

Dr.NTR University of Health Sciences

Vijayawada

SYLLABUS

“POST DOCTORAL FELLOWSHIP

COURSE IN TRAUMA CARE”

for the academic year 2018-19

1. Name of the information Course: Fellowship course in Trauma care
2. Duration of the course: One year
3. Eligibility Criteria for admission: MS / D.N.B in General Surgery / Orthopaedics / M.Ch Neurosurgery / Surgical gastroenterology Cardio thoracic surgery recognised by MCI / National Board of Examinations.

Intake capacity: 2 per year.

4. Complete curriculum of the course:

a. **Goal**:

The goals and objectives of the course are focused on the care of critically injured trauma patients and to train surgeons to acquire advanced skills in caring for critically injured patients.

b. **Objectives**:

- To train the candidates in the principles and practice of intensive care, maintenance of artificial airway, mechanical ventilation and cardiopulmonary resuscitation.
- To train the fellow to master the use of advanced technology and instrumentation to monitor the status of trauma patients.
- The fellow will be trained to develop skills in working as a team for trauma care
- Training will be given to develop skills in teaching and research related to trauma and critical care patients, in the areas of prevention, acute care and rehabilitation.
- The fellow will be trained to direct a trauma service and acquire the ability to appoint, train and supervise specialized personnel.
- The trainee will be expected to devise policies and establish procedures for the management of critically injured patients.
- During the course of fellowship, the candidate learns how to establish a trauma registry and go through the process of peer review and performance improvement.
- To provide care and intensive monitoring of acute trauma / multiorgan dysfunction.
- To improve patient care and to reduce mortality due to trauma in all secondary and tertiary levels of health care, in academic / government institutions and other hospitals.
- To help in the holistic growth and development of trauma care as a specialty including patient care, teaching/training and research.
- To develop the spirit of collaboration, co-operation and leadership among the involved disciplines and to evolve as an efficient trauma team.

5. Course Content:

A. Epidemiology of trauma:

- Global burden
- Economic impact
- Mortality and morbidity
- Predisposing factors
- Causes and prevention
- Psychological consequences of trauma

B. Trauma and mortality – trimodal death distribution:

C. Systemic complications of trauma

- Shock
- Crush syndrome
- DIC
- Thrombo embolism
- Fat embolism and ARDS
- Systemic infection: aerobic & anaerobic
- Post traumatic arthritis

D. Cellular basis of injury and recovery from trauma, Biomechanics & kinematics of trauma:

E. Trauma team: Role of each member

F. Trauma care:

- ABCDE of trauma care
- Triage
- ATLS
- Transfusion
- Control of haemorrhage
- Transport of trauma patients

G. Examination and investigations:

H. Non accidental trauma and medico legal issues

I. Head injuries:

- Skull fracture
- Injury to brain parenchyma
- Haemorrhage: extradural, subdural and subarachnoid
- Bullet rules
- Cranio facial trauma
- Cranial nerve injuries

J. Spinal injuries:

- Injuries to cervical spine
- Penetrating neck injuries
- Cervical spinal cord syndrome
- Injury to occipital C1 and axis fractures
- Injury to thoraco lumbar spine

K. Maxillofacial injuries:

- Lacerations and soft tissue injuries
- Fractures of the facial skeleton
- Fracture of zygomatic complex
- Blow out fractures of the orbit with injury to nerves
- Other life threatening injuries

L. Injury to chest:

- Aortic injuries
- Tracheo bronchial injuries, esophageal injury
- Cardiac injury
- Diaphragmatic injuries, diaphragmatic herniation
- Pulmonary contusion
- Sucking chest wounds and flail chest

M. Abdominal injury:

- Splenic rupture
- Blunt hepatic trauma
- Rupture of intra abdominal hollow viscus
- Pancreatic and duodenal injuries
- Retroperitoneal injuries
- Renal lacerations and contusions

N. Pelvic injuries:

- Pelvic fractures
- Rupture of urinary bladder and injury to urethra
- Perineal injuries

O. Thermal injury: burns, heat, radiation, electrical & lightning injuries

P. Psychological trauma: post traumatic stress disorder

Q. Paediatric trauma:

- Accidental
- Homicidal (battered baby syndrome, child abuse)

R. Other types of trauma:

- Warfare injuries and wound ballistics:
- Drowning & near drowning
- Diving emergencies
- Envenomation
- Altitude illness

S. Management of hypovolemia, transfusion and component therapy:

T. Management of sepsis, septic shock, MODS, MOF

U. Transportation:

- Transportation of the mechanically ventilated critically ill patient outside the

ICU

- Understanding of the special considerations required during patient transport by air.

V. End of life care:

- management of the process of withholding or withdrawing treatment with the multidisciplinary team
- discussion of the end of life care with patients and their families / surrogates
- management of palliative care of the critically ill patient
- brain-stem death testing
- Management of the physiological support of the organ donor

W. General Topics:

- Research methodology
- Teaching methodology

6. Framework of Training:

1. Teaching and learning methodology:

- Clinical case discussion
- Morbidity-mortality discussion
- Audit presentation
- Lectures, seminars and journal clubs
- Presentation of progress report on the research projects
- Simulation laboratory
- Joint inter-departmental academic meets with radiology, microbiology, etc.
- Departmental clinical meetings, grand rounds and clinico-pathological meetings
- Multi-departmental combined grand rounds/joint academic activities of the institution.

