Curriculum for

Post-Doctoral Fellowship Course

in

Gynaec Oncology

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**SRI AUROBINDO UNIVERSITY**

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**INTRODUCTION**

The need for trained medical oncologists and surgical oncologists who are drawn from the medical and surgical specialist groups and will restrict their work to the subspecialty of oncology in their respective fields has been accepted. Such courses are now available in various institutions in the country.

Gynaecologic Cancers are cancers of the female genital tract. The malignant diseases of the cervix, body of the uterus, ovary, Fallopian tube, vagina, vulva and gestational trophoblastic disease are included within its purview. According to the national Cancer Registry Project of the Indian council of Medical Research the incidence of this group of malignancies varies between 31.6 and 49.5/100,000. These gynaecological cancers form more than 45% of cancers in women.

At present the medical personnel who manage these patients vary in institutions all over the country. There are very few institutions all over the country. There are very few institutions in which there is a department of Gynaecologic Oncology, moreover there are less few Indian Obstetrician and Gynaecologists who have restricted themselves professionally to the specialty of Gynaecology Oncology. Therefore, the care of the woman with a gynaecological cancer is generally fragmented between the Radiation Oncologists, medical Oncologist and Surgical Oncologist etc. The Obstetrician and Gynaecologist is the specialist who is trained to diagnose and treat benign diseases of the female genital tract. Therefore, it is but natural, that members of this speciality who already have the "feel" of the normal tissues of the female pelvis be trained to become Gynaecologic Oncologists and thus impart the necessary "sub-specialist" care to women with gynaecological cancer.

The proposal to train personnel as Gynaecologic Oncologists in a developing country like ours must lead to a debate. The accepted medical tradition in this country has been that Obstetricians and Gynaecologists must be the chief contributors towards:

* decreasing maternal morbidity and mortality
* decreasing perinatal morbidity and mortality
* measures for population control

No doubt these are important national priorities, however, when more than 45% of cancers in women are gynaecological, of which

* one is preventable - Cancer Cervix and

.- others are Curable - Gestational Trophoblastic Disease and Germ Cell Tumours

As part of the national priority and policy for measures to improve women's health, it becomes imperative that steps be taken to create from the specialty of Obstetrics and Gynaecology a sub group of personnel who will concentrate on this aspect of women's health and contribute positively towards:

* Prevention
* Early detection
* Improved survival
* Palliative care and pain relief of patients with gynaecologic cancers in Indian women.

**THE NEED FOR THE SUB-SPECIALITY IN INDIA**

It is obvious over the past three decades that there has been no change in the occurrence of Gynae cancer. In the developed countries like the Scandinavian countries, there are well established contributions made by the trained Gynaecologic oncologists produced by these institutions in the prevention and management of Gynaecological cancers. Hence, the time is fast approaching when there will be required on a national basis Obstetrician and Gynaecologists who are trained to manage these health problems of women.

At present, Obstetrician and Gynaecologists are not well equipped to respond to such a demand. Moreover, the teaching programme of Obstetrics and Gynaecology is directed almost entirely towards Obstetrics, with emphasis on the reduction of maternal morbidity, mortality and perinatal morbidity and morbidity. There is very little stress on the development of surgical skills which leads to the lack of confidence in the members of the speciality to tackle intraoperative surgical problems that will arise during surgery for gynaecological cancers.

Though there have been many aspirants who have shown an interest and made enquiries regarding a Subspecialisation course in Gynaecologic Oncology, they have finally joined the main stream of Obstetrics and Gynaecology, because of the lack of opportunity of a job oriented/placement oriented training programme.

Hence, it becomes necessary now to make available this sub-speciality in this country. This should gradually lead to the presence of at least one Gynaecologic Oncologist in every Department of Obstetrics and Gynaecology in this country.

**DEVELOPMENT OF SUB-SPECIALITY OF GYNAECOLOGY ONCO**

At present it is necessary to depend upon international experience in order to formulate the regulations for a course of Gynaecologic oncology in India. Subsequently with our own national experience in conducting the course, suitable modifications can be made to suit the requirements of our country.

The specialty of Obstetrics and Gynaecology of the United States of America which first started the subspecialty of gynaecologic oncology with the aim to develop in the Gynaecologic Oncologist:

* Surgical skills for independent functioning
* Attitudes to research
* Adequate knowledge in the administration of chemotherapeutic agents
* Confidence in the capacity to manage the complications of the disease and the therapy
* Awareness about the psychosexual problems of Gynaecologic Cancers

Hence, the aim while drawing up the course details and the syllabus has been to create a course which will attempt in the "production" of trained personnel whose knowledge of the field will be on par with international standards.

The following responsibility also rests on the Gynaecologic Oncologist

* To inculcate public awareness about cancer cervix so as to contribute to the control of the disease by primary, secondary and tertiary prevention.
* To instil in colleagues the awareness of the need to avoid medical delay by timely referral of patients with Gynaecologic Cancers to specialised centres.

The Indian Gynaecologic Oncologist thus has an uphill task which in itself should prove to be challenging and render job satisfaction could compensate for "loss of obstetrics, infertility and endocrinology"

**A GYNAECOLOGIC ONCOLOGIST-THE DEFINITION**

A Gynaecologic Oncologist is a specialist in obstetrics and gynaecology, who is trained and assessed as being competent in the comprehensive management of patients with gynaecological cancers i.e., prevention, early detection, investigation, diagnosis and therapeutic modalities including surgery and chemotherapy, research and all effective forms of cancer therapy - preventive, curative, palliative, pain relief, and the total care of the patient's gynaecological cancer or complications resulting there from.

**A DEPARTMENT OF GYNAECOLOGICAL ONCOLOGY – REQUIREMENTS**

To be formally recognized and approved for the purposes of training, the Department of Gynaecologic Oncology should:

1. Be a referral and resource centre for the management of patients with

gynaecological malignancies and precursors

1. Provide a full range of diagnostic services such as
* Colposcopy
* Pathology or have ready access to the same
* Cytology or have ready access to the same
* Organ imaging facilities or have ready access to same
1. Provide comprehensive cancer care including
* Surgery
* Chemotherapy
* Have ready access to radiotherapeutic facilities
* Critical care as required
1. Be involved in research
* Clinical (including trials)
* Basic
1. Be involved in education
* Undergraduate. Postgraduate, and paramedical and nursing
1. Have a sufficient workload to
* Maintain and develop the clinical skills of existing personnel
* Train a gynaecologic oncologist
1. Collaborate closely with other specialties e.g. Cardiology, Urology, Nephrology, Plastic surgery, Gastroenterology, Pulmonary Medicine, Physiotherapy, etc.
2. Liaison with experts in pain relief
3. Liaison with organisation involved in hospice and palliative care
4. Be constantly striving to maximum standards on par with that of the international ones in the field of gynaecologic oncology.

REGULATIONS AND CURRICULA FOR THE FELLOWSHIP PROGRAM IN GYNAECOLOGIC ONCOLOGY
Sri Aurobindo University, Indore

1. Name of the course : Fellowship (Gynaecologic Oncology)
2. Eligibility for admission :

Candidate seeking admission for Fellowship in Gynaecologic Oncology must possess a recognised degree of MS (or its equivalent recognised degree) in Obstetrics and Gynaecology as specified in the regulations of the National Medical Commission of India from time to time.

1. Obtaining Eligibility Certificate by the University before making Admission

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

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

Candidates should obtain the Eligibility Certificate before the last date for admission as notified by the University. A candidate who has been admitted to postgraduate course should register his / her name in the University within a month of admission after paying the registration fee.

1. Duration of Study

The duration of the course shall be for a period of 2 years.

1. Method of Training

The training for the Fellowship program shall be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate will be required to participate in the teaching and training programme of undergraduate students and post graduate students of obstetrics and gynaecology. Training should include involvement in research studies. The student should be posted to allied specialty departments or institutions

1. Attendance, Progress and Conduct
2. A candidate pursuing the Fellowship program should work in the concerned department of the institution for the full period as a full-time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course.
3. Each year shall be taken as a unit for the purpose of calculating attendance.
4. Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.
5. Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum *80%* attendance of training period every year.
6. Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.
7. Monitoring Progress of Studies:
	1. Work diary / Log Book - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. {please see Chapter IV for model checklists and logbook specimen copy). Special mention may be made of the presentations by the candidate. The work diary shall be scrutinised and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.
	2. Exit Exam: The candidate will have to undergo an exit exam at the time of completion of the course. The details of the exams will be as set by the respective Program Director.
8. Research Paper:
	1. Every candidate pursuing Fellowship program is required to carry out work on a selected research paper and publish the research paper under the guidance of the Program Director and the Faculty.

**Goals and General Objectives of Fellowship Program**

**Goal**

The goal of Fellowship program shall be to produce competent specialist

1. who shall recognise the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
2. who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
3. who shall be aware of the contemporary advances and developments in the discipline concerned;
4. who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
5. who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

**General Objectives**

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

1. Recognise the importance of the concerned speciality in the context of the health need of the community and the national priorities in the health sector.
2. Practice the speciality concerned ethically and in step with the principles of primary health care.
3. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.
4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.
5. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
6. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.
8. Demonstrate empty and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.
9. Play the assigned role in the implementation of national health programmes, effectively and responsibly.
10. Organise and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital orthe field situation.
11. Develop skills as a self-directed learner, recognise continuing educational needs; select and use appropriate learning resources.
12. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
13. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
14. Function as an effective leader of a health team engaged in health care, research or training.

**Statement of the Competencies**

Keeping in view the general objectives of Fellowship program, the aim is to develop specific competencies, which shall be defined and spelt out in clear terms. The department shall produce a statement and bring it to the notice of the trainees in the beginning of the program so that he *or* she can direct the efforts towards the attainment of these competencies.

