



# POSTGRADUATE INSTITUTE OF MEDICINE UNIVERSITY OF COLOMBO

# PROSPECTUS BOARD CERTIFICATION IN PLASTIC & RECONSTRUCTIVE SURGERY

(To be effective from the year 2018)

SPECIALITY BOARD IN PLASTIC SURGERY BOARD OF STUDY IN SURGERY

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This prospectus is made under the provisions of the Universities Act, the Postgraduate Institute of Medicine Ordinance, and the General By-Laws: No. 1 of 2016 and By-Laws No. 2 of 2016 for Degree of Doctor of Medicine (MD) and Board Certification as a Specialist.

# 1. BACKGROUND

The specialty of plastic surgery is that branch of surgery concerned with the restoration of normal form and function. It is a varied specialty involving adults and children and encompassing a wide range of conditions affecting different parts of the body. One of the most interesting and fulfilling aspects of the specialty is the frequency with which plastic surgeons work with surgeons from other specialties such as General Surgery, Orthopaedics, Otorhinolaryngology, Neurosurgery, Cancer Surgery and Oral Maxillo Facial Surgery. In these cases, the reconstructive techniques that plastic surgeons have at their disposal are particularly useful.

All the reconstructive procedures in Plastic surgery are based on sound basic and aesthetic principles to bring about an improvement in function and appearance. These reconstructive procedures are widely used in both congenital and acquired conditions.

Training in Plastic surgery will be offered to those who have demonstrated competence in core surgical training as evidenced by success at the MD (Surgery) examination.

Implicit in the wide-ranging nature of the specialty is the requirement that a consultant in plastic surgery demonstrates a high level of skill, experience and judgment in carrying out all the roles that his/her job entails. The curriculum and training programs are designed to produce surgeons competent to take up such consultant appointments in Sri Lanka. To be considered fully trained, surgeons must achieve all the requirements of the curriculum.

# 2. ELIGIBILITY TO ENTER THE TRAINING PROGRAMME

- a. Applicants should have passed the MD (Surgery) Examination
- b. The candidates should neither be already Board Certified in any surgical field nor should they have already applied to be enrolled in a training program in any other subspecialty.

# **3. SELECTION PROCESS**

Order of merit in the MD examination will be taken into consideration when selecting candidates.

# 4. NUMBER TO BE SELECTED FOR TRAINING

Available training positions will be indicated by the PGIM in the public circular for the MD examination in Surgery. The number of candidates will be predetermined by the Specialty Board in Plastic Surgery (SpBPS) every six months based on the available training positions.

# 5. OUTCOME, COMPETENCY AND LEARNING OBJECTIVES

The aim of training in the specialty of Plastic Surgery is to produce plastic surgeons competent to work as consultant plastic surgeons in Sri Lanka.

This includes:

- Competence in the diagnosis, assessment, management and referral where appropriate, of patients presenting with a wide range of acute and emergency conditions including trauma and burns.
- Competence in the management of patients presenting with a range of elective conditions as specified in the core syllabus for the specialty of plastic surgery.

# 6. STRUCTURE OF TRAINING PROGRAM

# 6.a. Duration of training

A minimum of four (4) years of training after the MD Surgery examination. This includes:

- A mandatory minimum of two (2) years of local training in Sri Lankan centres (leaving early for overseas training will only be permitted under special circumstances due to the structured nature of the program.)
- A mandatory two (2) years of training in an overseas centre.

# 6.b. Clinical training program

This will be 4 years as stated above. It will be hospital based in-service training under direct supervision of the consultants of the units approved for PG training. During the training program the Trainers (supervisors) will monitor the performance. Individual's Mentor (specialty board will be nominating a Mentor for each trainee at the commencement) needs to guide the trainee.

# 6.c. Theoretical knowledge

The detailed curriculum in Plastic Surgery will be made available to candidates. This will indicate the areas of knowledge which will be essential for trainees to acquire. Suggested reading materials are given to facilitate self-acquisition of theoretical knowledge which will be supplemented by formal teaching seminars and discussion forums.

# 6.d. Tiers of training programme

# **Plastic Surgery training**

This will be divided into two components.

Year 1General Plastic Surgery<br/>Preferably in 3 firms (4 months under each consultant)Year 2Six (6) months – Burns and Burns reconstruction<br/>Six (6) months – Paediatric Plastic surgery

The trainee will be on call for Plastic surgery Trauma patients admitted to the training centres. During this training period the trainee is responsible for in-ward patient care as well as conducting general/ special outpatient clinics.

In all instances the trainee will be responsible for planning and delivering appropriate specialist Plastic Surgical care under the direct supervision of the consultant staff.

# 6.f. Overseas Training

The supervisors and the mentor will guide the trainee in finding a suitable overseas placement. Overseas training should be carried out by recognised Consultants in centres approved by the Board of Study in Surgery and Speciality Board in Plastic Surgery (SpBPS). The SpBPS strongly recommends advanced training in General Plastic Surgery including Hand Surgery for one year and burn training for three (3) months. The rest of the overseas training should be of trainee's interest. The board will not recognise observer posts.

# 7. CURRICULUM IN PLASTIC SURGERY

Details of the curriculum and the content areas are given in Annex 1.

# 8. LEARNING ACTIVITIES

Specific learning activities that trainees are expected to engage in, apart from routine service in the training unit could include the following:

- a. Regular meetings with other units / department
- b. Participation in Continuing Medical Education activities
- c. Participation in international meetings
- d. Conduct of audits
- e. Engagement in the teaching and training of undergraduate and postgraduate students

Maintaining a reflective portfolio – format and other details included as an annex.

# 9. TRAINING AND TRAINING UNITS

Specialists who meet the PGIM criteria (with at least 3 years' experience after Board Certification as a Plastic Surgeon) will be appointed as a trainers.

The list of such training centres will be available at the PGIM.

New training units must be accredited as per PGIM's guidelines as suitable for training in Plastic Surgery after formal application with required documents.

# **10. MONITORING PROGRESS**

# a. Portfolio assessment

The portfolio should be reviewed at least every 6 months by the local supervisor(s), with regular feedback to the trainee on how the portfolio may be improved.

# b. Progress reports

The trainees should note that progress reports would contain evaluation regarding

- I. Theoretical knowledge
- II. Clinical skills
- III. Competence in non-invasive procedures
- IV. Competency in surgical procedures
- V. Clinical judgment
- VI. Attitudes
  - -Reliability
  - -Self motivation
  - -Team leadership
  - -Teaching commitment
  - -Research commitment
- Consultant assessment and mentor reports throughout the training.
- The trainee should liaise with the trainers and ensure that the reports are received by the PGIM in time. This includes local as well as overseas training.
- The progress reports for 4-6 months assessment should be submitted by the trainer within 2 weeks after completion of the appointment.
- The progress reports will be formatted as assessment schemata as given in Annex 4.

# c. Logbook assessment

• Periodical logbook assessment reviews by the trainers. (Annex for Log book format)

# d. Peer Team Rating Forms

The trainee with the trainer should submit the Peer Team Rating (PTR) form (PTR) (Annex) every six months to SpB.

# e. Formative Assessments

There shall be a formative assessment at the end of each year of training which will be carried out by the trainer. The form in Annex 4 to be used for this purpose. The formative assessment report for each year should be submitted by the trainer within 2 weeks after completion of the appointment.

Satisfactory formative assessment reports acceptable to the SpB is a mandatory requirement to qualify the Pre Board Certification assessment.

# 11. ELIGIBILITY FOR PRE-BOARD CERTIFICATION ASSESSMENT

The trainee needs to satisfactorily complete the following criteria to become eligible to appear for a PBCA.

- 1. Completion of the required period of training.
  - 1.1.Minimum of two years post-MD local training.
  - 1.2. Minimum of two years in post-MD overseas training.
  - \* A minimum of 80% attendance is required in both 1.1 & 1.2.
- 2. Satisfactory progress reports to cover the entire period of training (local and overseas). All appointments must be duly signed up as having been completed satisfactorily by the supervising consultant.
- 3. Submission of portfolio.

# PRE BOARD CERTIFICATION ASSESSMENT -PBCA

The PBCA will be based on assessment of the portfolio maintained by the trainee during the period of post-MD training. The contents of the portfolio should encompass all of the following learning outcomes and contain evidence of achievement of these outcomes by the trainee.

# **Contents of portfolio**

- 1. Subject expertise
- 2. Teaching
- 3. Research and audit
- 4. Ethics and medico-legal issues
- 5. Information technology
- 6. Life-long learning
- 7. Reflective practice

# Details

- 1. Subject expertise
  - Progress reports from supervisors (essential, should be according to prescribed format)
  - Supervisor feedback on communication skills
  - Log of procedures carried out (log book with periodical supervisors remarks)
  - Results of any work-place assessment conducted
  - Case-Based discussions, Direct Observation of Practical skills
- 2. Teaching
  - Undergraduate
  - Postgraduate
  - Ancillary health staff

3. Research, publication and audit

(Documentary evidence of such an audit presentation must be provided to the Speciality Board in Plastic Surgery.)

# Research

Evidence of a completed research during post-MD period is a mandatory requirement that needs to be fulfilled to be eligible to appear for the Pre-Board Certification Assessment (PBCA). Research should be conducted according to the PGIM guidelines.

# Publications

The trainee must have at least one Original article (not case report) as first author OR Project report in par with PGIM regulations on research

# Presentations

Two podium /poster presentations at an international meeting or four podium/poster presentations at national meetings on a plastic surgical topic.

# Clinical audit

In addition to the research project it is a mandatory requirement for the trainee to do a comprehensive Clinical Audit and formally present it at the hospital where he or she is working. This should follow the audit format.

# 4. Ethics and medico-legal issues

- Completed Professionalism Observation Forms
- Completed PTR forms during post-MD training

# 5. Information technology

- Participation in training programmes/workshops
- Evidence of searching for information and application of findings in practice
- 6. Life-long learning
  - Participation in conferences and meetings
- 7. Reflective practice
  - Narration of at least one learning event experienced by the trainee, in relation to each of the above outcomes, with reflection on what and how the trainee learned from this experience.

Although some of these may have been evaluated before the MD examination, the portfolio assessed at the PBCA should mainly contain evidence of achievements during post-MD training, either locally or overseas. All sections need not be of equal weight- for example, the section on Subject Expertise may be much more detailed than the others.

