length discrepancies, lower limb (congenital deficiencies, cong pseudoarth, posteromedial bow, patellofemoral, Osgood Schlotter's, congenital disl/sub, clubfoot, cong vert talus, postural deformations, polydactyly).
10. Understand clinical manifestations and treatment of gait disorders and fractures.
11. Understand the characteristics, history, pathogenesis, management, and indications for surgery of various head trauma.

Patient Care:

1. Interpret and synthesize patient history, clinical exam, and diagnostic tests into a differential diagnosis for the conditions listed above.
2. Interpretation of various laboratories, radiologic, and other diagnostic tests for the conditions listed above.
3. Plan appropriate surgery based upon the diagnosis and clinical findings.
4. Perform or assist in surgical procedures required to address the conditions listed above (i.e. scoliosis surgery, limb length problems, tumors, fracture care, neuromuscular disease, cerebral palsy, myelomeningocele, developmental deformities, DDH, Legg-Perthes Disease, and congenital anomalies).

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.

3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic disorders is absolutely necessary.
2. Present on an Orthopaedic Surgery topic within one month following the specific rotation.

Systems-Based Practice:

1. Follow Hospital guidelines when completing all discharge and operating room reports.
2. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Pediatric Orthopaedics Rotation – PGY-4

By the end of the PGY-4 rotation in Pediatric Orthopaedics, the resident should be able to:

Medical Knowledge:

1. Understand, recognize, and manage complex skeletal dysplasias.
2. Understand the etiology, diagnosis and treatment of complex hematologic disorders.
3. Understand the characteristics, pathogenesis, diagnostic features, and management of complex neuromuscular disorders.
4. Recognize and treat, in conjunction with a multidisciplinary team, cerebral palsy, juveniles rheumatoid arthritis, and complex spinal deformities.
5. Understand, recognize, and non-operatively and operatively manage complex upper limb, leg length, hip, and lower limb deformities and disorders.
6. Understand the clinical manifestations, treatment, and long-term prognosis of complex gait disorder and fractures.
7. Understand the characteristics, history, pathogenesis, management, and indications for additional treatment of complex head trauma problems.

Patient Care:

1. Interpret and synthesize patient history, clinical exam, and diagnostic tests into a differential diagnosis for the conditions listed above.
2. Know the indications for an interpretation of various laboratories, radiologic, and other diagnostic tests for the conditions listed above.
3. Plan appropriate surgery based upon the diagnosis and clinical findings.
4. Perform or assist in surgical procedures required to address the conditions listed above (i.e., scoliosis surgery, limb length problems, tumors, fracture care, neuromuscular disease, cerebral palsy, myelomeningocele, developmental deformities, DDH, Legg Perthes disease, congenital anomalies).

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Act in a consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic surgical disorders is absolutely necessary.
2. The resident will demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. The resident will present on an Orthopaedic Surgery topic within one month following the specific rotation.
4. The resident will locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
5. The resident will use information technology to optimize learning.
6. The resident will systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Systems-Based Practice:

1. Demonstrate an understanding of the cost/benefit of prescriptions and tests ordered.
2. Justify continued LOS in an acute care setting based on clinical findings and available benchmark data or a prescription for DME or pharmaceuticals to a 3rd party payor.
3. Follow Hospital guidelines when completing all discharge and operating room reports.
4. Understand how the health care organization affects surgical practice.
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**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Spine Surgery Rotation – PGY-3

By the end of the PGY-3 Spine Surgery Rotation, the resident should be able to:

Medical Knowledge:

1. Understand the biomechanics of anterior and posterior spinal instrumentation systems.
2. Understand the occupational environmental exposures in terms of industrial ergonomics and vibration machinery.
3. Understand the natural history, etiology, nonoperative and operative treatment of adolescent round back, Scheuermann's Disease and congenital kyphosis.
4. Understand nonscoliosis spinal deformities such as, Torticollis, Klippel-Feil Syndrome, basilar impression, atlantoaxial rotatory subluxation.
5. Understand the controversies related to discography and the spinal fusion.
6. Understand the natural history of adult scoliosis and degenerative scoliosis. Describe the treatment methodology and the indications. Develop an understanding for the issues of distal fusion levels.
7. Understand the history, anatomy, and clinical sign of thoracic disc herniation. Recognize the findings on physical exam and diagnostic imaging studies.
8. Understand the concept of spinal segmental instability, both degenerative and iatrogenic.
9. Differentially diagnose patients with failed back syndrome and understand the role of salvage revision surgery versus multidisciplinary pain management.
10. Learn about infantile and idiopathic scoliosis and the role of imaging studies in the initial evaluation of these patients.
11. Evaluate clinically and radiographically patient with suspected spinal tumors.