**Components of the Fellowship Curriculum**

The major components of the Fellowship program shall be:

-Theoretical knowledge

- Training in research methodology

- Practical/clinical Skills

-Attitudes, including communication.

**TRAINING SYLLABUS IN GYNAECOLOGIC ONCOLOGY**

**Goal:**

The Fellowship course in Gynaecologic Oncology should enable the medical postgraduate in obstetrics and gynaecology to be able to function as an independent consultant clinician in gynaecologic oncology with awareness about the psycho-socio- culturo-economic circumstances of the Indian woman with a gynaecologic cancer.

**The educational curriculum**

*General aims of the training programme*

At the end of the training programme the candidate should:

1. Be able to function as an independent consultant clinician in gynaecologic oncology.
2. Have an understanding of the aetiology, epidemiology, screening, detection and prevention of gynaecological malignancy.
3. Acquire the necessary knowledge and skill to perform radical operations required in the management of gynaecological cancer and its complications, dissection of inguinal, pelvic, periaortic and supraclavicular lymph nodes and reconstructive techniques for the restoration of function. Understand the surgical principles and skills necessary to perform appropriate surgical procedures on the gastrointestinal tract, urinary tract and vascular systems as and when required for the management of gynaecologic cancers. The candidate must develop skill in the diagnosis and principles of management of disorders of the breast. Skills must also be acquired in a wide range of investigative procedures - including cystoscopy, sigmoidoscopy, thoracentesis, paracentesis and the placement and care of permanent central intravenous lines. In addition, detailed knowledge of relevant ultrasound, CT scan and lymphangiographic and other organ imaging techniques must be developed. A sound knowledge of parenteral nutrition and intensive care management of the perioperative patient is also required. Candidates also need to develop skill in the management of pain relief and the care of the terminally ill patient.
4. Be well-informed in the methods and techniques of radiation treatment, including brachytherapy, external and radioisotope therapy. The candidate must be capable of participating in the planning of radiation treatment and must acquire an understanding of the principles of radiobiology and radiation physics. The candidate must develop skill in the management of the side-effects and complications of radiotherapy.
5. Acquire an advanced knowledge in the clinical pharmacology of cancer chemotherapy and related treatment modalities. He should develop skills in the selection of patients for chemotherapy and the detailed practical use of the different drugs used in the management of Gynaecological malignancies. The candidate should develop skills in the management of toxic side-effects and acquire a wide knowledge of the use of these agents, sufficient to administer them in an independent capacity.
6. Develop a high level of skill in the assessment of the effects of treatment and the care of complications both of the disease and treatment. This includes skill in the assessment of the patient after treatment as well as skill in planning long-term management.
7. Acquire a high level of skill in colposcopy and in the management of pre- invasive and micro-invasive lesions of the female genital tract. Acquire competency in the management of premalignant and micro invasive lesions of the female genital tract including the techniques of colposcopy, LLETZ, Cryosurgery, Cold Coagulation, Conisation of the cervix
8. Develop a sound knowledge of gross and microscopic pathology and cytology relevant to gynaecological oncology. This knowledge must be sufficient for the candidate to interpret the details of reports concerning the histopathology of gynaecological malignant disease and to use pathological findings effectively in making decisions regarding treatment and prognosis.
9. Develop skill in the planning, conduct and reporting of research in gynaecological oncology. In addition, the candidate must develop a high level of skill in the interpretation and evaluation of research reports.
10. Be acquainted with the current literature on relevant aspects of basic, investigative and clinical gynaecologic oncology.
11. Understand cancer survivor issues and the principles underlying the management of fertility issues in gynaecologic cancer patients.
12. Have an understanding of the psycho-socio-culturo-economic aspects of

the gynaecologic oncology in the Indian situation. i

***The training must integrate:***

1. **Clinical Competence**
2. **Method of Training - Acquiring /Imparting Medical Knowledge**
3. **The theoretical and practical basis of gynaecologic oncology**
4. **Concepts of research**
5. **Clinical competency**

This will consist of developing:

competency in the domains of patient care, professionalism and practice of ethical medicine, interpersonal & communication skills and spirit of collaboration with ability to function as part of a team and build a team, acquiring medical knowledge and its practical application, development of practical skills and develop the spirit to continue to do so even after the completion of the course. All the domains are interrelated.

*Patient care, professionalism:*

1. The candidate should have the skill required for comprehensive clinical assessment of a patient who:
2. needs screening for a gynaecologic cancer,
3. is suspected to have a gynaecologic cancer
4. is diagnosed to have a gynaecologic cancer
5. is a known gynaecologic cancer patient
6. requires palliative and terminal care
7. The candidate should be able to:
8. Elicit a detailed and appropriate history as per the patterns of clinical presentation of disease including family history and genetic susceptibility to cancer

Correlate presenting symptoms and co-morbid symptoms

Perform the appropriate detailed physical examination

Collate information of previous investigations and treatment

Assess the investigations required to make a diagnosis and plan or change treatment

1. Plan and execute general and specific preoperative investigation
2. Identify riskfactors - surgical and anaesthetic
3. Assess the requirements for fitness for surgery
4. Identify, plan and execute management of the side effects of treatment
5. Identify and plan execute management of complications both of the disease and the treatment
6. The candidate should be able to independently:
7. plan and execute Pre. Peri, and post-operative care and be aware about the principles of perioperative nutrition and total parenteral nutrition
8. plan and perform the surgical procedures laid out in the section on the theoretical and practical basis of gynaecologic oncology
9. plan and administer cancer chemotherapy as laid out in the sectionon theoretical and practical basis of gynaecologic oncology
10. The candidate should be:
11. able to demonstrate a commitment to carrying out professional responsibilities
12. able to demonstrate adherence to ethical principles
13. The candidate should be able to:
14. Counsel appropriately about need for screening and screening results and any necessary treatment
15. Communicate a working diagnosis to patient and relatives and counsel about required investigations to reach a diagnosis
16. Deal with the sexual, ethical implications and the problems associated with the loss of fertility and preservation of fertility
17. Counsel about diagnosis, investigations, and appropriate treatment plan - intention to cure and intention to palliate including adverse effects, complications and prognosis related issues
18. Support the morale of the patient and attendants in such circumstances
19. Obtain an informed consent
20. The candidate should be able to liaison and collaborate with and function as part of a team of:
21. Colleagues of anaesthesiology, radiation oncology, palliative care, medical oncology, urology, surgical and medical gastroenterology etc.
22. Professional colleagues of the Nursing services and other paramedical services
23. **Method of Training - Acquiring Medical Knowledge**

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

1. participate in the work of the gynaecologic oncology department for 12 /24 months;
2. be posted to allied specialty departments or institutions with
* Participation in the work of a department of surgical oncology or department of surgical gastroenterology;
* Participation in the work of a urology department;
* Participation in the work (both outpatient and in-patient) of medical oncology department
* Participation as a member of a team planning radiotherapy and performing radiation treatment
* Participation in pathology and cytology sessions related to gynaecological oncology (including blood bank)
* Participation in the work *of* the nuclear medicine department
1. take part in seminars, group discussions, grand rounds, case demonstration, clinical review meetings, tumour board, CPC and clinical meetings.
2. participate in the teaching and training programme of undergraduate students and post graduate students of obstetrics and gynaecology, nursing students, students of paramedical courses
3. participate in health education and outreach programmes directed towards cancer prevention and screening
4. conduct and publish at least one research study before completion of the Fellowship program.
5. maintain a log book of all the daily activities and record:
6. the surgeries and procedures performed either in the capacity of an assistant to the primary surgeon and those performed independently
7. the participation in the training programmes journal reviews, seminars, mortality meetings, case presentations/ case discussions etc.
8. The work diary shall be submitted every month for scrutiny and certification by the Head of the Department.

H. tumour board

Participate, organise and conduct the tumour board at least once a week with the Department of Pathology, and Departments of Radiation Oncology, Radiology & Imaging, Medical Oncology, Urology, Surgical Oncology and Medical gastroenterology etc.

1. Periodic tests:

Periodic tests will be conducted by Program Director to evaluate the progress

**3. The theoretical and practical basis of gynaecologic oncology**

The candidate is expected to keep abreast of the recent advances of basic and specific aspects related to Gynaecologic Oncology.

***f EPIDEMIOLOGY, AETIOLOGY AND CARCINOGENESIS***

**General Aim**

The candidate should have extensive knowledge of the epidemiological factors related to genital neoplasia. The candidate should understand the currently known effect of environmental and familial factors on carcinogenesis with respect to the female genital tract.

Specific Objectives

The candidate should be able to explain

1. The relationship between each of the following factors and carcinogenesis.

Virus

1.

2.

3.

4.

Relationship of herpes, papilloma and other viruses and malignancy

Hormones

1. Antenatal oestrogens and genital tract malignancy
2. Exogenous and endogenous oestrogens

(c} Tamoxifen therapy

Radiation

(a) Increased risk of sarcoma and other malignancies in previously radiated tissues, (a) Risks of diagnostic radiation procedures

Chemotherapeutic Agents

Risk of myeloproliferative disorders, including leukaemia after exposure to chemotherapeutic agents.

(a)

(b)

(c)

Risks to the foetus of maternal chemotherapy

Risks to medical, nursing and ancillary staff handling chemotherapeutic drugs,

Environmental Factors

Relationship of carcinogens to gynaecological malignancy, e.g., talc, asbestos, smoking, etc.