# 1. Format of PBCA

This will constitute of two components:

- a. Portfolio Assessment
- b. Viva examination

# Portfolio assessment

When the trainee is eligible for PBCA, 3 copies of the completed portfolio should be submitted to the PGIM Examinations Branch.

The PBCA should take the form of a final, summative assessment of the trainee's portfolio, carried out by three (3) examiners appointed by the Speciality Board in Plastic Surgery and approved by the Senate of the University of Colombo. The 3<sup>rd</sup> examiner will be from outside the discipline (Plastic Surgery) to improve objectivity.

# Viva voce

The trainee will be called for an oral examination, during which he/she will be assessed on the portfolio. The trainee may be required to start with a presentation of 10 - 15 minutes, on the post-MD training if the Board deems it appropriate.

# 2. Requirements to pass the PBCA

The overall assessment should be based on each of the main sections, which should be assessed as satisfactory or not on an overall basis.

# 3. Failed Candidate

If the examiners are of the view that the trainee's performance is unsatisfactory, the examiners must provide the trainee with written feedback on how the portfolio should be improved in order to reach the required standard.

The trainee should then re-submit the portfolio within a specified period of time (from 3 - 6 months), and face another oral examination based on the re-submitted portfolio. If the trainee is successful at this  $2^{nd}$  oral examination, the date of Board Certification shall be backdated to the originally scheduled date. If unsuccessful at the  $2^{nd}$  attempt, the date of Board Certification will be the date of passing the subsequent PBCA following further training for a minimum period of six (6) months in a unit selected by the Board of Study.

# **12. BOARD CERTIFICATION**

A trainee who has successfully completed the Pre-Board Certification Assessment is eligible for Board Certification as a Specialist in Plastic Surgery, on the recommendation of the Speciality Board in Plastic Surgery and the Board of Study in Surgery.

# **ANNEXURE I - CURRICULUM IN PLASTIC SURGERY**

# Introduction

The curriculum has been designed to include all the aspects of plastic surgery as it relates to this field that is broad and covers every aspect of the human body. It also covers the aspects of congenital, traumatic, acquired, neoplastic, inflammatory, degenerative pathologies. The modules have been arranged in this manner so that the trainee will be able to log in their various procedures under the various categories in their training period.

Whilst plastic surgery is an ever expanding speciality, in middle and low income countries certain plastic surgical procedures predominate eg, Clefts that are fewer and reduced in incidence in the west is still a problem in Sri Lanka. Over 95 % of the worlds burns occur in low and middle income countries with poor quality of care. Therefore. The incidence of severe complex contractures and scars requiring plastic surgery is high. Similarly infective disorders such as leprosy rare in the west but commonly encountered requiring reconstructive surgery in Sri Lanka.

Taking these differences in mind the core knowledge and training periods concentrate in training the surgeons who will meet these national needs. They will however also be required to have a thorough outline knowledge in order to keep up with latest trends and developments in plastic surgery

Each of the following 8 modules are considered to be of equal weighting

- 1. Surgical Sciences and Principles
- 2. Hand
- 3. Cleft & Cranio-facial
- 4. Head & Neck
- 5. Lower Limb & Foot
- 6. Burns
- 7. Trunk, Perineum & Breast
- 8. Aesthetics

# 1. An outline of the required competencies of a graduating trainee in Plastic & Reconstructive Surgery

At the completion of training the trainee is expected to consistently demonstrate a high level of professional skill in these areas:

# 2. Medical Expertise

Access and apply relevant knowledge to clinical practice

- Maintain currency of knowledge
- Apply scientific knowledge in practice
- Recognise and solve real-life problems

# 3. Technical Expertise

Safely and effectively perform appropriate surgical procedures

- Consistently demonstrate sound surgical skills
- Demonstrate procedural knowledge and technical skill at a level appropriate to Plastic & Reconstructive Surgery and their level of experience
- Demonstrate manual dexterity required to carry out procedures
- Adapt their skills for each procedure in the context of the individual patient-
- Maintain skills and learn new skills
- Approach and carry out procedures with due attention to the safety of the patient, self, and others
- Analyse their own clinical performance for continuous improvement

# 4. Judgment -Clinical decision making

Design and carry out effective management plans

- Recognise the symptoms of, accurately diagnose, and manage common problems in Plastic and Reconstructive Surgery
- Take a history, perform an examination, and arrive at a well-reasoned diagnosis
- Efficiently and effectively examine the patient
- Formulate a differential diagnosis based on investigative findings
- Manage patients in ways that demonstrate sensitivity to their physical, social, cultural, and psychological needs
- Effectively manage the care of patients with severe trauma including multiple system trauma
- Effectively manage complications
- Accurately identify the risks, benefits, and mechanisms of action of drugs, injectable and implantable products currently used in Plastic and Reconstructive Surgery
- Indicate alternatives in the process of interpreting investigations and in decision making
- Manage complexity and uncertainty
- Consider all issues relevant to the patient
- Identify and manage risk
- Plan, and implement, a risk management plan organise diagnostic testing, imaging and consultation as needed.
- Select medically appropriate investigative tools and monitoring techniques in a cost effective, and useful manner
- Appraise and interpret plain radiographs, CT and MRI against patients' needs manage complexity and uncertainty
- Consider all issues relevant to the patient
- Identify and manage risk
- Plan, and implement, a risk management plan organise diagnostic testing, imaging and consultation as needed.
- Select medically appropriate investigative tools and monitoring techniques in a cost effective, and useful manner

- Appraise and interpret plain radiographs, CT and MRI against patients' needs critically evaluate the advantages and disadvantages of different investigative modalities
- Evaluate the significance of data

# 5. Communication

Communicate effectively

- Communicate information to patients (and their family within the scope of privacy law) about procedures, potentialities, and risks associated with surgery in ways that encourage their participation in informed decision making
- Communicate with the patient (and their family) the treatment options, potentials, complications, and risks associated with the use of drugs, injectable and implantable products currently used in Plastic and Reconstructive Surgery
- Communicate with and co-ordinate surgical teams to achieve an optimal surgical environment
- Initiate the resolution of misunderstandings or disputes
- Appropriately adjust the way they communicate with patients to accommodate cultural and linguistic differences
- Write comprehensive and detailed reports for medicolegal purposes, insurance providers etc.
- Respect and provide service under national, provincial, departmental and local institutional laws, bylaws and regulations.
- Following stipulated guidelines whenever applicable.

# 6. Collaboration

Work in collaboration with members of an interdisciplinary team where appropriate

- Collaborate with other professionals in the selection and use of various types of treatments assessing and weighing the indications and contraindications associated with each type
- Develop a care plan for a patient in collaboration with members of an interdisciplinary team
- Employ a consultative approach with colleagues and other professionals
- Recognise the need to refer patients to other professionals

# 7. Management and Leadership

Balanced decision making - see also Judgement - clinical decision making Effectively use of resources to balance patient care and systemic demands

- Identify and differentiates between systemic demands and patient needs
- Apply a wide range of information to prioritise needs and demands able to manage and lead clinical teams - see also Collaboration
- Is respectful of the different kinds of knowledge and expertise which contribute to the effective functioning of a clinical team maintains accurate records

# 8. Health Advocacy

Promote health maintenance of colleagues

Ensure their own physical and mental health is provided for.

# 9. Scholar and Teacher

Recognize the value of knowledge and research and its application to clinical practice

- Assume responsibility for own on-going learning
- Draw on different kinds of knowledge in order to weigh up patient's problems in terms of context, issues, needs, and consequences
- Critically appraise new trends in Plastic & Reconstructive Surgery
- Facilitate the learning of others

# 10. Professionalism

Appreciate the ethical issues associated with Plastic & Reconstructive Surgery

- Consistently apply ethical principles
- Identify ethical expectations that impinge on the most common medico-legal issues
- Is accountable for their decisions and actions
- Acknowledge their own limitations
- Acknowledge and learn from mistakes
- Act responsibly
- Employ a critically reflective approach

# **11. Surgical Sciences and Principles**

# Core Knowledge

# **Surgical Science**

- Biomechanics of skin, soft tissue, bone
- Wound healing skin, tendon, nerve, cartilage, muscle, bone
- Distraction osteogenesis and tissue expansion
- Graft healing skin, tendon, nerve, cartilage, muscle, fat
- Pathological wound healing eg scarring, keloid, stretching, steroids, radiotherapy, smoking
- Growth and puberty
- Aging normal and abnormal
- Physiology of microcirculation, flaps
- Delay phenomenon
- Pathology of flap failure and no-reflow
- Alloplastic materials
- Tissue engineering, skin substitutes
- Organ and Tissue transplantation
- Statistics, research methodology, literature searches, critical assessment of publications
- History of Plastic and Reconstructive Surgery

# Core knowledge on common surgical conditions

# **Clinical Skills**

- Disaster management in trauma and burns.
- Assessment and management of surgical patient.
- Preoperative assessment for surgery
  - Body mass index, co-morbidities, smoking, pre-operative assessment
- Assessment and management of burns and trauma (including the multiple injured patient)
- Anaesthesia local, regional, agents, problems, doses, resuscitation from overdose
- Care and protection of the anaesthetized patient
- Perioperative care and analgesia
  - Fluids and electrolytes, acid/base
  - Monitoring of flaps
  - Respiratory care
  - Endocrine disorders affecting surgical management
  - Paediatric (drug doses, fluid and nutritional management)
- Postoperative pain management
- Surgical care of Paediatric patient
- Principles of chronic pain management
- Blood transfusion
- DVT, PE, anticoagulation
- Bleeding and clotting problems in surgery
- Burn and trauma management (facial, hand and lower limb specifically)
- Wound management
- Skin malignancy
- Clinical photography
- Medical imaging ethics and law
- Informed consent
- Medico-legal risk management
- The risky aesthetic surgical patient
- The dissatisfied aesthetic surgical patient
- Risk management
- Quality assurance and surgical auditing
- Continuing education
- Surgical record-keeping
- Management of dying patient

The role and responsibilities of the Registrar

- Psychology, psychiatry and counselling
- Multidisciplinary management

# Pathology

• Skin, oral cavity, salivary glands, breast, limb Epidemiology

- Carcinogenesis
- Pathology of benign and malignant lesions
- Metastatic spread especially cervical, axillary and groin nodes
- Genetics in Plastic & Reconstructive Surgery
- Specimen handling and processing, histopathology processing. Markers
- Pathology of congenital anomalies vascular anomalies, haematomas, cleft, craniofacial, hand
- Physiology and pathology of surgery, trauma, burns (thermal, electrical, chemical)
- Infection, antibiotics and sterilisation
- Infectious diseases of importance to surgeons
- Sepsis and septic shock
- Principles and effects of radiotherapy and chemotherapy
- Principles of transplantation and immunology
- Inflammatory and autoimmune disorders
- Principles of other pathological processes such as Dupuytren's and other fibromatoses, lymphoedema, ulceration (decubitus, lower limb, etc)

