CBME PG Curriculum
Skill and Simulation Training Module as per NMC guidelines

FOCUS AND GOAL IN POST GRADUATE MEDICAL EDUCTION AS PER NMC GUIDELINES

The focus and goal of post-graduate medical education shall be to produce competent specialist and /or Medical teacher recognized by the fraternity as the graduating scholar, building upon his undergraduate education, skills who shall –

I. Recognize the health needs of the community and carry out professional obligations ethically keeping in view the objectives of the national health policy;

ii. have mastered most of the competencies, pertaining to the respective Speciality, that is required to be practised at the secondary and the tertiary levels of the health care delivery system;

iii. be aware of the contemporary advances and developments in the respective discipline concerned and shall progress accordingly;

iv. have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology;

v. have acquired the basic skills in the teaching of medical and paramedical professionals;

vi. acquire basic management skills in human resources, materials and resource management related to health care delivery, general hospital management, principal 2 inventory skills and counselling;

vii. Develop personal characteristics and attitudes required for professional life such as personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals;

viii. become an exemplary citizen by observing the highest standards of professional ethics and working towards fulfilling social and professional obligations to respond to national aspirations.

Course in Cardiac Life Support Skills

JSS AHER skill & simulation center is an authorized International training center for American heart association (AHA) certified BLS & ACLS course.

i. All post-graduate students shall complete a course in Basic Cardiac Life Support (BCLS) and Advanced Cardiac Life Support (ACLS) skills to be conducted at JSS AHER skill & simulation center.

ii. The students shall complete the course in the first year.

iii. No post-graduate student shall be permitted to appear in the examination without the above certification.

The following are the subject wise specialty training done in the simulation center apart from ACLS & BLS

1. MD General Medicine:

- Adult Resuscitation (BLS, ACLS)
- ECG Recording
- Arterial puncture for ABG
- Intravenous cannulation

- I V Infusions
- Lumbar puncture
- Pleural tap
- Abdominal Paracentesis – Diagnostic and therapeutic
- Ryles tube placement, stomach wash
- Urinary catheterization Male & Female
- Arterial puncture for ABG
- Central line, CVP
- Nebulization
- Inhaler therapy
- Oxygen delivery
- Endotracheal intubation
- Echocardiogram (Basics, Bedside)
- Advanced Echocardiography
- Basic ultrasound
- Ultrasound abdomen
- Upper GI Endoscopy
- Proctosigmoidoscopy
- Intercostal tube placement with under water seal
- Using a defibrillator
- Joint fluid aspiration

Case Scenarios using high fidelity manikins

- Cardiac clinical Scenarios
- Respiratory clinical Scenarios
- Basics of mechanical ventilation
- Scenarios to assess communication and leadership skills

2. MS GENERAL SURGERY

- Adult Resuscitation (BLS, ACLS)
- Intravenous cannulation
- I V Infusions
- Lumbar puncture
- Pleural tap
- Abdominal Paracentesis – Diagnostic and therapeutic
- Ryles tube placement, stomach wash
- Urinary catheterization Male & Female

- Nebulization
- Inhaler therapy
- Oxygen delivery
- Endotracheal intubation
- Basic ultrasound
- Ultrasound abdomen (fast scan)
- Upper GI Endoscopy
- Proctosigmoidoscopy
- Intercostal tube placement with under water seal
- Joint fluid aspiration
- Clinical breast examination
- Surgical knots, sutures
- Surgical management of wounds

Case Scenarios using high fidelity manikins

- Scenarios to assess communication and leadership skills
- Management of all types of shock
- Trauma case scenarios

Using advanced laparoscopic simulator

- Laparoscopic basic skills
- Laparoscopic suturing
- Lap Appendectomy
- Lap chole
- Advanced laparoscopic surgery