Benign Tumors
Osteoid Osteoma
Osteoblastoma
Aneurysmal Bone Cysts
Giant Cell Tumor
Osteochondroma
Eosinophilic Granuloma
Hemangioma
Neurofibroma
Malignant Tumors
Multiple Myeloma
Solitary Plasmacytoma
Osteosarcoma
Ewing's Sarcoma
Chordoma
Chondrosarcoma
Lymphoma
Metastatic Lesions

12. Understand the issues related to adult iatrogenic flatback deformity and role of operative treatment with osteotomies.

Patient Care:

1. Read advanced MRI with gadolinium enhanced imaging in postoperative patients and patients with suspected spinal tumors, both metastatic and primary.
2. Describe the various surgical approaches for thoracic disc herniations and the indications. Understand the possible use of thoracoscopy for surgical treatment.

3. Describe the anterior approaches to the cervical and thoracolumbar spine.
4. Perform the basic element of a cervical discectomy and lumbar laminectomy.
5. Perform placement of hook and pedicle screws for thoracolumbar spinal constructs.
6. Perform the basic rod bending maneuvers for saggital and coronal plane curves.
7. Describe the corrective maneuvers for spinal deformity (i.e., compression distraction, rod roll, and insitu bending).

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic disorders is absolutely necessary.
2. Present on an Orthopaedic Surgery topic within one month following the specific rotation.

Systems-Based Practice:

1. Follow Hospital guidelines when completing all discharge and operating room reports.
2. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Sports Medicine Rotation – PGY-3 and PGY-4

By the end of the PGY-4 rotation in Sports Medicine, the resident should be able to:

Medical Knowledge:

1. Understand physical therapy modalities in general sports medicine.
2. Understand and describe the pertinent clinical anatomy of the shoulder, elbow, knee, leg, ankle, and foot.
3. Understand and weigh the surgical risk and potential benefit for each patient for each surgical procedure considered.
4. Understand and describe the clinical anatomy and biomechanics of the shoulder.
5. Understand and describe the mechanics of the throwing motion.
6. Understand and describe the relationship between shoulder instability and rotator cuff tendinitis.
7. Understand and describe the relationship between impingement and rotator cuff tears.
8. Describe the pathophysiology and the rationale for non-operative treatment of the following pathologic entities related to the shoulder: rotator cuff tendinitis/tear/impingement, gleno-humeral instability, and adhesive capsulitis.
9. Describe the indications and rationale for the following procedures related to the shoulder (describe both open and arthroscopic variations of the procedure, indication for each, and rehabilitation protocol): rotator cuff repair, subacromial decompression, stabilization procedures, and Mumford procedure.
10. Understand the differential diagnosis and treatment for anterior knee pain and patellar instability.
11. Understand the typical history and presentation of anterior or posterior cruciate ligament Injuries
12. Be familiar with the various types of knee braces.
13. Understand the healing potential and current treatment options of meniscal tears and chondral defects.
14. Understand the presentation and pathology of meniscal cysts and discoid menisci.
15. Understand the non-operative treatment of patella tendinitis, saphenous neuritis, and MCL sprains.
16. Understand the post-operative rehabilitation of meniscal repairs and ACL reconstructions.
17. Understand the presentation, evaluation and treatment of common post-operative complications of infection, and deep venous thrombosis.
18. Understand and describe the pathophysiology of compartment syndrome.
19. Understand and describe the pathophysiology of stress fracture.
20. Be familiar with special radiographic examinations of the leg and thigh including MRI, CT, and nuclear medicine studies.
21. Discuss the possible etiologies of peroneal nerve injury and recognize the signs of peroneal nerve injury.
22. Understand the pathophysiology and presentation of OCD of the talus.
23. Understand the pertinent clinical anatomy and biomechanics of the ankle.
24. Understand the non-operative treatment of the following related to the ankle: peroneal or posterior tibialis tendinitis, ankle sprains, achilles tendinitis, and ankle instability.
25. Understand the pathophysiology and presentation of the following related to the ankle: the different types of achilles tendinitis, the different types of ankle sprains, and ankle instability.

26. Understand the presentation and the non-operative treatment of the following related to the elbow: lateral epicondylitis, medial epicondylitis, UCL sprains, ulnar neuritis, olecranon bursitis, and radial head fractures.
27. Understand the pertinent clinical anatomy and biomechanics of the elbow.
28. Understand the pathology and presentation of Panner's Disease (OCD capitellum) and valgus extension overload
29. Understand anatomy, physiology, and biomechanics as they relate to patients with sports-related injuries and disease.
30. Understand sports medicine conditions and their treatments with regard to natural histories, prognoses, treatment regimens, risks and benefits, expected short/long term outcomes, surgical techniques, and postoperative protocols.
31. Be familiar with the various types of knee braces.
32. Understand the post-operative rehabilitation of ACL reconstructions and PCL reconstructions.
33. Understand the presentation, evaluation, and treatment of common post-op complications such as arthrofibrosis.

