HANDBOOK FOR RESIDENTS IN D.M. EMERGENCY MEDICINE PROGRAMME

University of the West Indies

Mona Campus

Welcome to the D.M. Emergency Medicine programme. This booklet aims to provide some guidance regarding the structure and requirements of the programme. You are also provided with important information on the approach to the writing of your casebook.

"Do not go where the path may lead,
go instead where there is no path and leave a trail."
Ralph Waldo Emerson

Contents

THE D. M. EMERGENCY MEDICINE PROGRAMME

Introduction

The need for trained emergency medicine physicians has been recognized for some time. The University of the West Indies (UWI) has run the D.M. Emergency Medicine programme since 1990. The programme began in Barbados initially in 1990. In 1997, due primarily to the efforts of Professor Archibald McDonald, the programme became available at the Mona campus. Trinidad began offering the programme for the first time starting in **January 2005**

Regulations for the Doctor of Medicine, Emergency Medicine
University Hospital of the West Indies

Pre-requisites to apply for the DM Emergency Medicine programme:

Successful completion of M.B., B.S. examinations or similar medical qualification

Successful completion of period of internship

Course outline:

The postgraduate Emergency Medicine Programme is a **four-year** residency programme starting in July of each year. Six months each year is spent in emergency room rotations. The other six months spent rotating through relevant subspecialty areas including anaesthesia, child health, internal medicine, surgery, orthopaedics, radiology, ophthalmology, obstetrics and gynaecology, family medicine and psychiatry. Anaesthesia is mandatory as an early rotation in the first year. However, there is flexibility in the sequence of the rotations in the other disciplines. Candidates are encouraged to do one of the two three-month A&E periods in the fourth year at an approved emergency room in a regional or international teaching hospital. A maximum of 6 months may be spent outside of the Caribbean (A&E and elective). Overseas elective rotations can be undertaken with the approval of the Coordinator of the A&E Program.

Candidates who have completed periods of work experience in relevant areas at recognized hospitals or Institutions may apply to the specialty board for exemption. This experience may be in Accident & Emergency Medicine, Psychiatry, Internal Medicine, Orthopaedic Surgery, Family Medicine, Surgery,

Child Health / Paediatrics, Obstetrics and Gynaecology and Anaesthesia. Exemption is not automatic and should not be assumed

The clinical exam must be passed in all sections for the candidates to be awarded the DM degree in Emergency Medicine. Persistent demonstration of dangerous behaviour during the clinical or oral examination is an absolute ground for failure irrespective of grades up to that point.

Failure to submit the casebook/research project by the stated deadlines automatically eliminates the candidate for the exam period in question.

There are only two attempts at sitting the DM Emergency Medicine examination and failure at both attempts requires the student to withdraw from the programme. Three years after withdrawal the student may seek readmission by application to the dean of the Faulty of Medical sciences through the specialty board in Surgery

Year 1	**Year 2**	**Year 3**	**Year 4**
A&E (6) Anaesthetics (3) Pediatrics (3)	A&E (6) Medicine (3) Surgery (3)	A&E (6) Orthopaedics/ ophthalmology (3) Psyche/O&G (3)	Family Medicine/ Radiology (3) Elective (3) A&E (6)

Yearly rotations for D.M. Emergency medicine programme

(MCQ's and essays), departmental assessment examinations (MCQ's) are administered to residents every six months.

In addition a casebook must be prepared over the four-year residency period consisting of ten case discussions and a research project. This casebook must be completed and submitted 6 months before final exams.

In addition, all emergency medicine residents must complete American Heart Association Advanced Cardiac Life Support (ACLS) and American College

of Surgeons Advanced Trauma Life Support (ATLS) courses by the end of their first year of training. The Paediatric Advanced Life Support (PALS) **or Advanced Paediatric Life Support (APLS)** course is to be completed by the second year of the programme.

To fulfill requirements for the DM Emergency Medicine, the candidate must

- Pass the DM part 1 exams within two years of the beginning of programme .
- Obtain a passing grade in final DM part II examinations at least two years after part I.

The DM part I exam consists of

1. A **Structured Answer** paper
2. MCQ's
3. A clinical examination consisting of several short cases (skills assessment, x-rays, ECG's etc,OSCE examination)
4. An oral examination lasting half an hour at which clinical scenarios, radiological investigations, electrocardiograms and equipment may be presented to the candidate as a starting point for discussion

The Part I DM examination is designed to test the knowledge, attitudes and skills of residents at the end of their second year of the DM programme. The syllabus is divided onto five sections:

i. Anatomy

ii. Physiology

iii. Pathology

iv. Pharmacology

v. Principles of Emergency Care

It is expected that candidates will have completed studying all sections of the syllabus by the end of their second year, in preparation for the Part I examination.

