



# **MGM INSTITUTE OF HEALTH SCIENCES**

**Accredited by NAAC with 'A' Grade**

(Deemed University u/s 3 of UGC Act, 1956)

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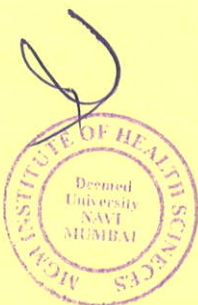
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## **Curriculum for Fellowship in HIP & Knee Arthroplasty**

**(w.e.f. Academic Year 2018-19)**

Approved as per BOM –53/2018, [Resolution No. 4.8], Dated 19/05/2018



Fellowship in H&P & Knee  
Arthroplasty.

## FELLOWSHIP PROGRAM IN JOINT REPLACEMENT

The Adult Reconstruction and Joint Replacement Fellowship Program at MGM is being started to train future leaders in total joint replacement surgery, while perfecting their surgical and technical skills.

The Program is accredited by MGMIHS. Led by 4 full-time surgeons, specialty-trained in hip and knee replacement and with a collective volume of over 500 cases per year, the Program provides an opportunity for Fellows to gain a broad range of in-depth experience over the course of the year.

The Adult Reconstruction and Joint Replacement department is one of the largest divisions at the Hospital with all members of the team trained in fellowships both in India and overseas.

The replacement unit performs 200 hip reconstructions cases per year, including primary hip replacements and hemiarthroplasties, performed by anterior, anterolateral, lateral and posterior approaches and has particular expertise in revision hip replacement and complex primary replacements allowing Fellows to gain exposure to this technically demanding procedure.

The team also performs over 300 cases of knee replacements per year, and is one of the most experienced in the country. One of the goals of the Program is to expose and train Fellows in a wide range of treatments, from the most complex revisions to minimally invasive procedures. They will evaluate cases, develop rational approaches to their care, and organize and effect a superior management to their clinical treatment.

Each Fellow will be involved in an average of over 250 cases (half hip, half knee), of which approximately fifteen percent are complex revisions and complex primary replacements.

Fellows will also gain experience in the department's fast growing area of less invasive treatments for hips and knees, including hip arthroscopy and minimally invasive total knee arthroplasty.

Fellows train and work in state-of-the-art operating rooms, custom-designed with a single purpose in mind — to advance orthopaedic surgery.

Wide Exposure Participation in outpatient visits, along with intense operating room experience, provides Fellows with wide practice in the diagnosis, treatment, and follow-up of a diverse patient population.

The team utilizes implants from a wide variety of sources to achieve the best possible outcomes, adding to the breadth of Fellows' experiences. Fellows will rotate among each of the 2 units of the Adult Reconstruction and Joint Replacement Service, which will give them a different perspective at each exposure.

## TEACHING PROGRAM

### Weekly and Monthly Academic Meetings

Twice weekly academic meetings will be conducted, where unique and complex cases are presented and discussed, provide didactic and Socratic instruction to complement the hands-on skills obtained in clinics and in the operating room. All members of the faculty attend these conferences, and Fellows will be required to participate and often lead the discussions.

Weekly tutorials will also occur between Fellows and experienced surgeons. Fellows will also participate in monthly journal clubs.

Twice weekly grand rounds will be conducted to critically analyse X rays of post operative cases and to discuss planning of proposed cases.

## Research

In addition to robust clinical experience, Fellows will build upon their existing research skills with extensive exposure to research methodology, study design, and critical data review. The Program sets aside one day per week for this work, thereby protecting 20 percent of a Fellow's time for research. Projects are evaluated on how well fellows demonstrate critical thinking, scientific approach, understanding of statistical criteria, literature support, and coordination of all project components to effect completed, scientifically sound manuscripts.

Upon entering the Program, Fellows will be assigned a research mentor and are expected to pursue at least two research projects — one clinical and one in biomechanics — during the fellowship year.

## Academic Career Training

In addition to clinical care and research, goals for the Fellowship include the development of strong teaching and organizational skills necessary to participate in an academic career. To this end, Fellows work closely with Residents on the Service in coordinating patient care. Fellows lead Residents, medical students, and ancillary staff in teaching conferences, in the operating room, and in clinics

## Goals at end of fellowship

The fellow would have been a part of management of over 500 joint replacement cases

The fellow would have assisted over 250 surgeries

The fellow would have performed at least 5 independent knee replacements and 5 hip surgeries

The fellow would have published two indexed publications

The fellow would have passed an exit exam, meeting the standards required for being called a trained joint replacement surgeon

# **TOPICS FOR TEACHING PROGRAM AND 6 MONTHLY EVALUATION EXAMINATIONS :**

## **FIRST HALF OF THE COURSE:**

*THE FIRST HALF WOULD INTRODUCE THE FELLOW TO THE BASIC SCIENCES AND TECHNIQUES OF KNEE AND HIP ARTHROPLASTY.*

*THE FIRST 6 MONTHS WOULD COVER THE FOLLOWING TOPICS FROM A THEORY PERSPECTIVE AND AN EXAM WOULD BE CONDUCTED AT THE END FOR 6 MONTHS TO EVALUATE THE FELLOW'S PROGRESS.*

