



## **College of Physicians and Surgeons of Mumbai**

### **Syllabus for CPS-PG-Course**

#### **FCPS (ORTHO) : FELLOWSHIP IN ORTHOPAEDICS**

**College of Physicians and Surgeons of Mumbai**

**CPS House, Dr. E. Borges Marg, Parel, Mumbai – 400012.**

## **FCPS (ORTHO) : FELLOWSHIP IN ORTHOPAEDICS**

### **GOALS**

The goal of Fellowship in Orthopaedics is to produce a competent orthopaedic surgeon who is:

- Aware of the current concepts in quality care in Orthopaedics and musculoskeletal trauma and also of diagnosis, therapeutic, medical and surgical management of orthopedics problems
- Able to offer initial primary management of acute orthopedic and trauma emergencies.
- Aware of the limitations and refer readily to major centers for more qualified care of cases which warrant such referral.
- Aware of research methodology and be able to conduct research and publish the work done.
- Able to effectively communicate with patients, their family members, people and professional colleagues.
- Able to exercise empathy and a caring attitude and maintain high ethical standards.
- Able to continue taking keen interest in continuing education irrespective of whether he / she is in teaching institution or in clinical practice .
- Dynamic, available at all times and proactive in the management of trauma victims and orthopaedic emergencies

### **OBJECTIVES**

At the end of course, the resident should be adept in the following domains:

- Skill to take a proper history for musculoskeletal disorders.
- Clinical examination of all musculoskeletal disorders.
- Application of history & clinical findings in making an appropriate clinical diagnosis.
- Interpretation of investigations
- Discussion of options of treatment and follow up rehabilitation for the diagnosis made
- Have an in-depth theoretical knowledge of the syllabus with emphasis on current concepts.
- Learn basic skills in musculoskeletal surgery including training on bone models and on patients by assisting or performing under supervision or perform independently as required.
- Have basic knowledge of common disorders of the spine, PIVD, degenerative disorders of spine. Trauma spine and infections of spine for diagnosis and evaluation of the common spine disorders.

- Develop a familiarity to major topics under “Sports Medicine” - to gain exposure to the basic surgery, master the pathophysiology of the conditions usually encountered and develop a sound foundation to add new knowledge in the future.
- Learn basic principles of Hand Surgery with emphasis on applied anatomy, understanding pathophysiology of common conditions, planning of treatment and post-operative protocols.
- Develop understanding of principles of soft tissue coverage and learn basic techniques used in extremity surgery.

## **SYLLABUS**

### ❖ **General Orthopaedics**

#### ➤ **Infections**

- General Principles of Infection
- Osteomyelitis
- Infectious Arthritis
- Tuberculosis and Other Infections

#### ➤ **Tumors**

- General Principles of Tumors
- Benign Tumors of Bone
- Malignant Tumors of Bone
- Soft Tissue Tumors and Nonneoplastic Conditions Simulating Bone Tumors

#### ➤ **Congenital Anomalies**

- Congenital Anomalies of Lower Extremity
- Congenital and Developmental Anomalies Of Hip and Pelvis
- Congenital Anomalies of Trunk and Upper Extremity

#### ➤ **Peripheral Nerve Injuries**

- Diagnosis and management

#### ➤ **Microsurgery**

- Basic principles and techniques

#### ➤ **Imaging in Orthopaedics**

#### ➤ **Other Nontraumatic Disorders**

- Osteochondrosis
- Rickets and osteomalacia
- Metabolic bone disease

- Cerebral Palsy
- Paralytic Disorders
- Neuromuscular Disorders
- Genetic disorders
- Osteonecrosis
- ❖ **Traumatology**
- **Fractures and Dislocations**
- General Principles of Fracture Treatment
- Fractures of Lower Extremity
- Fractures of Hip
- Fractures of Acetabulum And Pelvis
- Fractures of Shoulder, Arm, and Forearm
- Malunited Fractures
- Delayed Union and Nonunion Of Fractures
- Acute Dislocations
- Old Unreduced Dislocations
- Fractures, Dislocations and Ligamentous Injuries of the hand
- Fractures and Dislocations of Foot
- Fractures and Dislocations In Children
- **Regional Orthopaedics**
- **Spine**
- ☒ Spinal Anatomy And Surgical Approaches
- ☒ Fractures, Dislocations, And Fracture-Dislocations Of Spine
- ☒ Arthrodesis Of Spine
- ☒ Pediatric Cervical Spine
- ☒ Scoliosis And Kyphosis
- ☒ Lower Back Pain And Disorders Of Intervertebral Discs
- ☒ Infections Of Spine
- **Sports Medicine-**
- Ankle Injuries
- Knee Injuries
- Shoulder And Elbow Injuries
- Recurrent Dislocations
- **The Hand**

