

# GENERAL SURGERY

## M.CH. PAEDIATRICS SURGERY SYLLABUS



**Sri Siddhartha**  
**Academy of Higher Education**  
Deemed-to-be-University  
Accredited 'A+' Grade by NAAC

*Established under Section 3 of the UGC Act, 1956*  
*MHRD, GOI No. F.9-31/2006-U.3 (A) Dtd. 30<sup>th</sup> May 2008*

**Agalakote, B.H. Road, Tumkur – 572107, Karnataka, India**

# SRI SIDDHARTHA ACADEMY OF HIGHER EDUCATION

("Deemed to be University u/s 3 of the UGC Act, 1956")

Accredited 'A+' Grade by NAAC

Agalakote, B.H.Road, Tumkur – 572 107.KARNATAKA, INDIA.



No. SSAHE/ACA-S&C/08/SS/2023

Date: 15/12/2023

## NOTIFICATION

Sub: Ordinance pertaining to Super Specialty in M.Ch Paediatric Surgery

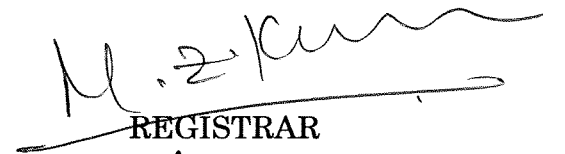
Ref: 1). Proceedings of BOS Clinical (Surgery & Allied Subjects) SS held on 09/05/2023.

2). Proceedings of the Academic Council meeting held on 30/08/2023

In exercise of the powers vested under section 6 of 6.05 of MoA / Rules of SSAHE, the Ordinance pertaining to Regulations and Curriculum of Super Specialty in M.Ch Paediatric Surgery courses is notified herewith as per Annexure.

The Ordinances as above shall come into force immediately and is applicable for University examination of December 2026 and onwards.

By Order,

  
REGISTRAR

To,  
Dean / Principal, Sri Siddhartha Medical College & Hospital,

Copy to

- 1) Office of the Chancellor, SSAHE, for kind information,
- 2) PA to Vice-Chancellor / PA to Registrar / Controller of Examinations / Finance Officer, SSAHE
- 3) All Officers of the Academy Examination Branch / Academic Section
- 4) Guard File / Office copy.

# Chapter I

## 1. Branches of Study

### 1.1 Postgraduate Degree Courses

The following courses of studies may be pursued.

#### A. *M.D. (Doctor of Medicine)*

1. Anaesthesiology
2. Aviation Medicine
3. Anatomy
4. Biochemistry
5. Community Medicine
6. Dermatology, Venereology and Leprosy
7. Forensic Medicine
8. General Medicine
9. Microbiology
10. Pathology
11. Paediatrics
12. Pharmacology
13. Physiology
14. Psychiatry
15. Radio-diagnosis
16. Radio-therapy
17. Tuberculosis & Respiratory Medicine

#### B. *M.S. (Master of Surgery)*

1. General Surgery
2. Obstetrics and Gynecology
3. Ophthalmology
4. Orthopedics
5. Oto-Rhino-Laryngology

#### C. *D.M. (Doctor of Medicine)*

In the subjects recognised by Medical Council of India.

#### D. *M.Ch (Master of Chirurgie)*

### **M.Ch. Paediatrics Surgery**

## 2. Eligibility for Admission

**2.1 MD / MS Degree and Diploma Courses:** A candidate affiliated to this university and who has passed final year M.B.B.S. examination after pursuing a study in a medical college recognised by the Medical Council of India, from a recognised Medical College

affiliated to any other University recognised as equivalent thereto, and has completed one year compulsory rotating internship in a teaching Institution or other Institution recognised by the Medical Council of India, and has obtained permanent registration of any State Medical Council shall be eligible for admission.

## **2.2 D.M and M.Ch Courses**

**D.M.:** Candidate seeking admission for D.M courses in any subject must possess recognised degree of MD (or its equivalent recognised degree) in the subject specified in the regulations of the Medical Council of India from time to time.

**M.Ch :** Candidate seeking admission for M.Ch course in any subject must possess recognised degree of MS (or its equivalent recognised degree) in the subject specified in the regulations of the Medical Council of India from time to time.

## **3. Obtaining Eligibility Certificate by the University before making Admission**

No candidate shall be admitted for any postgraduate degree/diploma course unless the candidate has obtained and produced the eligibility certificate issued by the University. The candidate has to make an application to the University with the following documents along with the prescribed fee :

- 1 MBBS and MS pass / degree certificate issued by the University.
- 2 Marks cards of all the university examinations passed MBBS course.
- 3 Attempt Certificate issued by the Principal.
- 4 Certificate regarding the recognition of the medical college by the Medical Council of India.
- 5 Completion of internship certificate.
- 6 In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognised for internship.
- 7 Registration by any State Medical Council and
- 8 Proof of SC/ ST or Category I, as the case may be.

Candidates should obtain the Eligibility Certificate before the last date for admission as notified by the University.

A candidate who has been admitted to postgraduate course should register his / her name in the University within a month of admission after paying the registration fee.

**4. Intake of Students:** The intake of students to each course shall be in accordance with the ordinance in this behalf.

## **5. Duration of Study**

### **a) M.D /M.S Degree Courses**

The course of study shall be for a period of 3 years consisting of 6 terms.

### **b) D.M /M.Ch**

The courses of study shall be for a period of 3 years consisting of 6 terms.

## **6. Method of training**

The training of postgraduate for degree/diploma shall be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate

should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate should be required to participate in the teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences students should be posted to allied and relevant clinical departments or institutions. Similarly, clinical subjects' students should be posted to basic medical sciences and allied specialty departments or institutions.

## **7. Attendance, Progress and Conduct**

7.1 A candidate pursuing degree/diploma course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course.

7.2 Each year shall be taken as a unit for the purpose of calculating attendance.

7.3 Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

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7.4 Every candidate is required to attend a minimum of 80% of the training during each academic year of the postgraduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

7.5 Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.

## **8. Monitoring Progress of Studies**

**8.1 Work diary / Log Book** - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. (please see Chapter IV for model checklists and logbook specimen copy). Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate. The work diary shall be scrutinised and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.

### **8.2 Periodic tests:**

In case of degree courses of three years duration (MD/MS, DM, MCh.), the concerned departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the University, when called for.