The examination will consist of written, clinical and oral examinations as follows:

1. The written examination:

This will consist of two papers:

(a) An MCQ paper consisting of 120 questions and covering all five sections of the syllabus. The paper may include questions in the 'single best answer' format as well as extended matching questions. There will be no negative marking for this paper. (Time allotted: 3 hours)

(b) A Data Interpretation paper. This will consist of 30 questions, each consisting of a piece of clinical data (including, but not limited to, x-rays, scans, blood results, ECGs and clinical photographs), followed by a series of short questions pertaining to the data presented. Questions may relate to direct clinical interpretation of data, or application of basic sciences principles related to the data (for example, an x-ray of a fractured humeral shaft may be followed by questions on the neurological deficits expected with injury to the radial nerve) (Time allotted: 3 hours)

2. The Clinical Examination:

The clinical examination will be in the form of an Objective Structured Clinical Examination (OSCE), consisting of 8 – 12 stations. This examination is designed primarily to assess the knowledge of candidates with regard to their clinical knowledge and skills pertinent to their level of training. Specifically, the subject matter will reflect the curriculum of the 'Principles of Emergency Medicine' section of the Part I curriculum. (Time allocated: 10 minutes per station)

3. The Oral examination:

The oral examination will cover all sections of the Part I course. Candidates will be examined by a panel of examiners for 10 minutes each. At the end, the examiners will agree an overall mark for the candidate based on the following criteria: factual knowledge; ability to reason and think critically; ability to apply basic science knowledge to clinical scenarios and communication skills. (Time allotted: 30 minutes per candidate)

The following table summarises the marking scheme for the examination:

Part of examination	Paper	Mark for paper/part of examination	Percentage of total mark
Written	MCQ	100	50%
	Data interpretation	100	
Clinical	OSCE	100	25%
Oral		100	25%

Marks for the OSCE will be allocated according to the Closed marking system used for postgraduate courses (see below):

- Distinction 70
- Very Good Pass 65
- Good Pass 55
- Pass 50
- Fail 45
- Irretrievable 40

Correlation between the raw OSCE marks for each station and the grades shown above will be determined for before the examination in held.

Candidates who fail all or part of the examination

For those candidates who fail all or part of the examination, the examiners will decide on the procedure for remediation. The examiners will decide whether the candidate can be allowed to repeat the examination in six (6) months' time and proceed to their third year or whether they should be advised to repeat it in 1 (one) year. In general, candidates who have only failed one component of the examination will be allowed to re-sit in six (6) months, while candidates who have failed more than one of the components will be required to re-sit in 1 (one) year's time.
These decisions are at the discretion of the examiners.

The final DM part II exam consists of:

The Part II Examination consists of the following components:

- Written paper (Essays)
- Clinical examination (long case plus short cases)
- Oral examination (clinical plus non-clinical situations)

Defence of the casebook/research project (an oral examination)

- **The Clinical examination** consists of two components:

    a. The long case. This is a traditional long case. The candidate is given 45 minutes to take a history from and examine a patient with a complaint pertinent to Emergency Medicine. Following this, he/she presents the findings to the examiners, and is examined on aspects of the presentation, including appropriate investigation, management and related issues.

    b. The short cases These are a series of patients/stations with or without clinical material and investigations, to which candidates are taken by the examiners. Candidates may be asked to demonstrate how they would examine the patient or to interpret investigations or may be asked relevant questions on management or investigation.

- The oral examination. Candidates will be examined for approximately 60 minutes by a group of examiners. Questions may cover any aspect of Emergency Medicine on the curriculum, including clinical and non-clinical aspects of Emergency Medicine. Examiners may use clinical photographs, x-rays or investigations to prompt discussion on particular topics.

- The defence of the casebook. Candidates will be given a chance to discuss their casebook/project with their examiners. It should be noted that candidates are expected to submit their casebooks/projects at least 6 months (May 31st or November 30th) in advance of the Part II examination, and only those candidates with acceptable casebooks will be allowed to attempt the rest of the examination. The purpose of the defence is to ensure that candidates have an appropriate grasp of the topics in their dissertations, and to discuss issues pertaining to the book which require clarification or modification.

The overall goals and objectives for the emergency resident include:

At this end of this programme, a successful candidate should be able to:

- Display clinical skills specifically the ability to take a history, examine patients, generate a differential diagnosis and formulate a management plan that is safe

- Exhibit familiarity with the emergency department in charting, standard referral, consult and pre-hospital ambulance service forms

- Display an understanding of nursing interactions and procedures

- Document standards that are a necessity to prevent medico-legal consequences.

- Interact with specialty consultation as well as referrals from primary care setting.

- Utilize the community and government resources to effectively manage the patient.

- Display a knowledge of areas of inter-relationships between the emergency department and other hospital departments.

- Administer an Emergency Department including interviewing skills, planning and evaluating staffing requirements, Audits and Quality Assurance,

The core of knowledge will be augmented by tutorials and sessions which cover the basic core curriculum according to the standard set by the American Board of Emergency Medicine.

At the end of the first (1st) year:

- The resident should be able to perform an adequate history and physical examination related to the relevant complaint of the patient.

- They should be able to demonstrate cost effective evidence based laboratory and ancillary testing performed under the supervision of the physician or the senior doctor of the department.

- To form a differential diagnosis for each clinical problem seen and to develop an appropriate assessment plan for the patient's chief complaint.

- To recognize presentations and circumstances that are threatening to life and limb and to be proactive in the initial stabilization of the patient.

- To accurately and concisely present patients to the Consultant or Senior resident and to demonstrate knowledge of the investigations required to effectively manage the patient.

- The resident should also demonstrate the ability to clearly and completely document in a legible manner in handwriting, the history, the physical examination, the clinical course in the emergency department, the assessment and a plan for disposition of the patient.

- The resident should be able to perform basic emergency medicine procedure skills, such as wound care, suturing, regional and local anesthesia, arterial puncturing, defibrillation, peripheral and central

venous access, intubation, orthopedic splinting, nasal gastric or lavage tubes placement, and bladder catheterization.

- The resident should be able to formulate an appropriate discharge plan and communicate this plan to the patient and the family.