- Basic Surgical Technique and Aftercare
- Acute Hand Injuries
- Flexor and Extensor Tendon Injuries
- Wrist Disorders
- Paralytic Hand
- Cerebral Palsy of the Hand
- Arthritic Hand
- Compartment Syndromes and Volkmann Contracture
- Dupuytren Contracture
- Carpal Tunnel, Ulnar Tunnel, and Stenosing Tenosynovitis
- Tumors and Tumorous Conditions of Hand Hand.
- Hand Infections
- Congenital Anomalies of Hand.

➤ **The Foot and Ankle**

- Surgical Techniques
- Disorders of Hallux
- Pes Planus
- Lesser Toe Abnormalities
- Rheumatoid Foot
- Diabetic Foot
- Neurogenic Disorders
- Disorders of Nails and Skin
- Disorders of Tendons and Fascia

➤ **Operative Orthopaedics**

➤ **Surgical Techniques and Approaches Arthrodesis**

- Arthrodesis of Ankle, Knee and Hip
- Arthrodesis of Shoulder, Elbow and Wrist

➤ **Arthroplasty**

- Arthroplasty of Ankle and Knee
- Arthroplasty of Hip
- Arthroplasty of Shoulder and Elbow

➤ **Amputations**

- General Principles of Amputations
- Amputations about Foot

- Amputations of Lower Extremity
- Amputations of Hip And Pelvis
- Amputations of Upper Extremity
- Amputations of Hand
- **Arthroscopy**
  - General Principles Of Arthroscopy
  - Arthroscopy Of Lower Extremity
  - Arthroscopy Of Upper Extremity
- **Practical**
  - Closed Reduction of Fractures, Dislocations
  - Mastering Plastering Techniques
  - Debridement of Open Fractures
  - External Fixator application
  - Internal Fixation of minor fractures with K-wires
  - Closed manipulative correction of congenital problems like CTEV & other skeletal deformities.
- Biopsies – FNAB, FNAC, Trocar needle, open
- Excision of benign lesions
- Tendon lengthening
- Incision and drainage, acute Osteomyelitis / Septic Arthritis
- Skull tongs application
- Tension band wiring
- Interfragmentary compression
- Plate Osteosynthesis of Forearm bones
- Carpal Tunnel Release
- Bone grafting
- Soft tissue releases
- Interlocking IM Nailing of Tibia & Femur
- Humerus Plating
- Ankle Fracture Fixations
- DHS Fixation
- Hemiarthroplasty Hip
- Caudal epidural injections
- Facet Block

- Vertebroplasty
- Exposure of posterior spine
- Laminectomy
- Anterior and posterior instrumentation of spine
- Bone Skills Lab
- **Tension Band Wiring**
- **Lag Screw Interfragmentary Compression**
- **Lag Screw Interfragmentary Compression**
- **Broad Plating**
- **Narrow Plating**
- **External Fixation**
- **Cancellous Screw Fixation**
- **Dynamic Hip Screw Fixation**
- **Dynamic Condylar Screw Fixation**
- **Tibia Intramedullary Interlocking Nailing**
- **Femur Intramedullary Interlocking Nailing**
- **Tibial Condyle Fixation**
- **Elbow fractures Fixation**
- **Ankle Fractures Fixation**
- **Pelvis – External Fixation**
- **Pubic Symphysis – ORIF**
- **Acetabulum Fracture Fixation**
- **MIPPO Tibia**
- **Hemiarthroplasty**
- **Spine - Posterior Instrumentation**
- **Spine – Anterior Instrumentation**
- To clinically diagnose, assess, investigate and initially manage all surgical and medical emergencies
- To learn to assess ABC and perform CPR
- To perform
- **Endotracheal intubation**
- **Peripheral and Central intravenous cannulation**
- **Intercostal drainage tube insertion**
- **Peritoneal aspiration**

