

# SUMANDEEP VIDYAPEETH

(Declared as Deemed to be University under Section 3 of the UGC Act 1956)

Accredited by NAAC with a CGPA of 3.53 out of four-point scale at 'A' Grade

At & Post Piparia, Tal: Waghodia 391760 (Gujarat) India.

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## CURRICULUM

### Master of Surgery (M.S.) ORTHOPEDICS

Attested CTC

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15/2/2021

Vice-Chancellor  
Sumandeep Vidyapeeth  
An Institution Deemed to be University  
Vill. Piparia, Taluka: Waghodia.  
Dist. Vadodara-391 760. (Gujarat)

2015

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## POST GRADUATE CURRICULUM IN ORTHOPEDICS

### Programme outcome M.S.

The purpose of MS education is to create specialists who would provide high quality health care and advance the cause of science through research & training. The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

### Programme specific outcome M.S.

**POS 1.** A post graduate specialist having undergone the required training should be able to recognize the health needs of the community, acquire knowledge to handle effectively medical / surgical problems and should be aware of the recent advances pertaining to his specialty.

**POS 2.** Practice the speciality concerned ethically and in step with the principles of primary health care.

**POS 3...**The PG student should acquire the basic skills in teaching of medical / para-medical students and is also expected to know the principles of research methodology and self-directed learning for continuous professional development.

**POS 4..**Play the assigned role in the implementation of national health programme, effectively and responsibly.

**POS 5..** Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

**POS 6..** Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

**COURSE OUTCOME (CO):** At the end of the M.S. Orthopaedics programme, the post graduate student shall acquire competencies in the following areas

1. Describe the Principles of injury, its mechanism and mode, its clinical presentation, plan and interpret the appropriate investigations, and institute the management of musculoskeletally injured patient.
2. Demonstrate sufficient understanding of the basic sciences relevant to orthopaedic speciality through a problem based approach.
3. Identify and describe the surface anatomy and relationships within of the various bones, joints, ligaments, major arteries, veins and nerves of the musculoskeletal system of the spine, upper limb, lower limb and the pelvis, chest, abdomen and head & neck.
4. Define and describe the pathophysiology of shock (circulatory failure).
5. Define and describe the pathophysiology of Respiratory failure
6. Describe the principles and stages of bone and soft tissue healing
6. Understand and describe the metabolic, nutritional, endocrine, social impacts of trauma and critical illness.
7. Enumerate, classify and describe the various bony/soft tissue injuries affecting the axial and appendicular skeletal system in adults and children.
9. Describe the principles of internal and external fixation for stabilization of bone and joint injuries.

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8. Describe the mechanism of homeostasis, fibrinolysis and methods to control haemorrhage
9. Describe the physiological coagulation cascade and its abnormalities
10. Describe the pharmacokinetics and dynamics of drug metabolism and excretion of analgesics, anti inflammatory, antibiotics, disease modifying agents and chemotherapeutic agents.
11. Understanding of biostatistics and research methodology

The goal of postgraduate medical education shall be to produce component specialists and/or Medical teachers.

- i. Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy.
- ii. Who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- iii. Who shall be aware of the Contemporary advance and developments in the discipline concerned;
- iv. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
- v. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.
- vi. **Who are well versed in Evidence searching skills, evidence based teaching – learning methods, evidence based research and are competent to practice Evidence Based Surgical Practice.**

### GENERAL OBJECTIVES OF POST-GRADUATE TRAINING EXPECTED FROM STUDENTS AT THE END OF POST-GRADUATE TRAINING

#### Goals

- Institutional
  - Provide knowledge, skills and attitudes regarding the diagnosis and treatment of various orthopaedic conditions based on highest level of **available evidence by**
    - Formulate clinical problems in PICO forms
    - Use various search engines to gather evidence
    - Analyse the evidence
    - Analyse the outcomes of various evidence based practices
    - Apply various statistical methods to validate the outcomes

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At the end of the postgraduate training in the discipline concerned the student shall be able to;

