PARUL UNIVERSITY

R/Notification-291/2018-19

Office of the Registrar
December 17, 2018

NOTIFICATION

Sub: Commencement of Certificate Courses

Ref: (i) Proceedings of the Seventh Meeting of the Governing Body held on 26.11.2018
(ii) Orders of the President

The following certificate programmes shall be offered in the university.

1. Electrodiagnostics
2. Clinical Research for candidates who posses BAMS and BHMS degree
3. Modern Pharmacology and Basics of Clinical Practice for doctors with BAMS and BHMS degree

The details of the three programmes are given in the Annexure.

By Order

Registrar

To,
1) Deans of Faculties
2) Principals/Directors of Colleges/Institutes
3) The Controller of Examinations
4) MIS Coordinator

Submitted to,
1) The President
2) The Vice President
3) Dr.Parul Patel, Member, Governing Body and Chairperson, Admissions Committee
4) Dr.Geetika Madan Patel, Member, Governing Body and Medical Director
5) Dr.Komal Patel, Member, Governing Body
6) The Provost

Parul University

Certificate Programme in "Modern Pharmacology & Basics of Clinical Practice" For "Ayush Doctors"

A comprehensive 6 months course offering basic knowledge of modern pharmacology & clinical practice for Ayurveda & Homoeopathy practitioners & Interns.

A blend of theoretical & practical learning.

Who can apply : BAMS & BHMS (Doctors & Interns)	**Last date of Registration :** 30th November, 2018
Intake : 50	**Fees : Rs. 40,000/-**

Classes & Practical sessions will be held in afternoon. (3 days a week)

For Admissions : ADMISSION CELL - PARUL UNIVERSITY

P.O.Limda, Ta. Waghodia – 391760, Dist. Vadodara, Gujarat (INDIA)

Email: admissions@paruluniversity.ac.in | Mob.: 9099040577, 9879105564

COURSE OUTLINE

MODERN PHARMACOLOGY

- Infectious diseases – Upper Respiratory Tract, Lower Respiratory tract, Urinary tract, Skin & Soft Tissue, GIT, CNS, Protozoal, Anaerobic, Eye/Ear, Fungal, Viral, Helminthic, STDS, Tuberculosis, Tetanus.
- NSAIDS
- Constipation, Diarrhoea
- Acid Peptic Disease
- Hypertension
- Diabetes
- Ischaemic Heart Diseases
- Congestive Heart Failure
- Hypolipedemics
- Oedema, Diuretics
- Anaemia
- Thyroid disorders
- Anxiety disorders/ Sedatives & Hypnotics
- Corticosteroids
- Contraceptives
- Drugs in Emergencies
- Vaccines
- Poisoning
- Animal Bite
- Alcohol
- Nutritional supplements
- Obesity
- Adverse Drug Reactions
- Prescription Writing
- Generic Vs Branded Drugs
- Pricing Aspects