- Splint age of the spine and limbs for fracture-dislocations
- To learn the use of certain emergency drugs – adrenaline, atropine, dopamine, Steroids, analgesics etc.
- To learn to apply
- **Glassgow Coma Scale (GCS)**
- **AO classification of fractures**
- **Gustillo Anderson grading of open fractures**
- **Mangled Extremity Severity Scoring**
- To learn to communicate with patient's attendants on death of patient
- To learn to handle confidentiality issues

### **Teaching Program General Principles**

Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skills oriented. Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

### **. Teaching Sessions**

- Bedside teaching rounds
- Journal club
- Seminar
- PG case discussion
- X – Ray discussion
- Ortho-radio meet
- Ortho-Pathology Meet

Central session (held in hospital auditorium regarding various topics like CPC, guest lectures, student seminars, grand round, sessions on basic sciences, biostatistics, research methodology, teaching methodology, health economics, medical ethics and legal issues).



**FCPS (ORTHOPAEDICS)****EXAMINATION PATTERN****Theory Examination:**

<b>Paper – 01</b>	<b>Paper – 02</b>	<b>Paper – 03</b>	<b>Paper 04</b>
ORTHOPAEDICS	ORTHOPAEDICS	ORTHOPAEDICS	ORTHOPAEDICS
<b>Section I</b>	<b>Section I</b>	<b>Section I</b>	<b>Section I</b>
Q.1. 10 Marks	Q.1. 10 Marks	Q.1. 10 Marks	Q.1. 10 Marks
Q.2. 10 Marks	Q.2. 10 Marks	Q.2. 10 Marks	Q.2. 10 Marks
Q.3. 10 Marks	Q.3. 10 Marks	Q.3. 10 Marks	Q.3. 10 Marks
Q.4. 10 Marks	Q.4. 10 Marks	Q.4. 10 Marks	Q.4. 10 Marks
Q.5. 10 Marks	Q.5. 10 Marks	Q.5. 10 Marks	Q.5. 10 Marks
<b>Total 50 Marks</b>	<b>Total 50 Marks</b>	<b>Total 50 Marks</b>	<b>Total 50 Marks</b>
<b>Section II</b>	<b>Section II</b>	<b>Section II</b>	<b>Section II</b>
Q.1. 10 Marks	Q.1. 10 Marks	Q.1. 10 Marks	Q.1. 10 Marks
Q.2. 10 Marks	Q.2. 10 Marks	Q.2. 10 Marks	Q.2. 10 Marks
Q.3. 10 Marks	Q.3. 10 Marks	Q.3. 10 Marks	Q.3. 10 Marks
Q.4. 10 Marks	Q.4. 10 Marks	Q.4. 10 Marks	Q.4. 10 Marks
Q.5. 10 Marks	Q.5. 10 Marks	Q.5. 10 Marks	Q.5. 10 Marks
<b>Total 50 Marks</b>	<b>Total 50 Marks</b>	<b>Total 50 Marks</b>	<b>Total 50 Marks</b>
Section I + II =100 Marks	Section I + II =100 Marks	Section I + II =100 Marks	Section I + II =100 Marks
<b>Total Theory = 400 Marks, Passing = 200 (i.e. 50%) Marks aggregate in Theory</b>			

<b>Practical Examination:</b>		<b>Marks</b>
<b>Paper – 04</b>	Long Cases	40
<b>Paper – 05</b>	Short Cases	60
<b>Paper – 06</b>	Table 1	50
<b>Paper – 07</b>	Table 2	50
<b>Total Marks</b>	<b>(Aggregate marks for passing is 50% out of total.)</b>	<b>200</b>

## **THESIS**

Every student registered as post graduate shall carry out work on an assigned research project under the guidance of a recognized post graduate teacher, the result of which shall be written up and submitted in the form of a thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Thesis shall be submitted at least six months before the theoretical and clinical / practical examination. The thesis shall be a bound volume of a minimum of 50 pages and not exceeding 75 pages of typed matter (Double line spacing and on one side only) excluding certification, acknowledgements, annexure and bibliography.

Thesis should consist of:-

- (a) Introduction
- (b) Review of literature
- (c) Aims and objectives (d)Material and methods
- (d) Result
- (e) Discussion
- (f) Summary and conclusion
- (g) Tables
- (h) Annexure
- (i) Bibliography