- i. Recognized the importance to orthopedics in the context of the health needs of the community and the national priorities in the health section.
- ii. Practice orthopedics ethically and in step with the principles of primary health care.
- iii. Demonstrate sufficient understanding of the basic sciences relevant to the orthopedics
- iv. Identify social, economic, environmental, biological and emotional determinants of health in given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.
- v. Diagnosis and manage majority of the conditions in orthopedics on the basis of clinical assesment, and appropriately selected and conducted investigations.
- vi. Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the orthopedics.
- vii. Demonstrate skills in documentation of individual case details details as well as morbidity and mortality rate relevant to the assigned situation.
- viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations and their families
- ix. Play the assigned role in the implementation of national health programme, effectively and responsibly.
- x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- xi. Develop skills as a self-directed learning, recognize continuing education needs; select and use appropriate learning resources.
- xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.
- xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physician and paramedical health workers.
- xiv. Function as an effective leader of a health team engaged in health care, research or training.

#### **STATEMENT OF THE COMPETENCIES** and

Keeping in view the general objectives of postgraduate training, each discipline shall aim at development of specific competencies which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

#### **COMPONENTS OF THE POSTGRADUATE CURRICULUM :**

**The major components of the Postgraduate curriculum shall be:**

- **Theoretical knowledge**
- **Practical and clinical skills**
- **Writing thesis/ Research articles,**
- **Attitudes including communication skills.**
- **Training in research methodology, Medical Ethics & Medico legal aspects.**
- **Trained in Evidence Based Education System, to be familiar with organised evidence searching skills, and research methodology.**
- **Every Post graduate student will be exposed to atleast one encounter of Role Modelling in which a Consultant after raising a relevant Query will search for its evidence and demonstrate Evidence Searching methodologies. Its importance and utility to the students.**
- **Competent to practice Evidence Based orthopedics.**

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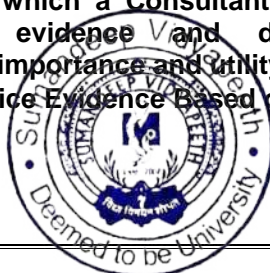
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## **Must know topics**

1. Essential Knowledge — ORTHOPEDIC SURGERY TOPICS include the following:

### **History of Orthopedic Surgery**

**Clinical History and examination** - detailed systematic history taking, clinical examination of various systems, coming to a provisional working diagnosis.

**Rationale of diagnostic tests** - Ordering diagnostic tests with prioritizing the needs, based on the clinical, hospital and the patient's socioeconomic condition

**Informed consent / Medico legal issues** - Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act. -Implications in a medico legal case like accidents, assaults etc.

### **Concept of Essential Drugs and Rational use of drugs**

#### **Principles of evidence based medicine**

**Understanding journal based literature study; the value of text book, reference book articles; value of review articles; original articles and their critical assessment.**

**Understanding the value of retrospective, prospective, randomized controlled and blinded studies understanding the principles and meanings of various biostatistical tests applied in these studies.**

### **Medical ethics I Social responsibilities of Orthopedic Surgeons**

#### **Preoperative workup**

Concept of fitness for surgery; basic medical workup; workup in special situations like, diabetes, renal failure, cardiac and respiratory illness; risk stratification;

#### **Principles of operative surgery like asepsis, antisepsis, and sterilization**

#### **Surgical sutures, drains, prosthetic grafts and Implants**

**Postoperative care** - concept of recovery room care; airway management; assessment of wakefulness; management of cardiovascular instability in this period; criteria for shifting to a ward; pain management.

#### **Basic surgical instrumentation**

Principles of surgical instrumentation; /Their maintenance and sterilization.

Surgical diathermy, lasers

**Wound management** - wound healing, factors influencing healing; basic surgical techniques; properties of suture materials ; appropriate use of sutures.

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**Assessment of head, chest and abdominal trauma and triage** - Assessment of a trauma victim; resuscitation; care at the site; triage; care in the accident department; criteria for immediate surgery; immediate workup and logical referral criteria.

**Fluid and electrolyte balance / Acid - Base metabolism** - The body fluid compartments; metabolism of water and electrolytes; factors maintaining homeostasis; causes for and treatment of acidosis and alkalosis.

**Blood transfusion —**

Blood grouping; cross matching; blood component therapy; complications of blood transfusion: blood substitutes; auto transfusions; cell savers.

**Surgical infections—**

Asepsis and antisepsis; microbiological principles; rational use of antibiotics; special infections like synergistic gangrene and diabetic foot infections. Hepatitis, AIDS and management of post operative infection and osteomyelitis.