1. Genetic mutations ( BRCA1, mismatch repair genes, etc.) and their relationships to various cancers
2. Granulomatous venereal diseases and carcinoma of the vulva
3. Familial patterns in cancers of breast, endometrium, ovary and colon.
4. Basic biology of neoplastic cells, including:
5. Structure of the cell
6. Enzymology and metabolism
7. The cell cycle
8. The patterns of spread of gynaecologic cancers
9. The principles of tumour invasion and metastasis including
10. Tumour initiation
11. Uncontrolled proliferation
12. Angiogenesis
13. Invasion of local tissues, lymphatics and blood vessels
14. Colony formation at distant sites
15. Tumour cell migration
16. The molecular markers that are important for metastasis and invasion

***SURGICAL ANATOMY***

The candidate should be able to describe the following and identify the structures involved: (a) Vascular anatomy of:

1. Small bowel
2. Large bowel
3. Omentum
4. Vulva
5. Thigh
6. Urethra
7. Bladder

(viii) Ureter

1. Cervix
2. Uterus
3. Ovary & Fallopian tube
4. Vagina

(xiii) Supraclavicular area

(b) Lymphatic drainage of

1. Ovary
2. Peritoneum
3. Cervix
4. Uterus
5. Vulva
6. Vagina
7. Supraclavicular area

(viii) Gastrointestinal tract, urinary tract and mediastinum

1. Neuroanatomy of the pelvis
2. Retroperitoneal anatomy of abdomen and pelvis (including urinary tract).
3. Anatomy of anterior abdominal wall, inguinal and femoral regions.
4. Anatomy of distal sites of involvement in genital malignancy eg., supraclavicular area and mediastinum.
5. Appropriate anatomy for insertion of chemoport, venous access fines, peritoneal port
6. Anatomy of peritoneum, diaphragm, spleen and hepatobiliary system required for advanced cytoreductive surgery
7. ***GENETICS***

The candidate should understand the current knowledge of genetic aspects of neoplasia - oncogenes, tumour suppressor genes, DNA repair genes and oncogenesis and be familiar with the influence of genetics on the clinical practice of gynaecologic oncology.

**Specific Objectives**

The candidate should be able to:

1. Describe the chromosome and DNA changes associated with neoplasia.

The nature and extent of chromosome changes in cancer.

1. numerical vs. structural changes
2. specific vs, nonspecific changes
3. inherited ***vs.*** acquired changes
4. Describe the laboratory and clinical evidence to support a genetic tole in the development of neoplasia.
5. Chromosome abnormalities in premalignant conditions
6. Chromosome abnormalities and oncogenes

I

1. Describe the genetic changes known to occur in neoplasms of the genital tract in females.

I

1. Describe the role of oncogenes in the development of human cancer,
2. Properties of oncogenes/proto-oncogenes and their products
3. Mechanisms of oncogenes activation
4. Specific families of oncogenes proteins
5. The role of oncogenes including the
6. Properties of oncogenes
7. Mechanism of action of oncogenes
8. Specific families of oncogenes
9. Relationship between growth factors and oncogenes
10. Describe the principles of the molecular biology techniques which are used in cancer research. E.g. DNA hybridizationetc..
11. Explain the familial aspect of cancer eg. Breast, endometrial, ovarian and colorectal cancer especially with regard torisk related screening and relate the information to the practice of gynaecologic oncology.
12. Cardinal principles of cancer genetics with respect to
13. age,
14. bilaterality
15. multiple primary cancers
16. ***PREVENTION AND SCREENING***
17. Discuss the effects of the cervical screening programmes on incidence and mortality rates.
18. The different methods of screening including economic considerations
19. HPV classification, natural history of HPV infection, methods of detection, indication for HPV testing,
20. Vaccination
21. Discuss risk directed screening for cancer ovary
22. Prevention and screening of other gynaecological and other malignancies including breast and oral cancer.
23. Management of the screened patient
24. Management of precancerous lesions of the female genital tract
25. ***DIAGNOSTIC TECHNIQUES AND STAGING***

**General Aims**

The candidate should be able to acquire sufficient knowledge of diagnostic techniques and staging to diagnose and stage gynaecological malignancies

The candidate should be able to:

1. Take a comprehensive medical history and perform a general physical examination.
2. Taking a specific gynaecological history and performing a gynaecological examination.
3. Taking an onco!o呂ic history and perform the appropriate examination for the same.
4. Select the diagnostic techniques needed to:
5. Establish the diagnosis.
6. Establish the extent of disease.
7. Evaluate co-existing disease which may have been important bearing on selection of and response to treatment.
8. Evaluate the response of cancer to treatment
9. Stage the cancer according to the current FIGO classification for gynaecological organ site tumours. Knowledge of the TNM staging system is also required.

**Specific Objectives**

1. Visual Diagnostic techniques

The candidate should be proficient in:

1. Colposcopy
2. Describe the indications for, advantages and limitations of colposcopy in the evaluation of abnormal cervical or vaginal cytology and vulvar neoplasia
3. Identify normal and abnormal epithelial and vascular patterns involving the cervix, vagina and vulva.
4. Differential staining

Describe the principle underlying the use of various chemicals or stains (ascetic acid, toluidine blue, Lugol's solution) to contrast normal from abnormal epithelium in the cervix, vagina and vulva and to use these agents correctly.

1. Cystoscopy

Conduct the procedure and interpret findings correctly

1. Proctosigmoidoscopy

Interpret findings correctly

1. Gastrointestinal Endoscopy

Describe the indications and limitations of the procedure

1. Laparoscopy

Conduct the procedure and describe the indications for it.

1. Hysteroscopy

Indications and techniques

1. Biopsy and Cytology

The candidate should be proficient in:

1. Open Biopsy
2. Describe the indications for and conduct the following procedures：directed cervical biopsies, cone biopsy of the cervix, endocervical curettage, endometrial biopsy and curettage biopsy of the vulva and nodal sites such as groin, supraclavicular etc.

(II) Describe the indications for and techniques for biopsies of possible metastatic sites such as lung, liver and spine

b) Percutaneous Biopsy

1. Describe the indications for an conduct the following procedures: nodal, transvaginal and transabdominal needle biopsy for the diagnosis or evaluation of extent of pelvic cancer, either in the form of the fine needle aspiration (cytology) needle biopsy (tissue), paracentesis abdominis or thoracocentesis (fluid)
2. Describe the indications for other percutaneous (tissue or aspiration) biopsies as for pulmonary, hepatic and breast lesion.
3. Cytology
4. Describe the correct techniques *for* collection of cytologic specimens from the various genital sites as used for cancer detection.
5. Describe the use, advantages and limitations of cytologic methods for cancer detection, e.g.. Sensitivity, specificity, false positives, false negatives.
6. Radiographic Diagnosis

The candidate should be able to describe the indications for the following techniques and their relative value and limitations. They are:

1. Standard plain film of heart and lungs, abdomen and skeletal system.
2. Computerised tomography of the head and body
3. Lymphography
4. Angiography (pulmonary, renal and pelvic)
5. Intravenous and retrograde urography
6. Gastrointestinal and colonic radiography
7. Nuclear magnetic resonance
8. PET scanning
9. Radioisotope Scanning
10. The candidate should be able to describe the important characteristics of the radioisotopes in general use as diagnostic aids.
11. The candidate should be able to describe the indication for the relative value of and current use of isotopic scanning of:
12. Liver-spleen
13. Bon e
14. Brain
15. Kidneys
16. Lungs
17. Peripheral vascular system
18. Sonography

The candidate should be able to describe the various types of sonographic examinations, their indications, relative value, limitations and current use, in evaluation of the:

1. Liver
2. Kidneys
3. Intraperitoneal masses
4. Abdominal & Pelvic masses
5. Retroperitoneal masses.
6. Explain the relationship between virus infection, benign lesion, carcinoma and other genital tract malignancies.
7. Compare and contrast in situ and invasive squamous cell carcinoma and identify features of invasion.
8. Explain the significance of early invasive carcinoma in prognosis and management.
9. Describe the natural history and biologic behaviour and routes of spread.
10. Squamous cell carcinoma
11. Extra mammary Paget's disease
12. Malignant melanoma
13. Sarcoma
14. BCC
15. Adenocarcinoma

*Vagina*

The candidate should be able to:

1. Identify the following conditions correctly by gross and or microscopic evaluation:
2. Benign conditions .
3. Endometriosis
4. Adenosis
5. Acuminatum and other forms of wart virus disease
6. Subclinical papilloma infection of vagina
7. Vaginal cysts, fibromas and other benign lesions
8. Intraepithelial neoplasia (VAIN)
9. Squamous cell carcinoma
10. Adenocarcinoma (including clear cell carcinoma)
11. Metastatic carcinoma
12. Malignant melanoma
13. Embryonal carcinoma
14. Sarcoma botryoides
15. Verrucous carcinoma
16. Describe the natural history, sites of occurrence and route of spread of vaginal carcinoma.

*Vagina and Cervix*

Discuss the possible consequences (and their relative occurrence) of administration of hormones to the mother during pregnancy upon the vagina and cervix of the female who was exposed to these agents while in utero.