In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be at the end of first year and the other in the second year three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

**8.3 Records:** Records and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or NMC

## **9. Dissertation \***

9.1 Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

9.2 The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

9.3 Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

**\* Note: For M.Ch. course, this clause is not applicable.**

9.4 Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

9.5 The dissertation should be written under the following headings:

- i. Introduction
- ii. Aims or Objectives of study
- iii. Review of Literature
- iv. Material and Methods
- v. Results
- vi. Discussion
- vii. Conclusion
- viii. Summary
- ix. References
- x. Tables
- xi. Annexures

9.6 The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

9.7 Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

9.8 The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

9.9 Guide: The academic qualification and teaching experience required for recognition by this University as a guide for dissertation work is as per Medical Council of India Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.

A **Co-guide** may be included provided the work requires substantial contribution from a sister department or from another medical institution recognised for teaching/training by Sri Siddhartha Academy of Higher Education/Medical Council of India. The co-guide shall be a recognised post graduate teacher of Sri Siddhartha Academy of Higher Education .

**9.10 Change of guide:** In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the university.

## 10. Schedule of Examination

The examination for M.D / M.S courses shall be held at the end of three academic years (six academic terms). The examination for D.M and M.Ch courses shall be held at the end of three years. The examination for the diploma courses shall be held at the end of two academic years (four academic terms). The university shall conduct two examinations in a year at an interval of four to six months between the two examination. Not more than two examinations shall be conducted in an academic year.

## 11. Scheme of Examination

### 11.1 M.D. / M.S. Degree

**M.D. / M.S.** Degree examinations in any subject shall consist of dissertation, written paper (Theory), Practical/Clinical and Viva voce.

**11.1.1 Dissertation:** Every candidate shall carryout work and submit a dissertation as indicated in Sl.No.9. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

**11.1.2 Written Examination (Theory):** A written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the 1<sup>st</sup> paper in clinical subjects will be on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers.

### 11.1.3 Practical / Clinical Examination:

In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretations and inference of laboratory or experimental work relating to his/her subject.

In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.

The total marks for practical / clinical examination shall be 200.

**11.1.4 Viva Voce:** Viva Voce Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:

- |   |          |
|---|----------|
| (i) For examination of all components of syllabus | 80 Marks |
| (ii) For Pedagogy                                 | 20 Marks |

**11.1.5 Examiners:** There shall be at least four examiners in each subject. Out of them two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

**11.1.6 Criteria for declaring as pass in University Examination:** A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical including clinical and viva voce examination.

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation).

**11.1.7 Declaration of distinction:** A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75 percent and above. Distinction will not be awarded for candidates passing the examination in more than one attempt.

## **11.2 D.M / M.Ch:**

The examination shall consist of theory, clinical/practical and viva voce examination.

**11.2.1 (Theory) (Written Examination):** The theory examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the first paper will be on basic medical sciences. Recent advances may be asked in any or all the papers.

### **11.2.2 Practical / Clinical Examination:**

In case of practical examination it should be aimed at assessing competence, skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretation and experimental work relevant to his / her subject.

In case of clinical examination it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.

The maximum marks for Practical / Clinical shall be 200.



**11.2.3 Viva Voce:** Viva Voce examination shall aim at assessing thoroughly depth of knowledge, logical reasoning, confidence and oral communication skills. The maximum marks shall be 100.

**11.2.4 Examiners:** There shall be at least four examiners in each subject. Out of them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

**11.2.5 Criteria for declaring as pass in University Examination:** A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical including clinical and viva voce examination.

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation).

### **11.3 Diploma Examination:**

Diploma examination in any subject shall consist of theory (written papers), Practical / Clinical and Viva - Voce.

**11.3.1 Theory:** There shall be three written question papers each carrying 100 marks. Each paper will be of three hours duration. In clinical subjects one paper out of this shall be on basic medical sciences. In basic medical subjects and para clinical subjects, questions on applied clinical aspects should also be asked.

#### **11.3.2 Practical / Clinical Examination:**

In case of practical examination it should be aimed at assessing competence, skills related to laboratory procedures as well as testing students ability to make relevant and valid observations, interpretation of laboratory or experimental work relevant to his/her subject.

In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases.

The maximum marks for practical / Clinical shall be 150.

**11.3.3 Viva Voce Examination:** Viva Voce examination should aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 50.

**11.3.4 Criteria for Pass:** Criteria for declaring as pass in University Examination: A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical including clinical and viva voce examination.

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation).

**11. 3.5 Declaration of distinction:** A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75 percent and above. Distinction will not be awarded for candidates passing the examination in more than one attempt.

**11.3.6 Examiners:** There shall be at least four examiners in each subject. Out of them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

**12. Number of Candidates per day.** The maximum number of candidates for practical/clinical and viva-voce examination shall be as under:

MD / MS Course: Maximum of 6 per day

Diploma Course: Maximum of 8 per day

DM / M.Ch Course: Maximum of 3 per day

## **Chapter II**

### **GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM**

#### **GOAL**

The goal of postgraduate medical education shall be to produce competent specialist and /or Medical teacher:

- (i) who shall recognise 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 specialty, 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 advances 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?

#### **GENERAL OBJECTIVES**

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

- i) Recognise the importance of the concerned specialty in the context of the health need of the community and the national priorities in the health sector.
- ii) Practice the specialty concerned ethically and in step with the principles of primary health care.
- iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.
- iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.
- v) Diagnose and manage majority of the conditions in the specialty concerned on the basis of clinical assessment, 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 specialty.

- vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.
- viii) Demonstrate empty and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.
- ix) Play the assigned role in the implementation of national health programmes, effectively and responsibly.
- x) Organise 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 learner, recognise continuing educational needs; select and use appropriate learning resources.
- xii) Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
- xiii) Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians 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**

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 PG CURRICULUM**

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in Thesis (Not applicable to DM and M.Ch. courses)
- Attitudes, including communication.
- Training in research methodology.

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000.

