

Consolidated report on Simulation Based Learning Centre (Skill lab)

Simulation is a team based, multidisciplinary and interdisciplinary skills training which mimics real life clinical scenarios within safe learning environments, thus, encouraging clinical practices, improving team work and ultimately, improving patient care.

Our skill lab spans over 2000 Square feet and is located on the third floor of our main college building. It houses an administrative office, two operation theatres, two classrooms, five demonstration rooms for teaching different speciality skills and two debriefing rooms, which allows for multiple workshops to be undertaken simultaneously.

Our lab is well equipped with full body manikins and various manikins for practicing clinical skills such as cardio-pulmonary resuscitation, neonatal resuscitation, virtual reality lab, intravenous catheter placement, bladder catheterization, suture procedure, demonstration of labor et al. Faculty co-ordinators from different departments conduct skill training for varied health care workers (HCWs), including undergraduates, junior residents, postgraduates, faculty, nursing staff, nursing students, paramedical technicians, regularly at the center. Since the beginning of the COVID-19 pandemic, regular skills training, in situ simulation and clinical scenario-based training is conducted regularly at our center for HCWs including donning-doffing of personal protective equipment (PPEs), oxygen therapy, ventilation techniques & changes in cardiopulmonary resuscitation.

Courses conducted:

1. Basic Cardiopulmonary Life Support (BCLS):

It trains participants to promptly recognize several life-threatening emergencies, give high quality chest compressions, deliver appropriate ventilations and provide early use of an Automated External Defibrillator (AED).

2. Comprehensive Cardiopulmonary Cardiac Life Support (CCLS):

The course builds on the foundation of life saving BCLS skills, emphasizing the importance of continuous, high-quality CPR along with high-performance team dynamics for the management of cardiopulmonary arrest, acute dysrhythmias, stroke and acute coronary syndromes.

3. Oxygen therapy & Basics in Mechanical Ventilation:

Trainees are given in situ training in our Intensive Care Unit (ICU) wherein they are familiarized with airway devices, oxygen therapy, setting up basic modes of ventilation, noninvasive ventilation, weaning procedures and understanding the care required for such patients.

4. Virtual Reality Skill Training:

This state-of-the-art technology covers huge range of medical concepts in a highly interactive and insightful 3D format. It provides an experiential learning environment by providing an immersive experience combined with assessments and detailed feedback which ensures better and faster learning.

5. Multiple clinical departments utilize the lab to ensure students receive essential training in medical skills such
 - a. Intravenous line catheterization: All participants are provided hands-on-training using mannequins and were trained in blood sampling and intravenous catheterization.
 - b. Regular classes are held by surgical departments for for MBBS interns, surgical postgraduates & staff nurses in preparation for surgeries - handwashing, donning of gloves & surgical gowns, draping, suturing skills et al.
 - c. The Department of Surgery regularly holds suturing and bladder catheterization workshops for MBBS CRRIs and postgraduates. They also train postgraduates in skills required for laparoscopic surgery on specialized equipment.
 - d. The Department of Obstetrics & Gynaecology has taken classes in clinically relevant topics like conduction of labor, mechanism of Caesarean Section, management of post-partum hemorrhage for MBBS students as well as their postgraduates.
 - e. The Department of Anaesthesiology conducts classes for MBBS & BDS interns, postgraduates and staff nurses in IV-line catheterization, identification & management of ECG rhythms, oxygen therapy & mechanical ventilation and airway management.
 - f. The Department of Paediatric has been training MBBS students in neonatal, infant & Paediatric resuscitation.

- g. The Department of Orthopaedics has held classes for assessment & stabilization of fracture, use of orthopaedic surgical devices & placement of orthopaedic implants for MBBS students as well as their postgraduates.
- h. The Department of Physiology has conducted classes for 1st year MBBS students in clinical examination on manikins.
- i. During Covid time, as per NMC advisory, team of clinical department faculty and skill lab faculty trained all clinical faculty, postgraduates, CRRIs, staff nurses & technicians in oxygen therapy and ventilator management. They were introduced to all pertinent guidelines regarding patient management, from prophylaxis to identification of cases, diagnosis & management of all types of patients (including but not limited to pediatric, obstetric, geriatric) and post Covid rehabilitation as well.

Our skill lab is accredited by Indian Resuscitation Council Federation (IRCF) as a Comprehensive Resuscitation Training Centre (CRTC) to conduct IRCF certified Compression Only Life Support (COLS) and Basic & Comprehensive Cardiopulmonary Life Support (BCLS & CCLS) courses. All the faculty, postgraduates, MBBS & BDS CRRIs, staff nurses, undergraduates, nursing & allied health sciences (AHS) students will be trained and get a 2 year valid certificate.

As of July 2022, our skill lab has successfully completed 5 years of simulation based teaching programmes. We have conducted more than 100 workshops for CPR training and have trained almost 3000 medical & paramedical workers. We hope to continue to serve our nearby communities in the future through our outreach programmes.

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