



SHRI  
DHARMASTHALA  
MANJUNATHESHWARA  
UNIVERSITY

Ordinance Governing  
FELLOWSHIP IN ORTHOPAEDIC TRAUMA  
Curriculum 2020-21

**SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY**

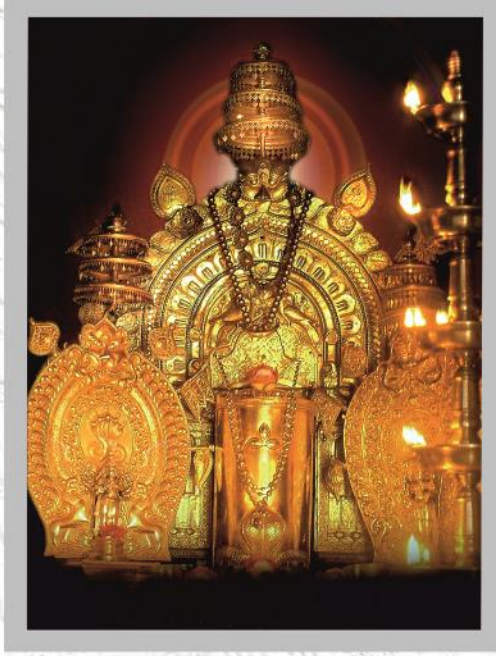
(A State Private University established under the Shri Dharmasthala Manjunatheshwara University  
Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC-2018 dated 19th December 2018)

Manjushree Nagar, Sattur, Dharwad - 580 009, Karnataka, India  
6<sup>th</sup> Floor, Manjushree Block SDM Medical College Campus

+91 836 2321127,2321126,2321125,2321124 [sdmuniversity.edu.in](http://sdmuniversity.edu.in)

[sdmuo@sdmuniversity.edu.in](mailto:sdmuo@sdmuniversity.edu.in) ; [registrar@sdmuniversity.edu.in](mailto:registrar@sdmuniversity.edu.in)

|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

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**Shri Dharmasthala Manjunatheshwara University,**  
Manjushree Nagar, Sattur, Dharwad - 580 009, Karnataka, India  
Phone: 0836-2321127  
email: [sdmuo@sdmuniversity.edu.in](mailto:sdmuo@sdmuniversity.edu.in)

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Shri Dharmasthala Manjunatheshwara University  
6<sup>th</sup> Floor, Manjushree Block SDM Medical College Campus  
Manjushree Nagar, Sattur, Dharwad - 580 009, Karnataka, India  
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 [sdmuo@sdmuniversity.edu.in](mailto:sdmuo@sdmuniversity.edu.in) ; [registrar@sdmuniversity.edu.in](mailto:registrar@sdmuniversity.edu.in)  
 [sdmuniversity.edu.in](http://sdmuniversity.edu.in)



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## THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line "**Truth Liberates**" highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

**Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.**



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## VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

## MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



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6<sup>th</sup> floor, Manjushree Building, SDM College of Medical  
Sciences & Hospital Campus, Sattur, Dharwad - 580009  
Tel. No : +91 836 2477511, 2321115, 2321117  
Fax: +91836 2463400  
Email: registrar@sdmuniversity.edu.in

Ref: SDMU/Notif-192/349/2021

Date: 02/08/2021

## NOTIFICATION

### Starting of Orthopaedic Trauma Fellowship Program from the Academic Year 2021-22

- Ref:
- 1) Minutes of the 8th Meeting of Board of Governors held on 28/07/2021
  - 2) Minutes of the 8th Meeting of Board of Management held on 23/07/2021
  - 3) Minutes of the 5th Meeting of Board of Studies - PG Clinical (Surgery & Allied Subjects) held on 09/07/2021

In exercise of the powers conferred under Statutes 1.1 and 1.2 of Shri Dharmasthala Manjunatheshwara University, the Board of Governors has accorded approval to the recommendations of Board of Management for starting of **Orthopaedic Trauma Fellowship** program for the academic year 2021-22 with an intake of two (02) seats per year.

The Ordinance shall be effective for the students joining the courses / programs from 2021-22 onwards.



Lt. Col. U. S. Dinesh (Retd.)

REGISTRAR  
REGISTRAR,  
Shri Dharmasthala Manjunatheshwara  
University, Dharwad

To,  
The Principal, SDM College of Medical Sciences & Hospital, Sattur, Dharwad.