- The resident should demonstrate effective communication skills with his/her peers, patients, families, the consultants to whom they are referring to and other nursing and ancillary staff in the department.

- The resident is expected to attend ***a minimum of eighty percent (75%) of the conferences/lectures which are presented in A&E department***.

- The resident is expected to be certified in **ACLS** and **ATLS**.

- The resident is expected to participate in departmental educational presentations as requested. To master the following software programs: **PowerPoint**, and utilize these programs in presentations for other healthcare workers and the general public.

- From an administrative point of view the resident should become acquainted with the physical structure of the department, the equipment within the department and the chart and flow patterns of the A&E department as it pertains to effective management of either mass casualty problems or over-crowding in the department. The resident should be involved in designing and undertaking an administrative activity such as creating guidelines/protocols for the department.

- The resident should have performed one audit and an evidenced based critique of a case that he/she has managed.

- Completed two case reports

At the end of the second (2nd), year the residents should be:

- Competent in the skills of the 1st year.

- Competent in performing procedures such as endotracheal intubation, central venous access, peritoneal lavage, placement of chest tubes, pericardiocentesis and dealing with complex lacerations.

- Be able to demonstrate an ability to manage multiple patients of which two (2) of them may be critically ill, and to formulate appropriate discharge plans after consultation with the specialty.

- Developing a role in which they are 'team leader' in moderate trauma and cardiac arrest patients.

- Attending ***seventy-five percent (75%) of the emergency department academic sessions*** and to ***participate in academic sessions conducted in rotations such as Paediatrics, Orthopaedics, Anaesthetics or Internal Medicine***.

- Actively involved in departmental activities including case presentation and also development of core content reviews.

- Aware of the Policies & Procedures governing patient care in the emergency department.

- Actively involved in presenting topics in lecture or poster format at approved local and regional conferences such **Department of Surgery Research Day, CHRC** and **JEMA**
- The resident should have identified a research project and began writing a protocol

- Completed total of 4 case reports

At the end of the third year the resident should be:-
Comfortable in **ALL** of the skills outlined plus developed other skills such as central venous access, cut-downs, cricothyroidotomy and any other minor surgical procedure that might be appropriate in dealing with the acute ill patient.

- Assuming more of a leadership role in terms of teaching of medical students and the other junior residents in the emergency department.

- Taking more of a supervisory role of patient management and procedures when they are on shift.

- Assigned to a department Committee e.g. the Disaster Planning Committee.

- Completed ten case reports and research project with only corrections to be made

LECTURES AND TUTORIALS

Academic sessions for Emergency Medicine residents currently take place on Tuesday afternoons and Thursday evenings at 4pm in the A&E seminar room. A schedule of topics and Journal Clubs is prepared in three month blocks so all residents are aware of those they are presenting months in advance. **There is no excuse for postponing or canceling these sessions. Attendance at 75% of these sessions is a requirement of the programme.**

Lectures range from resident presentations on specific topics to case presentations by residents, small group tutorials with consultants and lectures by emergency medicine and subspecialty consultants.

Residents are also expected to participate in and attend quarterly A&E grand rounds. A chief resident is assigned to organize each grand round. The presentation should be prepared and presented to the consultants two weeks before the actual grand round presentation.

Other academic activities

In addition while rotating through the Emergency Room residents are required to participate fully in the following activities of the Emergency Medicine Division

- Mondays 8 am – Death and Complications conference
- Wednesdays 8 am – Academic presentations on selected topics
- Specified Wednesdays – Topics in orthopaedics, internal medicine etc. prepared by consultants from these departments

While rotating through sub-specialty areas residents must participate fully except where there is direct conflict with protected A&E teaching time.

Leave of absence

A student may apply to the dean of the Faculty of Medical Sciences for a leave of absence from the DM emergency Medicine programme for initially 6 months up to a maximum of one year.

REGISTRATION

The A&E resident is required to register yearly at the School of Graduate Studies and Research at the Mona Campus. Each Faculty has a designated day for registration during the last week in August

Tuition fees are waived for the residents in lieu of teaching medical students and junior staff as well as the service work provided at the various hospitals.

Students who have completed the DM A&E examination successfully but still have to complete corrections to Casebook or Project are required to pay a nominal registration fee per year until completion of the corrected version. N.B. maximum time for completion of corrections is 18 months.

Candidates desirous of sitting the final DM A&E exam must also ensure that all registration fees are paid as well as the examination fee

