

# **MASTER OF PHYSIOTHERAPY**

## **PROGRAM OUTCOMES**

The aim of the course is to provide comprehensive, individually focused training that prepares the students for providing a quality and specialized physiotherapy care to the patients so that at the end of the course he/she will be able to perform the following

1. Recognize the role of Physiotherapy in the context of the health needs of the community and National priorities in the health sector.
2. Demonstrate professional and ethical behaviour appropriate to atleast the minimum standard expected for a Physiotherapy Post Graduate.
3. To acquire knowledge and skills in various fields like
  - Exercise testing physiology
  - Movement analysis
  - Electro diagnosis
  - Physiotherapy Diagnosis
4. Using an Evidence Based analysis interpret assessment findings and set realistic short and long term goals and undertake discharge plans.
5. To apply general principles of Practice and understand their applications in enhancement of Physiotherapy Practice.
6. To understand various physiotherapy treatment models like physiotherapy and rehabilitation model.
7. To understand the clinical manifestations and to apply the suitable management models in various electives.
8. To appreciate the importance of clinical epidemiology, research ethics and advance in computer applications and formulate research process in physiotherapy.

9. Experiment with new approaches, challenges, existing knowledge, boundaries and design novel solution to various critical problems through logical, analytical and critical thinking.
10. Able to practice recent trends in investigative methods and intervention modalities in the field of physiotherapy.
11. Able to teach Physiotherapy with appropriate teaching methodology.

# **MASTER OF PHYSIOTHERAPY- I YEAR**

## **MPT101A Applied Anatomy, Kinesiology & Bio mechanics**

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills:

- An appreciation of the team approach to learning in complex areas.
- The ability to critically evaluate research literature in the area of anatomy, functional applied anatomy, and apply this information towards understanding the mechanisms operating in musculoskeletal conditions resulting from injury or disease.
- An appreciation of the importance of, and development of, good written and presentation skills to aid group learning.
- An appreciation of the team approach to learning in complex areas.

#### **Specific**

On completion of the subject, students will have had the opportunity to develop the following specific skills:

- Sound knowledge of the anatomy of the musculoskeletal system in the body.
- Advanced understanding of the relationship between structure and function of the musculoskeletal system of the healthy and diseased subjects.
- Developing ability to analyze mechanisms underlying selected musculoskeletal conditions resulting from injury or disease processes.
- Advanced understanding of the anatomy / applied anatomy basis for clinical testing of musculoskeletal structures.

## **MPT102A Exercise Physiology & Electro Physiology**

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- An appreciation of the team approach to learning in complex areas.
- An appreciation of the need for intercultural sensitivity and understanding particularly of different learning styles.
- An appreciation of the importance of, and development of, good written and verbal communication skills to articulate knowledge in exercise and electro physiology.
- The ability to evaluate and synthesize research and professional literature and apply this information to novel situations.

#### **Specific**

On completion of this subject students should have the opportunity to:

- Acquire a sound knowledge of the physiology of motor control.
- Acquire theoretical knowledge of motor control theories postulated in the literature.
- Analyse and critique key motor control theories and models.
- Acquire a thorough understanding of factors influencing learning including the learner and the environment, and how these factors can be applied in clinical practice situations.
- Acquire sound theoretical knowledge of muscle physiology including muscle structure, mechanical properties, fiber types, neural activation, soreness, damage and adaptation, and the effects of aging, immobile/disuse, training, fatigue and spasticity on muscle.
- Acquire theoretical knowledge of exercise physiology including exercise metabolism, cardio-respiratory response to exercise, energy, nutrition and environmental factors in exercise.
- Critically evaluate and synthesis research and professional literature relating to a chosen topic in the muscle/exercise physiology to analyze and interpret electro diagnostic procedures.

## **MPT103A Physical and Functional evaluation**

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- Evaluate and analyses the physiological aspects of physical rehabilitation.
- Make clinical decision and plan for effective treatment.
- Identify and recognize the importance of monitoring vital signs.
- Plan strategies for management of various musculoskeletal, neurological, cardio pulmonary problems and in various medical and surgical conditions.