## Chapter III

### Course Contents

#### M.Ch. Paediatrics Surgery

The M.Ch. (Paediatric Surgery) candidate is a full time trainee and the general outlay of the training shall adhere to the residency pattern. The curriculum shall have the following goals and objectives -

##### **Goals:**

The goals of training in M.Ch. (Paediatric Surgery) are:

- a. To inculcate and further human values of empathy, care and discipline in medical practice
- b. To enable the candidate to view the child as a special individual with unique needs and Paediatric Surgery as a specialty.
- c. To train the candidate to practice Paediatric surgery based on a sound back ground knowledge and skill
- d. To train the candidate to be a teacher of Paediatric surgery and continually update himself/herself with recent advances / changes in medical practice.
- e. To empower the candidate with the necessary knowledge and expertise to set up a Paediatric surgery unit / department.
- f. To contribute to the all round formation and development of the student in a holistic sense.

##### **Objectives:**

The training should aim to facilitate the candidate's acquisition of a judicious mix of the three domains of learning –

Cognitive (knowledge),

Psychomotor (practice) and

Affective including communication abilities.

At the end of the training, the candidate must have attained the following

##### **a. Knowledge**

- Be conversant with the etiology, pathophysiology, diagnosis and management of common neonatal and Paediatric surgical problems; both elective and emergency in nature.
- Have a clear understanding of the basic sciences (anatomy, physiology etc), Paediatric and neonatal medicine as applicable to Paediatric surgical practice.
- Recognize the importance of inter disciplinary approach in the management of various Paediatric surgical disorders and obtain relevant specialist / ancillary services' consultation where appropriate.
- Gained experience in clinical research studies and published articles / presented work at scientific meet / conferences.
- Recognize the importance of family, society and socio-cultural environment in the treatment of the sick child.

**b. Practice**

- Evaluate a given patient completely (history, clinical examination), order relevant investigations and interpret them to reach a diagnosis and management strategy.
- To perform simple investigations / procedures (bedside, laboratory, radiology suite) independently.
- Be able to provide basic and advanced life support services in emergencies.
- Be able to prepare a patient for an elective / emergency surgery and post operative period.
- Be conversant with counseling techniques for the family / primary care takers.
- Be skilled in the performance of routine ward procedures (eg. venesection, bladder catheterization, dressings, and mechanical bowel preparation).
- Be able to perform prescribed minor and major operative procedures with assistance and independently.
- Be able to monitor the patient post operatively in the intensive care setting / routine post op ward.
- Be ready to provide relevant advice to patient and family at discharge for follow up.

**c. Communication skills**

- Develop and practice effective communication skills.
- Professionally interact and obtain relevant specialist/ancillary services' consultation where appropriate
- Display the ability to impart the acquired training to others in a teaching unit and establish a Paediatric surgical unit.

**d. Medical Ethics and Human values**

Adoption of ethical principles in all aspects of Paediatric surgical practice/ research. (Professional honesty and integrity, humility, informed consent, counseling, recognize patients' rights and privileges, etc).

**Teaching Learning Methods**

(The general aspects are described in detail in Chapter IV)

**1. Academic sessions**

During the course, the candidate shall **present** some academic sessions and **attend** the others. Each session will be designed for at least 1 hour with at least 15 minutes devoted to a discussion on the topic

An academic session may be any of the following –

- Subject seminar and / or symposium*- at least 2 such sessions are recommended every month. The presenter is either one (*Seminar*) or a multidisciplinary team (*Symposium*). The seminars / symposia are aimed to cover the majority of topics in the syllabus. Each candidate shall present at least 6 seminars/symposia in one academic year and attend at least 12 others.
- Journal review* -: Recommended at least once a fortnight. Relevant articles from recommended journals are reviewed. Each candidate shall present at least 6 journal reviews in one academic year and attend at least 12 others.
- Clinical case presentation* – Representative clinical cases shall be presented and discussed in detail in these sessions. Two such sessions are recommended every month and should include a mix of short and long cases. Each candidate shall present at least 6 clinical cases in one academic year and attend at least 12 others.

- iv. *Inter departmental meetings* –Inter departmental meetings shall facilitate clinical/group discussion / symposia etc (e.g., paediatric pathology, radiology meeting.) Two such monthly meets are recommended. Each candidate shall present at least 6 such meets in one academic year and attend at least 12 others. eg.  
*Paediatric pathology meet* –This is conducted in association with the consultant pathologist(s). The subject may include histopathology review, clinicopathological conferences, autopsy discussion etc.,  
*Paediatric radiology meeting* –Organized along with consultant Radiologist(s), it enables a discussion of common and uncommon radiological investigations in general or certain clinical cases in particular.
- v. *Operative procedures* – This session, recommended once a month, aims at discussing common operative procedures and practical details. Each candidate shall present at least 3 such meets in one academic year and attend at least 6 others.
- vi. *Treatment planning* – Recommended once monthly, this session will focus on management strategies of specific clinical cases, particularly where a multi specialty approach is planned. Each candidate shall present at least 3 such meets in one academic year and attend at least 6 others.
- vii. *Ward rounds and Teaching round* –There would be at least once consultant led ward round daily. This would be a service round with individual case presentation and brief discussion. In addition, at least 3 teaching rounds per week are recommended involving detailed discussion on admitted clinical cases. Besides theoretical aspects, emphasis must be laid on bedside assessment and practical management issues.

## **2. External Postings**

The M.Ch. (Paediatric Surgery) trainee will be posted in the following allied specialties. The total duration of these postings shall not exceed 4 months or 16 weeks.

- a. *Paediatric Intensive Care Unit*: Duration- 4-6 weeks. This is intended to familiarize the candidate to the principles of Paediatric medical intensive care and its applications to Paediatric surgical care.
- b. *Neonatology Intensive Care Unit*: Duration- 4-6 weeks. During this posting, the candidate will receive training on care of the sick neonates, particularly prematures and small for dates. Neonatal resuscitation, management of common neonatal problems (e.g. hypoglycemia, hyperbilirubinemia) and advanced life support systems (e.g., ventilatory care) will be included.
- c. *Paediatric Oncology*: Duration-4 weeks. The candidates will be posted in a Paediatric oncology unit to familiarize them with the management of common solid tumors of childhood.
- d. *Optional* - other postings may be scheduled as deemed necessary for fulfillment of curricular demands e.g.: posting to other M.Ch training centers (at least for two weeks), Plastic surgery, Neuro surgery, Vascular surgery, Obstetrics, Experimental/Animal lab etc.

## **3. Conference, CME's and Workshops**

Participating and contributing to the organization of such meets is desirable. During the 3-year period of training; he/she should attend at least one national level and two state level meets and present a paper in each of them.