*Cervix*

The candidate should be able to

1. Identify correctly cytological preparation and describe the problems in evaluation of:
2. Normal epithelium
3. Wart/Virus Atypia
4. Squamous cervical intraepithelial neoplasia (CIN)
5. Squamous cell carcinoma
6. Adenocarcinoma & Adenocarcinoma in situ
7. Trichomonads and Candida
8. Identify correctly by microscopic evaluation classic examples of the following conditions:
9. Squamous metaplasia
10. Micro glandular hyperplasia
11. Condyloma acuminatum or squamous cell papilloma
12. Squamous cervical intraepithelial neoplasia (CIN) (dysplasia and carcinoma in situ)
13. Micro invasive carcinoma
14. Squamous ceh carcinoma
15. Adenocarcinoma including clear cell and Adenocarcinoma in situ
16. Adeno squamous carcinoma
17. Glassy cell carcinoma
18. Other malignant tumours, e.g.,
19. Carcinosarcoma -
20. Sarcoma
21. Choriocarcinoma
22. Melanoma
23. Lymphoma
24. Carcinoid Tumours
25. Describe the development of the transformation zone with the formation of squamous metaplasia and its various stages of maturation and the development of CIN
26. Differentiate between the patterns of viral atypia and CIN
27. Differentiate between gland involvement by CI?N and stromal invasion
28. Describe the various definitions of micro invasive carcinoma
29. Describe, discuss and correlate the colposcopy patterns, cytological findings and histologic characteristics in CIN and carcinoma
30. State methods by which adenocarcinoma of the endometrium may be distinguished from adenocarcinoma of the cervix
31. Peripheral vascular thrombosis
32. Tumour Markers

The candidate should be able to:

1. Explain the basic principles, indications and interpretations of Radioimmune (RIA) and other assays for tumour markers:
2. hCG and beta hCG, Alpha fetoprotein, Carcinoembryonic antigen, Ectopic hormone production eg. Growth hormone, Steroid hormones

(oestrogen/androgen/corticosteroids), Monoclonal antibodies, CA125 and other tumour markers

1. Receptor hormone assays.
2. Biochemistry

The candidate should be able to interpret abnormal values in blood chemistry as they pertain to gynaecological malignancy and its therapy in the following areas:

1. Liver function-alkaline phosphatase, bilirubin, SGOT, SPGT, LDH, serum proteins, clearance tests.
2. Renal function-BUN, creatinine, creatinine clearance, urine, electrolytes, osmolality
3. Serum electrolytes, osmolality and pH
4. Carbohydrate tolerance
5. Blood Coagulation

The candidate should be able to:

1. Describe tests needed to screen for coagulopathies, including disseminated intravascular coagulation, platelet and other disorders and interpret the results of these tests.
2. Interpret the results of tests needed to assess status of anticoagulant therapy.
3. Pulmonary Function Tests (PFT)

The Candidate should be able to:

1. Describe PFT and their indications in preoperative and postoperative evaluation when indicated either because of pre-existing disease or because of complications of therapy.
2. Interpret results of specific volume, and gas exchange tests, arterial PO2,PCO2 and *pH.*
3. Recognise normal values of arterial po2, pco2 and pH and the values；associated with chronic lung disease and acute postoperative disease (adult respiratory distress syndrome, emboli).
4. Cardiovascular Function

The candidate should be able to:

1. Describe the indications for preoperative cardiac evaluation based on past history and ' physical findings.
2. Describe the indications for and interpret, in terms of normal and abnormal

physiology:

1. Central venous pressure
2. Pulmonary wedge pressure
3. ECG changes
4. (iv) systemic vascular resistance
5. Nutritional Assessment

The candidate should be able to:

1. Describe and interpret the routine laboratory and anthropometric assessment of the

patient’s nutritional status. •

1. Explain the need, benefits and complications associated with hyper alimentation (enteral and parenteral)

***VI PATHOLOGY***

General Aim

The candidate should be able to identify, on the basis of direct visual and microscopic

evaluation, lesions that are premalignant or malignant and distinguish them from benign

disorders. The candidate should understand the genesis of malignant tumours, the biologic behaviour of premalignant and malignant tumours, important characteristics and prognostic

features. The candidate should have extensive knowledge of the minutiae of clinic-pathological correlation.

Specific Objectives

*Vulva*

The candidate should be able to:

1. Identify the following conditions correctly by gross and or microscopic evaluation
2. Benign conditions
3. Hyperplastic and hypoplastic dystrophy
4. Lichen sclerosis
5. Condyloma accuminata
6. Subclinical papilloma virus infection
7. Naevi
8. Granular cell myoblastoma
9. Intraepithelial neoplasia (VIN)
10. Squamous cell carcinoma
11. Adenocarcinoma
12. Paget's disease
13. Malignant melanoma
14. Sarcoma
15. Describe the identification and implementation of lymph vascular space invasion and other prognostic factors in cervical cancer.
16. Describe the natural history of cervical carcinoma and its precursors.

*Endometrium*

The candidate should be able to:

1. Identity histologic preparations of the following conditions:
2. Benign cyclical endometrial changes including those of pregnancy
3. Hyperplastic endometrium
4. Cystic glandular hyperplasia - simple
5. Adenomatous hyperplasia - complex
6. Hyperplaisa with "atypia" - atypical
7. Carcinoma
8. Adenocarcinoma including clear cell and serous papillary
9. Adenocarcinoma with squamous elements
10. Adenoacanthoma
11. Adenosquamous carcinoma
12. Metastatic carcinoma
13. Squamous carcinoma
14. Identify classic cytologic examples of the following：
15. Endometrial cells, benign
16. Adenocarcinoma
17. Explain the relationship between endometrial hyperplasia and adenocarcinoma
18. Describe the natural history, biologic behaviour and routes of spread of tumours of the

corpus

1. Biologic behaviour and natural history of endometrial hyperplasias

*Sarcomas*

The candidate should be able to:

1. Identify histology and understand the clinic-pathological significance of:
2. Mixed mullerian tumours
3. homologus ;
4. heterologous
5. Endometrial stromal sarcomas
6. high grade
7. low grade
8. Leiomyosarcomas

The candidate must be able to identify and understand the significance of low grade variants of these lesions.

1. Describe the natural history, sites of origin and routes of spread of uterine sarcomas and correlate with significant histological points of prognosis

*Myometrium*

The candidate should be able to:

1. Identify the following conditions grossly and or microscopically -
2. Adenomyosis
3. Leiomyoma
4. Leiomyosarcoma
5. State clearly the accepted criteria for differentiating leiomyoma and leiomyosarcoma

*Fallopian Tube*

The candidate should be able to:

1. Identify the following conditions grossly and or microscopically-
2. Benign Tumours
3. Benign lesions simulating tumours
4. Salpingitis
5. Tuberculous salpingitis with an active epithelial component
6. Salpingitisisthmicanodosa
7. Marked chronic salpingitis
8. Healed follicular salpingitis
9. Benign endometrial - type lesions
10. Endometriosis
11. Pseudodecidual reaction
12. Pregnancy related
13. Ectopic pregnancy
14. Placental site (villi not in section)
15. Adenocarcinoma and carcinosarcoma
16. Metastatic carcinoma
17. Explain how to distinguish between primary and secondary tubal tumours.

*Ovary*

The candidate should be able to:

1. Identify the following conditions grossly and or microscopically-

(a) Normal and non-neoplastic ovarian structures

1. Normal primary oocytes
2. Developing and regressing follicles (and cysts)
3. Corpus luteum
4. Epithelial inclusions
5. Mesonephric remnants
6. Hilar cells
7. Endometriosis

(b} Epithelial tumours (differentiate between benign and malignant and tumours of low malignant potential)

1. Serous
2. Mucinous
3. Endometriod
4. Clear Cell
5. Brenner
6. Mixed and undifferentiated tumours
7. Gonadal stromal tumours
8. Granulosa theca cell tumour
9. Thecoma-fibroma
10. Sertoli-Leydig cell tumours (androblastoma)
11. Sex cord stromal tumours
12. Germ cell tumours
13. Benign cystic teratoma (dermoid)
14. Malignant teratomas
15. Dysgerminoma
16. Endometrial sinus tumours
17. Embryonal carcinoma
18. Mixed germ cell tumours
19. Choriocarcinoma
20. Gonadoblastoma
21. Sarcoma, Lymphoma
22. Metastatic tumours
23. Pseudomyxomaperitonei
24. Describe the natural history, biologic behaviour and frequency of various ovarian tumours and understand the theoretical classifications of these tumours.
25. Discuss the significance of ovarian tumours of low malignant potential.
26. State the frequency of various ovarian tumours of low malignant potential.
27. State the frequency of various ovarian tumours and the likelihood of their being bilateral.
28. State the features that distinguish primary from metastatic tumours in the ovary.

*Trophoblast*

The candidate should be able to:

1. Identify grossly and/or microscopically normal early pregnancy.
2. Invasive mole
3. choriacarcinoma
4. Describe the different histologic patterns grouped together gestational trophoblastic disease and understand their natural history.

*Lymph Nodes*

The candidate should be able to:

1. Identify the following conditions microscopically.
2. Metastatic carcinoma
3. Benign epithelial inclusions
4. Recognize malignant epithelial cells in lymph-node aspirations. *Omentum*

The candidate should be able to:

Recognize foci of metastatic carcinoma, distinguishing them from reactive mesothelial cells.

Peritonea/ *Fluid and Washings*

The candidate should be able to:

Distinguish between reactive mesothelial cells and carcinoma.

***VII PHYSIOLOGY AND PATHOPHYSIOLOGY***

The candidate should have sufficient knowledge of normal physiology and pathophysiology to manage appropriately the gynaecologic oncology patients.

Specific Objectives

1. *Fluid and Electrolytes*

The candidate should be able to:

Describe the static and dynamic considerations of fluid, electrolyte and acid-base values in health and illness relative to gynaecologic oncology.

A. Fluid compartments and toxicity

The candidate should be well versed:

1. with the implications of cancer treatment on menarche, menstruation, reproduction, menopause,
2. with strategies to preserve fertility

***VUL TUMOUR IMMUNIOLOGY***

General Aims

The candidate should know the essential components and functions of the immune system and understand their relationship to oncology.