3. OBSTETRICS AND GYNAECOLOGY

- Diagnosis of pregnancy
- Obstetric examination
- Assessment of pelvis
- Assessment of CPD
- Assessment of dilatation and effacement of cervix and station of presenting part
- Conduct of normal delivery
- Gynaecological examination
- Diagnosis of enlarged uterus
- Diagnosis of ovarian mass

- Management of eclampsia
- Perform basic ultrasound in OBG.
- Conduct of

a) Instrumental delivery

b) Breech delivery

c) Occipito-posterior position delivery

- Repair of perineal tear
- Perform diagnostic laparoscopy,
- Laparoscopic tubal sterilisation,
- Open tubectomy
- Management of

a) Shoulder dystocia

b) Surgical management of PPH

- Obstetric ultrasound training in ultrasound mentor having modules on first, second & third trimester scan.
- Fatal ultra sonography.

4. EMERGENCY MEDICINE

- Life support programs:

BLS, ACLS, PALS, NALS, EM SONOGRAPHY - POINY OF CARE

ATLS/ITLS

others:

- Basic and advanced Airway Management for Adults and Pediatrics population
- Front of neck access
- Ventilator management
- Needle thoracocentesis
- Bronchoscopy
- IV access – Peripheral
- IV access – Central
- USG Guided IV access
- IO access
- Pericardiocentesis
- UGI endoscopy
- Simulation based GCS assessment
- Neurological examination including NIHSS
- Delivery

- Basic surgical skills
- Wound management
- Splinting
- Spine immobilisation
- Helmet removal
- USG guided Nerve Blocks

High fidelity Simulation training for

1. MI
2. Stroke
3. Trauma
4. Sepsis
5. Toxicology
6. Cardiac arrest

5. ORTHOPEAEDICS

- To perform management of a patient with polytrauma
- To perform surgical hand scrubbing, gloving, gowning and OT etiquette
- To be able to perform surgical hand-tie knots and suturing procedure
- To perform urethral catheterization in male and female patients
- Training on advanced ortho mentor having modules on
    - Basic & advanced knee Arthroscopic procedure
    - Shoulder arthroscopies
    - Hip arthroscopies

6. PAEDIATRICS

- To provide training on physical examination of Systems – CVS,RS,CNS,PA
- To recognize normal and abnormal Heart sounds
- Insertion of Nasogastric tube/Infant feeding tube
- To provide training regarding the demonstration of different inhalational devices
- IV Cannula insertion, intraosseous insertion in mannequin
- To provide opportunity to observe advanced procedures such as lumbar puncture and intra-osseous cannula insertion
- To assess signs of dehydration and shock and calculate fluid requirement
- To provide BLS for children on mannequin
- Basics of neonatal resuscitation

- Advanced pediatric Resuscitation(PALS)
- Advanced Neonatal Resuscitation
- Management of different types of shock, fluids and inotropes
- Management of seizures
- Point of care Ultrasound
- Point of care ECHO
- Assessment of critical child
- Emergency management of seizures – refractory seizures, status epilepticus
- Management of an unconscious Child
- Poisoning
- Assessment and Management of Status Asthmaticus
- Management of refractory shock
- Assessment AND management of Respiratory distress

7. ANAESTHESIA AND CRITICAL CARE

- Basic airway management
- BLS/ACLS
- Basics of regional block
- IV cannulation
    - Central venous access
    - ECG scenarios
    - Nerve blocks
    - Neonatal and paediatric airway training
    - SGA and other adjuncts training
- Difficult airway management training
- ECHO bedside & advance
- DLT insertion
- Ultrasound basics
- Lungs scan & FAST, POCUS
- Regional Blocks
- High fidelity simulation training
- Case base scenarios on High fidelity simulation training
- Basic & advanced ventilator management training

8. RADIOLOGY

- Basic ultra sound

- Abdomen ultra sound
- FAST
- Basic echo cardiogram
- Advanced echo cardiogram
- Lungs Scan
- Obstetrics scan
- Fetal ultra sound
- Case based ultra sound on high fidelity manikins