BASICS OF CLINICAL PRACTICE

Theory	Practicals
Basic medical ethics	General Examination
Fever - How to reach to diagnosis and manage	Systemic examination- Inspection, Palpation, Percussion & Auscultation
Common Respiratory tract Infections (URTI, LRTI & their management	Administration of injections - Do's and Dont's
GI infections (Diarrhoea, Dysentry), UTI (Urinary Tract Infection) their management, Bleeding PR	Sample collection guidelines- Blood, Urine, Biopsy, Fluid for various investigations.
Abdominal Pain - Causes & Warning signs & Common GIT problems	BLS training with hands on training on Manikins
Jaundice, Typhoid, Cholera - Diagnosis & Management	Local examination of wound, swelling, ulcer & Basic management of the same, CLW repair and suturing techniques.
Vector borne diseases - Malaria, Dengue, Filariasis Chickenguinea and their management	Examination of ear and refraction testing.
Common Ophthalmological Conditions - Conjunctivitis, Refractive errors, Red eye, Cataract - Diagnosis & Preliminary management	Common Medical Procedures like RT insertion, Catheterization, Fluid tapping, Central line insertion .
Common ENT Problems - Discharge, Hearing loss, Rhinitis - Diagnosis & Preliminary Management	First Aid and Basic Trauma care
Common Medical Emergencies & their management e.g Poisoning, Snake bite, MI, Hypoglycemic shock, Stroke etc. Protocol of emergency management, Management of Patients on Hemodialysis	Preliminary management of Fracture - Splinting techniques.
Management of Unconscious patient	ECG - Common interpretations
Crticial Care & Pateint management - ICU asepsis, management of critical patients. ICU equipments & techniques	X- Rays - Common interpretation & Problem solving
Diabetes Mellitus & Hypertension - Guidelines, Diagnosis & Management	Basic Microscopy
Asthma, COPD, Tuberculosis - Guidelines, Diagnosis & Management	Common Pathology & Microbiology tests
Headache, Migraine, Epilepsy and other common CMS problems- Guidelines, Diagnosis & Management	Use of common medical equipments like nebulizer, rotahalor, MDI, Spirometry.
Common skin conditions - Scabies, Urticaria, Eczema	Ventilatory management,Use of Defibrillator.
Common Psychiatric illnesses	Common physiotherapy Management
Approach to Joint pain & Arthritis	Dressing Materials, Suture Materials & Common Surgical Instruments
Antenatal Care & Delivery	

American Academy of Clinical Electrodiagnosis, LLC

In Cooperation with

Parul University, Vadodara, Gujarat, India

Electrodiagnostic Certification Program

Clinician Handbook

2018

CLINICIAN HANDBOOK

TABLE OF CONTENTS

AMERICAN ACADEMY OF CLINICAL ELECTRODIAGNOSIS
ELECTRODIAGNOSTIC FELLOWSHIP CERTIFICATION PROGRAM

HISTORY

The Electrodiagnostic Certification Program was developed about 17 years ago when the founders of this course (Dr. Kellogg and Dr. Nelson) identified a need to standardize the process of education for this specialty area. The course was conceptualized many times during a15-year period (1987), before the original 11-month session, but it was not until 1998 that the concepts of didactic and practical aspects needed to practice in this specialty area were formalized. Guided by the principles of ethical treatment of all patients subject to clinical electrophysiologic tests, we formulated a course of study that emphasized the human dimension. The course content emphasized and presented in depth: musculoskeletal anatomy, neuroanatomy, neurophysiology, neuropathology, biomedical instrumentation, neuronal conduction techniques (motor and sensory studies), late responses, needle EMG techniques, interpretation, administration, and other related areas. Additionally, the measurement of proficiency was attained by practical examinations. The didactic knowledge was examined by the use of written examinations. The founders of this program wanted to also surround themselves with other clinical experts who regularly practiced this specialty. The faculty has significant clinical EMG experience, which collectively amount to over 234 years. The use of an evidence-based approach to patient care ensures that the practitioner who takes this course is performing as a true reflective practitioner. Dr. Kellogg and Dr. Nelson are proud of the success of this certificate program. The continued success of this course is primarily attributed to the dedicated faculty that teaches this course.

In 2013, the American Academy of Clinical Electrodiagnosis (AACE) launched the first web-based "on-demand" EMG/NCV course in an effort to address the needs of busy clinicians. This hybrid learning platform provides flexibility yet ensures an excellent learning opportunity for clinicians to gain the skills necessary to become practicing electromyographers. Faculty leading this effort includes Dr. Ernst, Dr. Lescallette, Dr. Nelson, and Mr. Lugo. We anticipate that our new format will enable increased numbers of participants to take our award-winning course.

PHILOSOPHY STATEMENT

This educational program fosters clinical and professional excellence in clinical electrophysiology and lifelong pursuit of continued professional development. The program is grounded firmly in a patient-centered approach to care and the ethical practice of this specialty. It is heavily evidence-based in philosophy and the clinicians are encouraged to use the evidence to guide their practice throughout this curriculum and in the years following completion of the course (i.e. continued learning).