**Principles of Arthroscopy**

Arthroscopic instrumentation; Complications of Arthroscopy; /Diagnostic and therapeutic applications./ Arthroscopic Ligament Reconstructions; Arthroscopic meniscus repair and Excision.

**Principles of Orthopedic Oncology –**

Cell kinetics; causation of tumors; principles of orthopedic oncologic surgery, radiotherapy and chemotherapy; paraneoplastic syndromes; cancer pain management; palliative care

**Principles of fracture management** - fracture healing; principles of immobilization; complications; principles of internal fixation.

Airway obstruction I management - anatomy of the airway; principles of keeping the airway patent; mouth to mouth resuscitation; oropharyngeal airway; end tracheal intubation; cricothyroidotomy; tracheotomy.

**Shock and Pulmonary failure** - types of shock; diagnosis; resuscitation; pharmacologic support; ARDS and its causes; prevention; ventilator support.

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**Anesthesia** - stages of anesthesia; pharmacology of inhalational, intravenous and regional anesthetics; muscle relaxants

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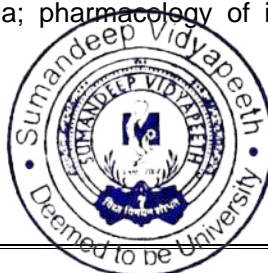
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### **Assessment of trauma;**

Multiple injured patient! closed abdominal and chest injuries / penetrating injuries; fractures pelvis; urological injuries; vascular injuries; trauma scores

### **Joint Replacement Surgery**

Basic Principles of Hemi Replacement and Total Replacement Arthroplasties. Post Operative management of patients of Joint Replacement.

### **Critical care**

Cardio respiratory failure - management of shock; including monitoring; sepsis scores; pharmacological support.

### **Pain control**

Acute and chronic pain: cancer and non-cancer pain; patient controlled analgesia.

### **Spine Surgery**

Basic Principles including indications, techniques and complications of Spine Surgeries for indications including Trauma, Infectious, Neoplastic and Degenerative conditions affecting Spine.

### **Pediatric Orthopedic Surgery**

Orthopedic conditions involving pediatric population e.g. deformities, congenital malformations and pediatric fractures.

### **Neurosurgery**

Head and neck trauma: acute management and rehabilitation/Concept of brain death/ medico-legal implications /Peripheral nerve injuries

### **Plastic Surgery**

Details of skin flap /Hand injuries / tendon injury / Nerve repair /Pressure sores  
Principles of microsurgery Principles of tissue transfer Vascular repair

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### **Vascular Surgery**

Vascular imaging / Exposure of major arteries and veins / vascular anastomosis. Vascular emergencies, trauma, embolism.

  
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## 2. Essential Skills

### Operative Skills

<ul style="list-style-type: none"><li>• Basic graduate skills</li><li>• Ward procedures</li><li>• ICU procedures</li><li>• Emergency room procedures</li><li>• Preoperative workup procedures</li></ul>	<ul style="list-style-type: none"><li>• Postoperative procedures</li><li>• Minor surgical procedures</li><li>• Major operating room techniques</li><li>• General surgical procedures</li><li>• Orthopedic Surgical procedures</li></ul>
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**a) Basic graduate skills**

The student should have acquired the certain skills during his under graduation and internship.

These skills have to be reinforced at the beginning of the training period. These skills include:

Procedure	Category	Year	Number
Insertion of I.V.lines, nasogastric tubes, urinary catheters, etc.,	PI	I	50
Minor suturing and removal of sutures	PI	I	50
Removal of tubes and drains —	PI	I	50
Routine wound dressings	PI	I	50

**b) Ward Procedures**

Ward work forms an important part of the training of the surgeon. In addition to the examination of the patient with proper recording of findings, diligent practice of the following is recommended.