## **4. Research activity**

The candidate must be familiar with basic research methodology including statistical methods and undertake at least one research project under the guidance of a postgraduate teacher. The research may be basic or clinical. This will be assigned to the candidate at the

inception of the training and he/she will be required to submit a report on the same by the end of the course. This may form the basis of a publication.

**5. Publications**

The M.Ch. trainee will be required to prepare material for publication under the guidance of a postgraduate teacher. He / She must have submitted for publication at least 1 original article and 2 brief /case reports during the course.

**6. Teaching**

The candidate will assist and be involved in the teaching of under graduate medical/ nursing students and PG students in MS (Gen. Surg.) and MD (Paed). He/she will learn selection and application of various teaching methods and media.

**Structure of the Training Course**

**I Year**

Academic	Training	Procedure / operative skills
<ul style="list-style-type: none"> <li>• Seminars</li> <li>• Journal Review</li> <li>• Departmental presentation (in house)</li> <li>• Project work</li> </ul>	<ul style="list-style-type: none"> <li>• Case Notes</li> <li>• Presentation on rounds</li> <li>• Summary</li> <li>• Communication skills</li> <li>• Computer skills; computer assisted learning</li> <li>• NALS/PALS course</li> </ul>	<ul style="list-style-type: none"> <li>• Resuscitation</li> <li>• Bedside procedures</li> <li>• Minor OT procedure (eg. Herniotomy, orchidopexy)</li> <li>• Major OT procedures (eg., neonatal colostomy, laparotomy for intestinal obstruction.)</li> </ul>

**II Year**

Academic	Training	Procedure / operative skills
<ul style="list-style-type: none"> <li>• Seminars</li> <li>• Operative procedure</li> <li>• Inter departmental presentation</li> <li>• Publication</li> <li>• Conference / workshop/ CME</li> </ul>	<ul style="list-style-type: none"> <li>• External postings</li> <li>• Research activity</li> <li>• Pedagogy course. (Teacher’s training)</li> </ul>	<ul style="list-style-type: none"> <li>• Simple endoscopic procedures (e.g. cystoscopy, bronchoscopy for foreign body)</li> <li>• Major OT procedures (e.g. pyelolithotomy, laparotomy for trauma.</li> </ul>

**III Year**

Academic	Training	Procedure / operative skills
<ul style="list-style-type: none"> <li>• Treatment planning</li> <li>• Operative procedures.</li> <li>• Symposium</li> <li>• Publication</li> </ul>	<ul style="list-style-type: none"> <li>• Planning a department (Equipment, administration etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Endoscopic procedure (e.g. laparoscopy)</li> <li>• Major OT procedure (e.g. neonatal bowel anastomosis, pyeloplasty)</li> <li>• Neonatal surgery.</li> </ul>

**Study Topics**

**GENERAL PAEDIATRIC SURGERY INCLUDING BASIC SCIENCES**

- Medical Genetics.
- Antenatal diagnosis and fetal therapy
- Developmental and transitional physiology of the respiratory, cardiovascular and renal systems



- Neonatal physiology and assessment of the surgical neonate.
- Neonatal sepsis
- Nutrition – enteral, parenteral
- Vascular access
- Paediatric analgesia and anaesthesia.
- Biomedical ethics and legal issues in Paediatric surgical practice.
- Organisation of a Paediatric surgical unit
- HIV/AIDS in children

#### TRAUMA

- Paediatric trauma – general principles.
- Thoracic, abdominal, genitourinary, central nervous system trauma (detail)
- Soft tissue and envenomation injuries
- Musculoskeletal and vascular trauma
- Burns
- Child abuse.

#### PAEDIATRIC ONCOLOGY

- General principles
- Wilm's tumor, Neuroblastoma, Liver tumours, Rhabdomyosarcoma, Teratomas and Germ cell tumours and Gonadal tumours – (details)
- Other tumour of childhood (outline)- Lymphomas, Bone tumours, Brain tumours, Retinoblastoma.

#### TRANSPLANTATION

- General principles
- Kidney and liver transplantation (details)

#### HEAD AND NECK

- Craniofacial anomalies including congenital malformations of external ear.
- Cleft lip and palate
- Disorders of the upper airway and oral cavity.
- Salivary glands
- Disorders of lymph nodes.
- Thyroid and parathyroid gland
- Cysts and sinuses of the neck
- Torticollis

#### THORAX

- Congenital chest wall deformities.
- Disorders of the breast.
- Diaphragmatic hernia and eventration
- Mediastinal mass lesions.
- Endoscopy of the upper aerodigestive tract.
- Congenital tracheal and broncho pulmonary/ foregut malformations.
- Infective pleuropulmonary condition.
- Congenital esophageal anomalies
- Esophageal motility disorders
- Esophageal rupture, stricture, perforation.
- Esophageal replacement.

## ABDOMEN

- Umbilical disorders and abdominal wall defects.
- Inguinal hernias and hydroceles
- Testicular maldescent, torsion
- Hypertrophic pyloric stenosis.
- Duodenal atresia, annular pancreas.
- Jejunoileal atresia and stenosis
- Meconium ileus
- Meckel's diverticulum
- Intussusception.
- Disorder of midgut rotation.
- Short bowel syndrome
- Gastrointestinal endoscopy and laparoscopy.
- Gastrointestinal bleeding
- Gastrointestinal duplications.
- Mesenteric and omental cysts
- Ascitis
- Polypoid disease of the GIT
- Necrotising enterocolitis.
- Intestinal stomas
- Primary peritonitis.
- Inflammatory bowel disease in children.
- Colonic atresia and functional obstruction.
- Appendicitis
- Hirschsprung's disease, neuromuscular disorders of intestines
- Anorectal malformations.
- Colonic and rectal tumours
- Neonatal/Infantile obstructive cholangiopathy
- Congenital biliary dilatation.
- Infective and inflammatory hepatobiliary disorders.
- Benign liver tumours
- Portal hypertension.
- Disorders of the pancreas
- Splenectomy and post splenectomy sepsis.
- Adrenal gland.