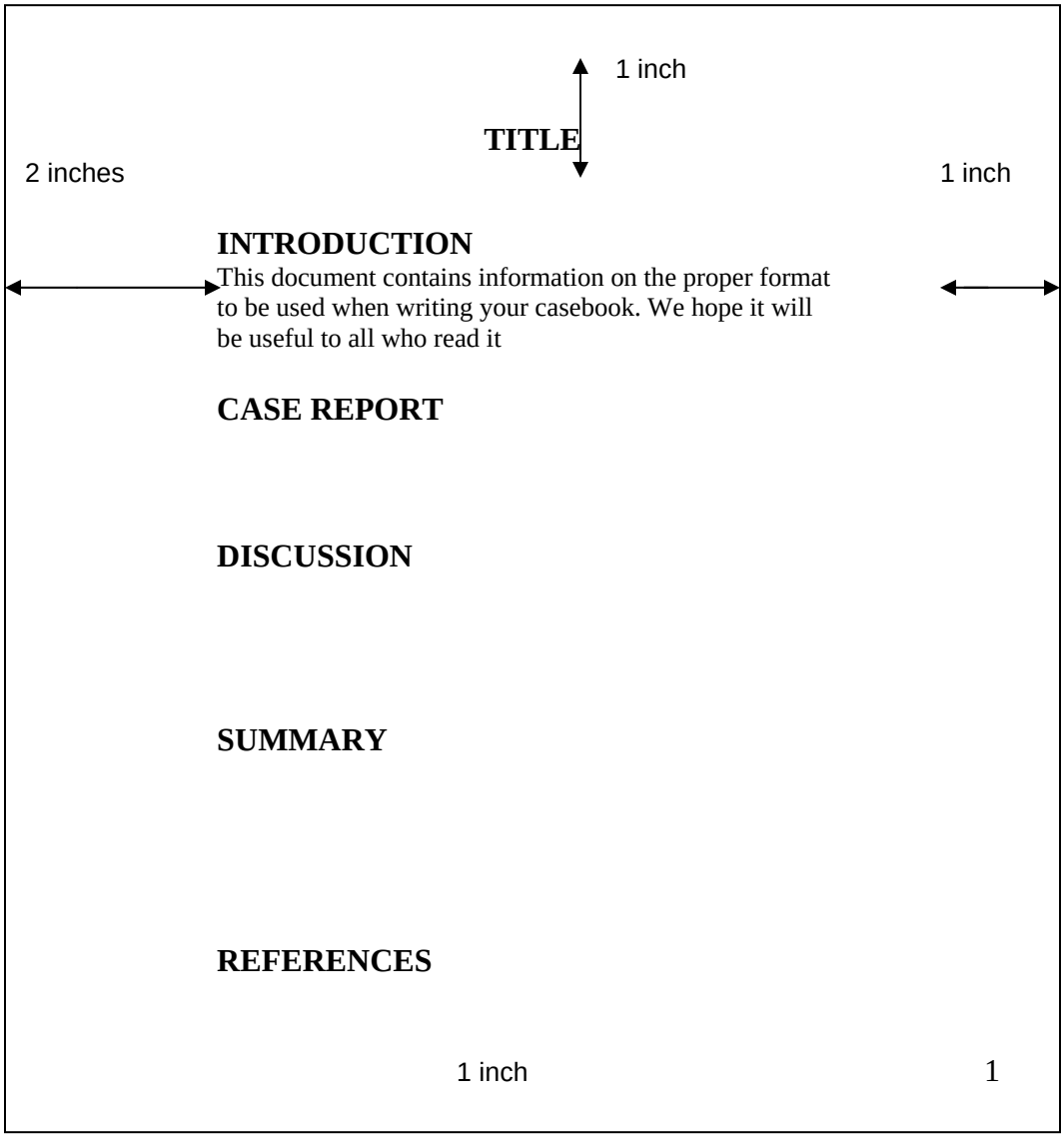
CASEBOOK INSTRUCTIONS

A casebook containing 10 case reports and a research project must be submitted at least six months prior to final exams

Cases

Start collecting these within six months of entry into the programme. It is not necessary (or desirable) to discuss every aspect of each condition. Establish the aspect of each case you wish to discuss. There should be some take home message or some problem encountered re the Emergency Management that you might want to investigate. The suggestion is that a good review article is used as a starting point for each case. This initial reading should be supplemented by review of the literature. Relevant Caribbean literature references are desirable and encouraged. Obtain folders and place all information relevant to each case in a separate folder.

Casebook format



Page set up

The margins of the page should be as follows:

Top	1 inch
Bottom	1 inch
Left	2 inches
Right	1 inch

Headings

These should be in capital letters starting at the left margin and bolded. The title should be centered. You may use other headings while preparing the case to organize yourself but delete them before submitting them to your supervisor. Do not indent after these headings but do so for subsequent paragraphs. Pages should be numbered in the bottom right hand corner. The number should not appear on the first page of any case. The text should be double-spaced throughout and justified, i.e. the left and right margins should be equal. Below are examples:

Traumatic spinal cord injury (SCI) with resultant partial or complete paralysis is one of the most devastating injuries. Patients are left unable to care for their most basic needs, dependent on others, bedridden and subject to long term complications such as decubitus ulceration of pressure points, venous thrombosis, orthostatic pneumonia and depression. The cost of adequately caring for such patients is tremendous. Approximately 250,000-400,000 Americans live with disability due to SCI and there are an estimated 7800 new cases each year in the USA (1). The costs of direct medical care for these patients are estimated at US $10 billion per year.

In this example shown above the text is left justified so the right margin is irregular. It is also single-spaced. The example below the text is double spaced and justified so that both margins look even and regular.

Traumatic spinal cord injury (SCI) with resultant partial or complete paralysis is one of the most devastating injuries. Patients are left unable to care for their most basic needs, dependent on others, bedridden and subject to long term complications such as decubitus ulceration of pressure points, venous thrombosis, orthostatic pneumonia and depression. The cost of adequately caring for such patients is tremendous. Approximately 250,000-400,000 Americans live with disability due to SCI and there are an estimated 7800 new

cases each year in the USA (1). The costs of direct medical care for these patients are estimated at US $10 billion per year.

At the end of the introduction, a sentence or two should introduce the case and the relevance of the subsequent discussion to the practice of Emergency Medicine.