Patient Care:

1. Write a concise physical therapy prescription.
2. Write a physical therapy prescription for the following related to the shoulder: rotator cuff tendinitis/tear/impingement, gleno-humeral instability, adhesive capsulitis, rotator cuff repair, subacromial decompression, stabilization procedures, and the Mumford procedure.
3. Perform a physical examination of the shoulder and identify all pertinent anatomic landmarks, quantify range of motion, evaluate gleno-humeral stability of the rotator cuff and the AC joint.
4. Make a clinical diagnosis of the following: adhesive capsulitis, anterior instability, posterior instability, rotator cuff tendinitis, impingement syndrome, AC joint arthrosis, AC joint separation and grade, and biceps rupture.
5. Identify all pertinent anatomic landmarks of the knee.
6. Evaluate knee range of motion.
7. Make a clinical diagnosis of the following related to the shoulder: labral tear and rotator cuff tear.
8. Know the indications for and perform the following procedures related to the shoulder: distal clavicle excision and open decompression.
9. Evaluate and grade knee stability in varus/valgus, anterior/posterior, and rotatory directions using appropriate clinical tests.
10. Make a clinical diagnosis of the following: ACL tear, PCL ter, MCL injury/tear, LCL injury/tear, chondromalacia patella, patella instability, degenerative arthritis, pre-patella bursitis, tibial plateau fracture, quadriceps rupture, patellar tendon rupture, knee dislocation.
11. Make a clinical diagnosis of the following related to the knee: Posterior lateral corner injuries, meniscal tear, loose body, synovitis, plica syndrome, and VMO avulsion.
12. Perform and ORIF patella procedure.
13. Diagnose and describe the nonoperative treatment of the following related to the thigh/leg: quadriceps contusion, hamstring tear/strain, quadriceps strain/tear, hip flexor/adductor strain/tear, stress fracture of femur or tibia, shin splints, and gastrocnemius strain/tear.
14. Know the indication for and perform the following procedures related to the knee: diagnostic arthroscopy, arthroscopic debridement, partial meniscectomy, abrasion chondroplasty, and patellar tendon repair.
15. Diagnose and describe the non-operative treatment of exertional compartment syndrome, medial tibial stress syndrome, and stress and traumatic fractures of the tibia and fibula.
16. Diagnose the following related to the Leg and Thigh: exertional compartment syndrome, medial tibial stress syndrome, shin splints, gastrocnemius strain/tear, and Maisonneuve fracture/syndesmosis injury.
17. Know the indications for and be able to perform the following procedures related to the leg/thigh: Compartment releases: Anterior, lateral, and posterior.
18. Be able to perform an intramedullary nailing of stress fracture of the tibia and femur.
19. Know the indications for and perform the following procedures related to the ankle: diagnostic arthroscopy, ORIF Jones fracture.

20. Know the indications for and perform the following procedures related to the elbow: diagnostic arthroscopy, tennis elbow debridement, ORIF fractures, olecranon bursa debridement/drainage.
21. Perform a physical examination of the elbow and identify all pertinent landmarks.
22. Evaluate range of motion and stability of the elbow joint.
23. Diagnose the following related to the elbow: Lateral epicondylitis, medial epicondylitis, ulnar nerve entrapment, valgus extension overload, UCL incompetence, biceps tendinitis or distal rupture, OCD of capitellum, and olecranon bursitis.
24. Perform the following procedures related to the elbow: decompression of the Ulnar nerve, reduction of dislocation, and saline arthrogram.
25. Interpret and synthesize patient history, clinical exam, and diagnostic tests into coherent diagnoses for each condition.
26. Perform procedures necessary for the treatment of athletic-associated injuries, including performing the task with a clear understanding of surgical indications.
27. Know the indications for and perform the following procedures related to the shoulder: arthroscopic debridement, arthroscopic stabilization procedures, Weaver-Dunn type clavicle stabilization, open rotator cuff repair, biceps tendinitis, open Bankart repair, and capsular shift.
28. Evaluate and grade knee stability in varus/valgus, anterior/posterior, and rotatory directions using appropriate clinical tests.
29. Know the indications for and perform the following procedures related to the knee: meniscal repair, ACL reconstruction, PCL reconstruction, patella stabilization, lateral release, VMO repair, and repair of the posterolateral corner.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Act in a consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic surgical disorders is absolutely necessary.
2. The resident will demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. The resident will present on an Orthopaedic Surgery topic within one month following the specific rotation.
4. The resident will locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
5. The resident will use information technology to optimize learning.
6. The resident will systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Systems-Based Practice:

1. Demonstrate an understanding of the cost/benefit of prescriptions and tests ordered.
2. Justify continued LOS in an acute care setting based on clinical findings and available benchmark data or a prescription for DME or pharmaceuticals to a 3rd party payor.
3. Follow Hospital guidelines when completing all discharge and operating room reports.
4. Understand how the health care organization affects surgical practice.
5. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

**Wayne State University School of Medicine
Department of Orthopaedic Surgery**

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Trauma/ Spine Rotations – PGY-2

General Rotation Information: The overall goal of the trauma rotation is for the resident to become proficient in the diagnosis and surgical and non-surgical management of all of the common orthopaedic trauma conditions seen in a general orthopaedic practice. The primary rotation site Oakwood Hospital and Medical Center, the resident will also develop a broad background in the management of post-acute trauma sequelae, such as non-unions, mal-unions, and orthopaedic infections at this facility's rotations.

