

Department of Orthopaedics
All India Institute of Medical Sciences, Raipur CG 492099
M.Ch Joint Replacement and Reconstructions

M. Ch JOIN REPLACEMENT AND RECONSTRUCTION

3 YEAR COURSE

Justification:

AIIMS Raipur is the largest tertiary care center in Chhattisgarh state and caters to patients of CG, MP, Jharkhand, Orissa, Bihar and Telangana. It lies in the geographical belt of sickle cell prone diseases and so avascular necrosis of the femoral head needing total hip arthroplasties is in vogue. With growing age of population geriatric problems including osteoporosis and osteoarthritis of the knee is rampant. Rheumatoid arthritis as the prototype of inflammatory illnesses and TKR are in abundant in this population. The Department of Orthopaedics AIIMS Raipur is performing Joint replacement surgeries for the last 5 years with success and currently performing around 200 surgeries every year. The Central Govt. and state Govt also through various schemes are financially helping poor patients in getting their joints replaced. Department of Orthopaedics AIIMS Raipur with a daily OPD of more than 250 patients and fully equipped 2 operation theaters is at par to any world class facilities for arthroplasties and so we want to start the course.

Faculty:

1. Dr. Alok C Agrawal, Professor and Head of department
2. Dr. Bikram Keshri , Associate Professor
3. Dr. Harshal Shakle, Associate Professor
4. Dr. Alok Rai Raman, Assistant Professor
5. Dr. Arkesh M, Assistant Professor

Ordinance:

A. AIM OF TRAINING

The aim of training in M Ch Joint Replacement and Reconstructions is that at the end of the course the trainee should have acquired knowledge, skills, aptitude and attitudes to be able to function as an independent clinician performing joint replacements of the hip and knee with proficiency / Exposure to other joint replacements and Revisions. He should be able to perform as a consultant and a teacher acquainted with research methodology.

OBJECTIVES

At the end of the training the trainee:

1. Should be well acquainted with the current literature on relevant aspects of the basic, investigative, clinical and operative Science of Arthroplasty.
2. Should have learned indications and performance skills of common Arthroplasty operations.
3. Should have acquired performance skills and ability to interpret relevant clinical investigations.
4. Should be able to diagnose, plan investigations and treat common conditions in the specialty by relevant current therapeutic methods.
5. Should be acquainted with allied and general clinical disciplines to ensure appropriate and timely referral.

6. Should be capable of imparting basic orthopaedic and Arthroplasty training.
7. Should be able to identify, frame and carry out research proposals in the relevant speciality.

B. TRAINING SYSTEM

Exclusively on whole time service basis and on residency pattern. Two residents per academic year will be selected for the same.

C. ELIGIBILITY

Essential

For Post MS

M S (orthopaedics only) degree of an Indian University recognized by the Medical Council of India or any other examination recognized for the purpose by the MCI with an experience of three years as a senior resident.

Mode of Selection

On All India basis based (by a written test followed by departmental assessment). For written test (MCQ type) 75% of questions should be of ORTHOPAEDICS. Only those acquiring more than 50% marks in the theory would be eligible for departmental assessment. 3 times of the no. of post available should be called for departmental assessment strictly on the basis of merit . In service candidates with requisite qualification will also be eligible for the course. For other trainees remuneration will be as per rules and at par with 3rd year senior resident of the institute.

A. TRAINING METHODS

1. Clinical teaching in the OPD and Operation theatres. Clinical teaching rounds in orthopaedics Ward and bed side presentations.
2. Special teaching sessions like with radiology, PMR and rheumatology.
3. Seminars, Journal clubs, Mortality, Morbidity conferences, specialty clinics and case presentations.
4. Treatment planning sessions.
5. Assisting and performing operations.
6. Paper presentations at conferences.
7. A surgical Audit on the allotted topic.
8. Preparation of manuscript for publication.

B. Research and Thesis: The trainee will have to do research on an allotted topic duly approved by the institute review committee and institute ethical committee and this will form Part 1 of the M Ch exam.

D. COURSE CONTENTS

Orientation Programme(6 months): This will consist of training in various peripheral specialities in the institute like interventional radiology/ basic ultrasound diagnosis/ Trauma and Emergency management/ ICU / Plastic surgery/ Anaesthesia and Pain Clinic and PMR.

After Orientation he will devote full time in arthroplasty services.

1. Clinical learning including history taking, physical examination, diagnosis, selection and planning of relevant investigations, appropriate treatment and rehabilitation of patients with JOINT disorders.
2. Essentials of joint pathology especially with reference to disorders common in India and those likely

to present for joint replacement.

3. Basic medical sciences relevant to the practice of Arthroplasty
4. Development of proper attitudes towards patients, subordinates, colleagues and seniors.
5. Should have basic knowledge about application of computers.

The Syllabus will include the following topics:

A. Knee

1. Biomechanics of knee
2. Evolution and design of modern prosthesis
3. Pre op evaluation , indication and contraindication of total knee replacement
4. Assessment and results of total knee Arthroplasty
5. Various methods of TKR and techniques
6. Management of bone deficiency during TKR
7. TKR and specific problems
8. TKR in problem knee
9. Revision TKR
10. COMPLICATION OF total knee Arthroplasty and their management
11. Unicondylar knee replacement
12. Patellofemoral Arthroplasty
13. Alternative to TKA
 - Arthrodesis
 - Osteotomy
 - HTO

B. Hip

1. Biomechanics of the hip joint
2. Selection of total hip replacement implants
3. Pre operative evaluation of a patient for THR including indications and contraindications
4. Surgical approaches and techniques for THR
5. Arthroplasty in septic hip disorders
6. Complications of THR
7. Revision THR
8. Postoperative management
9. Indication for hip preservation and technique
10. Indication for hip fusion and conversion of Arthrodesis to hip Arthroplasty
11. Alternative to hip arthroplasty