#### **Specific**

- In this course, the student will learn the assessment of various conditions through appropriate and valid tools.
- Frame comprehensive management of physical ailments to develop independent professional knowledge and skill.

## **MPT104A Evidence-Based Practice**

### **COURSE OUTCOMES**

#### **Generic**

On completion of this subject, students will be able to demonstrate:

- Skills in and writing scientific communication, skills in oral communication and contribution to class discussion, a capacity to undertake searching of medical literature databases.

#### **Specific**

On completion of this subject, students will be able to demonstrate:

- An understanding of the importance of valid and reliable objective measurement in clinical practice.
- The ability to undertake detailed planning and analysis to successfully complete a research project.
- A capacity to undertake searching computerised medical literature databases.
- An understanding of research design principles, reliability and validity.
- An understanding of basic statistical techniques.
- To understand the principles of research methods and provides examples of their application in clinical physiotherapy research and practices.
- Techniques required for the critical evaluation of all aspects of published research relevant to the physiotherapy profession.
- The use of quantitative statistical analysis techniques.

## **MASTER OF PHYSIOTHERAPY- II YEAR**

### **MPT IN ORTHOPAEDICS**

MPT201A PAPER I - Musculoskeletal and Sports Physiotherapy

MPT202A PAPER II -Geriatric Rehabilitation and Hand Rehabilitation

### **PROGRAM SPECIFIC OUTCOMES**

- To acquaint himself/herself with the past and current literature on relevant aspects of orthopedic Physiotherapy.
- To acquaint with relevant education delivery system to be able to function as a health educator.
- To assess, plan and interpret various musculoskeletal conditions and plan relevant advanced therapeutic methods.
- To identify, frame and carry out research in the speciality.
- Develop skills as a self-directed learner, recognize continuing educational needs, use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based physiotherapy.

### **COURSE OUTCOMES**

#### **Generic**

On completion of this subject, students will have had the opportunity to develop the following generic skills:

- Advanced understanding of the scope of practice of musculoskeletal physiotherapy, advanced knowledge of physical, biological, medical and behavioural sciences.
- Advanced clinical knowledge, skills and attitudes necessary for the competent assessment, prophylaxis, treatment and rehabilitation of patients with neuromusculoskeletal and related disorders.

- The knowledge and skills in research design, research methodology and critical analysis of relevant clinical literature necessary to appreciate the role of research as a basis for evidence - based practice.
- The ability to update further academic developments and advanced clinical skills in the speciality discipline of Orthopaedic physiotherapy.

### **Specific**

On completion of the subject, students will have had the opportunity to develop the following specific skills:

- A deeper understanding of the basic sciences and their integration with musculoskeletal physiotherapy clinical practice.
- A sound theoretical knowledge and understanding of neuromusculoskeletal conditions affecting people.
- The ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.
- The ability to develop and implement clinical analytical skills to evaluate data obtained.
- The ability to develop and implement a clinical management plan based on the interpretation of assessment findings.
- The ability to monitor patient response to modify or progress treatment appropriately. An awareness of the paramount importance of patient safety all times.
- A knowledge of the role of other health care professionals involved in patient care.



## **MPT IN NEUROLOGY**

MPT203A PAPER I Neuroscience and Paediatric Biosciences

MPT204A PAPER II Physiotherapy for Spinal Cord Injury and Advanced Topics in Neurological Physiotherapy

### **PROGRAM SPECIFIC OUTCOMES**

- Demonstrate sufficient understanding of knowledge in the subject of neurological physiotherapy.
- Develop ability to take history from the patient, perform relevant clinical examination, decide appropriate management plan with advanced techniques used in neurological patients.
- To identify, frame and carry out research in the speciality.
- Develop skills as a self-directed learner, recognize continuing educational needs, use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based physiotherapy.
- Develop effective communication with patients, family, colleagues and students.

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- An advanced understanding of the changing knowledge base in neurology, and the international context and sensitivities of the area.
- The ability to evaluate and synthesize research and professional literature and apply this information to clinical situations.
- A capacity to articulate their knowledge, understanding and managing neurological patients.
- A capacity to manage competing demands on time, including self directed project work.