Procedure	Category	Year	Number
Joint Aspiration	PI	I	5
Ability to teach UG's and Interns	PI	I+II+III	NA
Blood sampling – venous and arterial	PI	I	NA
Application of Plaster, Splints and Various Traction	PI	I+II	10
Communication skills with patients, relatives, colleagues and paramedical staff	PI	I	NA
Ordering of the requisite laboratory and Radiological investigations and Interpretation of the reports in light of the clinical findings	PI	I	NA
Performing common ward procedures	PI	I	NA
Basic Skills for Reduction and Immobilization of fractures	PI	I	NA
Universal precautions against communicable diseases	PI	I	NA
venesection	PI	I+II+III	5

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NA Not Applicable

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**c) ICU Procedures**

Procedure	Category	Year	Number
Insertion of Arterial lines	PI	II	10
Insertion of Central venous lines - -	PI	I	10
Insertion of Endotracheal tubes	PI	II	10
Intercostal Drainage	PI	II	5
Tracheostomy	PI	I+ II	2+2
Working Knowledge of ventilators	PI	I+ II	NA
and various Monitors	PI	I+ II	NA
Interpretation of Arterial blood gases Correction of Electrolyte disturbances	PI	I+ II	NA

PI = Performed Independently (Unsupervised )

A : Assisted

O : Observed

PA: Performed under supervision / Assistance

**d) Emergency Room Procedures**

Procedure	Category	Year	Number
Application of Splints for Fractures	PI	I	NA
Arterial and Venous Lines	PI	I	NA
Assessment and initial management of Poly trauma	PI	I	NA
Cardiopulmonary Resuscitation	PI	I	NA
Management of Airway Obstruction	PI	I	NA
Management of Shock and Cardiac / Respiratory failure	PI	I	NA
Recognition and Initial management of Orthopedic Surgical Emergencies	PI	I	NA
Suturing Techniques	PI	I	NA

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**e) Pre-operative Workup**

Procedure	Category	Year	Number
Ability for adequate pre-operative preparation in special situations like Diabetes, renal failure, cardiac and Respiratory failure etc. and risk Stratification	PI	I	NA
Communication skills with special reference to obtaining Informed Consent	PI	I	NA
Proper pre-operative assessment and preparation of patients including DVT prophylaxis. Blood transfusion and Antibiotics	PI	I	NA

**g) Minor O.T. procedures**

Procedure	Category	Year	Number
S.T. Pin under local Anesthesia	PI	I	5
Drainage of Abscesses	PI	I	5
Major dressings	PI	I	20
Lymph node, ulcer, swellings etc. -Biopsies	PI	I	20
Reduction and plaster application of simple fractures and dislocations	PI	I	10
Removal of simple subcutaneous swellings	PI	I	10
Suturing Techniques	PI	I	20
Wound debridement	PI	I	10

**(i) General Surgical Operative Procedures**

Procedure	Category	Year	Number
Forearm Nailing	PA	I	10
Forearm Nailing	PI	II	5
K-Wire Insertion in Hand, Foot, Distal Radius e.t.c.	PI	II	1-3
Closure of Operative Wounds	PI	I, II, III	30
Tibia Nailing	PA	I	10
Tibia Nailing	PI	II	5

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Drainage of Psoas Abscess	PA	I/II	3
Drainage of Psoas Abscess	PI	III	2
Femur Nailing	PA	I/II	5+5
Femur Nailing	PI	III	2
Tibia Plating	PA	I	5
Tibia Plating	PI	II/III	3
Forearm Plating	PA	I	3
Forearm Plating	PI	II/III	3
Hip Arthroplasty	PA	I	10
Hip Arthroplasty	PI	II/III	2
Hemi Replacement Arthroplasty	PA	I/II	3
Hemi Replacement Arthroplasty	PI	III	3
Knee Arthroplasty	PA	I/II/II I	5
External Fixator Application	PI	I/II/II I	30
Humerus Plating	PA	I	10
Humerus Plating	PI	II/III	5
Humerus Nailing	PA	I/II	10
Humerus Nailing	PI	III	8
Tension Band Wiring Olecranon and Patella	PA	I	5
Tension Band Wiring Olecranon and Patella	PI	II/III	5
Pelvis and Acetabular Fracture Fixation	PA/PI	I/II/II I	3
Fracture Neck Femur – CRIF / ORIF	PA	I	10
Fracture Neck Femur – CRIF / ORIF	PI	II/III	8
Intertrochanteric Fracture Femur – DHS / PFN / AFN / Enders	PA	I	25
Intertrochanteric Fracture Femur – DHS / PFN / AFN / Enders	PI	II/III	10
Supracondylar Fracture Femur Fixation	PA	I	15
Supracondylar Fracture Femur Fixation	PI	II/III	8
Tibia Plateau Fracture fixation	PA	I	5
Tibia Plateau Fracture fixation	PI	II/III	3
Arthro Fractures Fixation	PA	I	10
Ankle Fractures Fixation	PI	II/III	8
Calcaneum Fracture	PA	I/II/II	10