By the end of the PGY-2 and PGY-3 rotations in Trauma, the resident should be able to:

Medical Knowledge:

1. Understand the diagnosis and management of orthopaedic disorders.
2. Understand the general principles of musculoskeletal disorders, pathology, and their manifestation.
3. Have developed the proper thought processes.

Patient Care:

1. Perform a thorough and accurate history.
2. Perform a complete physical examination, with emphasis on the examination of the musculoskeletal system.
3. Demonstrate proficiency in the initial evaluation of patients in the clinic, the emergency department, and in-patient settings.
4. Demonstrate level appropriate surgical skills.
5. Demonstrate effective patient management skills, in both the inpatient and outpatient settings.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.
3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic disorders is absolutely necessary.
2. Present on an Orthopaedic Surgery topic within one month following the specific rotation.

Systems-Based Practice:

1. Follow Hospital guidelines when completing all discharge and operating room reports.
2. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

Wayne State University School of Medicine

Department of Orthopaedic Surgery

Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Trauma Rotations – PGY-4 and PGY-5

General Rotation Information: The overall goal of the trauma rotation is for the resident to become proficient in the diagnosis and surgical and non-surgical management of all of the common orthopaedic trauma conditions seen in a general orthopaedic practice. The primary rotation site for the PGY-4's is St. John Hospital and Medical. The primary rotation site for the PGY-5's is Oakwood Hospital and Medical Center; the resident will also develop a broad background in the management of post-acute trauma sequelae, such as non-unions, mal-unions, and orthopaedic infections at this facility's rotations.

Building upon the knowledge and skills acquired in the previous Trauma rotations (PGY-2 to PGY-3), the resident at the end of the PGY-4 and PGY-5 rotations should be able to:

Medical Knowledge:

1. Know the pathoanatomy of most skeletal injury (i.e., fractures and dislocations of the shoulder, arm, elbow, forearm, wrist, pelvis, acetabulum, femur, knee, ankle and foot).
2. Know the classification of most skeletal injury (i.e., fractures and dislocations of the shoulder, arm, elbow, forearm, wrist, pelvis, acetabulum, femur, knee, ankle and foot).
3. Understand the priorities for initial management, triage, and initial stabilization of skeletal injuries in the multiply injured patient.
4. Know the indications for various methods of operative and non-operative treatment of various injuries and learn to use clinical data to decide on treatment method.
5. Know the complications of each injury.
6. Understand the post-operative management of trauma patients.

Patient Care:

1. Evaluate traumatic fractures, dislocations, and injuries in the emergency department.
2. Determine the classification of such injuries.
3. Discuss the treatment options, priorities, and initially stabilize musculoskeletal trauma.
4. Become competent in the definitive management of basic fractures (i.e., long bone shaft fractures, hip fractures, ankle fractures, and fractures of the distal radius).
5. Demonstrate advancing competence in the management of pelvis, acetabulum, and periarticular fractures.
6. Be responsible for the surgical management of the orthopaedic trauma patient when on call.
7. Demonstrate the ability to coordinate the care of a large musculoskeletal trauma service.

Professionalism:

1. Be on-time for all clinical responsibilities.
2. Adhere to HIPPA requirements and confidentiality.
3. Respect the specific needs of his/her patients based on age, gender, race, and culture in formulating treatment plans.
4. Demonstrate respectful collaboration with their peers and allied health staff.

Interpersonal and Communication Skills:

1. Demonstrate the ability to elicit the presence and location of physical symptoms with cognitively impaired patients.
2. Discuss functional prognosis of the patient and family with attention to their educational, social, and personal beliefs.

3. Provide adequate written and verbal communication to peers, attendings, allied health professionals, and consultants so that they may continue the plan of care in an effective manner when the resident is absent from the floor or service.
4. Act in a consultative role to other physicians and health professionals.
5. Maintain comprehensive, timely, and legible medical records.

Practice-Based Learning:

1. Develop a personal program of self-study and professional growth with guidance from a faculty advisor. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of orthopaedic surgical disorders is absolutely necessary.
2. Demonstrate both a willingness and effectiveness in teaching medical students and peers.
3. Present on an Orthopaedic Surgery topic within one month following the specific rotation.
4. Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
5. Use information technology to optimize learning.
6. Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.