## GENITOURINARY AND RELATED DISORDERS.

- Renal agenesis, dysplasia, cystic disease, ectopia.
- Pelvic ureteral junction obstruction.
- Vesicoureteric reflux
- Infective and inflammatory renal disorder.
- Congenital ureteric anomalies.
- Prune belly syndrome
- Urinary diversion and undiversion, bladder augmentation
- Disorders of bladder function.
- Structural bladder disorders
- Extrophy – epispadias complex.
- Hypospadias.
- Anomalies of the external genitalia
- Intersexual disorders.
- Abnormalities of the female genital tract.

## SPECIAL PAEDIATRIC SURGERY

- Spina bifida
- Hydrocephalus
- Congenital heart disease
- Congenital orthopaedic deformities
- Amputation, bone and joint infections
- Conjoined twins
- Hemangiomas & vascular malformations.

### Operative Procedures

The candidate should receive graded exposure in the performance of the following operative procedures. They are to be recorded as O-Observed, A-Assists senior, PA-Performs with assistance from a senior or under supervision, P-Performed independently during the course. The following is the suggested minimum number of procedures in each category over three years. The actual numbers performed may vary according to the patient load of the training unit and related departments

	<b>O</b>	<b>A</b>	<b>PA</b>	<b>P</b>
<b>TRAUMA</b>				
• Wound debridement	3	3	5	15
• Wound suturing	3	3	5	15
• Amputation	1	1	1	0
• Laparotomy for trauma	2	4	2	0
• Thoracotomy for trauma	1	2	2	0
<b>ONCOLOGY</b>				
• Percutaneous tumor biopsy	3	5	5	3
• Open tumor biopsy	2	2	2	1
• Lymph node biopsy	2	3	5	10
• Tumour excision	5	10	3	1
<b>HEAD AND NECK</b>				
• Craniosynostoses	2	1	0	0
• Cleft lip repair				
– Unilateral	3	3	1	0
– Bilateral	3	3	1	0
– Revision	2	2	0	0
• Palatoplasty	3	2	0	0
• Palatal fistula repair	2	2	0	0
• Palatopharyngoplasty	2	1	0	0
• Salivary gland excision	3	2	0	0
• Salivary duct / orifice dilatation	1	2	2	1
• Marsupialization-Ranula	1	2	2	2
• Abscess drainage	2	2	5	15
• Sistrunk's procedure	2	2	2	0
• Thyroidectomy	1	1	0	0
• Excision of branchial remnants	1	2	2	1
• Excision of dermoid cysts.	1	1	2	2

• Sternum mastoid release	1	1	2	1
• TM joint ankylosis	1	1	0	0
<b>THORAX</b>				
• Mastectomy	1	1	0	0
• Repair of Pectus Excavatum	1	1	0	0
• Repair of Pectum Carinatum	1	1	0	0
• Repair of cong. diaphragmatic hernia	3	3	2	1
• Repair of Morgagni hernia	1	1	0	0
• Repair of hiatus hernia	1	1	0	0
• Repair of eventration diaphragm	2	3	2	1
• Mediastinal mass excisions.	2	2	1	0
• Laryngoscopy	2	3	2	2
• Bronchoscopy				
– Diagnostic	10	10	5	3
– Therapeutic	10	10	5	3
• Thoracoscopy				
– Diagnostic	3	2	1	0
– Therapeutic	3	2	1	0
• ICTD insertion	3	5	5	15
• Decortication.	3	5	2	1
• Pulmonary resection.	3	2	1	0
• Esophagoscopy				
– Diagnostic	3	3	1	0
– Therapeutic	3	3	1	0
• UGI endoscopy	5	2	0	0
• Repair of TEF				
– Primary	3	5	1	0
– Re exploration	2	2	0	0
• Esophageal diversion	3	5	2	0
• Repair of H-type TEF	2	2	0	0
• Esophageal dilatation.	3	5	3	1
• Esophageal replacement	2	2	0	0
• Fundoplication	2	2	0	0
• Aortopexy.	1	1	0	0
• Tracheostomy	3	2	1	1
<b>ABDOMEN</b>				
• Surgery for Vitellointestinal duct remnants	3	3	1	0
• Abdominal wall defect, Primary repair				
– Exomphalos	2	2	0	0
– Gastroschisis	2	2	0	0
• Abdominal wall defects Silo construction	1	1	0	0
• Inguinal hernias and hydrocele	5	10	10	5
• Umbilical hernia	2	3	2	1
• Orchidopexy Single staged	3	10	5	2

Staged				
– Open	3	3	1	0
– Lap assisted	2	2	1	0
• Expl for torsion testes	2	2	2	1
• Orchidectomy	1	1	1	0
• Surgery for varicocele	2	2	0	0
• Pyloromyotomy.	3	5	3	1
• Duodenoduodenostomy	2	2	0	0
• Neonatal small bowel atresia – REEA	2	5	1	0
• Surgery for meconium ileus.	2	2	1	0
• Meckel’s diverticulectomy	2	3	2	1
• Non-operative reduction of intussusception.	2	3	3	1
• Operation for intussusception.	2	5	3	1
• Ladd ’s procedure.	2	4	2	0
• Release of Congenital bands	2	2	1	1
• Laparoscopy				
– Diagnostic	10	5	3	1
– Therapeutic.	5	4	1	0
• Colonoscopy	3	2	0	0
• Rectal polypectomy	5	3	3	5
• Gastrostomy				
– Formation	2	3	1	1
– Closure	1	2	1	0
• Enteral stoma (ileostomy / colostomy)				
– Formation.	3	10	5	2
– Closure	3	10	5	2
• Feeding jejunostomy	1	2	1	0
• Gastrojejunostomy	1	1	0	0
• Mesenteric cyst excision	2	3	1	0
• Excision of duplication cyst	2	2	0	0
• Operations for NEC	3	8	2	0
• Appendectomy	3	4	5	5
• Appendicular abscess – drainage.	2	2	3	3
• Pull through for Hirschsprung’s disease	3	10	1	1
– Duhamel				
– Soave				
– Swenson’s				
• Rectal biopsy	3	5	4	4
• Anorectal myectomy	1	2	0	0
• Pull through for ARM (RVF, RUF)	3	12	3	1
• Re do pull through for ARM	1	1	0	0
• Anoplasty	2	2	2	1
• Anal transposition	1	2	0	0
• Colonic resections	2	5	3	0
• Per op cholangiogram	3	5	2	0
• Kasai’s procedure.	3	5	1	0
• Operations for choledochal cyst	2	3	1	0