Members of the faculty embrace the learning process as active participants and are exemplary professional role models. The faculty focuses on enabling the learner to synthesize information and develop problem-solving skills. While recognizing individual differences among clinicians in both rate and ability to learn, the faculty adjusts teaching strategies to meet the needs of each clinician, whether in the classroom, practical exercises, through online discussions, or tutorial sessions.

Education is an active, continuous, cooperative process between the teacher and learner and must meet both the needs of the learner and the objectives of the teacher. Learning is a developmental process in which the learner is responsible for the acquisition and synthesis of knowledge. To facilitate the learning process, the faculty must guide the development of the clinician in a positive and non-threatening manner. Assessments are made in the form of written exams, practical exams, and virtual-classroom problem solving activities within the discussion pages of the e-learning classroom platform, **Canvas®**. The faculty ensures that the learning process is logical and the material presented is well sequenced, evidence-based, and can be assimilated within a reasonable amount of time. The faculty makes every effort to help each clinician succeed. ***It is the clinician's responsibility to commit themselves to detailed study and regular hands-on practice to become proficient in this highly specialized field.***

Electrodiagnostic Fellowship Certification Program Overview

The American Academy of Clinical Electrodiagnosis (AACE) has developed an educational program designed for clinicians to achieve a Fellowship Certification in Electrodiagnosis. The program is separated into four stages. Each successive stage provides more in-depth material from basic understanding and acquisition of psycho-motor skills to more cognitive application of all concepts required to write EMG/NCV report interpretations.

Stage One:

Provides education regarding the performance of basic nerve conduction studies and needle EMG on patients referred for this specialty practice. Two onsite weekend sessions + online lectures and readings at home.

Stage Two:

Builds upon the skills obtained in Stage One above and adds additional (technically more difficult) nerve tests that increase the depth and diagnostic power of an EMG/NCV test. One weekend session plus online lectures and readings at home. Written and practical exam over all Stage One material and online Stage Two material on this weekend.

Electrodiagnostic Certification Program Overview

Hourly Break-down of Coursework for Each Stage:

Stage	Neurophysiology Neuroscience		Anatomy		Electrophysiologic Testing		Evidence-Based*	Data Management**	Total
	Online	In-Class	Online	In-Class	Online	In-Class	Reading	Home Practice (4 hours/week)	
One	8.2	2	2	2	12.3	28	30	16	100.5
Two			3	2	5	14	9	16	49
Total Hours	8.2	2	5	4	17.3	42	39	32	**149.5**

*Evidence based – Review of evidence based literature selected by faculty
**Data Management – Includes practice of learned techniques at home clinic.

Details of Stage One- *See Stage One Syllabus - Appendix E*

Entry into **Stage One** is offered twice per year, see AACE website for available dates.

- Enrollment for each starting (January or July) date is set at a *minimum* of 14 days prior to the first weekend to allow for the clinician to cover all pre-meeting lectures, readings, and quizzes.
- After registration and payment (through the AACE website), the clinician is issued access credentials that allows the individual entry to the 'E-learning platform' called **Canvas®**. This educational platform is the portal to which clinicians will have access to all AACE lectures, assigned readings, case studies, quizzes, and online discussions. The lectures are the clinician's to use exclusively online or to download to paper according to individual preference. To maximize the learning experience, the online lectures **must** be reviewed prior to the first required lab weekend for the clinician. The complete syllabus with objectives and other information is in Appendix E.

Requirement Specifics – Two weekends.
All clinicians are required to attend two separate two-day weekend sessions to earn a **Stage One** Certification. The first two-day weekend consists of the performance of basic nerve conduction studies (see syllabus). The second two-day weekend focuses on needle EMG studies of upper and lower extremity muscles. Additionally report writing and basic interpretation skills are included. AACE expert laboratory faculty will be on-site throughout each laboratory day to assist and guide the clinician as they develop and sharpen their hands-on skills. EMG machines are available for clinicians to use and practice learned nerve conduction testing and needle electromyography testing. The clinician is expected to practice techniques learning in lab between the two weekend sessions a minimum of four hours per week using the practice log in Appendix C. Every clinician who attends both weekend sessions for the entire day will receive a 'certificate of completion' from AACE and the College of Staten Island. The successful candidate is eligible to advance to Stage Two.