- A capacity to be an effective member of a team based approach to patient care and to take a leadership role in the team as appropriate.

### **Specific**

On completion of the subject, students will have had the opportunity to develop the following specific skills.

- Patient assessment and treatment planning including integration and interpretation of patient problems and effective goal setting.
- Acquire knowledge about the developmental processes in the nervous system, sensorimotor systems and the processing of sensory information, the programming and execution of movement, mechanisms of plasticity, learning and recovery of function after injury, higher cortical functions and their disorders following brain injury.
- Application of neuroscience to clinical situations.

## **MPT IN SPORTS PHYSIOTHERAPY**

MPT205A PAPER I Sports physiotherapy for upper quadrant and Sports physiotherapy for lower quadrant.

MPT206A PAPER II Sports physiotherapy for spine and pelvis and Exercise in Clinical practice

### **PROGRAM SPECIFIC OUTCOMES**

- Demonstrate sufficient understanding of knowledge in sports physiotherapy.
- Develop ability to take history from the patient, perform relevant on field examination and plan the physiotherapy management for the benefit of the sports persons.
- Develop skills as a self-directed learner, recognize continuing educational needs, use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based physiotherapy.
- To develop reasonable understanding of recent advances in the speciality and carry out efficient management for all types of sports emergency and thus train the sports persons for the events and injury prevention.
- To be able to critically analyze relevant published research literature and use them appropriately to influence sports physiotherapy practice.

### **COURSE OUTCOMES**

#### **Generic**

On completion of this subject, students will have had the opportunity to develop the following generic skills.

- Critical thinking, problem solving and analytical skills, good written and verbal communication with patients and other health professionals.
- Ability to apply evidence based knowledge to patient management
- Appreciation of the importance of the team approach to patient management.

## **Specific**

On completion of this subject, students will have had the opportunity to develop the following specific skills.

- Clinical mastery in the assessment, diagnosis and management of sports injuries including the use of manual therapy, massage, taping, exercise prescription, biomechanical assessment of sports technique and motor control in sports activities.
- An appreciation of the role of the sports physiotherapist in the sports team training and competition setting and the value of communication in the Sports Medicine Team approach.
- An ability to develop and deliver specific screening and preventive conditioning programs for common sports and injuries.
- An appreciation of the role of the sports physiotherapist in the wider community setting as a promoter of the health benefits of exercise and safety in sports and exercise.

## **MPT IN CARDIO PULMONARY SCIENCES**

MPT207A PAPER I Cardio Respiratory Sciences and Cardio Pulmonary Rehabilitation

MPT208A PAPER II Acute Cardio Respiratory Practice and Fitness Training & Health Promotion

### **PROGRAM SPECIFIC OUTCOMES**

- Recognize the importance of Cardio Respiratory conditions, surgeries in the context of the health needs of the community and national priorities in the health sector.
- To interpret relevant laboratory, radiological and cardio respiratory investigations.
- To keep abreast of the current knowledge and recent advances in the field by self learning and /or participating in Continuing Medical Education Programmes and Life support courses.
- To develop understanding and working knowledge of the sophisticated and routine equipments and emergency procedures used in Cardio Respiratory patients.
- Demonstrate competence in basic concepts of research methodology and publication.
- To be able to critically analyze relevant published research literature and use them appropriately to influence practice of cardiovascular medicine.

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- An understanding of professional responsibility and ethical principles in relation to individuals and community, both locally and internationally.
- The ability to evaluate and synthesis research and professional literature and apply this information.
- Well developed problem solving abilities in both the clinical and the theoretical aspects of cardiothoracic physiotherapy.
- A capacity to manage competing demands on time, including self-directed project work.

- Critical evaluation of assessment and treatment approaches.
- Education of patients, caregivers and health professionals, consultancy and advocacy; Goal setting, self evaluation and reflective practice.

### **Specific**

On completion of the subject, students will have had the opportunity to develop the following specific skills.

- Patient assessment and treatment planning, including integration and interpretation of patient problems and effective goal setting.
- Physiotherapeutic intervention that is based on sound base of evidence and sensitive to service delivery models and the culture of both the patient and the organisation.
- A capacity to be an effective member of a team-based approach to patient care and to take a leadership role in the team as appropriate.