The case report is to be a factual account of the details of the case. Pictures, x-rays, ECGS, CT scans etc. should be included as relevant. These should be prepared using a computer to insert pictures from a scanner or digital camera. Pictures will also have a better image quality on photographic paper. You must highlight the emergency department management. The degree of detail given about subsequent management will depend on the case and the aspect of it that you are discussing. You must decide this on a case-by-case basis, and your supervisor will guide you. It is necessary that your index case be discussed in your DISCUSSION. Information from journals and books etc must not be copied verbatim. It would be good if your discussion focussed on some particular aspect of the case that you may have found problematic or challenging maybe you are doing a literature search to answer a particular question. It is important that local or regional data be referenced as much as possible and if there is nothing written locally then this should be mentioned. For your discussion try and formulate your own thoughts and write in your own words, as cutting and pasting text is plagiarism. (**Plagiarism is unethical and will attract severe penalties.)** Confine your references to the most recent literature and try and see if the evidence you have discovered maybe locally applied as well as make it clear what your practice will be based upon what was read.

In preparing the discussion it is useful to subdivide the areas you wish to discuss remember to remove extra headings before submitting the case to your supervisor. <u>The only headings that should appear in the completed case report are: Title, Introduction, Case Report, Discussion and Summary, and References.</u>

Use the spelling and grammar checker on your computer!!!! If tables are used from a book or article please quote the source after the title of the table e.g.

STATUS	Maintenance alcohol infusion rate (g/kg/hr)
Nondrinker	0.11
Chronic drinker	0.15
Dialysis	0.24

Tables should be double-spaced and numbered in the order in which they are cited in the text. A title should be given to each table and this should appear above the table. There should be no horizontal line separating each row within the body of the table. Figures should be labelled on the bottom.

References should be done in the **West Indian Medical Journal Format** (see Appendix C). Internet references may be used but the specific address and date searched should be included e.g.

1. National Spinal Cord Injury Association Factsheet #2. http://www.spinalcord.org/resource/Factsheets/factsheet2.html Searched on August 7, 2000.

The reader should be able to type in the address given and arrive at the article. The date is important as websites are updated from time to time as information changes. The format for the references is shown below. For Journal article list all authors when six or fewer; when more list the first six then et al.

2. Fehlings MG, Sanjay CR, Tator CH, Ghassan S, Arnold P, Benzel E et al. The optimal radiologic method for assessing spinal canal compromise and cord compression in patients with cervical spinal cord injury. Spine 1999;24:605-13

3. Flanders AE, Schaeffer DM, Doan HT, Mishkin MM, Gonzales CF, Northrup BE. Acute cervical spine trauma: correlation of MR imaging findings with degree of neurologic deficit. Radiology 1990; 177:25-33

Books may be used as references, for example:

Author

4. Byrne JH, Schultz SG, An introduction to membrane transport and bioelectricity. 2d ed, New York, NY: Raven Press; 1994.

Editors

2. Freeman WK, Seward JB, Khanderia BK, Tajik AJ, eds. Transoesophageal Echocardiography. New York: Little, Brown and Company; 1994.

Chapter in a book

5. McCusker RH, Clemmons DR. The insulin-like growth factor binding proteins: structure and biological functions. In: Schofield PN, ed. The Insulin-like Growth factors: Structure and Biological Functions. New York: Oxford University Press: 1992: 110-50

Cases may require several corrections. Your supervisor will guide you in this. Once you have produced a casebook approved by your supervisor you will need to submit three softbound copies to him/her to be submitted to the programme coordinator. These will be sent to your examiners. Once the book has been accepted and all corrections made you must submit three hardbound copies and an electronic copy to the department of Surgery.

Research Project

A research project will form part of your final casebook assessment. Each resident will be assigned a supervisor and should along with his or her supervisor, identify a research project and formulate a written protocol within the second year of residency. The project must be completed by the end of the third year of residency.

CORE CONTENT FOR D.M.EMERGENCY MEDICINE PROGRAMME

I. Principles of Emergency Care
II. Major and Soft Tissue Trauma
III. Otolaryngologic Disorders
IV. Ophthalmologic Disorders
V. Cardiovascular Disorders
VI. Thoracic/Respiratory Disorders
VII. Abdominal & Gastrointestinal Disorders
VIII. Urogenital Disorders
IX. Obstetrics and Gynaecological Disorders

X. Infectious Diseases
XI. Paediatric Disorders
XII. Musculoskeletal Disorders
XIII. Toxicologic Emergencies
XIV. Neurologic Disorders
XV. Environmental Emergencies
XVI. Immune System Disorders
XVII. Metabolic and Hormonal Disorders
XVIII. Haematological disorders
XIX. Dermatological Disorders
XX. Psycho behavioural Disorders
XXI. Administrative Aspects of Emergency Medicine
XXII. Emergency Medical Services
XXIII. Physician Interpersonal Skills
XXIV. Manipulative Skills

CORE CONTENT AREA	PROCEDURES TO BE MASTERED
I. Principles of Emergency Care A. Triage-Recognition of Life/Limb threat B. Resuscitation & Stabilization 1. Airway/Respiratory 2. Cardiovascular - pump support Haemorrhage control, volume replacement. Drugs, electrical activity 3. Cerebrospinal stabilization 4. Re-evaluation /monitoring C. Diagnosis 1. History 2. Physical Examination 3. Special diagnostic studies 4. Electrocardiography 5. Laboratory 6. Imaging techniques D. Therapy E. Disposition	Oxygen therapy Intubation/LMA Cricothyroidotomy Jet insufflation Femoral iv access Intraosseus access CVP lines Defibrillation Cardioversion AED Cervical spine immobilization Needle thoracostomy Thoracostomy tube ertion Pericardiocentesis