# Anatomy

- Anatomy relevant to Plastic & Reconstructive Surgery (all, except the brain and viscera of chest and abdomen)
- Embryology and developmental biology of limbs, hands, head and neck-including face, ears, mouth, craniofacial area
- Histology of skin and other relevant tissues eg nerves, blood vessels, etc
- Developmental anomalies
- Aesthetic norms 'normal' aesthetic measurements and appearances in various racial groups

# **Basic Surgical Techniques in Plastic & Reconstructive Surgery**

- Excision and debridement
- Suturing techniques
- Sutures
- Dressings, drains and splints
- Skin graft types and techniques
- Flap types and techniques including flap geometry design and practical application
- Repair of vessels, nerves, tendons
- Open reduction and internal fixation (hand and cranio-maxillo-facial), external fixation
- Operating room equipment (including diathermy, laser, microscopes, liposuction, etc) and instruments

# 1. Hand & Upper Limb

# Introduction

The graduating trainee will be able to:

- Safely and effectively perform appropriate surgical procedures
- Consistently demonstrate sound surgical skills
- Demonstrate manual dexterity and binocular hand-eye co-ordination required to carry out microsurgery
- Design and carry out effective management plans
- Select and organise appropriate diagnostic testing as needed
- Accurately interpret imaging
- Effectively manage the care of patients with severe and acute trauma
- Communicate information to patients about procedures, alternatives, and risks associated with surgery in ways that encourage their participation in informed decision making
- Maintain accurate and comprehensive records
- Work in collaboration with members of an interdisciplinary team co-ordinating appropriate hand therapy and rehabilitation

# Topics

- A. Management of all aspects of hand trauma
- B. Surgical management of brachial plexus injuries
- C. Management of hand and upper limb infections
- D. Diagnosis and management of congenital hand conditions
- E. Management of acquired conditions of the hand
- F. Neoplasia
- A. Management of all aspects of hand trauma

# Learning objectives

Competence in the diagnosis and management of hand trauma

# Core Knowledge

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology,
- Pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations including radiological assessments and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. physiotherapy, occupational therapy.

- Crush injuries.
- Injection injuries.

# **Clinical Skills**

- Assessment and non-operative of the management of the acute surgical patient
- History taking.
- Examination including hand examination.
- Skills of analysis and diagnostic synthesis, judgment, surgical planning

# **Procedural Skills**

- Wound exploration and debridement. (including amputations)
- Microsurgical repair of peripheral nerve, (also include Primary graft to peripheral nerve)
- Reconstruction of Fingertip injuries
- Reconstruction of hand soft tissue injuries with skin grafts, local, pedicle and free tissue transfer.
- Primary and secondary repair of both flexor and extensor tendon injuries.
- Primary open reduction of small bone and fixation
- Manipulation of fracture of bone
- Replantation and revascularization of digits and hand
- Amputation of phalanx of finger
- B. Surgical management of brachial plexus injuries

# Learning objectives

An understanding of the principles of diagnosis, investigation and management of patients, children and adults, with brachial plexus injuries.

# Core Knowledge

- Relevant anatomy, physiology and pathology. (Mechanisms of nerve injury and regeneration.)
- Relevant associated conditions including other trauma.
- Appropriate assessment including neurological assessment, pre-operative investigations and nerve conduction studies and electromyography.
- Range, timing, indications and principles of relevant operations.
- Post-operative complications and their management.
- Relevant ancillary interventions including physiotherapy, occupational therapy.
- Secondary deformities and deficiencies of spontaneous recovery and principles of their management.
- Indications, patient selection for free functional muscle transfer.

# **Clinical Skills**

- Assessment and non-operative management of these patients.
- History
- Examination including neurological examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural Skills**

- Surgical exposure of brachial plexus
- Intraoperative nerve testing.
- Neurolysis
- Nerve grafting.
- Nerve repair.
- Nerve transfer (nerve crossing)
- Tendon transfer.
- Secondary procedures

# C. Management of all aspects of hand & upper limb infection

# Learning objectives

Competence in the diagnosis and management of hand & upper limb acute infections.

# Core Knowledge

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. physiotherapy, occupational therapy.

# **Clinical Skills**

- Assessment and operative management of the acute infections
- History taking.
- Examination including hand examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural Skills**

- Wound exploration and debridement.
- Different surgical approaches
- Management of complications

# D. Diagnosis and management of congenital hand conditions

# Learning objectives

Diagnosis and management of congenital hand conditions. Competence in the management of congenital hand condition.

# Core Knowledge

• Relevant anatomy, embryology, physiology, biochemistry, pharmacology and pathology including

microbiology, haematology, immunology and histopathology.

- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary interventions e.g. physiotherapy, occupational therapy.
- Classification of congenital hand and forearm anomalies.

# **Clinical Skills**

- Assessment and non-operative of the management of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural Skills**

- Correction of polydactyly (ulnar)
- Correction of syndactyly.
- Correction of duplicate thumb.
- Correction of triggering of digit.
- Release of constriction band.
- Pollicisation
- Toe to thumb transfer

# E. Management of acquired conditions of the hand

# Learning objectives

Competence in the management of elective, acquired hand and forearm conditions.

# **Core Knowledge**

- Relevant embryology, anatomy, physiology, biochemistry, pharmacology and pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. appropriate drug therapy, physiotherapy, occupational therapy.
- Nerve compressions.
- Vasospastic disorders.
- Rheumatoid disease.
- Dupuytren's contracture.

- Ganglion.
- Loss of motor function affecting the hand, principles of tendon transfer.

# **Clinical Skills**

- Assessment and non-operative of the management of the acute and elective surgical patient
- History taking.
- Examination.
- Digital nerve block
- Regional nerve block
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# **Procedural Skills**

- Carpal tunnel release
- Cubital tunnel release
- Insertion of steroid (trigger finger, de Quervain's, carpal tunnel)
- Palmar fasciectomy
- Dermofasciectomy
- Excision of ganglion
- Tenosynovectomy (rheumatoid)
- Multiple transfer of tendon to tendon
- Secondary repair of tendon using temporary prosthesis
- Tenolysis of flexor
- Release of constriction of sheath of tendon (trigger finger, de Quervain's)
- Microvascular transfer of toe to thumb
- Pollicisation of finger
- Swanson MCPJ or PIPJ arthroplasty
- Trapezectomy
- Darrach procedure
- Bone-graft harvest
- Fusion of wrist
- Primary arthrodesis of joint
- Repair of capsule of joint for stabilisation of joint (eg Thumb UCL repair)
- Release of contracture of joint (Check rein ligament release)
- Wrist arthroscopy

# F. Neoplasia

# Learning objectives

Competence in the diagnosis and management of patients with benign or malignant tumours of the hand and upper limb.

# Core Knowledge

• Relevant embryology, anatomy, physiology, biochemistry, pharmacology and pathology including microbiology, haematology, immunology and histology.

- Tumours including benign and malignant conditions of skin, soft tissues and bone.
- Management of benign conditions like ganglions.
- Principles of oncological resections
- Regional axillary and inguinal block dissection
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. radiotherapy, chemotherapy, psychological support, physiotherapy, occupational therapy, dietetics.
- Structure and function of MDTs.

# **Clinical Skills**

- Assessment and non-operative and operative management neoplasia.
- History taking.
- Examination including hand examination.
- Biopsy techniques.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural Skills**

- Excision and direct closure of simple skin lesions
- Excision and graft of malignant skin lesions
- Incisional biopsy at various sites and varying tissue including fat, connective tissue, muscle, nerve.
- En-block excisional techniques at various sites.
- Flap reconstruction as required.
- Nerve repair
- Vessel repair
- Regional lymph node dissection

# 2. Cleft & Cranio facial

# Introduction

Many aspects of Cleft & Cranio facial surgery are integral components of general Plastic Surgery training. These are defined in this section of the curriculum.

The graduating trainee will be able to:

- Safely and effectively perform appropriate surgical procedures
- Consistently demonstrate sound surgical skills
- Demonstrate manual dexterity and binocular hand-eye co-ordination required to carry out microsurgery
- Design and carry out effective management plans
- Select and organize appropriate diagnostic testing as needed
- Accurately interpret imaging
- Effectively manage the care of patients with severe and acute trauma
- Communicate information to patients about procedures, alternatives, and risks associated with surgery in ways that encourage their participation in informed decision making
- Maintain accurate and comprehensive records

Work in collaboration with members of an interdisciplinary team (neonatologists, paediatrician, paediatric neurologist, neurologist, ENT surgeons, geneticist, feeding specialists, nutritionist, neurosurgeons, and orthodontist.)

# Topics

- A. Cleft lip and palate
- B. Velopharyngeal incompetence
- C. Cranio Facial Anomalies
- D. Facial trauma
- A. Management of Cleft lip and palate

# Learning objectives

Competence in the management of patients with cleft lip and/or cleft palate

# Core Knowledge

- Relevant embryology, anatomy, physiology, classification.
- Incidence of clefting.
- Related conditions and syndromes.
- Pre-operative assessment and investigation.
- Range, indications and principles of operations.
- Post-operative complications.
- Speech therapy.
- Hearing tests.

- Orthodontics, paediatric and restorative dentistry.
- Genetics relating to clefting.
- Structure and function of MDTs.

# **Clinical Skills**

- Assessment and non-operative management.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement and surgical planning

# **Procedural Skills**

- Presurgical orthodontics
- Cleft lip repair and revision
- Cleft palate repair and re-repair
- Pharyngoplasty of varying types
- Alveolar bone grafting
- Maxillary and mandibular osteotomy
- Speech assessment
- Palatal videofluoroscopy
- Nasendoscopy
- Cleft rhinoplasty

# B. Velopharyngeal incompetence

# Learning objectives

Competence in the management of velopharyngeal incompetence and related speech problems with or without cleft palate.

# **Core Knowledge**

- Relevant anatomy, embryology and physiology.
- Related syndromes and conditions.
- Pre-operative assessment and investigation including speech asessment, nasometry, palatal videofluoroscopy, and nasendcopy.
- Range, indication and principles of relevant operations.
- Post-operative complications and their management.
- Speech therapy.
- Hearing tests.
- Structure and function of MDTs.