## **MPT IN BIOMECHANICS**

MPT209A PAPER I    Kinesiology and Pathomechanics of Upper limb and Lower limb

MPT210A PAPER II    Biomechanics and Pathomechanics of spine and Functional Analysis

### **PROGRAM SPECIFIC OUTCOMES**

- Recognize and identify the various Biomechanical aspects of Musculo skeletal problems.
- Take detailed history, perform full physical evaluation and make clinical diagnosis, perform relevant investigative and therapeutic procedures.
- Institute therapeutic, rehabilitative and preventive measures to provide holistic care to the patient.
- Develop skills as a self-directed learner, recognize continuing educational needs, use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based physiotherapy.
- Organize and supervise the desired managerial and leadership skills.
- Is aware of the latest developments in the field of Biomechanics and movement science.

### **COURSE OUTCOMES**

#### **Generic**

On completion of this subject, students will have had the opportunity to develop the following generic skills:

- The ability to critically evaluate research literature in the area of anatomy / applied anatomy and apply this information towards understanding the mechanisms operating in musculoskeletal conditions resulting from injury or disease.
- An appreciation of the importance of, and development of good written and presentation skills to aid group learning.

#### **Specific**

On completion of this subject, students will have had the opportunity to develop the following generic skills:

- Sound knowledge of the anatomy of the musculoskeletal system.
- Advanced understanding of the relationship between structure and function of the musculoskeletal system in healthy and diseased subjects.
- Developing ability to analyse mechanisms underlying selected musculoskeletal conditions resulting from injury or disease processes.
- Advanced understanding of the anatomy / applied anatomy basis for clinical tests of musculoskeletal structure.



## **MPT IN OBSTETRICS & GYNAECOLOGY**

MPT211A Paper I      Medical & Surgical Gynaecology and Physiotherapy in Gynaecology

MPT212A Paper II      Clinical Obstetrics and Physiotherapy in Obstetrics.

### **PROGRAM SPECIFIC OUTCOMES**

- To acquire thorough knowledge of Obstetrics & Gynaecology, surgeries and allied specialities.
- Update on self study, attending seminars, conference and workshops on Obstetrics and Gynaecology.
- Plan and carry scientific research in specialty of Obstetrics & Gynaecology.
- Provide quality care to the community in the assessment and management of Antenatal, and Post-natal period of normal and discomforts during pregnancies and common gynaecological problems.
- Keep abreast with advances in the field of Obstetrics & Gynaecology.
- Involved in educational program in Obstetrics & Gynaecology for community dwelling patients.
- Develop communication skill and demonstrate compassionate attitude.

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- An advanced understanding of the changing knowledge base in the clinical area.
- An ability to evaluate and synthesis the research and professional literature in the field of physiotherapy in Obstetrics and Gynaecology.
- An understanding of the significance of the development in antenatal and post natal physiotherapy management.
- An appreciation of a team approach to learning.

#### **Specific**

On completion of this subject, students will have had the opportunity to develop the following specific skills.

- Plan, deliver and evaluate appropriate exercise programs for specific women's groups within the community.
- Understand the impact of exercise on the altered physiology, pathophysiology and psychology of pregnancy, menopause, aging and osteopenia /osteoporosis.
- Identify the legal and safety issues associated with leading exercise classes for women with specific physical needs.
- Understand the motivational and marketing aspects of leading community and hospital based exercise classes.

## **MPT IN PAEDIATRICS**

MPT213A Paper I Physiotherapy for Paediatric Neurological conditions and Growth and development

MPT214A Paper II Physiotherapy for Paediatric Orthopaedic condition and Physiotherapy for Paediatric Cardio respiratory conditions

### **PROGRAM SPECIFIC OUTCOMES**

- Recognize the key importance of child health in the context of the health priority of the country.
- Practice the specialty of Paediatric Physiotherapy in keeping with the principles of professional ethics.
- Identify social, economic, environmental, biological and emotional determinants of child and adolescent health, and institute therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children.
- Take detailed history, perform complete physical assessment including neurodevelopment and behavioral assessment and anthropometric measurements of the child and frame appropriate advanced physiotherapy care.
- Plan and advice measures for the prevention of childhood disease and disability.
- Play the assigned role in the implementation of early intervention effectively and responsibly.