II. **III. Major and Soft Tissue Trauma** A. Major 1. Initial assessment and Management 2. Airway management & Ventilation 3. Shock 4. Thoracic Trauma 5. Abdominal Trauma 6. Genitourinary Trauma 7. Head Trauma a. Central Nervous System b. Facial Trauma c. Eye & ENT Trauma 8. Spine & Spinal Cord Trauma 9. Paediatric Trauma 10. Burns 11. Stabilisation & Transport B. Extremity and Soft Tissue Trauma 1. Extremity Injuries 2. Soft Tissue Trauma a. Principles b. Avulsions/Abrasions c. Lacerations d. Puncture Wounds e. Foreign Bodies f. Abscesses g. Animal & Human Bites	 As for I. DPL.US Spinal immobilization including prehospital/extraction Ecsharotomy Splinting of injured limb Suturing techniques
IV. Otolaryngologic Disorders A. Presentation/Considerations 1. Specialised Examination 2. Vertigo 3. Torticollis 4. Stridor 5. Dysphagia 6. Orofacial pain B. Ear 1. Labyrinthitis 2. Meniere's disease 3. Otitis media 4. Otitis externa 5. Hearing loss C. Nose 1. Rhinitis	

2. Sinusitis
3. Epistaxis

D. Oropharynx
1. Gingivitis
2. Dental caries
3. Dental infections
4. Dental Fractures/Avulsions
5. Pharyngitis/Tonsillitis
6. Pharyngeal abscesses
    a. Peritonsillar
    b. Prevertebral/Retropharyngeal
7. Ludwig's angina
8. Sialolithiasis /sialadenitis

E. Larynx & trachea
1. Epiglottis
2. Laryngotracheitis
3. Mass/Neoplasia
4. Adenitis / Adenopathy/Abscess

F. ENT Foreign Bodies

V. Ophthalmologic Disorders

A. Presentations/Considerations
1. Specialised Examinations
2. Red Eye
3. Foreign bodies
4. Diplopia

B. External eye
1. Blepharitis
2. Chalazion
3. Conjunctivitis
4. Dacryocystitis/dacryoadenitis
5. Hordeolum

C. Anterior pole
1. Glaucoma
2. Hyphema
3. Iritis
4. Keratitis
5. Corneal foreign bodies
6. Corneal abrasions
7. Corneal ulcers

D. Posterior pole
1. Choroidits
2. Glaucoma (open angle)
3. Optic neuritis
4. Papilleodema
5. Retinal detachment

6. Vascular occlusion 7. Vitreous haemorrhage E. Peri-orbital/orbital Cellulitis	
VI. Cardiovascular Disorders A. Diseases of Arteries and Veins 1. Aneurysm 2. Peripheral Arterial Insufficiency/Embolism 3. Thrombophlebitis/Deep Venous Thrombosis/Peripheral Venous Insufficiency B. Diseases of the Heart 1. Congestive failure / Pulmonary oedema 2. Cardiomyopathy and Diseases of the Myocardium 3. Endocarditis 4. Ischaemic Heart Disease 5. Valvular Heart Disease 6. Dysrhythmias 7. Pacemakers C. Diseases of the Pericardium 1. Pericarditis 2. Pericardial Tamponade D. Hypertension 1. Hypertensive urgency 2. Malignant hypertension E. Shock 1. Anaphylactic shock 2. Septic Shock 3. Neurogenic Shock 4. Cardiogenic Shock	
VII. Thoracic Respiratory Disorders A. Presentations/Considerations 1. Dyspnoea 2. Cyanosis 3. Haemoptysis 4. Neoplasia 5. Singultus 6. Wheezing B. Disorders of pleura, mediastinum, and chest wall 1. Costochondritis 2. Mediastinal masses 3. Mediastinitis	

4. Pleural effusion/empyema 5. Pleurisy 6. Pneumomediastinum 7. Spontaneous pneumothorax C. Non-cardiac pulmonary oedema D. Obstructive/restrictive lung diseases 1. Asthma 2. Bronchitis 3. Chronic obstructive pulmonary disease 4. Interstitial fibrosis E. Pulmonary embolism/infarct F. Pulmonary infections 1. Bacterial infections 2. Viral infections 3. Fungal infections 4. Tuberculosis G. Acute Respiratory Failure/ARDS	
VIII. Abdominal and Gastrointestinal Disorders A. Presentations/Considerations 1. Abdominal pain 2. Nausea/Vomiting 3. Diarrhoea 4. Constipation 5. Dysphagia 6. Haematemesis 7. Haematochezia 8. Melena 9. Jaundice B. Oesophagus 1. Chemical burns 2. Obstruction 3. Oesophagitis 4. Rupture 5. Varices C. Biliary Tract 1. Biliary calculi 2. Cholangitis 3. Cholecystitis D. Liver 1. Cirrhosis 2. Hepatic Failure 3. Hepatitis E. Pancreas 1. Pancreatic insufficiency 2. Pancreatitis	