2. Clinical and practical training:

- The candidates should follow full time in-service residency and should be given increasing responsibilities on a gradual basis for independently managing complicated, critically injured patients.
- Teaching and training of students shall include graded all round patient care responsibility including resuscitation, clinical diagnosis, invasive diagnostic and therapeutic procedures and advanced decision making in the management of critically injured surgical patients.
- Training in thorough and holistic patient evaluation

- Training in ABC (airway, breathing and circulation) including practical training and complete understanding of airway armamentarium, breathing circuits, rapid sequence intubation, initiation-maintenance-termination of mechanical ventilation, invasive or non-invasive hemodynamic monitoring and safe insertion of central venous and intra-arterial catheters, etc.
 - Training in Therapeutic interventions/organ system support in single or multiple organ failure.
 - Trainee will participate in emergency surgical operations under the direct supervision of a surgeon who is trained in trauma care.
 - The fellow will also participate in ICU procedures supervised by ICU trained professionals.
3. Postings: 12 months in the Department of trauma care including Special Postings in the following Departments
- Intensive surgical care unit - 90 days
 - Neuro trauma critical care unit - 60 days
 - Emergency OT - 60 days
 - Cardio thoracic ICU - 30 days
 - Ortho ICU - 30 days
 - Emergency / casualty - 30 days
 - Trauma Radiology - 7 days
 - Trauma anaesthesiology - 15 days
 - Trauma infectious diseases - 7 days
 - Paediatric ICU - 15 days
 - IMCU - 15 days

Candidates will have to be on duty 24*7 days.

4. Attendance: 80% attendance as per the University regulations.

- 4 Seminars, journal clubs, bedside case discussion and reviews in trauma care
- 5 Recent Advances in trauma care
- 6 Research methodology in trauma care.
- 7. Research conference at state level - 1
- 8. Research conference at national level - 1

7. Log Book:

Logbook of daily activity should be maintained by the candidate where in all the departmental procedures, extra departmental procedures, case presentations, observations, seminars, journal clubs, etc will be regarded periodically inspected by the guide for formative assessment during the residency program.

The guide should provide frequent and constructive feed back to the trainee on regular basis about the overall integrated coherent and longitudinal assessment and to provide suggestions for improvement in the performance.

8. Reference Books:

- ATLS Student Course Manual, 6th edition.
- Rosen's Emergency Medicine Concepts and Clinical Practice, 5th edition.
- Emergency Medicine A Comprehensive Study Guide, 5th edition.
- Accident and emergency radiology: a survival guide by Raby, Nigel
- Atlas of spine trauma by Kim, Daniel.
- Cardiothoracic critical care by Sidebotham, David.
- Child abuse and neglect: diagnosis, treatment and evidence.
- Emergency Radiology: the requisites by Soto, Jorge.
- Emergency Ultrasound: principles and practice by Gaspari, Romolo.
- Endovascular surgery by Moore, Wesley.
- Ocular trauma by Banta, James.
- Parkland trauma handbook by Eastman, Alexander.
- Total burn care by Herndon, David.
- Initial evaluation of the trauma patient:
<http://www.emedicine.com/med/topic3221.htm>
- Sabiston Textbook of Surgery, 17th ed., Copyright © 2004 Elsevier
- Trauma Care Manual Second Edition,
http://www.trauma.myzen.co.uk/trauma_care_manual.pdf
- Basic and advanced trauma life support — revised 5th ed. Mosby
- Basic trauma life support – John Emory Campbell
- Trauma care manual. Oxford University Press Inc., New York 2002
- Basic Trauma Care. *Temitope Alonge* 3nity Concepts. Ibadan Nigeria 2007
- Guidelines for essential trauma care WHO / International association for the surgery of trauma and surgical intensive care(IATSIC) 2004.

- Trauma - David Feliciano ,Kenneth Mattox, Ernest Moore
- Top Knife: Art and Craft in Trauma Surgery by Hirshberg Asher
- Zollinger's Atlas of Surgical Operations, Ninth Edition by Robert Zollinger Jr.
- Current Therapy of Trauma and Surgical Critical care - Juan A. Asensio
- The Trauma Manual: Trauma and Acute Care Surgery (Lippincott Manual Series) by Andrew B. Peitzman
- PHTLS: Prehospital Trauma Life Support - by NAEMT

9. Suggested Journals:

- The Journal of Trauma and Acute Care Surgery
- Trauma care journal
- European Journal of Trauma and Emergency Surgery
- Indian journal of trauma, anaesthesia and critical care.
- Chinese journal of traumatology
- Trauma care UK
- Scandinavian journal of trauma, resuscitation and emergency medicine
- Journal of traumatic stress
- World journal of trauma and critical care medicine
- Journal of trauma injury infection and critical care