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Arthro Fractures Fixation

Calcaneum Fracture

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		I	
Talus Fracture	PA	I/II/II I	10
Core Decompression of Hip	PA	I	8
Core Decompression of Hip	PI	II/III	4
Bone Grafting	PA	I	20
Bone Grafting	PI	II/III	10
Decompression of Spinal Cord	PA/PI	I/II/II I	25
Stabilization of Spinal Column by Pedicular Screw	PA/PI	I/II/II I	15
Discectomy	PA/PI	I/II/II I	15
Spinal Tumor Surgery	PA/PI	I/II/II I	5
Arthroscopy – Diagnostic / Therapeutic	PA/PI	I/II/II I	15
CTEV Correction by Plaster	PA/PI	I/II/II I	15
CTEV Soft tissue release	PA/PI	I/II/II I	15

#### F) Post – operative Care

Procedure	Category	Year	Number
Airway management	PI	I-II	NA
Basic Physiotherapy	PI	I-II	NA
Management of epidural analgesia	PI	I-II	NA
Management of postoperative hypotension	PI	I-II	NA
Management of postoperative hypertension	PI	I-II	NA
Postoperative pain control	PI	I-II	NA
Skills for Nutritional rehabilitation of patients	PI	I-II	NA
Skills for proper Fluid & Antibiotic	PI	I-II	NA
Bed Sore Care	PI	I-II	NA

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**(h) Major Operating room techniques**

Procedure	Category	Year	Number
Instrument arrangement and trolley layout	PA	I	NA
Skills in Sterilization techniques, O.T.Layout and Asepsis	O	I	NA
Skin preparation — painting and draping	PT	I	NA
Technique of scrubbing and gowning	P1	I	NA

**Plastic Surgery**

Procedure	Category	Year	Number
Local blocks in anaesthesia	PI	I	10
Minor hand injuries (specify)	PI	II	5
Nerve repair. :	A/PA	II-III	2
Post excision reconstruction	A/PA	II-III	2
Reimplantation of digits	O	II	1
Skin flap surgery	O/A	II-III	2
Split skin graft	PI	II	3
Stitch craft	PI	I	NA
Tendon repair	PA	II	2
Wound debridement	PI	I/II	10-10

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## Vascular Surgery

Procedure	Category	Year	Number
Bypass graft – prosthetic	A	II/III	2
Conservative amputations	PI	II/III	5
Embolectomy	PA	II/III	2
Use of heparin	PI	II/III	10
Vein graft	A/O	II/III	2

All the above will be designed as per Evidence based guidelines and protocols.

The department will continuously endeavour to design its own Evidence based Protocol as per the local requirement.

### DESIRABLE TO KNOW:

**1/Principles of surgical audit** - Understanding the audit of process and outcome. Methods adopted for the same. Basic statistics.

**2/Medical ethics I Social responsibilities of surgeons**

**3/Use of computers in surgery —**

Components of a computer; its use in practice — Principles of word processing, spread sheet functions, database and presentation;

The internet and its uses.

The value of computer based systems in bio medical equipment.

**4/ Communication skills with patients** - Understanding clarity in communication, compassionate explanations and giving emotional support to at the time of suffering and bereavement.

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**NICE TO KNOW:**

1/Health insurance, Health Care financing

2/Undertaking clinical audit.

3/Hospital Administration skills.

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All essential Must Know aspects in orthopedic Surgery are emphasised to be taught, presented and practiced on Evidence based methodology and skills.

**3. Teaching and Learning activities —**

a. Didactic lectures	Conferences
b. Journal club	g. Inter Departmental Academic
c. Seminar	h. Teaching of Undergraduates
d. Integrated clinic	i. CME
e. Ward Rounds	j. Dissertation
f. Clinico-pathology, Clinico-Radiology	

a. Didactic lectures: Should be as minimum as possible.

