‘ECG – Recording and Interpretation’ Workshop

In alignment with the Competency-Based Medical Education (CBME) curriculum prescribed by the National Medical Commission (NMC), and in accordance with the academic schedule of The Tamil Nadu Dr. M.G.R. Medical University, the Department of Physiology, Velammal Medical College Hospital and Research Institute, organized a structured and hands-on workshop on ‘ECG Recording’ for first year M.B.B.S. students. A total of 148 first-year M.B.B.S. students participated in the workshop. In order to ensure individualized attention and effective hands-on training, the students were divided into four batches, with approximately 37 to 38 students attending the session on each day. The sessions were spread over a period of four days, ensuring that each student had adequate time and opportunity for practical exposure and learning.

The workshop was conducted in two key laboratory facilities within the Department of Physiology – the Cardiorespiratory Physiology Laboratory and the Research Laboratory. On each day, the students were further subdivided into two groups based on gender to facilitate a smooth workflow and maintain privacy and comfort. Male students were trained in the Cardiorespiratory Lab, while female students underwent training in the Research Lab. The ECG machine used for recording is CARDIART 4108T ECG machine. Under the supervision of department faculty members and technical staff, students were guided step-by-step in preparing the subject, placing electrodes, and recording a 12-lead ECG.

The workshop provided comprehensive training on recording all 12 standard ECG leads, including Lead I, II, III, aVR, aVL, aVF, and the six precordial leads V1 to V6. It emphasized not only the technical aspects of ECG recording but also the physiological principles behind lead placement and the heart’s electrical axis. In addition to acquisition,

students were guided on ECG interpretation, with particular focus on Lead II, which is widely used for clinical monitoring. Key parameters analyzed in the Lead II tracing included heart rate, cardiac rhythm, PR interval, QT interval, ST segment, PP interval, and RR interval. The faculty also discussed the clinical relevance of each parameter, highlighting how deviations from normal values may indicate underlying cardiac abnormalities.

At the conclusion of each session, every student was required to independently record and interpret a Lead II ECG. Their work was evaluated by the faculty to assess the level of understanding and practical skills gained during the workshop. Constructive feedback was given to help reinforce concepts and address any mistakes. The workshop maintained a highly interactive, student-centered approach, encouraging active participation and experiential learning.