• Cholecystectomy	1	2	1	0
• Secondary suturing (burst abdomen)	2	3	2	1
• Liver biopsy (percutaneous)	2	3	2	1
• Liver abscess drainage	2	2	2	0
• Operation for liver hydatid	2	3	1	0
• Hepatic resection	1	1	0	0
• Operation for portal hypertension				
-Devascularization	1	1	0	0
-Splenectomy	3	5	2	1
-Portosystemic shunts.	2	3	1	0
• Operation for pancreatic pseudocysts.	2	3	0	0
• Pancreatic resection	1	1	0	0
• Pancreatic enteric anastomosis.	1	2	0	0
<b>GENITO URINARY SURGERY</b>				
• Nephrectomy				
-Tumours	2	3	0	0
- Others	2	3	1	0
• Partial nephrectomy	1	1	0	0
• Cystoscopy, fulguration of PUV.	3	5	1	0
• Cystoscopy	3	5	2	1
• Retrograde pyelography	1	2	0	0
• Nephrostomy				
-Percutaneous	2	2	1	0
-Open	1	2	1	0
• Pyeloplasty	2	3	1	1
• Nephroureterectomy	2	3	2	0
• Ureterocele incision	2	2	0	0
• Suprapubic cystostomy	2	3	3	2
• Vesicostomy				
- Formation	2	3	3	1
- Closure	2	3	2	1
• Ureterostomy --Formation				
- Loop	2	2	1	0
- Y	1	2	0	0
- Closure	2	2	0	0
• Extrophy repair (turn in)	2	2	0	0
• Bladder augmentation	2	3	0	0
• Mitrofanoff procedure	2	3	0	0
• Ureteric reimplantation	3	5	1	1
• Bladder neck repair	2	2	0	0
• Ureterosigmoidostomy	2	2	0	0
• Colonic conduit	1	2	0	0
• Epispadias repair	2	2	0	0
• Hypospadias repair-				
- Single stage	3	10	2	1
- Staged	2	3	1	1

• Meotomy/meatoplasty	2	3	3	1
• Urethral fistula repair	2	3	1	0
• Urethral calibration / dilatation	3	3	3	5
• Operation for calculus disease				
- Nephrolithotomy	1	1	1	0
- Pyelolithotomy	2	3	2	1
- Ureterolithotomy	2	2	1	0
- Cystolithotomy	3	3	3	1
• Circumcision	2	3	5	10
• Dorsal Slit	2	2	2	2
• Operation for intersex disorder				
- Correction of penoscrotal transposition	2	1	0	0
- Genitoscopy	2	3	1	0
- Gonadal biopsy	2	2	0	0
- Gonadectomy	2	2	1	0
- Testicular prosthesis placement	1	1	0	0
- Genital reconstruction	2	3	0	0
<b>NEUROSURGERY</b>				
• Repair of encephalocele	2	2	1	1
• Repair of spina bifida	3	5	3	1
• Repair of occult spinal dysraphism	2	3	0	0
• Venticuloperitoneal shunts.	3	4	3	1
• VP shunt revision	2	3	2	1
• External ventricular drainage	2	2	1	0

<b>MISCELLANEOUS</b>				
• Skin grafting				
- Partial thickness	3	5	5	5
- Full thickness	2	2	1	0
• Flap cover	2	4	1	0
• Excision of vascular anomalies				
- Venous	2	2	1	0
- Lymphatic	3	4	1	0
• Fasciotomy	3	3	3	1
• Contracture release	2	2	0	0
• Vascular anastomosis	2	3	0	0
• Arterial line placement	2	2	2	0
• Central venous line insertion-				
- Percutaneous	3	5	5	2
- Open	2	2	3	5
• Muscle biopsy	2	2	2	5
• Nerve biopsy	1	1	1	2
• Umbilical vein cannulation	2	2	2	5
• PD catheter insertion	2	3	2	1
• HD catheter insertion	2	3	2	1
• Accessory digit excision	1	2	3	3

## **Evaluation:**

Evaluation should be Formative and Summative

**Formative evaluation** (periodic, multiple) is an internal assessment by the teaching faculty of the department.

**Summative evaluation** (terminal, single) is a combined assessment by the internal and external examiners designated by the SSAHE at the end of the course.

### **I. Formative evaluation:**

Formative evaluation is concurrent and periodic and evaluates academic sessions and operative procedures / skills. It is frequent, covers small content areas and provides immediate feedback to the teacher and the taught. The criteria of assessment and scoring is prescribed by the SSAHE (see Chapter IV for Check lists) and appended in the logbook.

Formative evaluation includes assessment of all of the following

- a. Personal traits - A broad assessment would include comment on general attitude, interest in work, initiative, responsibility and reliability, organizational ability, communication skills, professional attitude, team work.
- b. Academic: Participation in academic programmes.
- c. Operative procedure / skills
- d. Teaching skills
- e. Log Book

A logbook is a comprehensive record of all academic events during the 3 years course.

#### **It details –**

- (i) Academic session (s) (Seminar /Symposium, Journal review etc) attended and presented by the candidate.
- (ii) Operative procedure / skills – minor and major.
- (iii) Assessment of (a) and (b) in chronological order. The logbook is reviewed six monthly by the departmental faculty to supplement deficits if any in the succeeding six months. It shall be reviewed by the university designates similarly.

Annual examination- A formal periodic evaluation on the lines of a summative evaluation may be conducted by the training unit at the end of each academic year to assess the candidate. The third annual test may be held 3 months before the final examination. The candidate's performances at such internal evaluations shall be utilized to rectify any shortcomings in the training in the succeeding year.

The log book and the results of periodic/formative evaluations shall be made available to the university when desired / presented to the external examiners at the time of summative evaluation

### **II. Summative evaluation.**

The purpose of summative evaluation is to decide whether the candidate is suitable for certification or not. The candidate would be eligible to appear for the qualifying examination (M.Ch. Paediatric Surgery) after completion of 3 years of training, satisfying formative/periodic evaluation by the departmental staff and minimum attendance (80%) as per NMC rules.

The general design of the examination is within the framework prescribed by the Medical Council of India in “ Postgraduate Medical Education - Regulations, 2000, Part III, Section 4 of Gazette of India, Pg. 13.”



The M.Ch. Paediatric Surgery examination shall consist of the following divisions with total marks of 700.