- Biostatistics
- Use of library
- Research Methods
- Medical Code of conduct
- National Health Programs
- Communications skills
- Integrated Lectures by multidisciplinary teams
- Essential Knowledge

b. Journal Club : Each Post Graduate must participate at least four times a year. **The Journal Club presentations will be carried out on a prescribed Evidence based format with emphasis on critical appraisal.**

**A designated teacher /facilitator will assess every postgraduate student for each journal club presentation.**

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c. Seminar : Each Post Graduate must participate at least four times a year.

**The Seminars are prepared by post graduate students with evidence searching and appraisal formats. All P.G. seminars will have evidence embedded in their presentation and all references related to the subject matter will be incorporated.**

**At the end of the seminar the presentation will be evaluated /assessed by the faculty with a checklist appraisal format**

d. Ward rounds:

- Service Rounds : The post Graduates must take care of the patients daily and work up the patients for presentation to the seniors
- Teaching rounds : Every Unit must have Grand Rounds for teaching. In it the students are supposed to search in the literature for the evidence regarding the best management possible for the admitted patient and analyse the outcomes.

e. Clinico-pathology/Radiology: At least once a month for each post Graduate.

f. Interdepartmental meetings : At least once a week

g. Teaching Skills : Post Graduates must undertake undergraduate teaching by taking bedside clinics, demonstration, tutorial, lectures etc

h. **Research :Post Graduate must fulfill MCI criteria of:**

**1 Poster presentation, 1 paper presentation at a state level conference and to have 1 paper publication, either published or accepted or sent for publication.**

i. **Conferences: Must be encouraged to attend conferences,C.M.E'S**

j. **Dissertation: This is essential as per the University PG guidelines.**

#### **LOG BOOK**

All teaching and learning activities must be maintained in the Logbook as per the recommendation of the MCI. It must be checked at regular intervals and must be submitted to the department after the exams.

**4. Year wise schedules** — As per the Para on Essential Skills (2).

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**5. Training in Basic and allied specialties** — It must be done concurrently during the First year of training. Topics for study include

Anatomy, Physiology, Pathology. Microbiology, Pharmacology, Anaesthesiology, Radiology, General Surgery.

On joining, the first year resident is supposed to undergo an orientation programme, wherein he is exposed to evidence based practice and various methods to gather evidence and use search engines and analyse the evidence.

**6. Internal assessment/evaluation —**

- Personal Attitudes : Caring attitudes. Organizational abilities, Potential to cope with stressful situations & undertake responsibility
- Acquisition of Knowledge : On the basis of the Teaching & learning activities through the Logbook which records the participation in all academic activities like seminars, journal club, case presentations, Clinicopathological/ Radiology meetings & Day to day work Organizational ability
- Clinical and operative Skills must also be recorded in the Logbook
- Teaching skills : Must be regularly assessed by the faculty
- Dissertation : Periodic presentation must be made to the faculties before finalization & completion for submission
- Defaulting students: Must be counselled initially but in extreme cases, on recommendation of the departmental committee the candidate may be withheld from appearing from examination.

**Periodic Tests**

Problem Based short essay or MCQ must be undertaken for assessment of essential theoretical knowledge. At least 3 tests may be held at the end of 1<sup>st</sup> & 2<sup>nd</sup> years of the residency and prelims 1 month before the university examination.

**Attested CTC**

*Sharaney*  
15/2/2021

**Vice-Chancellor**

**Sumandeep Vidyapeeth**

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Dist. Vadodara-391 760. (Gujarat)



## 1. University Examination

### M.S. (Branch-3) Orthopedic Surgery

#### Examination Scheme for M.S. (Ortho.)

##### 1) Theory Exam.

Total four papers each of 100 marks =  $100 \times 4 = 400$

Paper I - Basic sciences as related to Orthopaedics

Paper II - Orthopaedics Traumatology

Paper III - Orthopaedics diseases

Paper IV –Allied subjects as related to Orthopaedics.

Paper I, II , III & IV each will have four question of 25 marks each.

There will be one question of 25 marks in each paper having MCQs.

Each paper carries 100 marks.

Duration of time in each paper = Three Hours.

##### 2) Practical Examination in M.S. (Ortho.)

1) Practical Exam.

Total marks = 450

1) Long case – 1(225 marks)

2) Short case - 3 (225 marks)

3) Table viva = 150 Marks

A) Instrument

B) X-rays

C) Operation

D) Specimen & bones

Total = 600 Marks

No. of Examiners = Four

Internal Examiner = Two

External Examiner = Two

Long cases should be examined by all the examiners together.