Systems-Based Practice:

1. Demonstrate an understanding of the cost/benefit of prescriptions and tests ordered.
2. Justify continued LOS in an acute care setting based on clinical findings and available benchmark data or a prescription for DME or pharmaceuticals to a 3rd party payor.
3. Follow Hospital guidelines when completing all discharge and operating room reports.
4. Understand how the health care organization affects surgical practice.
5. Follow the established practices, procedures, and policies of the Department and integrated and affiliated hospitals.

Wayne State University Orthopaedic Surgery Residency Program

Orthopaedic Surgery Assessment Methods

Competency	Assessment Method	Evaluator(s)
Interpersonal & Communication Skills	Direct observation	Chief/Supervising Resident Faculty Member Nurse
	Global assessment	Chief/Supervising Resident Faculty Member Program Director
	Multisource assessment	Chief/Supervising Resident Junior Resident/Medical Student Nurse Peer Resident Self
	Objective structured clinical examination	Consultants Faculty Member Patient/Family Member Self
	Patient survey	Patient/Family Member
Medical Knowledge	Direct observation	Chief/Supervising Resident Faculty Member Nurse
	Global assessment	Chief/Supervising Resident Faculty Member Program Director
	In-training examination	Other
	Multisource assessment	Chief/Supervising Resident Junior Resident/Medical Student Nurse Peer Resident Self
	Record/chart view	Faculty Member
Patient Care	Direct observation	Chief/Supervising Resident Faculty Member Nurse
	Global assessment	Chief/Supervising Resident Faculty Member Program Director
	Patient survey	Patient/Family Member
	Record/chart view	Faculty Member
	Review of case or procedure log	Chief/Supervising Resident Clerical Staff Faculty Member Program Director
Practice-based Learning & Improvement	Global assessment	Chief/Supervising Resident Faculty Member Program Director
	Multisource assessment	Chief/Supervising Resident Junior Resident/Medical Student Nurse Peer Resident Self
	Objective structured clinical examination	Consultants Faculty Member Patient/Family Member Self
	Record/chart view	Faculty Member
Professionalism	Global assessment	Chief/Supervising Resident Faculty Member Program Director
	Multisource assessment	Chief/Supervising Resident Junior Resident/Medical Student Nurse Peer Resident Self
	Objective structured clinical examination	Consultants Faculty Member Patient/Family Member Self
	Patient survey	Patient/Family Member
Systems-based Practice	Direct observation	Chief/Supervising Resident Faculty Member Nurse
	Global assessment	Chief/Supervising Resident Faculty Member Program Director
	Record/chart view	Faculty Member

(1) Peers include patients, nurses, medical students and other ancillary support personnel.

(2) Milestones will be reviewed semi-annually for all residents.

**Wayne State University School of Medicine
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Emergency Medicine Rotation – PGY-1

By the end of the PGY-1 rotation in Emergency Medicine, the resident should be able to:

Medical Knowledge:

1. Expand clinical knowledge base applicable to the care of patients with medical and surgical emergencies
2. Access and critically evaluate current medical information and scientific evidence relevant to medical and surgical emergency care

Patient Care:

1. Effectively perform initial evaluation and management of patients with medical and surgical emergencies
2. Effectively assess patients need for hospital admission and appropriate level of inpatient care
3. Know indications for common emergency department procedures and perform these procedures with appropriate supervision

Professionalism:

1. Behave professionally towards patients, families, colleagues and all members of the health care team

Interpersonal Skills and Communication:

1. Communicate effectively with patients and families in a stressful ED environment
2. Communicate effectively with primary care physician regarding the care of their patients in the ED
3. Communicate effectively with consulting residents and attending from specialty services whose assistance is needed in the evaluation or management of patients in the ED
4. Communicate effectively with colleagues when admitting patients to the floor teams and signing out patients in the ED
5. Communicate effectively with colleagues when admitting patients to the floor teams and signing out patients at the end of a shift

Practice Based Learning and Improvement:

1. Identify gaps in personal knowledge and skills in the care of ED patients
2. Keep a list of patients who were admitted where the diagnosis was uncertain. Follow up their clinical course by reviewing lab data, imaging studies and discussing their diagnosis and course with the floor team
3. Develop real time strategies for filling knowledge gaps that will benefit the patient population

System Based Practice:

1. Understand and utilize the multidisciplinary resources available to optimally care for patients in the ED
2. Use evidenced based and cost conscious strategies in the care of ED patients
3. Understand the difficulties arranging follow up care for patients without insurance or who are under-insured. Learn what health care facilities in Metro Detroit will care for these patients

Wayne State University School of Medicine
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

General Surgery / Trauma Rotation – PGY-1

By the end of the PGY-1 Trauma Rotation, the resident should be able to:

Medical Knowledge:

1. Assist in the systematic evaluation, interventions, and the workup of a severely injured patient as directed by senior residents and staff
2. Demonstrate ability to begin to formulate a diagnostic and treatment plan for all level injured trauma patients
3. Demonstrate the basic critical care management principles
4. Relate basic medical knowledge to trauma patient care
5. Identify the indications for emergency operative procedures such as emergent vascular access, needle and tube thoracostomy, cricothyroidotomy
6. Understand the criteria for triage of trauma alert and activation patients

Patient Care:

1. Participates on daily rounds on all patients on the service and assists in the management of patient care on the service with assistance of the senior residents
2. Communicates effectively with consulting services and other healthcare providers
3. Make informed decisions appropriate to level of training about diagnostic and therapeutic interventions based on patient information and preferences, up to date scientific evidence and clinical judgment
4. Discuss the implications of associated medical conditions seen in the trauma patient
5. Maintain open communication with the senior residents and attending physician regarding the patient status and care plan
6. Demonstrate early ability to communicate effectively with patient and families regarding injuries and plan of care as outlined by team leaders
7. Communicate effectively with the night float team and on call staff about patient problems and issues
8. The senior resident will be expected to demonstrate technical skills including
 1. Performs primary and secondary surveys based on ATLS training and is able to formulate a treatment plan based on findings
 2. Demonstrates competence by the end of the rotation in basic surgical skills like suturing and wound management
 3. Develops ability to make appropriate and timely decisions in regards to operative interventions
 4. Demonstrates manual dexterity appropriate to his/her level of training

Practice Based Learning and Improvement:

1. Investigates and evaluates patient care practices
2. Analyzes practice experience using a systematic methodology
3. Locates, appraises and assimilates evidence from scientific studies related to their patients' injuries
4. Applies knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
5. Performs practice-based improvement activities using a systematic methodology
6. Uses information technology to manage information, access on-line medical information; and support his/her own education
7. Facilitates the learning of students
8. Demonstrates the ability to analyze personal practice outcomes to improve patient care.

Interpersonal and Communication Skills:

1. Demonstrates skill and sensitivity for appropriate counseling and educating patients and their families in a variety of trauma and critical care situations
2. Creates and sustains appropriate doctor-patient relationships with patients and families
3. Works effectively with others as a leader of the health care team and/or other professional groups

4. Effectively and promptly documents practice activities
5. Presents all patients and conference material in a concise, organized, chronologic, logical and knowledgeable manner
6. Utilizes input from all collaborative interactions with all personnel contributing to the surgical patient care
7. Works effectively as a team member and leader
8. Contributes via effective teaching and example to the educational efforts of the surgical residency

Professionalism:

1. Demonstrates respect, compassion and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society and the profession; and a commitment to excellence and on-going professional development
2. Demonstrates a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent and business practices
3. Demonstrates sensitivity and responsiveness to patients' culture, age, gender and disabilities
4. Exhibits professionalism through timely completion of required administrative responsibilities (evaluations, recoding hours, chart documentation, medical record dictations, etc.)
5. Maintain positive relationships with team members and other health care providers
6. Demonstrate accountability for actions and decisions

Systems-Based Practice:

1. Awareness and responsiveness to the Health Care System
2. Understands how patient care and other professional practices affect other health care professionals, the health care organization, and the larger society. Understand how these elements of the system affect their own practice
3. Begins to practice cost-effective health care and resource allocation that does not compromise quality of care for the trauma patient and/or critically ill
4. Advocates for quality patient care and assist patients in dealing with system complexities
5. Partner with health care managers and health care providers to assess, coordinate and improve health care and understand how these activities can affect system performance

**Wayne State University School of Medicine
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

ICU Rotation- PGY-1

By the end of the PGY-1 rotation in ICU, the resident should be able to:

Medical Knowledge:

1. Demonstrate appropriate knowledge for the diagnosis and treatment of common critical care conditions, including: sepsis, pneumonia, COPD/asthma exacerbations, delirium, upper and lower gastrointestinal bleeding, diabetic ketoacidosis/hypermolar nonketotic coma, ARDS
2. Demonstrate knowledge of the appropriate use medications, including: antibiotics for hospital-acquired and community-acquired pneumonia, insulin drips, IV sedatives (benzodiazepines, opiates, propofol), vasopressors
3. Demonstrate knowledge of appropriate preventive measures for common ICU complications, including stress ulcer prophylaxis, VTE prophylaxis, VAP prevention, pressure sore prevention and line-infection prevention
4. Understand basic ventilator management (rate, mode, pressure support, etc.)