# **Clinical Skills**

- Assessment and non-operative management.
- History taking.

- Examination.
- Skills of analysis, diagnostic synthesis, judgement and surgical planning.

# **Procedural Skills**

- Palatal re-repair
- Palatal exploration with intravelar veloplasty
- Furlow's repair
- Pharyngoplasty of varying types.

# C. Cranio Facial Anomalies

# Learning objectives

To gain knowledge of the commoner craniofacial deformities

# Core Knowledge

- Relevant embryology, development, anatomy, physiology, pathology and classification
- Bone healing, including primary healing, malunion, non-union, osteomyelitis and the physiology and methods of bone grafting
- Genetics of craniosynostosis and associated syndromes
- Orthognathic surgery
- Relevant associated disease, syndromes and secondary deformities.
- Alloplastic materials in craniofacial surgery.
- Congenital ooculoplastic conditions and their management (ptosis, proptosis, cleft eye lids, microphthalmia, hypertelorism etc..
- Anterior encephalocoeles and frontonasal dysplasia management principals
- Microtia classifications and its management
- Congenital and acquired facial nerve palsy variations of presentation and their management (See *'Facial nerve palsy'* in *'Head & Neck'* section)
- Fibrous dysplasia and various degenerative conditions (Dystropic conditions)
- Management of benign and malignant craniofacial tumours (including parotid gland tumours) See '*Head & Neck*' section
- Fat grafting techniques
- Relevant investigations including imaging; paediatric, neurological and ophthalmic assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.

# **Clinical Skills**

- Assessment and pre-operative management of the elective surgical patient. History taking.
- Examination.

# **Procedural Skills**

Common craniofacial procedures.

- Suturing of scalp. Reconstruction of scalp defects with grafts and appropriate flaps
- Suturing eyelids Reconstruction of lid defects with grafts and appropriate flaps

- Suturing nasal trauma Reconstruction of nasal defects with grafts and appropriate flaps (includes forehead flap)
- Suturing ear lacerations, reconstruction of ear defects with grafts and appropriate flaps
- Suturing lips, reconstruction of lip defects with grafts and appropriate flaps
- Fat grafting of face
- Cranial defects reconstruction with alloplastic materials and autologous split calvarial bone graft.
- Common cranial vault exposures
- Internal fixation of all elective and traumatic craniofacial skeletal conditions
- Autologous ear reconstruction (includes costal cartilage harvesting, raising temporal fascial flaps, scalp split skin graft harvesting)
- Ptosis surgery
- Nerve crossings (nerve transfer) and purified botulinum toxin use in facial nerve palsy.
- Chin augmentation, exposure in maxillary, mandibular surgery

# D. Facial trauma

#### Learning objectives

Competence in the diagnosis and principles of treatment of craniofacial trauma

# Core Knowledge

- Relevant anatomy, physiology and pathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations including imaging, and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Methods of internal, external fracture fixation.
- Fracture healing.
- Associated head and neck injuries.
- Glasgow coma scale.

# **Clinical Skills**

- Assessment and pre-operative management of the acute surgical patient.
- History taking.
- Examination.
- Skills analysis, diagnostic synthesis, judgment, surgical planning.

# **Procedural Skills**

- Competency in emergency procedures in facial trauma
- Manipulation of nasal bone fractures.
- Exploration of orbital fractures.
- Zygomatic fracture reduction and fixation
- Elevation of malar complex fractures.
- Reduction and fixation of mandibular fractures.

- Rhinoplasty (traumatic, post-traumatic)
- Treatment of secondary deformities of facial trauma

# 3. Head & Neck

# Introduction

The graduating trainee will be able to:

- Safely and effectively perform appropriate surgical procedures
- Consistently demonstrate sound surgical skills
- Demonstrate manual dexterity and binocular hand-eye co-ordination required to carry out microsurgery
- Design and carry out effective management plans
- Select and organize appropriate diagnostic testing as needed
- Accurately interpret imaging
- Effectively manage the care of patients with severe and acute trauma
- Communicate information to patients about procedures, alternatives, and risks associated with surgery in ways that encourage their participation in informed decision making
- Maintain accurate and comprehensive records
- Work in collaboration with members of an interdisciplinary team (neurologist, ENT surgeons, neurosurgeons etc..) coordinating appropriate occupational therapy and prosthetic application.

# Topics

- A. Benign and malignant diseases
- B. Head and neck, ear, eyelid, nose, lip and oral cavity
- C. Facial nerve palsy
- D. Vascular anomalies
- A. Benign and malignant diseases

# Learning objectives

- Competence in management of patients with benign or malignant tumours of the head and neck.
- Competence in the management of patients requiring neck dissection for malignant disease

# **Core Knowledge**

- Relevant embryology, anatomy, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations including imaging, and patient assessment.
- Tumour staging.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.

- Relevant ancillary investigations, interventions e.g. radiotherapy, chemotherapy, psychological support, physiotherapy, occupational, speech therapy, dietetics.
- Effects of sun exposure and other aetiological factors.
- Premalignant cutaneous and intraoral conditions.
- Structure and function of MDTs.

# **Neck dissection**

- Relevant embryology, anatomy, physiology, pathology, microbiology.
- Relevant associated diseases and conditions.
- Appropriate pre-operative investigations (including imaging techniques) and patient management.
- Range, indications and principles of relevant operations including the different types of neck dissection performed.
- Post-operative complications and their management.
- Classification of cervical lymph node groups.
- FNA techniques.
- Indications for sentinel node biopsy.
- Structure and function of MDTs.
- Relevant ancillary investigations and interventions, including radiotherapy, chemotherapy, physiotherapy, occupational therapy, and dietetics.

# **Clinical Skills**

- Assessment and non-operative of the management of the acute surgical patient
- History taking.
- Examination.
- Fine needle aspiration cytology.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# **Procedural Skills**

- Excisional surgery: Lip
- Excisional Surgery: Oral cavity, including tongue, floor of mouth, buccal mucosa, retromolar trigone, alveolus and mandible, palate
- Excisional Surgery: Maxilla
- Excisional Surgery: Eyelid
- Excisional Surgery: Nose
- Excisional Surgery: Ear
- Excisional Surgery: Scalp
- Excisional Surgery: Scalp & Bone
- Parotidectomy-superficial, radical
- Submandibular gland excision
- Cervical lymph node biopsy
- Radical neck dissection
- Selective neck dissections of various types

# B. Head and neck, ear, eyelid, nose, lip and oral cavity

#### Learning objectives

Competence in reconstruction of traumatic or excisional defects of the head and neck region.

#### **Core Knowledge**

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Soft tissue facial injuries.
- Appropriate pre-operative investigations including imaging, and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Prosthetics.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. radiotherapy,

#### **Clinical Skills**

- Assessment and non-operative of the management of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural Skills**

- Reconstructive Surgery Lip:
- Lip shave
- Reconstructive Surgery lip: Wedge excision
- Reconstructive Surgery Lip: Local flaps
- Oral cavity: Skin grafts
- Oral cavity: Local Flaps
- Oral cavity: Regional Flaps
- Oral cavity: Free flaps including cutaneous, myocutaneous, osteocutaneous
- Oral cavity: Autologous mandibular reconstruction

# Eyelid reconstruction:

- Skin grafts
- V-excision +/- lateral canthotomy
- Cheek advancement
- Chondromucosal grafts
- Lid switch
- Ptosis correction
- Repair of lacrimal apparatus

# Nose:

- Skin grafts
- Local flaps
- Regional flaps
- Cartilage/bone grafts
- Branemark reconstruction

# Ear: Congenital & acquired defects

- Skin grafts
- Local flaps
- Autologous reconstruction using cartilage framework
- Branemark reconstruction

# Scalp:

- Local Flaps
- Regional Flaps
- Free Flaps
- Bone Grafts
- Alloplastic materials
- Tissue expansion

# C. Facial nerve palsy

# Learning objectives

Competence in management of patients' children and adults, who have congenital or acquired facial palsy.

# Core Knowledge

- Relevant embryology, anatomy, physiology, pathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary interventions.

# **Clinical Skills**

- Assessment and non-operative of the management of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# **Procedural Skills**

• Static procedures including fascial slings.

- Eyelid procedures including gold weight insertion.
- Facial nerve grafting.
- Microvascular free muscle transfer.
- Smile balancing

# D. Vascular anomalies

# Learning objectives

Competence in the diagnosis and management of patients, children and adult, with congenital abnormalities of the head and neck

# **Core Knowledge**

- Relevant anatomy, physiology, haematology and pathology.
- Relevant associated diseases and conditions.
- Classification of vascular and lymphatic malformations
- Branchiogenic anomalies
- Laser therapy
- Medical management (steroid, propranolol treatment, sclerotherapy etc,)
- Interventional radiology
- Post-operative complications
- Relevant ancillary investigations and interventions, including ophthalmic assessment
- Timing and extent of excisional surgery and assessment of reconstructive need.

# **Clinical Skills**

- Assessment and non-operative management
- History taking
- Examination

# **Procedural Skills**

- Sclerotherapy.
- Debulking of haemangioma, lymphangioma.
- Excision and reconstruction of facial structures including eyelids and lips.

# 4. Lower Limb & Foot

# Introduction

Candidate should be aware of the aetiology of lower limb lesions, deformities and defects and their management including methods of reconstruction. Areas of particular emphasis are the overall management of degenerative ulceration and the reconstruction of tissue deficits of the lower limb. Much of the basics in this will have already been covered in Plastic & Reconstructive Surgical Sciences and Principles.

The graduating trainee will be able to:

- Safely and effectively perform appropriate surgical procedures
- Consistently demonstrate sound surgical skills
- Demonstrate manual dexterity and binocular hand-eye co-ordination required to carry out microsurgery
- Design and carry out effective management plans
- Select and organize appropriate diagnostic testing as needed
- Accurately interpret imaging
- Effectively manage the care of patients with severe and acute trauma
- Communicate information to patients about procedures, alternatives, and risks associated with surgery in ways that encourage their participation in informed decision making
- Maintain accurate and comprehensive records
- Work in collaboration with members of an interdisciplinary team (orthopaedic, general surgeons) coordinating appropriate physiotherapy and prosthetic application.

# Resources

In-hospital training posts will provide the bulk of the exposure to this material. Particular opportunity should be taken to attend combined clinics with orthopaedics and vascular surgery.