Specific Objectives

1. The Immune System and Responses

The candidate should be able to

1. Describe the origin and function of T and B lymphocytes
2. Describe the processing of antigens and activation of immune system
3. Describe the processing of subsets of Ttymphocytes and K cells
4. Describe the production of antibodies
5. Describe the classification of antibodies, their synthesis and function
6. Describe the function of lymphokines and macrophages as effective mechanisms
7. Outline the description of complement and its role in the immune response
8. Describe the basis of humoral and cell-mediate immunity.
9. Applied Immunology

The candidate should be able to:

1. Describe the measurement of immediate and delayed hypersensitivity
2. Describe the measurement of humoral and cell mediated immunity
3. Describe the effects of nutrition, drugs and radiation on the immune response.
4. Describe the immune status of patients with cancer
5. Describe the role of immunity in host resistance
6. Describe the effect of immunodeficiency and immunosuppression on carcinogenesis
7. Explain the principles of immunological enhancement and tolerance.
8. Host-tumour Interactions

The candidate should be able to:

1. Define the following: tumour-specific transplantation antigen (TSTA); tumour associated antigen(TAA)； human leukocyte antigen (HLA); oncofetal antigen i
2. Evaluate the evidence for tumour- specific and tumour-associated antigen in tumours of the female genital tract
3. Describe antibody-mediated and cell-mediated tumour cell cytotoxicity and the evidence for "blocking factors"
4. Explain the theory of immunological surveillance and the evidence for immune- modulation
5. Describe the role of natural growth and inhibitory factors in tumours
6. Discuss specific tumours of the female genital tract associated with cli^iically-useful markers.
7. Tumour Markers

The candidate should be able to:

1. Define a tumour marker and describe the requirements of a tumour marker
2. Describe the properties of current markers, e.g., carcinoembroyonic antigen (CEA), alphafetoprotein (AFP), human chorionic gonadotrophins (hCG), CA125, CA 19-9, B2 microglobulin, HE4,
3. Describe the methods for the measurement of markers in terms of the principles involved, sensitivity, specificity and cross reactivity
4. Describe the properties and generation of monoclonal antibodies and their application to sero-diagnosis and tumour localisation and targeted killing of tumour cells
5. Discuss the clinical value and limitations of current tumour markers in use and the significance of false-positive and false-negative results
6. Discuss specific tumours of the female genital tract associated with clinically-useful markers
7. Define and describe the principles of vaccine therapy of cancer

***IX PHARMACOLOGY***

General Aim

The candidate should know the pharmacologic properties of the agents commonly used in gynaecological oncology.

Specific Objectives

1. Principles

The candidate should be able to explain the following terms

1. Absorption
2. Distribution
3. Metabolism
4. Excretion
5. Pharmocokinetics
6. Mode of action
7. Factors that modify the drug effect and dosage
8. Total Parenteral Nutrition

The candidate should be able to describe the following aspects of total parenteral nutrition：

1. Indications
2. Routes of administration
3. Composition of solutions
4. Daily requirements for routine supplementation
5. Specific requirements in pathological states
6. Vitamin and mineral supplements
7. Complications associated with renal and hepatic dysfunction and complications of venous access sites
8. Gastrointestinal Alimentation

The candidate should be able to describe the following aspects of gastrointestinal alimentation:

1. Indications
2. Composition of preparations available
3. Total body water permeability and toxicity
4. Normal exchange of fluid and electrolytes

(0 Water balance

(II) Electrolyte balance, sodium and potassium

B. Fluid and Electrolyte Abnormalities

1. Volume deficits and excesses
2. Abnormalities of sodium concentration
3. Abnormalities of potassium concentration
4. Respiratory and metabolic acidosis and alkalosis.
5. *Nutrition*

The candidate should be able to:

1. State the normal adult daily requirements for water, electrolytes and essential nutrients
2. Describe the effects of deprivation/excess of above
3. Calculate nutritional replacement requirements.
4. *Blood and blood Components*

The candidate should understand the principles of:

1. Transfusion

Describe the composition, indications, risks (with special emphasis hepatitis and AIDs) and advantages of the following blood components: red blood cells, platelets, cooled and fresh frozen plasma, albumin, concentrated leucocytes, packed, washed, frozen red cells, cryoprecipitate.

1. Blood Clotting

Describe the process of normal haemostasis

⑴

(ID

(III)

Describe changes in the process of haemostasis in abnormal coagulation states. Describe the aetiology, diagnosis and treatment of congenita and acquired

bleeding disorders.

1. *Pulmonary Function*

The candidate should be able to:

1. Outline the normal physiology of pulmonary function and pulmonary function tests (see also section on Diagnostic techniques and preoperative Evaluation).
2. Diagnose and treat ventilatory failure due to acute or chron/c pulmonary disease in

operative or non-operative patients. !

1. Understand the use of mechanical ventilator including IMV, assist-control and positive and expiratory pressure modes.
2. *Shock*

The candidate should be able to:

1. Describe the assessment of normal cardiac status (see also sections on Diagnostic Techniques and Pharmacology)
2. Aetiology, diagnosis and treatment of physiologic alterations in major organs induced by:
3. Hypovolemic shock

IL Cardiogenic shock

III. Septic shock

1. *Renal Function*

The candidate should be able to:

1. Describe normal renal function including control mechanisms and the evaluation of function (see also section on Diagnostic techniques).
2. Describe the physiology of abnormal function with particular reference to hypertensive disorders, infectious disease, urinary tract obstruction, drug toxicity and immunological disease.
3. *Digestive Tract*

The candidate should be able to:

1. Outline the normal physiology of the digestive tract
2. Describe the changes in the physiology of the digestive tract which are induced by malignancy, extensive resection, irradiation, and chemotherapy.
3. Describe the changes in the physiology of the digestive tract which are related to intestinal obstruction, blind loop syndrome, short bowel syndrome, and fistula formation
4. Describe the changes in hepatic physiology related to extrahepatic and intrahepatic tumours, infectious agents, cirrhosis, and hepatocellular toxicity
5. utline the metabolism and trace elements
6. Endocrine System

The candidate should be able to:

1. Outline the normal physiology of the endocrine system
2. Describe the changes in endocrine physiology which are induced by malignancy, extensive surgery, irradiation and chemotherapy
3. Describe the indications, risks and management of hormone replacement therapy
4. Central nervous System

The candidate should be able to:

1. Outline the normal physiology of the CNS, particularly in relation to pain
2. Describe the physiological basis of abnormal function resulting from gynaecological malignancy
3. Management of the critically ill patient

The candidate should be able to manage the critically ill patient and be aware of the importance of the multidisciplinary approach to such a patient.

1. Reproductive medicine in relation to gynaecologic cancer
2. Complications
3. Routes of administration
4. Haematinics

The candidate should be able to describe the treatment of marrow depression secondary to neoplasia and caused by its treatment e.g,, cytotoxic drugs.

The use, effects and side effects of the following agents should be understood:

1. Agents the accelerate erythropoiesis - erythropoietin and darbepoietin
2. Agents that accelerate myeloid recovery - filgrastim, pegfilgrastim, sargramostim
3. Anti-infective Agents

The candidate should understand the antibacterial, antiviral and antifungal agents and should know the principles of prophylactic anti-infective therapy.

The candidate should be able to:

1. Describe the indications for prophylactic anti-infective therapy, the relevant use, mode and tinning of administration
2. Describe the mechanism of action and spectrum of the major anti-infective agents
3. Select appropriate therapeutic agents or their combinations for the treatment of different infections
4. Describe the side-effects and major toxicity of these agents
5. Use of topical anti- infectives in wounds
6. Analgesics, Sedatives and Antfemetic's

The candidate should be able to:

1. Describe the mode of action of common drugs
2. Describe the indication for their use and their routes of administration
3. Describe the side-effects of these drugs
4. Management of acute pain (tumour related and postoperative), chronic pain (WHO guidelines)
5. Choice of drugs - NSAID,叩iate agonists,
6. Use of adjuvants in pain control
7. Routes of administration and administration techniques
8. Diagnosis of toxicities and complications of pain management
9. Anaesthetic Agents

The candidate should be able to: ；

1. Describe the pharmacology, uses and effects of common inhalation anaesthetic agents
2. Describe the indications, methods of use, side-effects and pharmacology of common regional and local anaesthetics.
3. Support of patient in the postoperative period
4. Anticoagulants

The candidate should be able to:

1. Describe the prophylactic use of anticoagulants
2. Describe the indications for the use of anticoagulants
3. Describe the mode of action of short and long-acting anticoagulants, their side effects,

control and reversal of action. )

1. Cardiovascular, Respiratory and Urinary Systems

The candidate should be able to describe the indications, pharmacology and side effects of the following drugs:

1. Drugs acting on heart muscle, coronary vessels and cardiac nerve function
2. Drugs acting on peripheral vasculature in management of septic shock
3. Drugs acting on pulmonary function
4. Diuretics
5. Anti lipemic agents
6. Hormones

The candidate should know the role of estrogens, antiestrogens, progestational agents in the gynaecologic oncology population.

1. Agents for prevention of osteoporosis

The candidate should know the choice of agents and indications of therapy for prevention and treatment of osteoporosis in gynaecologic oncology population.

1. Pharmacology of Wound Healing

The candidate should be able to describe the effects of the following on wound healing and to explain the pharmacological basis for these effects:

1. Vitamins
2. Trace metals
3. Factors adversely affecting wound healing either due to illness or drugs e.g., steroids, chemotherapy, radiation therapy
4. Miscellaneous-drug interaction

The candidate should be able to discuss the pharmacology of drugs used in common medical conditions which may at times be encountered in the oncology patient e,g„ insulin and oral hypoglycemic agents, anti-convulsants, steroids, antihistamines, antidepressants, antiemetics, antidiarroheal, laxatives, antacids.

X ***CHEMOTHERAPY OF GYNECOLOGICAL TUMOURS***

General Aims

The candidate should：

1. Understand the pharmacology of the major drugs in human tumour chemotherapy.
2. Be able to use them competently in a clinical setting.
3. Have a critical understanding of the advantages and limitations of drugs used in human tumour chemotherapy in each type of gynaecological malignancy.
4. Critically determine at the onset the goal of a given therapeutic action.