Copy for information to:

1. Vice Chancellor, Shri Dharmasthala Manjunatheshwara University
2. Pro Vice-Chancellor (Academics) - Shri Dharmasthala Manjunatheshwara University
3. Controller of Examinations, Shri Dharmasthala Manjunatheshwara University
4. Chairperson, Board of Studies - Medical PG Clinical (Surgery & Allied Subjects)
5. HOD, Department of Orthopedics
6. University Office for Records File
7. Office of the Registrar

# **CURRICULUM FOR FELLOWSHIP IN ORTHOPAEDIC TRAUMA**

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## 1. INTRODUCTION:

The orthopaedic trauma fellowship is a one year clinical fellowship designed to produce academic and clinical excellence in the field of orthopaedic trauma. The clinical exposure consists of one year exposure to all aspects of trauma beginning from the emergency department till the patients discharge. Clinical exposure will consist of pelvic/acetabular trauma, poly-traumatized patient care, complex peri-articular trauma, and post-traumatic reconstruction (nonunion/malunion surgery). Academic exposure will include participation in hospital rounds, teaching of residents/medical students, and participation in orthopaedic trauma research.

## 2. TITLE OF THE COURSE: FELLOWSHIP IN ORTHOPAEDIC TRAUMA

## 3. GOALS AND OBJECTIVES:

The primary objective of the orthopaedic Trauma Fellowship is to provide trainees with an advanced level of skill and knowledge in the management of orthopaedic trauma conditions. In addition, advanced knowledge in orthopaedic trauma, research and education will be acquired. It is anticipated that fellows graduating from this program will have developed many of the skills and knowledge needed to become academic and clinical leaders in the field of orthopaedic trauma.

Specific educational objectives include:

- ♦ Proficiency in the clinical and radiographic assessment of musculoskeletal injuries.
- ♦ Proficiency in the surgical and non-surgical management of pelvic/acetabular trauma, long bone fractures, and complex peri-articular injuries.
- ♦ Advanced understanding of the pathophysiology of the multiply injured patient including the indications for damage control surgery and the appropriate timing of definitive orthopaedic management.
- ♦ Advanced understanding of the interdisciplinary relationship between various members of the trauma team including general surgery, critical care, anesthesia, neurosurgery, urology, and physical medicine and rehabilitation.
- ♦ Proficiency in the techniques of advanced trauma life support (ATLS).
- ♦ Advanced understanding of the principles and surgical techniques in the management of soft tissue injuries.
- ♦ Proficiency in techniques for treating deep wound and bone infections, as well as segmental bone loss, and nonunion/malunion.
- ♦ Proficiency in the techniques for post-traumatic reconstructive surgery, including joint and ligament replacement, augmentation, osteotomy and fusion techniques.
- ♦ Advanced knowledge of the principles of biomechanics, biomaterials and bioengineering and how they relate to orthopaedic traumatology and reconstruction.
- ♦ Advanced knowledge regarding the performance of clinical research in orthopaedic trauma.

Furthermore, it is expected that individuals completing this fellowship training will be able to:

- ♦ Organize and administer an orthopaedic trauma service, and coordinate the activities of the service with other administrative units.



- ♦ Establish policies and procedures for the management of orthopaedic trauma patients.
- ♦ Appoint, train, and supervise specialized personnel in orthopaedic trauma.
- ♦ Teach the specialized body of knowledge required for the comprehensive management of the orthopaedic trauma patients.

**4. INTAKE OF STUDENTS:** Two (2) per year.

**5. ELIGIBILITY FOR ADMISSIONS:**

M S (ORTHO) OR DNB (ORTHO) degree recognised as per guidelines laid down by NMC (NATIONAL MEDICAL COMMISSION) for appointment in medical colleges.

Age-Less than 40 years

**6. SELECTION /ADMISSION PROCEDURE:**

Written examination followed by interview with original documents

**7. DURATION OF COURSE:** One year

**8. MONITORING PROGRESS OF STUDIES:**

Formal evaluations for each fellow will be completed at the conclusion of each 3 month rotation in the form of viva-voce and written assignments. Fellows will be required to complete an evaluation of their supervisor at the end of each rotation. A final evaluation exam will be completed for each fellow which will be held at the end of one year.

**9. TEACHING HOURS, POSTINGS & ATTENDANCE:**

As per guidelines of Shri Dharmasthala Manjunatheshwara University.

**10. SCHEME OF EXAMINATION:**

Written and viva voce with practical examination

**11. CERTIFICATION:**

Award of fellowship certificate from Shri Dharmasthala Manjunatheshwara University, Dharwad The fellowship certificate will be awarded after successful completion of the course and passing the exit exam held at the end of one year.

**12. STIPEND:** Seventy five thousand rupees (75000) per month

**13. COURSE SYLLABUS:**

## FELLOWSHIP SYLLABUS MONTHS 1-3

### *I. GENRAL TRAUMA*

#### A. Evaluation

1. Evaluation, Resuscitation & DCO ( damage control orthopaedics )
2. Gustilo Classification
3. Tscherne Classification
4. Trauma Scoring Systems
5. Open Fractures Management.