Delivery of this module

- Literature review
- Appropriate selected articles
- Clinical experience including in clinics, peri-operative care on the ward and in the operating theatre
- Courses and workshops

# Topics

- A. Lower Limb Trauma
- B. Multidisciplinary assessment and management of lower limb fractures involving skin loss
- C. Diagnosis and management of congenital lower limb conditions
- D. Lower limb degenerative, infections and ulcerations
- E. Lymphadema
- F. Management of benign and malignant skin tumours
- G. Soft tissue sarcomas

# A. Lower Limb Trauma

# **Learning Objectives**

Competence in the management of lower limb trauma.

# Core knowledge

• Relevant anatomy (including vascular axes), physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.

- Skin loss, nerve injuries, and tendon injuries.
- Wound healing.
- Pathophysiology of the macro and microcirculation.
- Appropriate pre-operative investigations and patient assessment.
- Degloving injuries and their mechanism.
- Compartment syndrome.
- Multidisciplinary management of the severely injured lower limb.
- Range, indications and principles of relevant operations.
- Amputation at all levels of the lower limb (adult & paediatric) and manage rehabilitation.
- Detailed anatomical knowledge underlying local & distant flap dissection.
- Post-operative complications and their management including stump problems- soft tissue instability, pain or breakdown.
- Relevant ancillary investigations and interventions, e.g. imaging techniques, physiotherapy, occupational therapy.
- Local anaesthetic techniques regional blocks including femoral and ankle blocks.

# **Clinical Skills**

- Assessment and non-operative of the management of the acute surgical patient
- History taking.
- Examination including assessment of limb viability, compartment syndrome.
- Use of Doppler.
- Skills of analysis and diagnostic synthesis, judgment, surgical planning

# **Procedural skills**

- Superficial wounds
- Debridement/Split skin graft
- Fasciotomy
- Amputations above knee/below knee
- Harvest iliac crest bone graft
- Tendon repair
- Vessel repair
- Nerve repair
- Local Flaps: Fasciocutaneous
- Local flaps: Perforator
- Local flaps: Muscle
- Local flaps: Myocutaneous
- Free Flaps: Radial
- Free flaps: other
- Cross leg flaps
- B. Multidisciplinary assessment and management of lower limb fractures involving skin loss

# Learning Objectives

Competence in the combined management of patients with compound lower limb fractures involving

skin loss. (including section A)

# Core knowledge

- Relevant anatomy, (including vascular axes) physiology, pathology.
- Wound healing.
- Fracture healing.
- Skin blood supply.
- Pathophysiology of the macro and micro circulation.
- External fixators.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Amputation at all levels of the lower limb (adult & paediatric) and manage rehabilitation.
- Detailed anatomical knowledge underlying local & distant flap dissection.
- Post-operative complications and their management including stump problems- soft tissue instability, pain or breakdown.
- Relevant ancillary investigations and interventions including imaging techniques, physiotherapy, occupational therapy.
- Local anaesthetic techniques regional blocks including femoral and ankle blocks.

# **Clinical Skills**

- Assessment and non-operative management of the acute surgical patient.
- History taking
- Examination including combined assessment of limb viability and function.
- Skills of analysis and diagnostic synthesis, judgment, surgical planning

# **Procedural skills**

- Sharp debridement
- Tendon repair
- Nerve repair
- Vessel repair
- Local flaps: Fasciocutaneous, Perforator, Pedicle
- Local flaps: Muscle
- Local flaps: Myocutaneous
- Free flaps: Skin
- Free flaps: Muscle
- Free flaps: Myocutaneous
- Free flaps: Osteocutaneous
- Cross leg flaps

# C. Diagnosis and management of congenital lower limb conditions

- Macrodactyly
- Syndactyly and webbing
- Duplication / polydactyly

• Amniotic constriction/band syndrome

# **Learning Objectives**

Competence in the diagnosis and management of lower limb congenital and degenerative conditions.

# Core knowledge

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Wound healing.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. physiotherapy, occupational therapy.

# **Clinical Skills**

- Assessment and operative and non-operative management.
- History taking.
- Examination including lower limb examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural skills**

- Correction of syndactyly
- Correction of polydactyly
- Release of constriction bands
- Release of contractures or lengthening
- Different surgical approaches
- Management of complications
- Local Flaps: Fasciocutaneous
- Local flaps: Perforator
- Tissue expansion

# D. Lower limb degenerative, infections and ulceration conditions

# **Learning Objectives**

Competence in the diagnosis and management of lower limb infections & ulcerations (including pressure sores).

# Core knowledge

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.

- Range, indications and principles of relevant operations.
- Pressure sores- Aetiology, prevention, assessment, non-operative and operative management; with /without spinal cord injury, osteomtlities: including sacral, ischial, trochanteric and heel ulceration.
- Leg ulceration. (all aetiologies (venous, arterial, medical), assessment for operative and non-operative management.
- Multidisciplinary management of diabetic and other neuropathic foot problems.
- Infections of the lower limb- osteomyelitis (acute and chronic) and necrotizing fasciitis.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. physiotherapy, occupational therapy.

# **Clinical Skills**

- Assessment and operative management of the infections and ulcerations.
- History taking.
- Examination including lower limb examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural skills**

- Wound exploration and various methods of debridements.
- Reconstruction of lower limb soft tissue losses with conservative measures, negative pressure wound therapy, skin grafts and if possible local, pedicle and free tissue transfer.

# E. Lymphadema

#### Learning Objectives

Competence in the diagnosis and management of lymphedema

# Core knowledge

- Relevant anatomy, embryology, physiology and pathology of the lymphatic system
- Classification of lymphoedema
- Non-operative management
- Surgical management

# **Clinical Skills**

- Assessment of the elective surgical patient
- History taking
- Examination

# **Procedural skills**

Various operations including Charles's procedure

# F. Management of benign and malignant skin tumours

# **Learning Objectives**

Competence in diagnosis and management of skin lesions including benign skin and subcutaneous lesions, skin malignancy

# Core knowledge

- Relevant anatomy, embryology, physiology, and pathology including histopathology
- Relevant associated disease
- Appropriate pre-operative investigations and patient assessment
- Benign skin lesions and subcutaneous lesions
- Malignant melanoma and non-melanoma skin cancer
- Incisional and excisional biopsy
- Excision margins
- Adjuvant therapy including radiotherapy, chemotherapy
- Tumour staging
- Minimum data sets
- Moh's technique
- Sentinel node biopsy
- Recent advances
- Palliative care

# **Clinical Skills**

- Assessment of the elective surgical patient
- History taking
- Examination

# **Procedural skills**

- Excision of sebaceous cyst
- Excision and direct closure of simple skin lesions
- Excision and direct closure basal cell carcinoma
- Excision and graft malignant skin lesions
- Excision malignant melanoma
- Excision and flap repair
- Regional lymph dissection axilla
- Regional lymph dissection groin
- Regional lymph dissection neck

# G. Soft tissue sarcomas

# Learning Objectives

To achieve knowledge and understanding of the multidisciplinary management of soft tissue sarcomas

# Core knowledge

- Relevant embryology, anatomy, physiology and pathology.
- Appropriate pre-operative investigations, including imaging, and patient assessment.
- Range indications and principles of relevant operations.
- Post-operative complications and their management.
- Relevant ancillary investigations and interventions, including radiotherapy,
- chemotherapy.
- Recent advances.
- Biopsy techniques

# **Clinical Skills**

- Assessment and non-operative management of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.
- FNA cytology.
- Core biopsy.

# **Procedural skills**

- Incisional biopsy at various sites and of varying tissues including fat, connective
- tissue, muscle, nerve.
- En-bloc excisional techniques at various sites
- Flap reconstruction as required
- Nerve repair
- Vessel repair

# 5. Burns

# Introduction

The graduating trainee will be able to:

- Safely and effectively perform appropriate surgical procedures
- Consistently demonstrate sound surgical skills
- Demonstrate manual dexterity and binocular hand-eye co-ordination required to carry out microsurgery
- Design and carry out effective management plans
- Select and organise appropriate diagnostic testing as needed
- Accurately interpret imaging
- Effectively manage the care of patients with severe and acute trauma
- Communicate information to patients about procedures, alternatives, and risks associated with surgery in ways that encourage their participation in informed decision making
- Maintain accurate and comprehensive records
- Work in collaboration with members of an interdisciplinary team co-ordinating appropriate hand therapy and rehabilitation

# **Revisional Knowledge:**

Much of the basics in this will have already been covered in the Plastic and Reconstructive Surgical Science and Principles Examination. Trainees are required to be able to analyze and apply appropriately the science and principles of the following in clinical environments

- History and evolution of grafts and flaps
- Biomechanics of skin and integument
- Wound healing and management
- Grafts types, healing and management
- Pathological wound healing and scar management
- Tissue expansion
- Anatomy and physiology of the skin and microcirculations and angiogenesis
- Skin types and racial variations
- Flaps types, techniques, planning and management
- Pathology and clinical aspects of
  - o Delay phenomenon
  - Flap failure and no re-flow
- Pathology of:
  - o Skin Lesions benign and malignant
  - Vascular anomalies
  - o Cutaneous-infective, inflammatory and auto immune conditions
- Development and ageing of skin and integument
  - o Normal
  - Abnormal / pathological
- Soft tissue trauma management
- Burn pathophysiology and wound management local and systemic
- Sutures and suture techniques
- Dressings, drains, and splints
- Skin substitutes and tissue engineering
- Effects of radiotherapy, lasers, cryotherapy, cautery, sun exposure and hyperbaric therapy

# Topics

- A. Assessment, resuscitation and initial management of burns
- B. Surgical management of burns
- C. Diagnosis and management of complications of burns including inhalational injury and septic shock
- D. Late management and rehabilitation

# A. Assessment, resuscitation and initial management of burns

# Learning objectives

Competence in the early phase of burns management

# Core knowledge

- Relevant anatomy, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. psychological support, physiotherapy.
- Mechanisms of burn injury.
- Causes of burn injury.
- Management of burns including thermal, electrical and chemical
  - o Assess burn wound injury including area, depth and specific areas
  - o Resuscitation, fluid and airway management, circulation, cerebral and alimentary effects
  - $\circ$  Inhalation
  - Management of specific areas eg, eyes, ears, lips, face and neck, feet, hands, perineum and joints
  - o Escharotomy indications, sites, techniques, and limb monitoring
  - o Nutritional effects
  - o Analgesia
  - $\circ$   $\;$  Non-thermal burns electrical and chemical specific injuries and treatment.
  - o Infection
    - risks, complications, avoidance and treatment –
    - local and systemic
  - o Frostbite
- IV resuscitation regimens.
- Use of blood products, plasma volume expanders.
- Non-accidental injuries.