Specific Objectives

*1. Biology*

The candidate should be able to:

(a) Discuss the kinetics of cancer cell growth and the cell growth and the cell cycle

1. Discuss the following general principles of action:
2. Log kill hypothesis
3. Cycle specificity
4. Phase specificity
5. Growth fraction
6. Dose intensity
7. Dose density
8. Resistance mechanisms
9. *Classes of Chemotherapeutic Agents*

The candidate should be able to describe the characteristics of the following classes of chemotherapeutic agents:

1. Alkylating agents
2. Antimetabolites
3. Natural products, including mitotic inhibitors, antibiotics and enzymes
4. Hormones
5. Biologic response modifiers e.g. BCG, Interferon etc.
6. *Mechanisms of Action*

The candidate should be able to describe the specific mode of action of a given chemotherapeutic agent and where possible, relate it to cell cycle.

1. *Pharmacology of Specific Agents*

The candidate should be able to describe the following characteristics of the chemotherapeutic agents used to treat gynaecological cancers:

1. Routes of administration and absorption
2. Distribution
3. Biotransformation
4. Excretion
5. Interaction with other drugs
6. Interaction with radiotherapy and hyperthermia
7. Mechanism of drug resistance and approaches to reducing tumour resistance to anticancer drugs
8. Schedule dependency
9. Rationale for regional therapy e.g. Intraperitoneal therapy, Intra-arterial perfusions.
10. *Combination Chemotherapy*

The candidate should be able to:

1. Describe the principles of combination chemotherapy
2. Describe drug combinations in current use for gynaecological malignancy
3. Construct logical drug combinations, given the pharmacology of single agents and the principles for the design of combination chemotherapeutic regimes.
4. Principles of specialised therapies such as high dose chemotherapy with bone marrow

transplant and intraperitoneal chemotherapy |

1. General Guidelines for Clinical Evaluation

The candidate should be able to:

1. Describe criteria for complete response, partial response, progressive disease, relapse, stable disease and survival duration.
2. Describe the concept of Phase l, JI, lll and IV drug trials
3. Evaluate the evidence for favourable adjunctive use of chemotherapy with surgery and /or radiation therapy.
4. Describe the criteria or prerequisites for adjuvant chemotherapy.
5. The rational of dose schedule, cycle length, dose intensity and duration
6. Toxicity

The candidate should be able to:

1. Describe the effects of chemotherapeutic agents on rapidly proliferating epithelium such as bone marrow, G1 tract and hair follicles.
2. Describe the major toxic effects of specific chemotherapeutic agents.
3. Discuss the following aspects of the management of toxicity.
4. Supportive (nutritional, hematinic, prophylactic antibiotics)
5. Specific (blood component therapy, specific antagonists)
6. Protective environment
7. Role of growth factors and cytokines in the prevention of chemotherapy toxicity and in the treatment of malignancies
8. Treatment by Organ Site, Histology and Stage

The candidate should be able to describe the use of agents of established value within established guide lines for specific tumours.

1. Safety

The candidate should be able to describe methods for the safe handling of cytotoxic drugs.

 ***XI THERAPEUTIC PRINCIPLES***

General Aims:

The candidate should possess sufficient knowledge of therapeutic principles to permit accurate diagnosis, pre-treatment evaluation and management of the oncology patient.

Specific Objectives

1. Pre-treatment Evaluation:

The candidate should be able to fully evaluate clinically and order the appropriate tests to assess:-

1. Major organ system (e.g., cardiac, renal, pulmonary, hepatic)
2. Coagulation profile
3. Presence of metastatic disease
4. The ability of the patient to psychologically cope with the treatment programme and her disease.
5. Preoperative Preparation

The candidate should be able to:

1. Prepare the bowel preoperatively
2. Select ostomy sites
3. Correct fluid, electrolyte, haematological and nutritional deficiencies
4. Order pulmonary preparation when indicated
5. Fully inform and counsel the patient and family
6. Order anticoagulant and prophylactic antibiotics where indicated.
7. Choice of treatment

The candidate should be able to discuss the evaluation and management of patients with the following diseases in addition the candidate should be able to describe the aetiology, pathology, natural history, staging and alternatives of treatment of all stages of the disease, and symptoms and signs produced by the malignancy. This should include management of patients of all age group, those who are pregnant and those with recurrent disease.

1. Diseases of-
2. Cervix
3. Intraepithelial neoplasia and the implications of HPV infection
4. Microinvasive cancer
5. Invasive cancer-primary therapy
6. Invasive cancer-recurrence
7. Ovary
8. Benign ovarian tumours
9. Low malignant potential tumours
10. Invasive cancer (all pathologic types and staged)
11. Recurrent cancer
12. Hereditary ovarian cancer syndromes
13. Pseudomyxomaperitonii
14. Fallopian tube

Invasive Cancer

1. Vulva
2. Vulval non-neoplastic epithelial disorders
3. Intraepithelial cancer
4. Micro invasive cancer
5. Invasive cancer (all pathologic types)
6. Recurrent cancer
7. Uterine corpus
8. Endometrial hyperplasia
9. All pathological types of malignancy
10. Recurrent malignancy
11. Hereditary syndrome associated with endometrial cancer
12. Vagina *j*
13. Intraepithelial neoplasia i
14. Invasive cancer (all pathologic types) at various locations in the vagina
15. Recurrent cancer
16. Gestational trophoblastic disease
17. Hydatidiform mole
18. Continuing GTT - metastatic and non-metastatic
19. Choriocarcinoma
20. PSTTT other variants
21. Malignant disease in pregnancy
22. Pelvic cancer complicating pregnancy
23. Extra pelvic disease in pregnancy
24. Effects of radiotherapy and chemotherapy on a pregnancy
25. Metastatic cancers to pelvic reproductive organs
26. Hormone replacement therapy

The candidate should be able to discuss the potential risks and benefits of HRT in patients treated for invasive carcinoma arising in the female reproductive tract and breast

1. Intraoperative Complications

The candidate should be able to evaluate and manage the following complications:

1. Transfusion reaction
2. Coagulopathies
3. Massive pelvic venous haemorrhage
4. Trauma to major artery or vein
5. Cardiac arrest
6. Injury to bladder, ureters or bowel
7. Transection of obturator nerve f
8. Transection of thoracic duct
9. Acute intraoperative bleeding
10. Postoperative Complications

The candidate should be able to evaluate and manage the following postoperative complication as:

1. Shock
2. Atelectasis and other respiratory problems
3. Intra-abdominal bleeding
4. Anuria or oliguria
5. DVT and Pulmonary embolism
6. Cardiac problems
7. Infections
8. Ureterovaginal fistula and ureteric obstruction
9. Vesicovaginal fistula
10. Bowel fistula
11. Ileus
12. Bowel obstruction

(m) Jaundice

(n) Coagulopathies

(o) Pyrexia

(p) Hypertensive crisis

(q) Respiratory insufficiency including ARDS

(r) Wound problems including infection, dehiscence and evisceration

(s) Septic thrombophlebitis

(t) Bowel obstruction

(u) Mental state changes

1. Metabolic abnormalities including electrolyte imbalance

(w) Short bowel syndrome

1. Hernia

(y) Acute and chronic pain

***Xlt SURGICAL PROCEDURES***

General Aims

The candidate should know in detail the following surgical procedures

Specific Objectives

The candidate should be capable of carrying out the following procedures independently:

1. Primary Therapy( Open / Minimally invasive approach where applicable)
2. Hysterectomy
3. Abdominal
4. Vaginal
5. Radical
6. Salpingo-oophorectomy
7. Radical debulking of ovarian malignancy along with omentectomy, diaphragmatic stripping, splenectomy
8. Pelvic lymphadenectomy
9. Para-aortic lymphadenectomy
10. Partial and total vaginectomy
11. Radical vulvectomy
12. Skinning, simple and hemivulvectomy and conservative procedures for vulval carcinoma
13. Inguinal and femoral lymphadenectomy
14. Pelvic exenteration (anterior, posterior and total)
15. LEEP, Cryosurgery, laser and cone biopsy
16. Gastrointestinal procedures
17. Small Intestine
18. Resection
19. Bypass
20. Ileostomy
21. Mucous fistula formation
22. Fistula repair
23. Feeding jejunostomy
24. Heal conduit (VIII) Gastrostomy
25. Large Intestine
26. Resection
27. Bypass
28. Colostomy
29. Mucous fistula formation
30. Fistula repair
31. Transverse colon conduit
32. Sigmoid conduit
33. Urinary Tract
34. Bladder
35. Partial cystectomy
36. Total cystectomy
37. Cystectomy
38. Vesicovaginal fistula repair (abdominal and vaginal)
39. Ureter

(j) Uteroneocystostomy

1. With psoas hitch
2. With bladder flaps
3. End-to-end anastomosis
4. Ureter ureterostomy
5. Small intestinal interposition
6. Cutaneous ureterostomy
7. Repair of operative injury to ureter
8. Urethra
9. Partial resection
10. Reconstruction
11. Repair fistula
12. Urinary conduit
13. Reconstructive procedures
14. Vagina
15. Split thickness skin graft
16. Pedicle grafts
17. Myocutaneous grafts
18. Williams procedure
19. Repair of fistula
20. Vulva
21. Rotational flaps
22. Split thickness skin grafts
23. Myocutaneous flaps
24. Pelvic floor
25. Omental pedicle grafts
26. Hernias and prolapse
27. Incision and drainage of Abdominal and Pelvic Abscesses
28. Control of Intraoperative or Postoperative Haemorrhage
29. MisceJIaneous
30. Be able to carry out placement of Thoracotomy tubes
31. Be able to place a temporary or permanent central venous access line
32. Be abfe to carry out Orotracheal or Transtracheal Intubation

***XIII RADIATION THERAPY***

General Aims

The candidate should be familiar with the principles and practice of radiation therapy, with particular reference to Gynaecologic oncology.