## **BASIC SCIENCES :**

### **HIP ANATOMY & EVALUATION**

- PELVIS ANATOMY
- HIP ANATOMY
- HIP BIOMECHANICS
- HIP PHYSICAL EXAM - ADULT
- 

### **KNEE ANATOMY & EVALUATION**

- 
- KNEE BIOMECHANICS
- KNEE PHYSICAL EXAM - ADULT

### **IMPLANT SCIENCE**

- 
- WEAR & OSTEOLYSIS BASIC SCIENCE
- CATASTROPHIC WEAR & PE STERILIZATION
- PROSTHETIC JOINT INFECTION

### **JOINT CONDITIONS**

- 
- HIP OSTEOARTHRITIS
- KNEE OSTEOARTHRITIS
- HIP OSTONECROSIS
- ADULT DYSPLASIA OF THE HIP
- IDIOPATHIC TRANSIENT OSTEOPOROSIS OF THE HIP (ITOH)

### **THA TECHNIQUES**

- 
- THA PROSTHESIS DESIGN
- THA IMPLANT FIXATION
- THA TEMPLATING
- THA APPROACHES

- THA STABILITY TECHNIQUES
- THA ACETABULAR SCREW FIXATION
- THA REHABILITATION
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## KNEE RECONSTRUCTION

### TKA TECHNIQUES

- TKA PROSTHESIS DESIGN
- TKA TEMPLATING
- TKA APPROACHES
- TKA AXIAL ALIGNMENT
- TKA CORONAL PLANE BALANCING
- TKA SAGITTAL PLANE BALANCING
- TKA PATELLOFEMORAL ALIGNMENT
- TKA IN PATELLA BAJA (INFERA)
- TKA REHABILITATION

### SECOND HALF OF THE COURSE:

*THE SECOND HALF OF THE COURSE WOULD INTRODUCE THE FELLOW TO THE COMPLICATIONS INVOLVED AND ADVANCED KNEE AND HIP ARTHROPLASTY TOPICS ALONG WITH AN INTRODUCTION TO SHOULDER AND ELBOW ARTHROPLASTY. THE LECTURES AND THE EXAMINATION AT THE END OF THE SECOND HALF WOULD INCLUDE THE FOLLOWING TOPICS.*

### THA COMPLICATIONS

- THA DISLOCATION
- THA PERIPROSTHETIC FRACTURE
- THA ASEPTIC LOOSENING
- THA SCIATIC NERVE PALSY
- THA LEG LENGTH DISCREPANCY
- THA ILIOPSOAS IMPINGEMENT
- THA OTHER COMPLICATIONS

### THA REVISION

- THA REVISION - CLASSIFICATION AND MANAGEMENT

### RELATED PROCEDURES

- HIP RESURFACING

- HIP ARTHRODESIS

### TKA COMPLICATIONS

- TKA PERIPROSTHETIC FRACTURE
- TKA ASEPTIC LOOSENING
- TKA INSTABILITY
- TKA EXTENSOR MECHANISM RUPTURE
- TKA PATELLAR MALTRACKING
- TKA PATELLAR PROsthESIS LOOSENING
- PATELLAR CLUNK SYNDROME
- TKA STIFFNESS
- TKA VASCULAR INJURY AND BLEEDING
- TKA PERONEAL NERVE PALSY
- TKA WOUND COMPLICATIONS
- TKA METAL HYPERSENSITIVITY
- TKA HETEROTOPIC OSSIFICATION
- TKA OTHER COMPLICATIONS

### TKA REVISION

- TKA REVISION- CLASSIFICATION AND MANAGEMENT

### RELATED PROCEDURES

- HIGH TIBIAL OSTEOTOMY
- UNICOMPARTMENTAL KNEE REPLACEMENT
- KNEE ARTHRODESIS

### SHOULDER ARTHROPLASTY

- SHOULDER HEMIARTHROPLASTY
- TOTAL SHOULDER ARTHROPLASTY
- REVERSE SHOULDER ARTHROPLASTY
- SHOULDER PERIPROSTHETIC INFECTION

### ELBOW ARTHROPLASTY

- ELBOW TOTAL ARTHROPLASTY - INDICATIONS, OUTCOMES, AND KEY TECHNICAL CONCEPTS

## ASSESSMENT OF THE FELLOW:

The program has divided credit points in the following manner to strike a balance between research , clinical and academic activities ,practical experience , theory knowledge and conferences .

The fellow will be required to gain the 200 credits during the course of the year

1. JOURNAL AND SEMINAR PRESENTATIONS : 10 CREDITS PER PRESENTATION
2. RESEARCH PAPER (ORIGINAL INDEXED ARTICLE) : 30 CREDITS PER PAPER
3. CONFERENCES : 20 CREDITS FOR EVERY ARTHROPLASTY CONFERENCE ATTENDED
4. COMPLETED LOG BOOK SUBMISSION : 30 CREDITS

## EXAMINATIONS :

### 1. INTERNAL THEORY EVALUATION :

1. FIRST HALF EXAM : 50 marks ( 5 SHORT QUESTIONS , 10 MARKS EACH)

2. SECOND HALF EXAM : 50 marks ( 5 SHORT QUESTIONS , 10 MARKS EACH)

### 2. FINAL UNIVERISTY FELLOWSHIP EXIT EXAM :

1. THEORY : 100 marks (10 SHORT NOTES WITH 10 CREDIT POINTS EACH)

2. PRACTICAL : LONG CASE (50 marks )  
SHORT CASES ( 2 CASES, 25 marks EACH)