Details of Stage Two- *See Stage Two Syllabus - Appendix E*

Entry into a **Stage Two** Certification class *requires* completion of Stage One. This stage will challenge the clinician to perform more difficult nerve studies beyond the basic nerves that are part of most EMG/NCV studies. The online lectures **must** be reviewed prior to the required lab weekend The complete syllabus with objectives and other information is in Appendix E.

Requirement Specifics – Stage Two
All clinicians will be required to attend a total of three separate 2-day weekend sessions to earn the **Stage Two** Certification. The first and second 2-day weekends were completed as part of Stage One.

Stage two, consists of the instruction and practice of advanced nerve conduction and EMG studies. AACE expert laboratory faculty are present throughout the laboratory day to assist and guide the clinician to develop and sharpen 'hands-on' skills of administering a nerve conduction study EMG machines are available for clinicians to use to practice learned nerve conduction and needle electromyography tests. The clinician is expected to practice techniques learned in lab between the stage one and two a minimum of four hours per week using the practice log in Appendix C. There is a written and practical exam during the onsite weekend of stage two. A certificate of completion is issued to the clinician who attends the entire weekend session and scores a 70% or higher on the written and practical exams. The clinician is then eligible to advance to Stage Three.

Required Textbooks

a. Required - Textbooks

1). Preston D. Shapiro B. Electromyography and Neuromuscular Disorders, 3rd Ed. Elsevier Saunders, 2013. ***Abbreviated PS***

2). Lee HJ, Delisa JA. Manual of Nerve Conduction Velocity and Surface Anatomy for Needle Electropmyography, 4th edition. Lippincott Williams and Wilkins Publishers. 2005. ***Abbreviated Del***

3). Any anatomical guide specific for the electromyographer. Popular titles include:

a) Leis AA, TrapaniVC. Atlas of Electromyography. Oxford University Press, 2000
b) Perotto. Anatomical Guide for the Electromyographer: The Limbs and Trunk, 3rd ed. Charles C. Thomas Publisher. 1994.
c) All journal readings available online.

GENERAL TESTING PROCEDURES

Written Exam

Two written exams are required to earn the EMG/NCV certification. The first written exam is taken at the conclusion of stage two. This exam covers all of stage one material as well as the on-line material for Stage two. The second written exam is taken during the onsite session of Stage four. The Stage four written examination will cover the materials from Stages 1, 2, and 3 as well as the online material from Stage four. The final written exam can be taken as up to 3 times as needed until a passing grade, 70%, is achieved. Any written test score below 70% is considered a failure and needs to be re-taken. The clinician is awarded ***three opportunities*** to take and pass the first exam or the final written exam.

> Beyond that, there is an extra fee of $100.00 charged by AACE for additional re-takes of any written examination. There is a minimum of one month between written test retakes to go back and review the lectures.

The fee paid for the written examination re-take is nonrefundable whether or not the individual takes the written re-take examination. If the clinician fails the re-take written examination the third time, three members of the current faculty will review the clinician's results. Three faculty members must agree that a fourth re-take examination is possible. Three faculty members will define for the clinician the weakness areas and suggest an option to arrange for extensive remediation sessions at the clinician's expense (this remediation may or may not be with the current AACE faculty). All three-faculty members must independently agree that a fourth re-take examination is possible. At the end of this remediation session, the clinician may re-take the final written exam once again for the fee of $100.00.

Practical Examination

Two practical exams are required to earn the EMG/NCV certification. The first practical exam is taken at the conclusion of stage two. This exam covers all of stage one material. The student will be present with a basic patient case scenario and will be expected to identify their EMG/NCV plan then carry out the exam on a fellow clinician or volunteer then write a summary of findings and an interpretation. The second or final practical exam is taken during the onsite session of Stage four. The final practical examination will be similar to the first practical exam except will cover all material learned in the course. AACE expert laboratory faculty will be at the site and EMG machines will be available for each clinician. For nerve conduction studies, this includes: correct electrode and machine set-up, correct measurements, correct performance of stimulation, correct notation of latency, amplitude, and nerve conduction velocity. See Appendices A/B to review the grading rubric. For needle EMG testing, this includes correct identification of muscle, analysis of muscle under conditions of rest and isometric muscle contraction, correct gain settings, identification of waveform parameters, sterile technique, and proper disposal of needles.