Special Objectives:

1. Radiobiology

The candidate should be able to describeRadiation effect on -

1. Cell
2. Cell cycle
3. Cell survival curves
4. The Four "R's"of radiation
5. Intrinsic radiosensitivity
6. Modification of cellular radiosensitivity
7. Oxygen effect
8. Radio sensitisers
9. Combined radiation chemotherapy effects
10. RBE and LET
11. Recovery and repair of tissue following radiation
12. Protection from radiation effect
13. Relative radio sensitivity among different tissue/organ
14. Therapeutic ratio
15. Long-term effects
16. Principles of radiotherapy
17. Introductory Radiation Physics

The candidate should be able to: ■

1. Outline atomic and nuclear structure, electromagnetic radiation)
2. Define radioactivity, alpha and beta particles and gamma ray
3. Describe the effects of radiation 一 direct and indirect effect
4. Define an absorbed dose -Gy, rad
5. Teletherapy and brachytherapy

I

1. External Beam Therapy (teletherapy)

The candidate should be able to describe the following:

1. Teletherapy sources of x-rays, gamma ray or electron beams: linear accelerators, cobalt, orthovoltage and superficial therapy units
2. Characteristics of teletherapy beam
3. Techniques of external beam radiation
4. The planning process: immobilisation, simulation, contouring, tumour and normal structure localization; target volume delineation, dose and beam configuration selection； computation of dose distributions; verification; execution
5. 3D radiotherapy, IMRT, IGRT
6. Intracavitary and interstitial irradiation (brachytherapy)

The candidate should be able to describe the following:

1. Historical perspectives of brachytherapy
2. Brachytherapy [procedures Intracavitary/intravaginal/trans-perineal/interstitial implants
3. Manual after loading / remote after loading
4. Low and high dose rate equipment; caesium, iridium and cobalt sources
5. Post procedural imaging verification
6. Dose and fractionation

⑽Combination of brachytherapy and teletherapy treatments

1. Radiation Protection

The candidate should be able to describe the following:

1. Dose equivalent, Sv, rem
2. Radiation protection philosophy of the ICRP
3. Estimation of risk of radiation-induced harm
4. Dose equivalent limits for radiation workers, including pregnant and potentially pregnant women. Dose equipment limits for members of the public.
5. Applicatior of ICRP principles to radiation protection of radiotherapy patients
6. Design features of radiotherapy equipment and procedures to prevent malfunctions or errors in dose delivery
7. Dose to foetus of a pregnant radiotherapy patients

(viii)Sealed sources for brachytherapy; use of time, distance and shielding to minimise staff exposure during handling. The value of manual and remote after loading

(lx) Departmental surveys, area monitoring and personnel monitoring

1. Clinical Radiotherapy

The candidate should be able to discuss the place of radiotherapy and treatment planning in gynaecological malignancy in the following:

1. Cervix
2. Endometrium
3. Ovary and Fallopian tube and nodal irradiation
4. Vagina and vulva
5. Complications of radiotherapy - early and late

***XIV PAIN RELIEF, PALLIATIVE AND TERMINAL CARE***

The candidate should be able to manage a programme of pain-relief and other symptomatic care in a patient with progressive gynaecological cancer

1. Pain relief, non-narcotic analgesics; narcotic analgesics, role of anaesthetics

1. Pain clinics
2. Neural blocks
3. Anxiety relief - Sedatives and tranquilisers; counselling (patient and family)
4. Nausea and vomiting relief; antiemetic's; - dietary measures
5. Community support roles; general practitioner; - district nurse - family; - religion - community services
6. Practical exposure to hospice care
7. Psychological state of the cancer patient with progressive disease.
8. Counselling for dying patients and family members
9. ***DISEASES OF THE BREAST***

The candidate should have knowledge about breast diseases and should be able to advice patients with regard to:

1. The frequency of breast cancer
2. High risk population
3. Benign breast lesions that predispose to subsequent cancer
4. Mammography and breast self-examination
5. Significance of estrogen and progesterone receptors
6. Role of tamoxifen and aromatase inhibitors and their effect on the endometrium
7. ***MENTAL HEALTH ASPECTS OF ONCOLOGY CARE***

The candidate should be aware of:

1. The psychological aspects of gynaecological oncology care
2. The quality of life aspects of gynaecologic oncology
3. The psychosocial aspects in the "survivor"
4. The Psycho Sexual aspects of Gynaecologic Oncology
5. ***IMPLICATIONS IN THE THIRD WORLD SITUATION***

The candidate should be aware of the problems of:

1. The concept of delay in gynaecologic oncology
2. Financial implication of therapy
3. Compliance to therapy and follow up
4. ***MISCELLANEOUS***

The candidate should:

* Understand the principles *of informed* consent, quality of life issues The candidate should
* Understand the need for the spirit and need for continuing medical education and develop the skills for self-directed learning

The candidate should

* Be able to select and use appropriate learning resources and teaching techniques applicable for health education of the public, undergraduate students, postgraduate students, nursing students and paramedical students
* Preferably attend PG Medical Technology course and be trained in evaluation and preparation of blue print for question papers
* Be able to incorporate Problem based learning in the teaching schedule

**XIX Administrative Experience**

Objective：

The candidate should be given some administrative responsibility which will allow the development of skills relevant to the future provision and organisation of clinical services.

1. Ethical and Legal Aspects

The candidate should be able to discuss the ethical and legal aspects of the clinical practice of

Gynaecological Oncology and carry out professional responsibilities ethically

1. Implication of the National Health Policy

The candidate should be able to assess the implications of health policy on prevention and treatment of Gynaecologic Malignancies

**Recommended Textbooks**

***Gynaecological Oncology***

* Berek& Hacker's, Gynecologic Oncology
* Principles and practice of Gynecologic Oncology, Richard R. Barakat, Andrew Berchuk, Maurie Markman and Marcus E. Randal
* Clinical Gynecologic Oncology, Di Saia, Creasman, Mannel, Me Meekin, Mutch D
* Gynecological Oncology; Guide to clinical management., Blake Peter et al.
* Gynecological Oncology: (Fundamental and principles & clinical practice) Coppleson, M
* New Developments in Cervical Cancer Screening and Prevention. Franco. E &Monsoneco .J
* Gynecologic Oncology: evidence based pre-operative and Supportive care, Vasilev, S.A
* Principles and Practice of Gynecologic Oncology, Hoskins, WJ et al
* Hand Book of Colposcopy, Luesely. D et al.
* Cancer and pre-Cancers of the Cervix, Luesley. D.M &Barrass.R
* Gynecologic Cancer Surgery, Morrow. C P et al
* Synopsis of Gynecologic Oncology, MorrowC.P & CurtisJ.P
* Multimodal Therapy in Gynecologic Oncology, Sevin, B.U et al
* Ovarian Cancer. Sharp F et al
* Cancer of Cervix. Shingleton H. M & Orr J.W
* Ovarian Cancer: Controversies in Management., Gershenson D.M.&McquireW.P
* Essentials of Gynecological Cancers. Lakton F et al
* Epithelial Cancers of Ovary, Lawton' Frank G et al
* Gynecologic Oncology Lentz (Scott E)
* Textbook of Gynaecologic Oncology A.Ayhan, M.Gultekin, P. Durson
* Gynecologic Oncology Karlan (Beth Y)
* Atlas of Gynecologic Oncology Investigation and Surgery Smith (Richard .J)
* GynecologicTumor Board Dizon (Don .S)
* Radical and Reconstructive Gynaecologic Cancer Surgery Bristow (Robert E)
* Principles and Practice of Fertility Preservation Donnez (Jacques)
* Cytology and Surgical Pathology of Gynecologic Neoplasms Chieng (David)
* Atlas of Gynecologic Oncology Imaging Akin (Oguz)
* Precancerous Lesions of the Gynecologic Tract Fadare (Oluwole)
* Radiation Medicine Rounds: Gynecologic Cancer, Vol.2 Mundt (Arno J)
* Noninvasive Molecular Markers in Gynecologic Cancers Barh (Debmalya)
* Gynecologic Cancers: A Multidisciplinary Approach to Diagnosis and Management Odunsi (Kunle)
* Surgery for ovarian cancer Bristow (Robert E)
* Cervical cancer Contemporary Management Rajaram (Shalini)

***Gynaecology Books***

Operative Gynaecology, Te Linde's, Rock & Jones

Operative Laparoscopy & Hysterectomy, Cohen

Gynaecologic Endoscopic Surgeries: Current Concepts: Desai & Joseph Controversies in Laparoscopic Surgeries, Assalia, Gagner, Schein

Textbook & Atlas: Modern Colposcopy, Mayeaux, Jr., J.Thomas Cox j Reconstructive and Reproductive Surgeries in Gynaecology, Gomel &Br I Current Progress in Obstetrics and Gynaecology Studd (John) Atlas of Gynaecologic Surgery Wallwiener (Diethelm)

Colposcopy Atlas Vesna Kesic

Cytology and Colposcopy in Gynecological Practice Saraiya (Usha B)

Burghardt's Colposcopy and Cervical Pathology： Textbook and Atlas Girardi (Frank) A Manual of Minimally Invasive Gynecological Surgery Agarwal (Meenu)

R)

Gynecologic Ultrasound: A Problem Based Approach Benacerraf (Beryl Colposcopy of the Cervix, Vagina, and Vulva Baggish (Michael .S)

Colposcopy Principle and Practice Apgar (Barbara S.)