9. MD Respiratory Medicine

- Basic airway management
- BLS/ACLS
- IV cannulation
- Central venous access
- ECG scenarios
- Neonatal and paediatric airway training
- SGA and other adjuncts training
- Difficult airway management training
- ECHO
- Ultrasound
- Case base scenarios on High fidelity simulation training
- Basic & advanced ventilator management training

10. MD Geriatric Medicine

- Adult Resuscitation (BLS, ACLS)
- ECG Recording
- Arterial puncture for ABG
- Intravenous cannulation
- I V Infusions
- Lumbar puncture
- Pleural tap
- Abdominal Paracentesis – Diagnostic and therapeutic
- Ryles tube placement, stomach wash
- Urinary catheterization Male & Female
- Arterial puncture for ABG
- Central line, CVP

- Nebulization
- Inhaler therapy
- Oxygen delivery
- Endotracheal intubation
- Echocardiogram (Basics, Bedside)
- Advanced Echocardiography
- Basic ultrasound
- Ultrasound abdomen
- Upper GI Endoscopy
- Procto sigmoidoscopy
- Intercostal tube placement with under water seal
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Case Scenarios using high fidelity manikins

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11.M.Ch Urology

- Training on uro – perc advanced urology simulator having various case modules
- Training on hystero- TURP mentor having various case modules

12.DM Gastroenterology

- Training on endo broncho simulator having case modules on basic endoscopy, colonoscopy, ERCP basic and complicated case scenarios & endo ultra sonography.

Sample case scenario

Intra-operative massive blood loss-

(Adapted from RCOA critical incidents)

Name:		**Observation at start**		**CRT:**	
D.O.B.		**RR:**	(ventilated)	**Temp:**	36.7
Address:		**ETCO2**	Normal	**BM:**	8.2
		Sats:	97%	**Weight:**	84 kg
Hospital ID:		**Heart Rate:**	105	**Allergy**	Nil
Ward:		**BP:**	110/65		

Background to scenario	**Specific set up**
A patient undergoing a laparoscopic cholecystectomy, suffers from a vascular injury and massive blood loss. This scenario can be modified for any relevant common case performed at your local centre.	Mannequin, on theatre tableIntubated and ventilated Cannulated with fluid runningAnaesthetic drugs and chart Surgical drapes and laparoscopic equipment Suction and 'blood' to suction Treatment for major haemorrhage inc blood
Required embedded faculty/actors	**Required participants**
Junior anaesthetist (starting scenario) Surgeon	Anaesthetist ODP/theatre staff can be included in MDT sim

Past Medical History

42 year old patient, high BMI otherwise well
Recent admission with acute cholecystitis, recovered and now admitted for elective cholecystectomy
No issues with anaesthetics
Airway MP II, Good MO, Short neck, normal neck and jaw movement

Drugs Home	**Drugs Hospital**
Nil reg	Anaesthetic induction drugs Appropriate analgesia and anti-emetics

Brief to participants

You are the anaesthetic on call teamYou hear a call for help from theatre X
On arrival – junior anaesthetist handover – 42 year old, undergoing a laparoscopic cholecystectomy
Induction was uneventful, grade IIa intubation, surgery was started about 30 mins ago.
In the last 10 minutes the patient has been more tachycardic, I have since given some analgesia and muscle relaxant but not resolving

Scenario Direction

Stage 1, 0– 5 minutes	
A	Intubated
B	As per ventilation settings, sats 97%
C	HR 105 BP 110/65
DE	Anaesthetised with choice of anaesthetic, temp 36.7 Surgeon – not communicative at this point. Suctioning increasing blood, asking for irrigation, getting more frustrated at difficulty visualising due to bleeding
Rx	Recognise potential cause as bleeding Communicate with team, declare critical incident, call for senior help Increase FiO2, reduce inhalational anaesthetic IV access
Stage 2, 5–10 minutes	
A	Intubated
B	As per ventilation settings, ETCO2 starting to decrease. Sats 95%
C	HR 140, BP 85/42, peripherally cool, CRT 4s