The clinician must receive a score of 70% on each of the two practical exams. A clinician may fail the practical exams in two manners:

1. By making many small mistakes and not achieving 70% of the available points on the grading rubric.

2. By committing a ***"fatal flaw."***
    a. A ***fatal flaw*** is an error that will lead the clinician or the referring clinician to a wrong diagnosis.
    b. A ***fatal flaw*** may also occur if the patient's safety at risk.
    c. A fatal flaw is scored as a "***Zero***" for the practical exam.

All portions (motor NCS, sensory NCS, needle EMG) of the practical examinations must be passed (70% or greater) to receive a passing score.

The practical exams can be taken as up to 3 times as needed until a passing grade is achieved. The clinician is awarded ***three opportunities*** to take and pass the practical examinations.

> Beyond that, there is an extra fee of $400.00 charged by AACE for additional re-takes of practical examinations. There is a minimum of one month between practical test retakes to go back and review the nerve conduction techniques.

If the clinician again fails the re-take practical the fourth time, three members of the current faculty will review the clinician's results. All three faculty members must agree that a fourth re-take examination is possible. The three faculty members will define for the clinician the weakness areas and suggest an option to arrange for extensive remediation sessions at the clinician's expense (this remediation may or may not be with the current AACE faculty). All three-faculty members must independently agree that a fourth re-take examination is possible. At the end of this remediation session, the clinician may re-take the final practical exam once again for the fee of $400.00.

A letter of attendance is available for those clinicians who did not attend the weekend courses or did not pass the written and practical examinations.

OBJECTIVES

Terminal Learning Objectives

The overall objective of the program is to produce competent, ethical clinicians for the practice of clinical electrophysiology. The course is designed to meet this objective through a sequenced approach. To successfully complete this course of instruction, the clinician must meet didactic standards and demonstrate clinical competencies commensurate with established criteria. Clinicians are expected to meet the following terminal objectives in the basic cognitive, affective, and psychomotor domains.

Cognitive Domain

The clinician must possess the cognitive abilities necessary to integrate information from the basic sciences in order to perform and problem-solve effectively during electrophysiologic exam. In order to achieve entry-level proficiency, clinicians must progress from the basic skills of memorization, comprehension, and application to the advanced skills of analysis, synthesis, and evaluation. As the course progresses, additional emphasis is placed upon the analysis and interpretation/communication of data obtained from the electrophysiologic exam.

Psychomotor Domain

The clinician must possess the psychomotor abilities, including gross motor and fine motor skills, to perform the electrophysiologic exam in a reasonable amount of time.

Affective Domain

It is expected that all clinicians will be committed to learning and will behave in a professional manner throughout the course. The clinician must understand and model the characteristics defined by the 10 Professional Abilities (see Affective Domain below).

Terminal Learning Objectives

Cognitive and Psychomotor Domain

Below are the terminal objectives the faculty set for the program. For each part of the course, the objectives enabling the clinicians to meet the terminal objectives will be listed to guide the clinicians in reaching these terminal objectives.

1. Demonstrates a patient-centered and ethical approach in planning and conducting the NCS and EMG examinations

2. Explain the electrophysiologic basis for electrical NCS and EMG testing.

3. Identify the applications and limitations for NCS and EMG testing.

4. Demonstrate knowledge and application of instrumentation used for monitoring, recording, and measuring electrophysiologic properties of nerve and muscle.

5. Identify safety considerations in the practice of clinical electrophysiology to include: precautions and contraindications, electrical safety, and infection control procedures.