### **COURSE OUTCOMES**

#### **Generic**

On completion of this subject, students should be able to:

1. Demonstrate a well-developed problem solving ability in paediatric physiotherapy clinical practice, characterized by a flexible approach.
2. Participate effectively and sensitively as part of a team that advocates for the well-being of the child, that appreciates the structure, culture and goals of the family.
3. Appreciate and develop a capacity to manage competing demands on time, including self-directed professional development.

## **Specific**

On completion of the subject, students will have had the opportunity to develop the following specific skills.

1. Patient assessment and treatment planning including integration and interpretation of patient problems and effective goal setting.
2. Advanced understanding of the scope of practice of paediatric physiotherapy
3. Advanced knowledge of physical, biological, medical and behavioral sciences.
4. Advanced clinical knowledge, skills and attitudes necessary for competent assessment, prophylaxis, treatment and rehabilitation of patients with paediatric movement and related disorders.
5. Physiotherapeutic intervention that is based on sound base of evidence and sensitive to service delivery models and the culture of both the patient and the organization.

## **MPT IN COMMUNITY REHABILITATION**

MPT215A PAPER I Community Medicine and Geriatrics and Women's health

MPT216A PAPER II Community Based Rehabilitation and Industrial Physiotherapy and Ergonomics

### **PROGRAM SPECIFIC OUTCOMES**

- Know the structure and functioning of the health system at the state, national and international levels and its historical perspectives.
- Know the principles of nutrition, maternal health, family welfare and put the same in to practice.
- Know the principles of communicable and non-communicable disease control and assist in the implementation of national health programmes.
- Identify the socio cultural dimension in health and disease and apply this knowledge in the design and implementation of an integrated health and community rehabilitation programme.
- Apply the principles of environmental and occupational health in the design of health programs aimed at improving health status.
- Identify the health needs of the special groups within population especially the aged, the disabled & women and to respond to their needs.

### **COURSE OUTCOMES**

#### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- An understanding of professional responsibility and ethical principles in relation to individuals and community, both locally and internationally.
- Have an ability to evaluate and synthesis the research and professional literature.

- Have an understanding of the significance and value of their knowledge to the wider community.

### **Specific**

On completion of this subject, students will have had the opportunity to develop the following specific skills.

- Integrate anatomical, physiological and pathological knowledge to devise and implement management programs for different patient groups.
- Be able to discuss current approaches in the management of different patient groups in the community and be able to apply this theoretical knowledge in clinical situations.
- Be able to express their theoretical knowledge at a level for education of patients, caregivers and other health professionals.

## **MPT IN HAND REHABILITATION**

MPT217A PAPER I.Biomechanics and Pathomechanics of hand and Hand conditions

MPT 218A PAPER II Physiotherapy in Hand Condition And Physiotherapy in Hand Surgeries

### **PROGRAM SPECIFIC OUTCOMES**

- Able to offer physiotherapy management of hand conditions and post trauma care.
- Implement proper hand rehabilitation to improve the quality of life of the patients.
- Aware of research methodology and be able to conduct research and publish the work done.
- Able to effectively communicate with patients, their family members, people and professional colleagues.
- Able to exercise empathy and a caring attitude and maintain high ethical standards.

### **COURSE OUTCOMES**

#### **Generic**

On completion of this subject, students will have had the opportunity to develop the following generic skills:

- Rationalise various approaches for hand rehabilitation based on etiology of disease and to progress with rehabilitation.
- Provide adequate preoperative, post-operative and follow-up care of surgical and other hand conditions.

#### **Specific**

On completion of the subject, students will have an opportunity to develop

- A deeper understanding of the musculoskeletal conditions pertaining to hand conditions.
- The ability to perform appropriate assessment and implement treatment plan based on the assessment.
- Advanced clinical knowledge, skills and attitudes necessary for the competent assessment, prophylaxis, treatment and rehabilitation of patients with hand injuries and related disorders.