Attested CTC

*Sharan*  
15/2/2021

Vice-Chancellor

Sumandeep Vidyapeeth

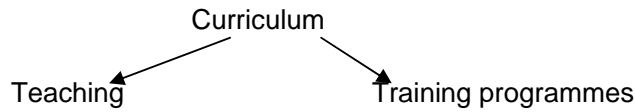
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## YEAR WISE TEACHING PROGRAMME



### Post Graduate training

#### 1<sup>st</sup> year Residency

1. Registration / Assignment of PG teacher.
2. Submission of Thesis / Dissertation plan to be submitted by the assigned P.G Teacher to the departmental committee of approval.
3. Acquire basic skills of surgical diagnosis and differential diagnosis.
4. To maintain and update case records for outdoor and indoor patients.
5. To perform routine laboratory investigations in the ward laboratory.
6. To perform patient dressings, routine ward procedures like Catheterization, Nasogastric tube insertion, Venesection, Tracheostomy, I.C.D. insertion, Cardiopulmonary Resuscitation, Intubation, Joint Aspiration.
7. Attend operations and assist in major and minor surgeries.
8. To perform minor operative procedures performed under local anaesthesia and short general anaesthesia.
9. To attend all surgical rounds with senior residents and unit faculty
10. To prepared all patients planned for surgery and to manage pre and post operative care of these patients.
11. 1<sup>st</sup> year residents are expected to be on 24 hours call duty and to attained the 1<sup>st</sup> call on emergency duty days.
12. To assist in teaching undergraduate students.
13. To attend all Post graduate activities like.
  - a. Case presentations
  - b. Journal clubs
  - c. Seminars
  - d. Subject reviews
  - e. Interactive group discussions

**Attested CTC**

*Sharaney*  
15/2/2021

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## 2<sup>nd</sup> year Residency

The second year residency include :

1. Rotation of posting : Each Resident will be rotated in two different units for six months each.
2. Periodic teaching of under graduate students with demonstration of clinical signs and bed side teaching.
3. During rounds, provide knowledge, skills and attitudes of the students fundamental to diagnosis and treatment of orthopaedics and related procedures to enable critical evaluation and problem solving for orthopaedic problems to allow independent practice based on the highest level of evidence.
4. To perform all minor surgical procedures.
5. To be trained has 1<sup>st</sup> assistant in major surgical procedures
6. To perform basic surgical procedures under anaesthesia under supervision.
7. To attend all surgical round with senior residents and faculty staff.
8. To be adequately trained in Critical care and Trauma management and be able to manage
  - a. Endo tracheal Intubation
  - b. Ventilator support
  - c. Postoperative surgical complication
  - d. Medical complications in post surgical patients
9. To attend all Post graduate teaching and training activities namely:
  - a. Case presentations
  - b. Journal clubs
  - c. Seminars
  - d. Subject review based on evidence
  - e. Interactive group discussions
  - f. Death reviews
  - g. Clinical and pathological / radiological conferences.

**Attested CTC**

*Sharaney*  
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### 3<sup>rd</sup> year Residency

1. Regular teaching of under graduate students including bedside teaching.
2. During rounds, provide knowledge, skills and attitudes of the students fundamental to diagnosis and treatment of orthopaedics and related procedures to enable critical evaluation and problem solving for orthopaedic problems to allow independent practice based on the highest level of evidence.
3. To organize under graduate students ward examinations.
4. To refined surgical skills by performing more surgeries, independently and under supervision of senior surgeons.
5. To consolidate surgical skills by assisting senior surgeons and supervising surgical procedures performed by junior residents
6. To keep abreast with recent advances in surgery and attend all CME programmes
7. To attend all PG teaching and training activities namely
  - a. Case presentations
  - b. Journal clubs
  - c. Seminars
  - d. Subject review based on evidence
  - e. Interactive group discussions
8. Keep a periodic update & complete the Log book, to be checked and signed by PG Teacher and Head of the department.
9. To complete the thesis / dissertation which is to be submitted 6 months before the due date of examination.
10. To supervise the work of junior residents and insured that the work assigned to the first & second year residents is carried out in a proper manner.

**Attested CTC**

*Sharaney* 15/2/2021

**Vice-Chancellor**

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