Recent Advances in Obstetrics and Gynaecology

***Allied Speciality Books***

* Medical Biostatistics, IndrayanAbhaya
* Cancer, Principles and Practice of Oncology, DeVita, Hellman and Rosenberg's
* CT and MRI of the Abdomen and Pelvis, Ros, P.R &Mortele, K丄
* Ultrasonography in Obstetrics and Gynecology, Benson, C.B & Bluth, E,l PET-CT and PET-MRI in Oncology, Peller, P. et al
* Walter & Miller's Text Book of radiotherapy, Symonds Paul et al.
* Robbins Basic Pathology, Kumar, Abbas, Aster
* Atlas of Anatomy, Gilroy, A.M
* Text Book of Palliative Medicine and Supportive Care, Bruera, E. et al.
* Basic Methods of Medical Research, Indrayan, A
* Gynaecologic Radiation Therapy: Novel Approaches to Image Guidance and management, Vishwanathan, A.N et al
* Principles and Practice of Surgical Oncology. Howard Silberman, Allan W. Silberman
* Cancer Chemotherapy, Drug Manual, Jones& Bartlett learning.
* Hand Book of Cancer Chemotherapy, Skeel&Khleif
* Symptom Management in Advanced Cancers, Twycross
* Statistics Leblace (David)
* Medical Statistics from scratch Bowers (David)
* Statistics A Tool for Social Research Healey, (Joseph F)
* Oral Morphine in Advanced CancerTwycross (Robert)
* Cancer Pain Relief and Palliative Care Who
* Care of The Patient with Advanced Cancer Twycross (Robert)
* Symptom Control in Terminal Cancer: Lecture Notes Twycross (Robert)
* Cancer Pain Relief: A Guide to Opioid Availability Who
* Multiple Primary Cancers Neugut (Alfred. I)
* Cancer Pain: Assessment' Diagnosis, And Management Fitzgibbon (Dermot. R)
* Handbook of Cancer Chemotherapy Skeel (Roland)
* Harrisons Pulmonary and Critical Care Medicine Loscalzo (Joseph)
* The MD Anderson Manual of Medical Oncology Kantarjian (Hagop .M)
* Oxford Textbook of Oncology Kerr (David. J)
* Targeted Therapies in Oncology Giaccone (Giuseppe)
* Treatment of Cancer Price (Pat)

***Journals of Gynaecology***

* International journal of Gynaecology and Obstetrics
* Journal of Obstetrics and Gynaecology of India
* Journal of Obstetrics and Gynaecology and Research
* British Journal of Obstetrics and Gynaecology
* Journal of Minimally Invasive Surgeries
* Indian Journal of Obstetrics and Gynaecology
* American Journal of Obstetrics and Gynaecology
* Journal of Midlife Health
* Clinical Obstetrics and Gynaecology
* Obs& Gynae Today
* Obstetrical and Gynaecological Survey
* Obstetrics and Gynaecology Clinics of North America
* Journal of the Lower Genital Tract Disease

***Journals of Gynaecologic Oncology***

* International Journal of Gynaecological Cancer
* Gynaecologic Oncology
* Indian Journa) of Gynaecological Cancer
* Journal of Gynaecologic Oncology

***Allied Cancer journals***

* Lancet Oncology
* Journal of Clinical Oncology
* Cancer
* Indian Journal of Surgical Oncology
* International Journal of Surgical Oncology
* International Journal of Cancer
* European Journal of Obstetrics and Gynecology
* Indian Journal of Cancer
* South Asian Journal of Cancer
* Seminars in Oncology
* International Journal of Radiation Oncology
* Journal of Medical Imaging and Radiation Oncology
* Indian Journal of Palliative Care
* International Journal of Radiation Oncology Biology Physics
* Indian Journal of Medical and Paediatric Oncology
* Surgical Oncology Clinics of North America
* Journal of Surgical Oncology
* CA-A Cancer Journal for Clinicians
* Asian journal of Oncology

***Allied Journals***

* American Journal of Gastroenterology
* Indian Journal of Gastroenterology
* The Journal of Urology
* Indian Journal of Urology
* Radiology
* European Journal of radiology
* Journal of Clinical Pathology
* The American Journal of Pathology
* Journal of Clinical Pathology
* Seminars in Ultrasound, CT & MRI
* Indian Journal of Medical Research
* Indian Journal of Medical Ethics
* Ecancermedicalsciences
* Scientific World Journal

» New England Journal of Medicine

* British Medical Journal
* Lancet
* Perspectives in Clinical Research
* The National Medical Journal of India
* Journal of Cytology
* International Journal of Epidemiology
* JAMA
* The American Journal of Surgical Pathology
* Acta Cytologica

***Additional Reading***

1. Compendium of recommendations of various committees on Health and Development (1943 - 1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate general of Health services, Ministry of Health and Family welfare, Govt, of India, NirmanBhawan, New Delhi. P-335.
2. National Health Policy, Ministry of Health and Family welfare, NirmanBhawan, New Delhi. 1983.
3. Santhosh Kumar, The elements of Research writing and editing, 1994, Dept of Urology, JIPMER, Pondicherry.
4. Srinivasa DK, et al, Medical Education Principles and Practice, 1995, National Teacher training Centre, JIPMER, Pondicherry
5. Indian Council of Medical Research, "Policy statement of Ethical considerations involved in Research on Human Subjects", 1982,1.C.M.R., New Delhi.
6. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
7. Francis CM, Medical Ethics, JP Publications, Bangalore, 1993.
8. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.

9- Indian National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991:424-8

1. Kirkwood BR. Essential of Medical Statistics, 1st edition, Oxford: Blackwell Scientific Publications, 1988
2. Mahajan BK, Methods in Biostatistics for Medical Students, 5th edition, New Delhi, Jaypee Brothers Medical Publishers, 1989.
3. Raveendran, B Gitanjali. A Practical approach to PG dissertation, New Delhi, J P Publications, 1998.

**Monitoring Learning Progress**

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

The learning out comes to be assessed should include: (i) Personal Attitudes

1. Acquisition of Knowledge
2. Clinical and operative skills
3. Teaching skills.

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

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

The methods used mainly consist of observation. It is appreciated that these items require a

degree of subjective assessment by the guide, supervisors and peers.

**ii) Acquisition of Knowledge:**

The methods comprise of –

* Log Book which records the number of participation in various teaching / learning activities by the students.
* activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors.
* Journal Review Meeting (Journal Club): The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (Model Checklist -1)
* Seminars / Symposia: The topics should be assigned to the student well in advance to facilitate in depth study‘ The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed.
* Clinico-pathological conferences: This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a checklist similar to that used for seminar.
* Medical Audit: Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

**iii) Clinical skills**

Day-to-Day work: Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills

Clinical meetings: Candidates should periodically present cases to his peers and faculty members. This should be assessed using a checklist (Model checklist - II).

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

Teaching skills: Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students

Periodic tests: Periodic tests will be conducted by Program Director to evaluate the progress

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

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

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

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

Format of Model Check Lists

Model Check List -L

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student: Name of the Faculty/Observer: Date:

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

Model Check List - II

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student: Name of the Faculty: Date:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| SI.No. | Points to be considered | Poor0 | BelowAverage 1 | Average2 | AboveAverage3 | VeryGood4 |
| 1. | Completeness of history |  |  |  |  |  |
| 2. | Whether all relevant points elicited |  |  |  |  |  |
| 3. | Clarity of Presentation |  |  |  |  |  |
| 4. | logical order |  |  |  |  |  |
| 5. | Mentioned all positive and negative points of importance |  |  |  |  |  |
| 6. | Accuracy of general physical examination |  |  |  |  |  |
| 7. | Whether all physical signs elicited correctly |  |  |  |  |  |
| 8. | Whether any major signs missed or misinterpreted |  |  |  |  |  |
| 9. | Diagnosis: Whether it follows logically from history and findings |  |  |  |  |  |
| 10 | Investigations required 0 Complete list |  |  |  |  |  |
| S Relevant order |  |  |  |  |  |
| 0 Interpretation of investigations |  |  |  |  |  |
| 1. | Ability to react to questioning Whether it follows logically from history and findings |  |  |  |  |  |
| 2. | Ability to defend diagnosis |  |  |  |  |  |
| *3.* | Ability to justify differential diagnosis |  |  |  |  |  |
| *4.* | Others |  |  |  |  |  |
|  | Grand Total |  |  |  |  |  |

Table 1

LOG BOOK

Academic activities attended

|  |  |
| --- | --- |
| Name: | Admission Year: |

College:

|  |  |  |
| --- | --- | --- |
| Date | Type of ActivitySpecify Seminar, Journal Club, Presentation, UG teaching | Particulars |
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Table 2

LOG BOOK

Academic presentations made by the student

Name: Admission Year:

College：

|  |  |  |
| --- | --- | --- |
| Date | Topic | Type of PresentationSpecify Seminar, Journal Club, Presentation, UG teaching etc. |
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Table 3

LOG BOOK

|  |  |
| --- | --- |
| Name: | Diagnostic and Operative procedures performedAdmission Year: |

College:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Name | ID No. | Procedure | Category 0, A, PA, PI\* |
|  |  |  |  |  |
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|  |  |  |  |  |

\* Key: O - Washed up and observed

A - Assisted a more senior Surgeon

PA - Performed procedure under the direct supervision of a senior surgeon

PI • performed independently

Table 4

Model Overall Assessment Sheet

Name of the College: Academic Year:

|  |  |  |
| --- | --- | --- |
| SI.No | Particulars | Name of Student\* and Mean Score |
| A\* | B\* | C\* | D\* | E\* | F\* | G\* | H\* | 1\* | J\* |
| 1 | Journal Review Presentations |  |  |  |  |  |  |  |  |  |  |
| 2 | Seminars |  |  |  |  |  |  |  |  |  |  |
| 3 | Clinical work in wards |  |  |  |  |  |  |  |  |  |  |
| 4 | Clinical presentation |  |  |  |  |  |  |  |  |  |  |
| 5 | Teaching skill practice |  |  |  |  |  |  |  |  |  |  |
| Total Score |  |  |  |  |  |  |  |  |  |  |

Note: Use separate sheet for each year.

***Signature of Program Director***

The above overall assessment sheet used along with the logbook should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

KEY:

Mean score: Is the sum of all the scores of checklists 1 to 7.

A, : Name of the trainee