7. Given unexpected or unusual findings, demonstrate the ability to trouble shoot, explain sources of error, and differentiate technical errors from pathology.

8. Recognize normal and abnormal potentials, explain their significance, and correlate results of NCS and EMG with clinical findings.

9. Demonstrate the ability to modify the NCS and EMG exam based upon on-going findings during the exam.

Final Outcome Objective: Given a patient with a neurological or neuromuscular condition, plan, organize, perform, and document the NCS and EMG exam in an ethical, safe, efficient, and accurate manner.

*NCS (Nerve conduction study): the assessment of the peripheral nervous system's ability to conduct an electrical impulse, measuring the speed of impulse propagation and the ensuing evoked response's magnitude, to make inferences about the peripheral nervous system's health.
From : Dumitru D, et al. Electrodiagnostic Medicine, Philadelphia, 2002.

*EMG or electromyography consists of detecting electrical signals from motor units as a result of needle electrodes inserted in skeletal muscle. The electrical signals are heard from the speaker and observed on the screen of the EMG unit. (Paraphrased Clinical Examinations in Neurology, 4th edition WB Saunders Co, 1976)

"Electromyography does not give a clinical diagnosis of the patient's illness. There are no wave forms which are pathognomonic of specific disease entities. Electromyography aids in diagnosis, so far as the evidence of abnormality of the motor unit which it provides is or is not compatible with the clinical diagnosis under consideration. The electromyographic results must be integrated with the results of other tests." (Clinical Examinations in Neurology, Mayo Clinic and Mayo Foundation, 4th edition, WB Saunders Co, 1976 pp 299).

Terminal Learning Objectives

Affective Domain

These ten professional abilities are expectations of our clinicians. These abilities are taught in the curriculum both explicitly (course work) and implicitly (ex. modeled by your faculty). The clinician's performance in the below professional abilities will be assessed throughout the course as well as during the final laboratory practical.

1. Commitment to Learning:
   The ability to self-assess, self-correct, and self-direct to identify needs and sources Learning, and to continually seek new knowledge and understanding.

2. Interpersonal Skills (History):
   The ability to interact effectively with patients, families, colleagues, other health care professionals, and the community to deal effectively with cultural and ethnic diversity issues.

3. Communication Skills:
   The ability to communicate effectively (i.e. speaking, body language, reading, writing, listening) for varied audiences and purposes.

4. Effective Use of Time (Performs Efficiently):
   The ability to obtain the maximum benefit from a minimum investment in time and resources.

5. Use of constructive feedback:
   Takes responsibility for performance. Effectively identify information sources, seek out feedback, and to effectively use and provide feedback for improving skills and personal interaction.

6. Problem Solving:
   The ability to recognize and define problems, analyzes data, develop and implement solutions, and evaluate outcomes.

7. Professionalism:
   The ability to exhibit appropriate professional conduct and to represent the profession effectively.

8. Responsibility:
   The ability to fulfill commitments and to be accountable for actions and outcomes.

9. Critical Thinking: (Critical Thinking)
   The ability to question logically; to identify, generate, and evaluate elements of logical argument; to recognize and differentiate facts, illusions, assumptions, and hidden assumptions; and to distinguish the relevant from the irrelevant.

10. Stress Management:
    The ability to identify sources of stress and to develop effective coping behaviors.

Parul University

Recognized by UGC, New Delhi

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Department of Health & Paramedical Sciences

Introduces Certificate Programme in

Clinical Research

Nurturing professionals to become experts in clinical research

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  SAT Training, IELTS Training
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- Ethicore Research Associates
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- Graduates, Interns of MBBS, BAMS, BDS, BHMS
- BPT, B.Pharm, M.Pharm
- B.Sc or M.Sc in Basic Sciences (Biology), Life Sciences (Micro / Biochem / Biotech), Family & Community Sciences

• Hands on Training & Internship at Various Clinical Research Centres

Fees:
Rs. 50,000/- (6 Months Programme)

Date of Commencement : 1st July 2018
Last Date of Registration : 30th April, 2018
*Limited Seats available

Admission Cell - Parul University
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