DE	Anaesthetised? Surgeon frustrated about bleeding, task focused. If directly alerted to changing physiology, will engage in MDT management
Rx	Blood transfusion, consider activating major haemorrhage protocol, consider rapid infusion devices/cell salvage Active warming MDT discussion re management options, including haematology, IR Monitor progress, POC testing including TEG. Discussion re transfusion goalsReplace Ca, give TXA Consider ongoing management and destination for ongoing

Guidelines
AoA QRH handbook – Massive blood loss https://anaesthetists.org/Portals/0/PDFs/QRH/QRH_3-2_Massive_blood_loss_v2.pdf?ver=2018-07-25-112713-610

Guidance for Patient Role	
Anaesthetised	
Guidance for ODP role	**Guidance for Surgeon role**
Opening lines/questions/cues/responses/Concerns Concerned about quick deterioration	Opening lines/questions/cues/responses/Concerns Can someone get more irrigation please? Suction keeps getting blocked Does the suction bottles need changing again?
Actions Alert team to blood in suction if not noticed Support as appropriate for participant grade	Actions Task focused, does not communicate ongoing bleeding Increasingly frustrated at difficult view due to bleeding If directly alerted, will engage with MDT approach to management
Guidance for Role e.g. ITU/Anaesthetic Senior	**Additional challenges**
Expectations/actions Support as appropriate for participant grade – direct to over the phone	Access to help Noise in theatre Could incorporate into robotic surgery case

Session Objectives	
Clinical	Management of intra-operative massive haemorrhage
Non-technical skills	
Teamworking	Coordinating activities of the team in emergency, exchanging information at points of handover, using assertiveness if required, assessing capabilities of team
Task management	Planning for next steps, prioritising management options, following guidelines, identifying and utilising resources – personnel and technical
Situational awareness	Gathering information on arrival, recognising critical incident, anticipating next steps
Decision making	Identifying options at all stage, balancing risks and selecting options, continuous re-evaluation

SAMPLE PG TIME TABLE

JSS AHER SKILL AND SIMULATION CENTER

JSS MEDICAL COLLEGE

(Constituent College)

JSS Academy of Higher Education & Research

(Deemed to be University)

Accredited "A+" Grade by NAAC

JSS/Simulation/ / 2023 - 2024 Date:23.06.2023.

CIRCULAR

Timetable for the month of **July 2023** for Postgraduate training.

Timings: 2:00 pm to 4:00 pm

DATE	DEPARTMENT	DATE	DEPARTMENT	DATE	DEPARTMENT	DATE	DEPARTMENT
01.07.2023	Orthopedics	08.07.2023	Radiology	15.07.2023	Geriatric Medicine	22.07.2023	General Surgery
03.07.2023	Pulmonology	10.07.2023	Anaesthesia	17.07.2023	Urology	24.07.2023	Urology
04.07.2023	OBG	11.07.2023	Pulmonology	18.07.2023	Gastroenterology	25.07.2023	OBG
05.07.2023	Pediatrics	12.07.2023	General Surgery	19.07.2023	General Medicine	26.07.2023	Pediatrics
06.07.2023	Geriatric Medicine	13.07.2023	Emergency Medicine	20.07.2023	Anaesthesia	27.07.2023	Radiology
07.07.2023	Emergency Medicine	14.07.2023	Orthopedics	21.07.2023	Gastroenterology	28.07.2023	General Medicine

Archana

Chief coordinator

Copy Submitted to: -

- The Principal JSS Medical College Mysuru.
- HOD's of Department of Anaesthesiology / Paediatrics / OBG / Orthopaedics/General Surgery / General Medicine / Radiology/ Geriatric/ Emergency Medicine/ Gastroenterology/urology/pulmonology. For kind information & needful.