	3. Pseudocyst F. Rectum and anus 1. Anal fissure 2. Haemorrhoids 3. Perianal/perirectal/pilonidal abscess 4. Proctitis 5. Rectal fistula G. Small bowel and colon 1. Appendicitis 2. Bowel obstruction (adynamic/mechanical) 3. Diverticulitis/diverticulosis 4. Functional bowel disease 5. Gastroenteritis 6. Hernia (femoral/inguinal/umbilical/diaphragmatic) 7. Inflammatory bowel disease 8. Intussusception 9. Mesenteric lymphadenitis 10. Mesenteric thrombosis/infarction 11. Ulcer disease 12. Volvulus H. Stomach 1. Gastritis 2. Obstruction 3. Ulcer disease/Perforation I. GI Foreign Bodies	
IX.	Urogenital Disorders A. Presentations 1. Anuria 2. Haematuria 3. Urinary Retention B. Urinary Tract 1. Calculi 2. Infections a. Cystitis b. Perinephric abscess c. Pyelonephritis d. Urethritis C. Renal Failure D. Male Urogenital Disorders 1. Scrotal mass a. Hydrocoele	

b. Varicocoele c. Neoplasm 2. Infection a. Epididymitis b. Orchitis c. Prostatitis d. Scrotal abscess 3. Testicular torsion 4. Priapism 5. Sexual assault	
X. Obstetrics and Gynaecological Disorders A. Presentations 1. Abnormal vaginal bleeding 2. Abnormal vaginal discharge B. Female Gynaecological Disorders 1. Dysfunctional uterine bleeding 2. Bartholins abscess 3. Pelvic inflammatory disease a. Salpingitis b. Tubo-ovarian abscess 4. Vaginitis 5. Ovarian cysts 6. Ovarian torsion 7. Sexual assault C. Obstetric 1. Contraception 2. Delivery a. Abnormal i. Dystocia ii. Presentation iii. Prolapsed cord b. Normal 3. Postpartum haemorrhage/infection 4. Pregnancy, complicated a. Abortion i. Incomplete ii. Inevitable iii. Missed iv. Septic v. Threatened b. Abruptio placenta c. Ectopic pregnancy d. Placenta praevia e. Pre-eclampsia/eclampsia	

f. Premature membrane rupture 5. Pregnancy uncomplicated 6. Trauma in pregnancy	
XI. Disorders Caused by Biologic Agents A. Presentations/Considerations 1. Fever/Chills 2. Rashes B. Infections Caused by Gram Positive Cocci 1. Staphylococcal Infection 2. Streptococcal Infection 3. Pneumococcal Infection C. Infections caused by Gram negative Cocci 1. Meningococcal Infection 2. Gonococcal Infection D. Infection Caused by Gram Negative Bacilli 1. Haemophilus infection 2. Escherichia Coli Infection 3. Bacilli causing infections diarrhoeal disease 4. Bacilli causing gram negative sepsis and shock E. Other aerobic Bacterial Infection 1. Legionnaire's disease F. Infections Caused by Clostridia 1. Tetanus 2. Gas gangrene 3. Botulism G. Mycobacterial Diseases 1. Tuberculosis H. Spirochetal Diseases 1. Syphilis 2. Leptospirosis 3. Lyme Disease I. Rickettsiosis J. Mycoplasma Infections K. Chlamydial Infections L. Infections Caused by Viruses 1. Respiratory Viruses 2. Exanthems and Enanthems 3. Central Nervous System Viruses 4. Herpes Virus M. Infection Caused by Protozoa N. Infections Caused by Helminths	

XII. Paediatric Disorders

A. Life Support Emergencies
    1. Cardiopulmonary resuscitation in infants & children
    2. Neonatal resuscitation
    3. Shock
    4. Airway management

B. Cardiac emergencies
    1. Congestive heart failure
    2. Cardiac arrhythmias
    3. Pericardial disease
    4. Infectious endocarditis
    5. Hypoxaemic attacks
    6. Acute rheumatic fever

C. Pulmonary Disorders
    1. Acute respiratory failure
    2. Bronchopulmonary dysplasia
    3. Cystic fibrosis

D. Infectious Disease Emergencies
    1. Bacteraemia and sepsis
    2. Central nervous system infections
    3. Lower respiratory tract infections
    4. Gastro intestinal infections
    5. Skin, Soft tissue and bone infections
    6. Genito urinary infections
    7. Non bacterial systemic infections

E. Otolaryngologic Emergencies
    1. Upper Respiratory Tract Infections
        a. Otitis media and externa
        b. Epiglotitis
        c. Laryngotracheitis
        d. Croup
        e. Pharyngitis and abscesses of the upper airway
    2. ENT Foreign bodies

F. Allergic Emergencies
    1. Asthma
    2. Anaphylaxis and anaphylactoid reaction
    3. Serum sickness

G. Gastro intestinal Disorders
    1. Upper GI Bleeding
    2. Lower GI Bleeding
    3. Hepato biliary disease
    4. Surgical emergencies
        a. Diseases causing peritoneal

irritation b. Intussusception c. Incarcerated hernias d. Pyloric stenosis e. Achalasia f. Hirschsprung's disease g. Foreign bodies of the GI tract H. Neurologic Emergencies 1. Seizures 2. Encephalopathy 3. Headache I. Renal and Electrolyte Emergencies 1. Dehydration and management of fluids and electrolytes 2. Specific renal syndromes J. Dermatological Disorders 1. Bacterial Skin Infections 2. Diaper dermatitis 3. Drug reactions in the skin 4. Bites and infestations 5. Superficial fungal infections 6. Exanthems and Enanthems K. Endocrine Emergencies 1. Diabetic ketoacidosis 2. Thyroid disorders 3. Adrenal disorders 4. Pituitary disorders 5. Parathyroid disorders L. Haematological Emergencies 1. Disorders of Red Blood Cells 2. Disorders of haemoglobin structure and production 3. Disorders of white blood cells 4. Disorders of platelets 5. Disorders of coagulation M. Oncologic Emergencies N. Rheumatologic Emergencies O. Toxicological Emergencies –Specific Paediatric aspects of Management P. Musculoskeletal Emergencies-Specific Paediatric Aspects of Management Q. Sudden Infant death syndrome R. Child abuse and sexual abuse	
XII Musculosketal Disorders	