# **Clinical Skills**

- Assessment and non-operative of the management of the acute burns patient
- History taking.
- Examination including assessment of burn surface area and depth.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural skills**

- Management of fluid & electrolyte balance
- Assessment & resuscitation
- Open venotomy
- Escharotomy
- Bronchoscopy
- Endotracheal intubation
- Tracheostomy

• Burn wound management with dressings

# B. Surgical management of burns

# Learning objectives

Competence in the surgical aspects of burns management

# Core knowledge

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.
- Relevant ancillary investigations, interventions e.g. psychological support, physiotherapy, occupational therapy.
- Knowledge of wound healing and tissue transplantation
- In detail, knowledge of wounds (including the operative and non-operative care of wounds
- Secondary reconstruction
  - General and specific areas
  - Aesthetic and functional aspects
- Skin substitutes and tissue engineering
- Psychiatric aspects prevention, assessment, and management
- Burn wound management
  - o Early versus delayed debridement
  - o Excisional techniques including tangential excision
  - $\circ$  Grafting
    - Auto graft, allograft
    - Skin substitutes (dermal and epidermal)
- Management of specific areas eg, eyes, ears, lips, face and neck, feet, hands, perineum and joints
- Escharotomy indications, sites, techniques, and limb monitoring
- Nutritional effects
- Analgesia
- Non-thermal burns electrical and chemical specific injuries and treatment.
- Infection
  - o risks, complications, avoidance and treatment -
  - local and systemic
- Frostbite

# **Clinical Skills**

- Assessment and non-operative management of the burns patient.
- History taking.

- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning.

# **Procedural skills**

- Early tangential excision and split skin grafting
- Late grafting
- Grafts
  - Split thickness, full thickness, composite, mesh
  - Flaps Local:
    - Transposition, advancement, rotation
- Flaps Distant
  - Pedicle and free, simple and complex I compound
  - Single or multi-stages
  - Prefabricated, Tissue Engineering
  - Monitoring, care, and management of the flap, and the failing flap.
- Use of allograft skin
- Use of skin substitutes
- C. Diagnosis and management of complications of burns including inhalational injury and septic shock

# Learning objectives

Competence in management of complications arising during treatment of burn injury

# Core knowledge

- Relevant anatomy, physiology, bacteriology, biochemistry, and pathology
- Pathophysiology of smoke inhalation and effect on respiration
- Pathophysiology of renal failure as relating to burn injury
- Dietetics as relating to burn injury metabolism
- Shock complicating resuscitation
- Septic shock
- Intensive care monitoring and treatment

# **Clinical Skills**

- Assessment of the burn patient.
- History.
- Examination.
- IV resuscitation.
- Provision of oxygen therapy via face mask.
- Endotracheal intubation.
- Skills of analysis and diagnostic synthesis, judgement.

# **Procedural skills**

Appropriate procedural skills

# D. Late management and rehabilitation

# Learning objectives

- Competence in burns management
- Competence in late management, with understanding of the needs for patient rehabilitation

# Core knowledge

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease and conditions.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Burns scar management
- Recent advances.
- Relevant ancillary investigations, interventions e.g., psychological support, physiotherapy, occupational therapy.
- Relevant team working with other professionals
- Prosthetics.

# **Clinical Skills**

- Assessment and non-operative management of the burns patient
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning
- Scar management including use of pressure garments

# **Procedural skills**

- Contracture release
- Grafts Contracture release
- Flaps

# 6. Trunk, Perineum & Breast

# Introduction

The candidate should be aware of the surgical management of congenital, acquired and aesthetic conditions of the trunk, perineum and breast.

The graduating trainee should be able to:

- Safely and effectively perform appropriate surgical procedures
- Consistently demonstrate sound surgical skills
- Demonstrate manual dexterity and binocular hand-eye co-ordination required to carry out microsurgery
- Design and carry out effective management plans

- Select and organize appropriate diagnostic testing as needed
- Accurately interpret imaging
- Effectively manage the care of patients with severe and acute trauma
- Communicate information to patients about procedures, alternatives, and risks associated with surgery in ways that encourage their participation in informed decision making
- Maintain accurate and comprehensive records
- Work in collaboration with members of an interdisciplinary team (general surgeons, thoracic surgeons, gynaecologists, oncologists etc,.) coordinating appropriate physiotherapy and prosthetic application.

# Topics

- A. Breast
  - a. Breast augmentation
  - b. Breast reduction
  - c. Breast reconstruction
- **B.** Perineal reconstruction
- C. The principles of surgical management of hypospadias
- **D.** Surgical management of congenital and acquired defects of the chest wall, abdominal wall and trunk

# A. Breast augmentation

# Learning Objectives

Competence in the management of patients requesting breast augmentation for breast aplasia, hypoplasia and asymmetry.

# **Core Knowledge**

- Relevant embryology, anatomy, physiology, and pathology of the breast.
- Relevant associated disease and conditions including benign breast disease.
- Safety of breast implants including issues relating to the effects of silicone on the body, and regulation of implants.
- Appropriate pre-operative investigations and patient assessment including psychological assessment.
- Post-operative complications and their management.
- Recent advances and developments relating to implant manufacture.

# **Clinical skills**

- Assessment of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# **Procedural skills**

• Breast augmentation (submammary and subpectoral implant placement)

# **B.** Breast reduction

# **Learning Objectives**

Competence in management of patients requesting breast reduction.

# Core Knowledge

- Relevant embryology, anatomy and physiology of the breast.
- Relevant associated disease and conditions including benign breast disease and causes of mammary hypertrophy.
- Appropriate pre-operative investigations and patient assessment including psychological assessment.
- Range, indications and principles of relevant operations for breast reduction and breast mastopexy.
- Post-operative complications and their management.
- Recent advances in techniques for breast reduction.
- Blood supply and innervation of the breast, breast skin and nipple/areolar complex.

# **Clinical skills**

- Assessment of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis, judgement, surgical planning.

# **Procedural skills**

- Various operations for breast reduction.
- Various operations for breast mastopexy.
- Correction of the tuberous breast

# C. Breast reconstruction

# Learning Objectives

Competence in the management of patients requiring breast reconstruction. An understanding of the principles involved in multidisciplinary assessment of these patients.

# Core Knowledge

- Relevant embryology, anatomy, physiology, and pathology of the breast.
- Relevant associated disease and conditions including carcinoma of the breast and its treatment.
- Appropriate pre-operative investigations and patient assessment.
- Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances in flap design.
- Breast implants and issues surrounding safety of silicone.
- Relevant ancillary investigations, interventions including radiotherapy, chemotherapy, hormone therapy, psychological support.

# **Clinical skills**

- Assessment of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# **Procedural skills**

- Axillary nodal dissection
- FNA/Core Biopsy
- Breast Reconstruction:
  - Implant only Breast Reconstruction:
  - Tissue expansion
  - Pedicled Flaps:
    - Latissimus dorsi Pedicled flaps
    - TRAM
  - Free flaps:
    - Latissimus dorsi
    - TRAM
    - DIEP
    - SGAP
    - IGAP
    - Nipple/areolar reconstruction

# D. Perineal reconstruction

# **Learning Objectives**

- To be able to undertake perineal reconstruction in cases of trauma and following excisional procedures for malignant and premalignant conditions affecting the vulva and perineum.
- Knowledge of techniques available for penile reconstruction.
- Knowledge of techniques available for vaginal reconstruction.

# Core Knowledge

- Relevant embryology, anatomy, physiology, pathology including microbiology, and histopathology.
- Relevant associated disease and conditions.
- Issues relating to patients requesting gender reassignment.
- Appropriate pre-operative investigations and patient assessment. 3 Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.

# **Clinical skills**

- Assessment and non-operative management of the acute and elective surgical patient
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# Procedural skills

- Skin graft
- Bowel grafts
- Random flaps
- Myocutaneous flaps
- Free flaps

# E. Principles of surgical management of hypospadias

# Learning Objectives

To obtain competencies in the management of cases of hypospadias. To understand the principles of management in cases of epispadias and exstrophy.

# **Core Knowledge**

- Relevant embryology, anatomy, physiology. pathology.
- Relevant associated syndromes and conditions.
- Appropriate pre-operative investigations and patient assessment. 3 Range, indications and principles of relevant operations.
- Post-operative complications and their management.
- Recent advances.

# **Clinical skills**

- Assessment and non-operative of the management of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# **Procedural skills**

Operative procedures in common use for hypospadias and related conditions including 1 stage, 2 stage techniques.

F. Surgical management of congenital and acquired defects of the chest wall, abdominal wall and trunk.

# Learning Objectives

Competence in the assessment and management of defects involving the trunk, including traumatic defects

# Core Knowledge

- Relevant embryology, anatomy, physiology, and pathology
- Appropriate pre-operative investigations and patient assessment.
- Range, indication and principles of relevant operations.
- Tissue expansion techniques

# **Clinical skills**

- Assessment of the acute and elective surgical patient -adult and child
- History taking
- Examination
- Skills of analysis and diagnostic synthesis, judgement, surgical planning

# Procedural skills

- Operations for Poland's syndrome involving chest deformity
- Operations to cover spinal defects in children with spina bifida
- Operations to provide skin cover in traumatic injuries involving skin, soft tissue loss
- Operations to provide skin cover following surgical resection of tumours including abdominal wall defects, chest wall defects.
- Provision of skin cover in sternotomy wounds

# 7. Aesthetics

# Introduction

A number of people will require plastic and/or reconstructive surgery to enhance their appearance or correct problems, to improve their confidence and self-esteem. To be effective in this area a surgeon requires technical skill, medical expertise and the capacity to respond effectively to their patients' needs and expectations.

The graduating trainee should be able to:

- Adapt their skills for each procedure in the context of the individual patient
- Manage patients in ways that demonstrate sensitivity to their physical, social, cultural, and psychological needs
- Effectively manage complications
- Identify and manage risk
- Initiate the resolution of misunderstandings or disputes
- Write comprehensive and detailed reports for medicolegal purposes, insurance providers etc
- Communicate information to the patients about procedures, potentialities and risks associated with surgery in ways to encourage their participation in informed decision making
- Promote health maintenance
- Critically appraise new trends in Plastic and Reconstructive Surgery
- Identify ethical expectations that impinge on the most common medico-legal issues

• Is accountable for their decisions and actions

The assessment and management of patients requiring aesthetic alterations of body parts including face, eyelids, nose and ears.