C. Ankle

1. Ankle Arthroplasty and Salvage
2. Alternative to ankle arthroplasty
3. Biomechanics of the ankle joint
4. Selection ankle replacement implants
5. Pre operative evaluation of a patient for Ankle arthroplasty including indications and contraindications
6. Surgical approaches and techniques for Total Ankle Arthroplasty

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7. Arthroplasty in septic hip disorders
 8. Complications of TAR
 9. Reconstruction procedure of Ankle
 10. Postoperative management
 11. Indication for Ankle arthrodesis and conversion of Arthrodesis to Arthroplasty

D. Shoulder

1. Study of biomechanics and anatomy of shoulder joint
2. Indication and technique of Total Shoulder Arthroplasty
3. Reverse Shoulder Arthroplasty
4. Alternative to TSA
5. Revision TSA
6. Management of TSA
7. Selection of total shoulder replacement implants
8. Pre operative evaluation of a patient for TSR including indications and contraindications
9. Surgical approaches and techniques for TSR
10. Arthroplasty in septic hip disorders
11. Complications of TSR
12. Postoperative management
13. Indication and techniques for shoulder fusion

E. Elbow

1. Biomechanics and structure of the Elbow joint
2. Selection of elbow replacement implants
3. Pre operative evaluation of a patient for TER including indications and contraindications
4. Surgical approaches and techniques for TER
5. Arthroplasty in septic disorders
6. Complications of TER
7. Revision TER
8. Postoperative management
9. Indication for elbow preservation and techniques
10. Indication for elbow fusion and conversion of Arthrodesis to Arthroplasty
11. Alternative to elbow arthroplasty
12. Types of TEA
13. Salvage of TEA

F. Wrist and small joints

1. Biomechanics and surgical anatomy of the wrist Joint
2. Selection of replacement implants
3. Pre operative evaluation of a patient for wrist arthroplasty including indications and contraindications
4. Surgical approaches and techniques for wrist arthroplasty
5. Arthroplasty in septic wrist disorders
6. Complications of wrist arthroplasty
7. Postoperative management
8. Indication for wrist preservation and techniques
9. Indication for wrist arthrodesis
10. Alternative to wrist arthroplasty
11. Arthroplasty of wrist , biomechanics, indications and types

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12. Anatomy and biomechanics of Small joints
 13. Arthroplasty and alternatives to joint salvage in small joints.

G. General Orthopaedics and Reconstructions related to Congenital/ Post –traumatic/Inflammatory, degenerative, metabolic, regenerative and Neoplastic illnesses.

E. VISIT TO OTHER INSTITUTIONS

Candidate in 3rd year should visit other Arthroplasty centers recognized by MCI for about 4 weeks to be able to observe difference in approaches to various problems.

F. ESSENTIAL PRE-REQUISITE FOR APPEARING FOR M Ch (ARTHROPLASTY) EXAMINATION

1. Logbook of work done (surgical procedures performed/assisted case presentation and other academic activities): rotations, internal assessment report.
2. Completion of Surgical Audit.
3. Publications (a) paper on review of available clinical material from the department.
- 4.

Attendance 75% and internal assessment 50% as minimal requirement for appearing in exams.

I. EVALUATION OF M Ch (ARTHROPLASTY)

1. Internal assessment – 50% weightage

To be done by all teachers concerned in the training of the candidate both inside and outside the parent department independently and entered into log book on a standard marking system . The course director will average out and put the final evaluation.

2. Theory Papers 4 papers (100 Marks each)

- 1. Basic Sciences**
- 2. Lower Limb Arthroplasties**
- 3. Upper Limb Arthroplasties**
- 4. Recent Advances**

Minimum pass marks 50% in each paper.

i. Practical Examinations

Distributed as follows:

1. Clinical
2. Operative demonstration for M Ch
3. Viva

1. ACADEMIC ACTIVITIES

- By rotation each resident is expected to present 3-4 Clubs and 3-4 topics a year and enter it in the log books.
- Additionally each resident (2nd year onwards) has to participate in one clinical Case Round and one Clinical Grand Round which are presented to the entire faculty.

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- 3rd year residents are required to present cases one/week (5th semester) and thrice/week in the final semester.
 - By rotation residents are allowed to participate in and attend National and international conference.

2. RESEARCH AND PROJECT WORK

- All M.Ch. candidates are required to submit their proposed project protocols, within 6 months of joining the department.
- The final submission is mandatory 3 months prior to the final examination.
- The candidate is allowed to appear in the examinations only after the research projects have been approved by the examiners.

3. INTRA DEPARTMENTAL EVALUATION OF RESIDENTS

- Every 6 months the department conducts an internal examination of the residents designed to test their theoretical knowledge as well as clinical skills. For this purpose the residents take a written theory paper of 3 hrs.duration and also present cases.
- In addition to this, he is also graded and marked for his academic presentations within the department.
- The log books endorsed every 6 months by the HOD also give an idea of each resident's programe.
- In addition, the candidates are assessed on day to day basis on clinical ward rounds as well as routine and emergency clinical/operative management of the patients.

4. DEGREE QUALIFYING EXAMINATION

The Degree qualifying examination is held at the end of 3 years after successful submission of research projects/papers. This is conducted in the Department in the presence of 2 external and 2 Internal examiners. The 2 external and one internal examiner apart from HOD can rotate amongst qualified superspeciality teachers.

The examiners should not be below the rank of additional professor in the concerned subject.