- i. Theory (400 marks)
- ii. Clinical examination (200 marks)
- iii. Viva Voce (100 marks)

### **Scheme of Examination**

#### **i. Theory: 400 Marks**

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

**Paper I** - General Paediatric Surgery including Basic Sciences, Neonatology and Paediatric as applied to Paediatric surgery.

**Paper II** - Trauma, Head and Neck, Thorax, Paediatric Oncology

**Paper III** - Abdomen, Genitourinary Surgery.

**Paper IV** - Organ Transplantation, Special Paediatric Surgery.

A knowledge of recent advances and neonatal surgery may be examined in any / all the papers. The above distribution is only broad and suggestive and not strict / exhaustive. The question paper is designed to test factual knowledge, ability to condense information and elicit specific information.

#### **ii. Clinical Examination: 200 Marks**

The clinical examination is designed to test clinical skills and practical ability, reasoning, confidence, communication skills, procedural skills and depth of knowledge

The clinical examination shall be divided into 2 parts and shall carry 200 marks in total.

- a. Case examination (175 marks)
- b. Operative procedure (25 marks)

a. *Case examination (175 marks):* This will include a complete evaluation of clinical case presentation and discussion ((history taking, physical examination, investigations, management etc). The examinee will face any / all of the examiners for one / all of the cases.

- There will be :
- a) One long case (1X 60 marks)
  - b) Three short cases (3 X 30 =90 marks)
  - c) Ward rounds (25 marks)

The assessment of the long case shall be structured to cover relevant aspects of clinical examination with proportionate allocation of marks to each criteria of assessment (eg. 10 marks for history taking, 10 marks for systemic physical examination, etc)

The ward rounds shall render an opportunity to the examiner to evaluate clinical judgment and practical decision-making ability of the examinee on a variety of clinical conditions.

*b. Operative procedure (25 marks)*

The candidate is required to perform a minor / day care operative procedure with assistance and supervision. The examiner shall observe/ question the candidate on the concerned operative procedure. This will include the candidate's interview with the parent before and after the procedure giving more emphasis to the approach of the candidate to the setup of the operation and counseling rather than the actual surgical procedure itself. General technique, however, to be assessed. Failure to satisfactorily conduct the operation will not be grounds for failing the candidate.

**iii. Viva Voce : 100 Marks**

Viva Voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. It may include x-rays, pathological specimens, surgical instruments, slide transparencies etc. and incorporate an objective assessment such as spotters. A special effort will be made to assess the candidate's awareness of the "frontiers" in medicine and specific knowledge of the government's (national programs) and private sector initiatives in the health care industry.

### **Recommended Books and Journals**

***Essential***

- *Paediatric Surgery (Fifth edition, 1998).*  
Editors- O'Neill JA, Rowe MI, Grosfeld JL, Fonkalsrud EW, Corn AG.  
Publisher- Mosby.
- *Clinical Paediatric Urology (Third edition, 1992).*  
Editors- Kelalis PP, King LR, Belman AB.  
Publisher- W.B. Saunders Co.
- *Manual of Neonatal care (Fourth edition, 1998)*  
Cloherty JP, Stark AR.  
Publisher-Lippincott Raven
- *Paediatric Oncology (Fourth edition, 2002).*  
Editors- Pizzo PA, Poplack DG.  
Publisher-Lippincott, Williams and Wilkins.
- *Nelson Textbook of Paediatric (Sixteenth edition, 2000).*  
Editors-Behrman RE, Kliegman RM, Jenson HB.  
Publisher- W.B. Saunders Co.
- *Rob and Smith's Operative surgery -Paediatric Surgery (Fifth edition, 1995).*  
Editors-Spitz L, Coran AG.  
Publisher-Chapman and Hall Medical
- *An introduction to biostatistics – a manual for students in health care (Second Edition, 1983)*  
Editors- Sunder Rao PSS, Jesudian G, Richard J  
Publisher – Department of Biostatistics, CMC, Vellore.

### **Optional**

- *Embryology for surgeons*  
Editors-Gray SW, Skandalakis JE.  
W.B.Saunders and Co.
- *Abdominal surgery of infancy and childhood (First edition, 1996).*  
Editors-Donnellan WL, Burrington JD, Kimura K, Schafer JC, White JJ.  
Publisher- Harwood academic publishers.
- *Adult and Paediatric urology (Fourth edition, 2002).*  
Editors-Gillenwater JY, Grayhack HT, Howard SS, Mitchell ME.  
Publisher- Lippincott, Williams and Wilkins.
- *Newborn surgery (First edition, 1996).*  
Editor-Prem Puri.  
Publisher-Butterworths, Heinemann.
- *Surgery of the Newborn (First edition, 1994)*  
Editor-Freeman NV, Burge DM, Griffiths DM, Malone PSJ.  
Publisher- Churchill Livingstone.
- *Surgery of liver, bile ducts and pancreas disease in children (Second edition, 2002)*  
Editors-Howard ER, Stringer MD, Columbani PM.  
Publisher- Arnold.
- *Caffey's Paediatric X-ray diagnosis (Ninth edition, 1993)*  
Editors-Silvermann FN, Kuhn JP.  
Publisher- Mosby.
- *Paediatric pathology (Second edition, 2001)*  
Editors-Stocker JT, Dehner LP.  
Publisher- Lippincott, Williams and Wilkin
- *Epidemiology, biostatistics and preventive medicine. (Second Edition, 2001)*  
Editor – Jekel JF, Katz DL, Elmore JG,  
Publisher – WB Saunders Co.,

### **Journals**

#### **Essential**

- Indian Journal of Paediatric Surgery
- Journal of Paediatric Surgery
- Paediatric Surgery International
- European Journal of Paediatric Surgery
- Seminars in Paediatric Surgery
- British Journal of Urology International
- Journal of Urology
- Indian Paediatric
- Indian Journal of Paediatric

#### **Optional**

- The Journal of Paediatric
- Paediatric
- Paediatric Clinics of North America

## Chapter IV

### Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter IV.

The learning out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, and (iv) Teaching skills.

**i) *Personal Attitudes.*** The essential items are:

- Caring attitudes
- Initiative
- Organisational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

**ii) *Acquisition of Knowledge*** : The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

*Journal Review Meeting (Journal Club):* The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist – I, Chapter IV)

*Seminars / Symposia:* The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist (see Model Checklist-II, Chapter IV)

*Clinico-pathological conferences* : This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a checklist similar to that used for seminar.