# **Learning Objectives**

Competence in the practice of aesthetic plastic surgery.

# **Core Knowledge**

- Relevant anatomy, embryology, physiology, biochemistry and pharmacology, pathology including microbiology, haematology, immunology and histopathology.
- Relevant associated disease.
- Appropriate pre-operative investigations and patient assessment including psychological assessment.
- Range, indications and principles of relevant operations in the different areas
- Post-operative complications and their management.
- Knowledge on aesthetic skin conditions
- Recent advances including development of new surgical techniques.

# **Clinical skills**

- Assessment and non-operative of the management of the elective surgical patient.
- History taking.
- Examination.
- Skills of analysis and diagnostic synthesis, judgment, surgical planning

# **Procedural skills**

Face

- Blepharoplasty-upper
- Blepharoplasty-lower
- Pinnaplasty Correction of the constricted ear
- Face Lift-skin Face Lift-SMAS
- Fat grafting
- Rhinoplasty

# Breast

- Breast-augmentation
- Breast-reduction
- Breast-mastoplexy
- Breast-tuberous correction
- Male breast surgeries

# Trunk/body

- Abdominoplasty
- Liposuction-abdomen
- Liposuction-thighs
- Liposuction-trunk
- Brachioplasty
- Thigh lifts
- Buttock reshaping and implants
- Body lifts

Perineal genital surgeries

- Labioplasty
- Vaginal rejuvenation
- Mons reshaping
- Aesthetic penile surgeries

# Non-surgical procedures

- Laser-tattoo removal
- Laser-skin lesion
- Laser-peeling
- Chemical peeling
- Laser-Dermabrasion
- Filler injections/Wrinkle treatment

# **ANNEXURE II - LOGBOOK FORMAT**

The trainee needs to maintain the logbook regularly and should get it validated by the supervising trainer monthly.

Simultaneously the trainee should maintain a cumulative logbook and should produce at each regular assessment.

Discuss with your supervisor and mentor about the areas you need more exposure.

#### **KEY FOR ABBREVIATIONS USED**

0	-	Observe
А	-	Assists seniors
PA	-	Performs with assistance from a senior or under supervision
Р	-	Performs independently
Name	:	

Name : .....

Hospital: .....

Date	Patient No	Age	Operation	Supervision	Urgency	Complications	Notes (Outcome)

Supervisor: .....

Date: .....

**Remarks:** 

# **ANNEXURE III - OPERATING SKILLS COMPETENCY LEVEL**

A list of operative procedures has been given in the following tables. A graded responsibility will be given depending upon the knowledge and skills already acquired by the trainee. The Appointment wise distribution of the skills to be acquired is given as a general guideline. List of skills in various specialty subjects has been made.

The list within the tables, indicates the surgical procedures that the trainee should be able to perform independently by himself/herself or should have performed with assistance during the course at the end of each appointment. The other categories of the surgical procedures that the trainee should either have observed or have assisted the operating surgeon are also mentioned.

# **KEY FOR ABBREVIATIONS USED**

- O Observe
- A Assists seniors
- PA Performs with assistance from a senior or under supervision
- P Performs independently

		SKILLS COMPETENCY			
	-	0	Α	РА	Р
1. General Plastic Surgery					
FLAPS					
Local flaps – Advancement		3	3	3	5
- Single		2	2	2	4
- Bipedicle		3	1	1	1
- Transposition flap		3	2	3	4
- Rotation & interposition flaps		2	1	2	4
Z Plasty		3	2	5	8
V-Y Plasty		3	1	2	4
Rhomboid flap		3	2	4	5
Axial Flaps eg. Deltopect. Flap		3	2	2	5
Fascio-cutaneous flaps		2	2	2	3
Septo-cutaneous flaps		2	2	2	3
Musculocutaneous flaps		2	1	3	2
Muscle pedicle flap		2	2	2	2
IMPLANTS					
Metals		2	1	2	2
Silicones		2	1	2	1
Tissue Expanders		2	1	2	
Screws and Plates		2	1	2	2

MAXILLOFACIAL SURGERY						
Inter-maxillary Wiring	2	1	2	2		
Screw Plate Fixation	1	2	1	2		
Blowout Fracture Treatment	1	0-1	1			
Panfacial Fractures Treatment	2	0-1	1			
Temporomandibular Joint ankylosis	2	0-1	1			
SCALP			I	L		
1. SSG	2	1	2	4		
2. Local Flaps	2	1	2	2		
3. Tissue Expanders	1	1				
OCULOPLASTIC SURGERY			I	L		
Eyelid-traumatic loss-reconstruction/ malignant excision - re- construction	1	1				
Facial paralysis – fascia lata sling/ any other reanimation proce- dure	1	1				
Ptosis correction	1	1				
Blepheroplasty	1	1				
ΟΤΟΡLΑSTY						
Ear reconstruction-congenital / traumatic	1	1	1			
HEAD AND NECK TUMOURS						
Oral malignancy						
Composite excision reconstruction	1	2	1			

Jaw tumours-excision-reconstn.	1	1	1				
Radical Neck dissection	1	1	1				
AESTHETIC SURGERY							
Chemical peel/ Dermabrasion	1						
Face lift		1					
Laser	1						
Liposuction and body contouring	1	2					
Blepharoplasty	1	1					
HAND							
Finger tip injuries	2	1	2	10			
Amputations	2	2	2	8			
Infections	2	2	3	5			
Fractures and joint injuries of the hand	2	2	5	8			
Stiff finger joints	2	2	2	4			
Flexor & Extensor tendon injuries in forearm and hand	2	2	5	6			
Nerve Injuries	1	2	1	5			
Nerve Graft	1	2	2	4			
Tumours of the hand- benign & malignant	2	2	2				
Adult Brachial plexus Reconstruction							
MICROVASCULAR SURGERY							
Free Flaps	2	5	5	2			
Muscle Flaps	2	2	2	2			

Skin Flaps	2	1	2	2
Micro-neural Repair	2	2	2	
Replantation- Microvascular Lab Work	3	4	2	2
RHINOPLASTY	<u> </u>	<u> </u>	I	<u> </u>
Aesthetic Surgery / Reduction/ Augmentation	2	4	2	
Corrective Surgery	2	2	2	
Nose tip-plasty	1	1	1	
EAR	I			
Microtia	2	1	1	
Lobule reconstruction / Repair	1	2	2	2
Burn external ear reconstruction	1	2	2	2
SKIN			I	L
Tumours- benign /malignant	2	2	2	4
Lymphangioma	1	1	1	
Haemangioma	1	1	1	
Giant hairy pigmented naevi	1	1	1	
Hypertrophic scar	1	2	2	5
Keloids	1	1	2	4
Tattoos	1	1	1	1
Trauma fractures with skin soft tissue loss	1	2	2	5
Flap cover, Infection / Non healing ulcer	1	`1	2	4
Lymphoedma Surgery	1	1	1	

BREAST				
Reduction	1	2		
Augmentation mammoplasty	1	1		
Breast reconstruction by flap	1	1	1	
Gynaecomasia	1	1	1	1
LOWER LIMB				
Trauma fractures with skin soft tissue loss	1	2	2	5
Flap cover, Infection / Non healing ulcer	1	2	2	4
Lymphoedma Surgery	1	1		
PRESSURE SORES	I			
SSG	1	1	1	
Local flaps, fascio-cutaneous flaps	1	1	1	2
Neurovascular flaps	1	1		
EXTERNAL GENTALIA				
Hypospadias	1	2	2	
Epispadias	1	1	1	
Gender dysphoria	1	1		
INTER SEX				
Vaginal agenesis	1	1		

2. PAEDIATRIC PLASTIC SURGERY				
Cleft Lip Repair	2	10	2	2

Cleft Palate Repair	2	20	5	1			
Facial hemiatrophy	2	2					
Hemi Facial Microsomia	2	2					
Apert's Syndrome/Treacher Collin's Syndrome	2	1					
Complex facial cleft	2	2					
Otoplasty	2						
Microtia reconstruction	1	1					
Correction of congenital Ear deformities	1						
CONGENITAL HAND SURGERY							
Syndactyly	2	2	2	2			
Duplicated Thumb	2	2	2				
Radial Club hand	1	1	1				
PAEDIATRIC HAND TRAUMA							
Finger tip injury		2	2	5			
Hand fractures		2	2	5			
Tendon injury		2	2	5			
Nerve injury		2	2	5			
Groin/Abdominal Flap		2	2	5			
Local flap of Hand /Forearm		2	2	5			
NEONATAL BRACHIAL PLEXUS INJURY SURGERY							
Neurotization of NBPP		2					
Shoulder procedures for NBPP		2	1				

Elbow Procedures for NBPP	1	
Wrist and hand procedures for NBPP	1	

3. BURN AND BURN RECONSTRUCTION				
BURN INJURIES				
Tangential excision	2	2	4	8
Escharotomy– circumferential burns	1	1	2	2
Escharectomy	2	2	2	
Skin Grafting	2	2	4	10
Face grafting		2		
Neck		3	1	
Breast		1		
Hand		2		
Radiation injuries – coverage for such injuries	2	2		
Electrical burns	2	2	2	2
POSTBURN CONTRACTURES	I		I	I
PBC Neck	1	2	4	4
PBC Axilla	1	2	2	3
PBC Elbow	1	1	1	2
PBC Hand	2	2	4	5

PBC Popliteal fossa	1	1	1	1
PBC Foot	2	2	2	4
Post Burn deformities of face	2	4	4	2
Post Burn deformities of trunk	1	2	4	2
PB Non-healing raw area	1	1	2	2

# **ANNEXURE IV - PROGRESS REPORTS**

NAME	:	
INSTITUTION	:	
PERIOD	:	ТО
EVALUATED B	<b>Y</b> :	

1	KNOWLEDGE	
2	OPERATIVE SKILLS	
3	DEDICATION TO WORK	
4	COMMUNICATION	
5	JOURNAL CLUB	
6	ATTITUDES	
7	ATTENDANCE	
8	NIGHT ROUNDS	
9	RELATIONSHIP WITH COLLEAGUES	
10	RELATIONSHIP WITH STAFF	
11	RESEARCH INTEREST	
12	PERSONAL CARE OF CASES OPERATED BY TRAINEE	

# Comments:

.....