Patient Care:

1. Obtain an accurate and complete history through medical interviews of the patient and/or family and thorough review of medical records
2. Perform procedures safely and considerately with appropriate supervision
3. Demonstrate an appropriate physical examination, with particular focus on the following:
 - Appropriate technique for pulmonary auscultation and percussion
 - Assessment of JVP on the majority of patients
 - Recognition of pulmonary edema
4. Perform the following patient-management skills:
 - Analysis of chest x-ray to assess for cardiac silhouette, cardiomegaly, pulmonary edema, pulmonary infiltrates, pulmonary effusions, line tip location, and ET tube location
 - Develop an appropriate differential diagnosis for common critical care problems, including respiratory failure (ventilator and hypoxic) hypoxia, shortness of breath, gastrointestinal bleeding, hypotension, sepsis, altered mental status, acute renal failure, liver failure

Practice Based Learning and Teaching:

1. Critique own performance and be receptive to constructive criticism
2. Use errors to improve patient care on both a personal and system level
3. Use information sources effectively to support patient care decisions and to educate self, patients and other physicians

Interpersonal and Communication Skills:

1. Develop a good working relationship and rapport with other physicians, health professionals, patients and families
2. Communicate effectively, including presenting cases precisely and efficiently
3. Maintain comprehensive, timely and legible medical records
4. Participate in daily sign-out rounds

Professionalism:

1. Demonstrate respect, compassion and integrity while working with patients, families, colleagues and other health professionals regardless of their background
2. Adhere to principle of confidentiality, scientific and academic honesty and informed consent
3. Recognizes and identify deficiencies in peer-performance in a constructive manner
4. Takes primary responsibility for patient care

System Based Practice:

1. Work with nurses, social workers, respiratory therapists, physicians and other ancillary personnel in an effective manner
2. Participate actively in improving health systems to optimize patient care
3. Be active in any quality-improvement initiatives in place
4. Work with and within the local and regional medical system to deliver optimal patient care

**Wayne State University School of Medicine
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

General Orthopaedic Surgery Rotation- PGY-1

By the end of the PGY-1 rotation in Orthopaedic Surgery, the resident should be able to:

Medical Knowledge:

1. Understand the anatomy and physiology of the musculoskeletal system, with emphasis on the upper and lower extremities and joints

Patient Care:

1. Accurately diagnose, properly manage and appropriately consult for common orthopaedic conditions and emergencies
2. Understand which x-rays are appropriate to order for each common condition, and how to interpret them
3. Demonstrate understanding of aspiration and injection techniques
4. Explain the treatment of simple and complex fractures, bone infection and bone neoplasms
5. Demonstrate basic principles and techniques of simple fracture reduction and stabilization, including casting, external fixation and internal fixation; immobilization and splinting
6. Describe the management of hand injuries, including fracture and tendon injuries; and infections
7. Discuss basic knowledge of acute diseases and trauma of the spine
8. Demonstrate understanding of the management of complex soft tissue injuries as they relate to the musculoskeletal system
9. Demonstrate knowledge of the elements of the orthopaedic examination the injured patient
10. Apply the essentials of fracture management, including management of soft tissue injuries and the use and complications of cast and fixation devices
11. Discuss and apply the basic principles of wound healing, bone physiology, bone healing, musculoskeletal biomechanics, and amputation surgery with rehabilitation
12. Understand the role of physical and occupational therapy and appropriate use of these modalities
13. Evaluate peripheral vascular circulation in orthopaedic injuries
14. Diagnose and treat compartment syndrome

Practice Based Learning and Improvement:

1. Demonstrate ability to utilize scientific studies to provide high quality orthopaedic surgical care
2. Appropriately utilize hospital information technology systems to manage patient care, and to access on-line medical information to deliver high quality care
3. Facilitate and supports the education of medical students, junior residents and other healthcare team members

Interpersonal and Communication Skills:

1. Demonstrate skill in effective information exchange with patients, their families and other members of the orthopaedic surgery team, understanding the impact of acute and chronic orthopaedic diseases on the patient
2. Demonstrate ability for accurate and timely information exchange between other members of the healthcare team, both verbally and in writing, with appropriate use of the medical record.

Professionalism:

1. Interact with patients and their families in a respectful, sensitive and ethical manner
2. Interact with other members of the orthopaedic surgery team and ambulatory clinic personnel in a respectful, responsible and professional manner

Systems Based Practice:

1. Understand the multidisciplinary role for the orthopaedic surgeon, nurses, the operating room team, physical therapist, occupational therapists, rehabilitation specialists and social service personnel in the provision of coordinated, safe and high quality orthopaedic care

Wayne State University School of Medicine
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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

MSK - Radiology Rotation – PGY-1

By the end of the PGY-1 rotation in Radiology, the resident should be able to:

Medical Knowledge:

1. Demonstrate sufficient knowledge of medicine and apply this knowledge to radiological studies in a clinical context to generate meaningful differential diagnoses
2. Demonstrate progressive acquisition of radiological knowledge
3. Demonstrate knowledge of principles of research design and implementation
4. Generate a clinically appropriate diagnostic treatment plan
5. Demonstrate the ability to use all relevant information resource to acquire evidence-based data
6. Understand how radiologic equipment can be used to generate appropriate and diagnostic images