#### B. Specific Presentations

1. Gun Shot Wounds
2. Amputations
3. Domestic and Elder Abuse.
4. Adult Respiratory Distress Syndrome

#### C. Compartment Syndrome

1. Leg Compartment Syndrome.
2. Thigh Compartment Syndrome
3. Hand & Forearm Compartment Syndrome
4. Foot Compartment Syndrome

### *II. SPINE TRAUMA*

#### A. Spinal Cord Injury

1. Cervical Spine Trauma Evaluation
2. Spinal Cord Injuries
3. Incomplete Spinal Cord Injuries

#### B. AtlantoAxial Trauma

1. Occipital Condyle Fractures
2. Occipitocervical Instability & Dislocation
3. Atlantoaxial Instability
4. Atlas Fracture & Transverse Ligament Injuries
5. Odontoid Fracture (Adult and Pediatric)
6. Traumatic Spondylolisthesis of Axis (Hangman's Fracture)

#### C. SubAxial Cervical Trauma

1. Cervical Facet Dislocations & Fractures
2. Cervical Lateral Mass Fracture Separation
3. Subaxial Cervical Vertebral Body Fractures
4. Clay-shoveler Fracture (Cervical Spinous Process Fracture)

#### D. Cervical Trauma Procedures

1. Closed Cervical Traction
2. Halo Orthosis Immobilization

- E. Thoracolumbar Trauma
  - 1. Thoracic & Lumbar Trauma Introduction
  - 2. Thoracolumbar Burst Fractures
  - 3. Chance Fracture (flexion-distraction injury)
  - 4. Thoracolumbar Fracture-Dislocation
  - 5. Osteoporotic Vertebral Compression Fracture
  - 6. Cauda Equina Syndrome

*FELLOWSHIP SYLLABUS MONTHS 3-6*

III. UPPER EXTREMITY

A. Shoulder

- 1. Brachial Plexus Injuries
- 2. Sternoclavicular Dislocation.
- 3. Clavicle Fractures
- 4. Scapula Fractures
- 5. Scapulothoracic Dissociation
- 6. Flail Chest

B. Humerus

- 1. Proximal Humerus Fractures
- 2. Proximal Humerus Fracture
- 3. Humeral Shaft Fractures
- 4. Distal Humerus Fractures

C. Elbow

- 1. Elbow Dislocation
- 2. Radial Head Fractures
- 3. Coronoid Fractures
- 4. Terrible Triad Injury of Elbow
- 5. Olecranon Fractures
- 6. Capitellum Fractures

D. Forearm

- 1. Monteggia Fractures
- 2. Radius and Ulnar Shaft Fractures
- 3. Radioulnar Synostosis
- 4. Distal Radius Fractures
- 5. Distal Radial Ulnar Joint (DRUJ) Injuries
- 6. Galeazzi Fractures

IV. HAND TRAUMA

A. Tendon Injuries

- 1. Flexor Tendon Injuries
- 2. Jersey Finger
- 3. Extensor Tendon Injuries
- 4. Mallet Finger
- 5. Sagittal Band Rupture (traumatic extensor tendon dislocation)

- B. Wrist Trauma
  1. Scaphoid Fracture
  2. Lunate Dislocation (Perilunate dissociation)
  3. Hook of Hamate Fracture
  4. Hamate Body Fracture
  5. Pisiform Fracture
  6. Seymour Fracture
  7. TFCC Injury
  
- C. Finger Trauma
  1. Metacarpal Fractures
  2. MCP Dislocations
  3. Phalanx Fractures
  4. Phalanx Dislocations
  5. Digital Collateral Ligament Injury
  
- D. Thumb Trauma
  1. Base of Thumb Fractures
  2. Thumb CMC dislocation
  3. Thumb Collateral Ligament Injury
  
- E. Other Traumatic Injuries
  1. Human Bite
  2. Dog and Cat Bites
  3. Nail Bed Injury
  4. High-Pressure Injection Injuries

[FELLOWSHIP SYLLABUS MONTHS 6-9](#)

VI. LOWER EXTREMITY

- A. Femur
  1. Femoral Head Fractures
  2. Femoral Neck Fractures
  3. Intertrochanteric Fractures
  4. Subtrochanteric Fractures
  5. Femoral Shaft Fractures
  6. Distal Femur Fractures
  
- B. Knee
  1. Patella Fracture
  2. Knee Dislocation
  
- C. Leg
  1. Tibial Plateau Fractures
  2. Proximal Third Tibia Fracture
  3. Tibia Shaft Fractures
  4. Tibial Plafond Fractures