# **ANNEXURE V - PEER TEAM RATING FORM**

Name of trainee: Specialty: Date:					
<ol> <li>Attitude to staff: Respects and values contributions of other mem- bers of the team</li> </ol>	1	2	3	4	5
<b>2. Attitude to patients:</b> Respects the rights, choices, beliefs and confidentiality of patients	1	2	3	4	5
3. Reliable & punctual	1	2	3	4	5
<i>4. Communication skills:</i> communicates effectively with patients and staff			3	4	5
<i>5. Team player skills:</i> Approachable, Supportive and accepts appropriate responsibility			3	4	5
<b>6.Leadership skills:</b> Takes responsibility for own actions and actions of the team			3	4	5
7. Honesty and Integrity: do you have any concerns?	Yes				No
8. What is your overall rating of trainee's professionalism? Very poor Extremely good 1 2 3 4 5 6 7 8 9 10					
Comments					
Name:					
Signature:					
Date:					

# **ANNEXURE VI - PBCA ASSESSMENT FORM**

PBCA Assessment Form						
Portfolio Desk Evaluation						
	Satisfactory	Unsatisfactory				
<ol> <li>Subject expertise</li> <li>Progress reports from supervisors</li> <li>Communication skills</li> <li>Log of procedures</li> <li>Case-Based discussions</li> <li>Direct Observation of Practical skills</li> </ol>						
Teaching 1. Undergraduate 2. Postgraduate 3. Ancillary health staff						
Research and Audit 1. Research 2. Publications 3. Presentations 4. Clinical Audit						
Ethics and Medico-Legal issues 1. Professionalism Observation Forms 2. PTR forms						

Information Technology 1. Training programmes/Workshops 2. Application of Current Evidence		
Life-long learning 1. Conferences and meetings		
Reflective Practice (Description of a learning event)		
PBCA Viva		
	Satisfactory	Unsatisfactory
<ol> <li>Subject expertise</li> <li>Progress reports from supervisors</li> <li>Communication skills</li> <li>Log of procedures</li> <li>Case-Based discussions</li> <li>Direct Observation of Practical skills</li> </ol>		
Teaching 1. Undergraduate 2. Postgraduate 3. Ancillary health staff		
<ul><li>Research and Audit</li><li>1. Research</li><li>2. Publications</li><li>3. Presentations</li><li>4. Clinical Audit</li></ul>		

E 1 2	Ethics and Medico-legal issues 1. Professionalism Observation Forms 2. PTR forms	
 1 2	nformation Technology 1. Training programmes/workshops 2. Application of Current Evidence in practice	
L 1 2	Life-long learning 1. Conferences 2. Meetings	
F (	Reflective Practice Narration of one learning event )	

Name of the Examiner :

Date of Assessment :

**Recommendations:** 

Signature of the Examiner:

# ANNEXURE VII - RECOMMENDED BOOKS AND JOURNALS

List of recommended Books and Journals is given as below. However the edition and details will change from time to time.

# I. Essential Books

- 1. Peter C. Neligan Plastic Surgery Third Edition Six Volumes
- Grabb & Smith's Plastic Surgery 6<sup>th</sup> Edition. Editors: Thorne, Beasley, Aston, Barlett, Gurtner, Spear in 2007 by Lippincott, Williams & Wilkins. Philadelphia.
- Fundamental Techniques of Plastic Surgery and Their Applications. 10<sup>th</sup> Edition. 2000, Alan D. McGregor & Ian A. McGregor, London. Churchill Livingstone.
- 4. Total Burn Care Fourth Edition. David N. Herndon

# II. Reference Books

# 1. Flaps

1. Grabb's Encyclopedia of Flaps Vol.I to 3, 2<sup>nd</sup> Edition Edited by Berish Strauch, Luis O. Vasconez & Elizabeth J. Hall – Findlay in 1998 by Lippincott – Raven – Publishers in Philadelphia, New York.

2. McCraw & Arnold's Atlas of Muscle & Musculocutaneous Flaps. Authors David G. Dibbell, G. Patrick Maxwell. J. Brien Murphy & Christoph Papp in 1987 by John McCraw & P.G. Arnold. Hampton press Publishing Company Inc. Virginia.

3. Skin Flaps Edited by William C. Grabb & M. Bert Myers in 1975 by Little, Brown & Company, Boston.

4. Clinical Applications for Muscle and Musculocutaneous Flaps. Mathes SJ, Nahai F. 1982. The C.V. Mosby Company. St. Louis.

5. Local Flaps in Head and Neck Reconstruction. Ian T. Jackson. 1985. The C.V. Mosby Company. St. Louis. (2<sup>nd</sup> Edition in press)

# 2. Burns

1. "Current Topics in Burn Care" by Thomas L. Wachtel Virginia Kahn, Hugh A. Frank in 1983. An Aspen Publication. London.

2. Burn Reconstruction by Bruce M. Achauer in 1991 Thieme Medical Publishers Inc. New York.

# 3. Breast:

1. Plastic & Reconstructive Surgery of the Breast, A Surgical Atlas. Contribution by Heinz Bohmert & Christian J. Gabka in 1997 George Thieme Verlag Stuttgart, New York.

2. "Post mastectomy Reconstruction: 2<sup>nd</sup> Edition Edited by Thomas Dogcart & Luis O. Vasconez in 1998 Williams & Wilkins. Baltimore.

3. Illouz YG and de Villiers YT. Body Sculpturing by Lipoplasty. 1989. Churchill Livingstone. Edinburgh.

# 4. Aesthetic Surgery:

1. "Aesthetic Facial Plastic Surgery" A multidisciplinary approach by Thomas Romo III & Arthur L.Millman in 2000 by Thieme Medical Publishers New York.

2. "Aesthetic Surgery of Aging Face" editor William H. Beeson & E. Gaylen McCollough in 1986 by the C.V. Mosby Company, St. Louis.

3. "The art of Aesthetic Plastic Surgery" edited by John R. Lewis, Jr. Vol. I & II in 1986 by the Little, Brown & Company, London.

# 5. Lasers:

- 1. "Lasers in Facial Aesthetic & Reconstructive Surgery". Edited by Brain S.B. in 1999 Williams & Wilkins, a Waverly Company, London.
- Lasers in Plastic Surgery & Dermatology. Editor: Brace M. Achauer, Victoria M. Vander Kam & Michael W. Berns in 1992 Thieme Medical Publisher Inc. New York, George Thieme Verlag, New York.

# 6. Tissue Expansion:

1. Reconstructive & Aesthetic Surgery editor Gordon. H. Sasaki in 1998 by Mosby, inc. New York.

# 7. Cleft lip & Cleft Palate

1. Cleft lip & Palate Vol. I & II by Samuel Berkowitz, in 1996 by Singular publishing group inc. London.

2. Cleft palate & Cleft lip: A team approach to clinical and Rehabilitation of the patient by Cooper, Hardeng, Krogman, London.

3. Millard Ralph Jr. Cleft Craft- The evolution of its surgery. I to III volumes. 1976. Little Brown. Boston.

# 8. Nose:

- 1. "Atlas of Rhinoplasty, Open & Endonasal approaches" by Gilbert Aiach in 1996 quality Medical publishing Inc., St. Louis.
- 2. "Rhinoplasty State of the Art" editors Ronald P. Gruber & George C. Peck in 1993 by Mosby year book, Inc., London.
- 3. "Aesthetic Reconstruction of Nose" author Gary C. Burget & Frederick J. Menick in 1994 by mosby year book inc., London.

# 9. Leprosy:

1. "The surgical management of Deformities in Leprosy" & other peripheral Neuropathies" editors Noshir H. Antia, Carl D. Enna & Behman M. Daver in 1992, Bombay. Oxford University press.

2. "Surgical Reconstruction and Rehabilitation in Leprosy. 1984. The Director for Southern Asia, The Leprosy Mission, New Delhi.

# **10.** Paediatric Plastic Surgery:

1. Plastic Surgery in infancy & Childhood, edited by J.G. Mustarde 2<sup>nd</sup> Edition in 1979 by Churchill Liveingstone, London.

# 11. Cranio- facial Surgery:

- 1. "Comprehensive care of cranio–facial deformity" Jeffrey L. Marsh & Michael W. Vannier in 1985 by the C.V. Mosby Company, St. Louis.
- 2. "Complex Cranio facial problems" edited by Craid R. Dufresne, Benjamin S. Carson & S. James Tin Reich in 1992 Churchill Livingstone, London.

# 12. Hand

1. Green's Operative Hand Surgery, David P. Green, Robert N. Hotchiss & William G. Pederson. 4<sup>th</sup> edition Vol. I & II 1999 by Churchill Livingston, London.

2. "The Hand" edited by R. Tubiana Vol.I & II in 1981 by W.B. Saunder Company, London.

3. "Hand Injuries in Athletes" by Strickland & Retting 1992 W.B. Saunders Company, London.

# 13. Nerve:

1. "Micro reconstruction of Nerve injuries" by Juliak, Tezia in 1987 London. W.B. Saunders Company.

2. Management of Peripheral Nerve Problems. Edited by Omer Spinner Vanbeek 1998 by W.B. Saunders Company, Philadelphia.

# 14. Cancer:

1. Cancer of Face & Mouth by Ira McCregor, & Frances M. McGregor. 1986 Churchill Livingstone, London.

2. Excision and Reconstruction of Head & Neck Cancer. Edited by David S. Soutar & Rammohan Tiwari in 1994 Churchill Livingstone, London.

# 15. Fascio Maxillary injury

1. Facial Fractures by S. Antony Wolfe for Stephan Baker 1993. Thieme Medical Publisher Inc. New York.

2. Facial Fractures by Row & Kelly.

3. Text Book of Plastic Maxillofacial and Reconstructive Surgery. Georgiade, Georgiade, Riefkohl, Barwick. I to II Vol. 2<sup>nd</sup> Edition. William & Wilkins, Baltimore.

# Journals

# 1. Essential

- 1. Plastic and Reconstructive surgery
- 2. Journal of Plastic Reconstructive Surgery (British journal of Plastic Surgery)
- 3. Clinics in Plastic Surgery
- 4. Journal of Burns
- 5. Hand Journal
- 6. Annals of Plastic Surgery
- 7. Cleft Palate and Craniofacial Journal

# 2. Desirable

- 1. Journal of Craniofacial Surgery
- 2. Journal of Hand and Microvascular surgery
- 3. Journal of Trauma
- 4. British Journal of Oral and Maxillofacial surgery
- 5. Indian Journal of Burns