Patient Care:

1. Gather essential and accurate information about patients
2. Develop a diagnostic plan based upon the clinical question/s and relevant clinical, radiologic and pathologic information
3. Oversee diagnostic imaging to ensure adequacy of studies performed
4. Counsel patients concerning preparation for diagnostic testing
5. Demonstrate a basic understanding of electronic patient information systems
6. Demonstrate knowledge of the levels of ionizing radiation related to specific imaging procedures and employ measures to minimize radiation dose to the patient
7. Perform radiologic examinations appropriately and safely, assuring that the correct examination is ordered and performed

Practice Based Learning and Improvement:

1. Analyze practice experience and perform practice-based improvement in cognitive knowledge, observational skills, formulating a synthesis and impression, and procedural skills
2. Demonstrate critical assessment of the scientific literature
3. Demonstrate knowledge of and apply the principles of evidence-based medicine in practice
4. Use multiple sources, including information technology to optimize life-long learning and support patient care decisions
5. Facilitate the learning of students, peers and other health care professionals

Interpersonal and Communication Skills:

1. Provide a clear and informative written radiologic report including a precise diagnosis whenever possible, a differential diagnosis when appropriate, and recommended follow-up or additional studies when appropriate
2. Provide direct communication to the referring physician or appropriate clinical personnel when interpretation reveals an urgent or unexpected finding and document this communication in the radiologic report
3. Demonstrate effective skills of face-to-face listening and speaking with physicians, patients, patient's families and support personnel
4. Demonstrate appropriate telephone communication skills
5. Demonstrate skills in obtaining informed consent, including effective communication to patients of the procedure, alternatives and possible complications

Professionalism:

1. Demonstrate compassion: be understanding and respectful of the patients, patient families, and staff and physicians caring for patients
2. Demonstrate excellence: perform responsibilities at the highest level and continue active learning throughout one's career
3. Be honest with patients and all members of the health care team
4. Demonstrate positive work habits, including punctuality and professional appearance
5. Demonstrate an understanding of broad principles of biomedical ethics
6. Demonstrate principles of confidentiality with all information transmitted during a patient encounter

System Based Practice:

1. Demonstrate the ability to design cost-effective care plans based on knowledge of best practices
2. Demonstrate knowledge of the sources of financing for U.S. Health care including Medicare, Medicaid, the Veteran's Affairs and Department of Defense, public health systems, employer-based private health plans, and patients own funds
3. Demonstrate knowledge of basic health care reimbursement methods
4. Demonstrate knowledge of the regulatory environment including state licensing authority, state and local public health rules and regulations, and regulatory agencies such as Centers for Medicaid and Medicare Services (CMS) and Joint Commission for the Accreditation of Healthcare Organizations (JCAHO)
5. Demonstrate knowledge of basic practice management principles such as budgeting, record keeping, medical records, and the recruitment, hiring supervision and management of staff

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Orthopaedic Surgery Residency Program - Rotation Goals and Objectives

Vascular Surgery – PGY1

By the end of the PGY-1 rotation in Vascular Surgery, the resident should be able to:

Medical Knowledge

1. Demonstrate and understand the medical knowledge necessary in the practice of general vascular surgery in a private practice setting
2. Demonstrate the basic knowledge in caring for general vascular surgical patients
3. Demonstrate the ability to acquire medical knowledge and apply such knowledge to patient care
4. Demonstrate the ability to use information technology to increase medical knowledge base

Patient Care

1. Develop independent skills in assessing vascular surgical patients and decision-making in such patients
2. Demonstrate and understand the knowledge and skill necessary to practice vascular surgery in the private practice environment
3. Demonstrate knowledge of all components of general vascular surgery and apply them appropriately to vascular surgical patients
4. Demonstrate an understanding of the principles of pre- and post- operative management of general vascular surgical patients
5. Demonstrate appropriate use of invasive and non-invasive tests

Practice Based Learning and Improvement

1. Be able to evaluate own performance
2. Incorporate feedback into improvement activities
3. Effectively use technology to manage information for patient care and self-improvement

Interpersonal and Communication Skills

1. Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning and writing skills
2. Work effectively with others as a member of the OR team

Professionalism

1. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients, and a commitment to excellence and on-going professional development
2. Demonstrate a commitment to ethical principles pertaining to confidentiality of patient information and informed consent
3. Demonstrate sensitivity and responsiveness to patients' culture, age, gender and disabilities

System Based Practice

1. Practice cost-effective health care and demonstrate knowledge of resource allocation that does not compromise quality of care
2. Advocate for quality patient care and assist patients in dealing with the complexities of the OR experience