- D. Ankle and Hindfoot
  - 1. Ankle Fractures
  - 2. Talar Neck Fractures
  - 3. Talus Fracture (other than neck)
  - 4. Subtalar Dislocations
  - 5. Calcaneus Fractures

## VII. FOOT & ANKLE TRAUMA

- A. Ankle Sprains
  - 1. High Ankle Sprain & Syndesmosis Injury
  - 2. Low Ankle Sprain
- B. Mid & Forefoot Trauma
  - 1. Lisfranc Injury (Tarsometatarsal fracture-dislocation)
  - 2. 5th Metatarsal Base Fracture
  - 3. Metatarsal Fractures
  - 4. Tarsal Navicular Fractures
- C. Tendon Injuries
  - 1. Achilles Tendon Rupture
  - 2. Peroneal Tendon Subluxation & Dislocation
  - 3. Anterior Tibialis Tendon Rupture

## [FELLOWSHIP SYLLABUS MONTHS 9-12](#)

## VIII. PEDIATRIC TRAUMA

- A. Introduction
  - 1. Pediatric Abuse
  - 2. Pediatric Evaluation & Resuscitation
  - 3. Physeal Considerations
- B. Shoulder & Humerus Fractures
  - 1. Medial Clavicle Physeal Fractures
  - 2. Distal Clavicle Physeal Fractures
  - 3. Proximal Humerus Fracture - Pediatric
  - 4. Humerus Shaft Fracture - Pediatric
  - 5. Distal Humerus Physeal Separation - Pediatric
- C. Elbow Fractures
  - 1. Supracondylar Fracture - Pediatric
  - 2. Medial Epicondylar Fractures - Pediatric
  - 3. Lateral Condyle Fracture - Pediatric
  - 4. Olecranon Fractures - Pediatric
  - 5. Radial Head and Neck Fractures - Pediatric
  - 6. Nursemaid's Elbow
  - 7. Elbow Dislocation - Pediatric

- D. Forearm Fractures
  - 1. Both Bone Forearm Fracture -Pediatric
  - 2. Distal Radius Fractures - Pediatric
  - 3. Monteggia Fracture - Pediatric
  - 4. Galeazzi Fracture - Pediatric
  
- E. Hip & Femur Fractures
  - 1. Pelvis Fractures - Pediatric
  - 2. Traumatic Hip Dislocation - Pediatric
  - 3. Proximal Femur Fractures - Pediatric
  - 4. Femoral Shaft Fractures - Pediatric
  - 5. Distal Femoral Physeal Fractures - Pediatric
  
- F. Knee & Proximal Tibia
  - 1. Tibial Eminence Fracture
  - 2. Tibial Tubercle Fracture
  - 3. Patella Sleeve Fracture
  - 4. Proximal Tibia Epiphyseal Fractures - Pediatric
  - 5. Proximal Tibia Metaphyseal Fractures - Pediatric
  
- G. Leg & Ankle Fractures
  - 1. Tibia Shaft Fracture – Pediatric
  - 2. Ankle Fractures - Pediatric
  - 3. Tillaux Fractures
  - 4. Triplane Fractures

#### Fellow logbook

Fellows will maintain a properly filled logbook with them at all times. The details of work done including OPD consultations, operative work attended and performed and all research activities should be entered and certified by the fellowship coordinator.

#### Fellow research activity

Fellows are encouraged to take part in all research activities and are expected to present minimum of two papers at conferences before the end of the fellowship. Fellows are encouraged to publish at least one research paper in indexed journals at the end of the course.

### **14. TRAINING SKILLS**

Teaching with hands on experience in diagnosing and treating orthopaedic trauma conditions including in skill labs and simulated conditions.

**15. SCHEME OF PRACTICAL LEARNING:**

Observation and hands-on training including surgical and non-surgical management of orthopaedic trauma conditions.

**16. METHODS OF LEARNING: Audio, Visual Aid and E-Learning**

**17. LEARNING RESOURCE MATERIAL:**

E-Learning, Observation and hands-on training under supervision, Books

**RECOMMENDED BOOKS:**

1. Campbell's Operative Orthopaedics 14th edition.
2. Rockwood and Green's Fractures in Adults / Rockwood and Wilkin's Fractures in Children.
3. Watson-Jones Fractures & Joint Injuries.
4. Orthopaedic knowledge update series.
5. Skeletal Trauma: Basic Science, Management, and Reconstruction, 2-Volume Set (Browner, Skeletal Trauma).
6. The elements of fracture fixation, Dr A J Thakur
7. AO Principles of Fracture Management - Richard E Buckley, Christopher G Moran, Theerachai Apivatthakakul



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SDM College of Dental Sciences & Hospital



SDM College of Physiotherapy &  
SDM Institute of Nursing Sciences



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SDM Research Institute for Biomedical Sciences



Panoramic View of Campus