*Medical Audit:* Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

### **iii) Clinical skills**

*Day to Day work* : Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Chapter IV).

*Clinical meetings* : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV, Chapter IV).

*Clinical and Procedural skills* : The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter IV)

**iv) Teaching skills** : Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter IV)

**vi) Periodic tests:** The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

**vii) Work diary / Log Book-** Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

**viii) Records:** Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or NMC.

### **Log book**

The log book is a record of the important activities of the candidates during his training, Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

**Format for the logbook** for the different activities is given in Tables 1,2 and 3 of Chapter IV. Copies may be made and used by the institutions.

**Procedure for defaulters:** Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

## CHAPTER IV (Contd.)

### Format of Model Check Lists

#### Check List -1. MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper / subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	<b>Total Score</b>					

**Check List - 2. MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS**

Name of the Student:

Name of the Faculty/Observer:

Date:

<b>Sl. No.</b>	<b>Items for observation during presentation</b>	<b>Poor 0</b>	<b>Below Average 1</b>	<b>Average 2</b>	<b>Good 3</b>	<b>Very Good 4</b>
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall Performance					
10.	Any other observation					
	<b>Total Score</b>					

**Check List - 3**

**MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD**

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student:

Name of the Unit Head:

Date:

<b>Sl. No.</b>	<b>Points to be considered:</b>	<b>Poor 0</b>	<b>Below Average 1</b>	<b>Average 2</b>	<b>Good 3</b>	<b>Very Good 4</b>
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or PM					
10.	Over all quality of Ward work					
	<b>Total Score</b>					



**Check List – 4                      EVALUATION FORM FOR CLINICAL PRESENTATION**

Name of the Student:

Name of the Faculty:

Date:

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows follows logically from history and findings					
10	Investigations required					
	▪ Complete list					
	▪ Relevant order					
	▪ Interpretation of investigations					
11.	Ability to react to questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	<b>Grand Total</b>					

**Check List - 5**

**MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE**

<b>Sl. No.</b>		<b>Strong Point</b>	<b>Weak Point</b>
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc., specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		





## LOG BOOK

**Table 3 : Diagnostic and Operative procedures performed**

Name:

Admission Year:

College:

<b>Date</b>	<b>Name</b>	<b>ID No.</b>	<b>Procedure</b>	<b>Category O, A, PA, PI*</b>

- \* Key:**
- O - Washed up and observed
  - A - Assisted a more senior Surgeon
  - PA - Performed procedure under the direct supervision of a senior surgeon
  - PI - performed independently

### Model Overall Assessment Sheet

Name of the College:

Academic Year:

Check List No	Particulars	Name of Student and Mean Score				
		A	B	C	D	E
I	Journal Review Presentations					
II	Seminars					
III	Clinical work in wards					
IV	Clinical presentation					
V	Teaching skill practice					
Total Score						

Note: Use separate sheet for each year.

# Chapter V

## Medical Ethics Sensitisation and Practice

### Introduction

There is now a shift from the traditional individual patient, doctor relationship, and medical care. With the advances in science and technology and the needs of patient, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goal (i), General Objective (ii) stated in Chapter II (pages 9 and 10), and develop human values. It is urged that *ethical sensitisation* be achieved by lectures, group discussion, discussion of clinical cases with important ethical issues, during bedside rounds and in academic postgraduate programmes.

### Course Contents

1. *Introduction to Medical Ethics*
  - What is Ethics?
  - What are values and norms?
  - Relationship between being ethical and human fulfillment
  - How to form a value system in one's personal and professional life
  - Heteronomous Ethics and Autonomous Ethics
  - Freedom and personal Responsibility
  
2. *Definition of Medical Ethics*
  - Difference between medical ethics and bio-ethics
  - Major Principles of Medical Ethics
    - Beneficence = fraternity
    - Justice = equality
    - Self determination (autonomy) = liberty
  
3. *Perspective of Medical Ethics*
  - The Hippocratic oath
  - The Declaration of Helsinki
  - The WHO Declaration of Geneva
  - International code of Medical Ethics (1993)
  - Medical Council of India Code of Ethics
  
4. *Ethics of the Individual*
  - The patient as a person
  - The Right to be respected
  - Truth and Confidentiality
  - The autonomy of decision
  - The concept of disease, health and healing
  - The Right to health
  - Ethics of Behaviour modification
  - The Physician – Patient relationship
  - Organ donation

5. *The Ethics of Human life*  
 What is human life?  
 Criteria for distinguishing the human and the non-human  
 Reasons for respecting human life  
 The beginning of human life  
 Conception, contraception  
 Abortion  
 Prenatal sex-determination  
 In vitro fertilization (IVF), Artificial Insemination by Husband (AIH)  
 Artificial Insemination by Donor (AID),  
 Surrogate motherhood, Semen Intrafallopian Transfer (SIFT),  
 Gamete Intrafallopian Transfer (GIFT), Zygote Intrafallopian Transfer (ZIFT),  
 Genetic Engineering
  
6. *The Family and Society in Medical Ethics*  
 The Ethics of human sexuality  
 Family Planning perspectives  
 Prolongation of life  
 Advanced life directives – The Living Will  
 Euthanasia  
 Cancer and Terminal Care
  
7. *Profession Ethics*  
 Code of conduct  
 Contract and confidentiality  
 Charging of fees, Fee-splitting  
 Prescription of drugs  
 Over-investigating the patient  
 Low – Cost drugs, vitamins and tonics  
 Allocation of resources in health cares  
 Malpractice and Negligence
  
8. *Research Ethics*  
 Animal and experimental research / humanness  
 Human experimentation  
 Human volunteer research – Informed Consent  
 Drug trials
  
9. *Ethical workshop of cases*  
 Gathering all scientific factors  
 Gathering all human factors  
 Gathering all value factors  
 Identifying areas of value – conflict, Setting of priorities,  
 Working out criteria towards decisions

### **Recommended Reading**

1. Francis C.M., Medical Ethics, 1 Ed, 1993, Jaypee Brothers, New Delhi, p 189, Rs. 60/-.
2. Ethical Guidelines for Biomedical Research on Human Subjects, Indian Council of Medical Research, New Delhi, 2000.