A. Presentations /considerations 1.Specialised examinations B. Infections & Inflammatory Disorders 1.Arthritis a. Crystalline b. Osteoarthritis c. Rheumatoid d. Septic 2. Bursitis 3. Tendonitis/Tenosynovitis 4. Osteomyelitis C. General Approach to Soft Tissue Disorders 1.Crush Injuries 2.Compartment syndrome 3.High Pressure Injection Injuries 4.Muscle and Tendon Injuries 5.Entrapment syndromes D. General approach to Bony Disorders 1.Dislocations/Subluxations 2. Epiphyseal injuries 3. Fractures- open and closed 4. Associated neurovascular injuries 5. Neoplasms E. Disorders of the Axial Skeleton 1. Sternal, clavicular, rib and scapular injuries 2. Spinal Disorders a. Fractures and Dislocations b. Mechanical Disorders F. Upper extremity Injuries G. Hand and wrist Disorders 1. Fractures and dislocations 2. Infections 3. Amputations/reimplantations 4. Soft tissue injuries H. Hip and Pelvic Disorders 1. Fractures and dislocations 2.Infections I. Leg Injuries J. Knee Injuries 1. Fractures and dislocations 2. Soft tissue injuries K. Ankle and foot Injuries 1. Fractures and dislocations 2.Soft tissue injuries.	

XIII Toxicological Emergencies

A. General Considerations
    1. Initial approach to the poisoned patient
    2. Vital signs and toxidromes
    3. Methemaglobinaemia
    4. Role of the Poison Control Centre
    5. Toxicological considerations of pregnancy and breast feeding
    6. Diagnostic tools

B. Analgesics and Over the Counter Preparations
    1. Vitaminoses
    2. Acetaminophen
    3. Salicylates

C. Prescription Medications
    1. Hypoglycaemic agents
    2. Digitalis
    3. Ergotamines
    4. Isoniazid
    5. Phenytoin
    6. Theophyline

D. Psychotropics
    1. Antidepressants
        a. Tricyclics and tetracyclines
        b. MAO inhibitors
    2. Lithium
    3. Antipsychotics

E. Alcohol and Drugs of Abuse
    1. Complications of alcohol abuse
    2. Methanol, ethanol glycol and isopropyl alcohol
    3. Narcotics
        a. Cocaine
        b. Heroin
    4. Synthetic drugs of abuse
    5. Withdrawal syndromes

F. Botanicals
    1. Mushrooms
    2. Cyanogenic glycosides
    3. Anti cholinergic plant poisonings

G. Heavy Metals
    1. Iron
    2. Lead
    3. Mercury

H. Environmental Toxins

1. Toxic Inhalants 2. Carbon monoxide 3. Hydrocarbons 4. Organophosphates 5. Rodenticides and Warfarin 6. Caustics and batteries	
XIV Nervous Disorders/Neurologic Emergencies A. Presentations /considerations 1. Altered mental status 2. Ataxia 3. Coma 4. Headache 5. Seizure/ Status epilepticus 6. Focal weakness 7. Papilloedema B. Cerebrovascular Disorders 1. Aneurysm 2. Arteriovenous malformation 3. Cavernous sinus thrombosis 4. Stroke syndromes 5. Subarachnoid haemorrhages (SAD) 6. Intraparenchymal haemorrhage 7. Ischaemic C. Cranial Nerve Disorders 1. Bell's palsy 2. Trigeminal neuralgia 3. Cranial nerve pareses D. Demyelinating Disorders 1. Amyotrophic lateral sclerosis 2. Multiple sclerosis E. Infections/ Inflammatory Disorders 1. Cerebral abscess 2. Spinal epidural abscess 3. Meningitis 4. Encephalitis 5. Myelitis 6. Neuritis F. Neuromuscular Disorders 1. Carpal tunnel syndrome 2. Muscular dystrophy 3. Myasthenia gravis G. Peripheral Neurologic Disorders 1. Guillain Barre	

	2. Non traumatic peripheral neuropathy H. Spinal Cord Syndromes	
XV	Environmental Emergencies A. Near Drowning B. Barotrauma C. High attitude Illness D. Heat Illnesses E. Hypothermia F. Insect Stings and Bites G. Snakes H. Electrical and Lightning Injury I. Radiation Disasters J. Inhalation Injuries	
XVI	Immune System Disorders A. Autoimmune disorders 1. Rheumatoid arthritis 2. Systemic lupus erythematosus 3. Scleroderma 4. Polymyositis/Dermatomyosistis B. AIDS C. Reactions of hypersensitivity 1. Anaphylaxis 2. Angioneurotic oedema 3. Serum sickness 4. Urticaria	
XVII	Metabolic & Hormonal Disorders A. Presentations/Considerations 1. Dehydration 2. Tetany B. Acid base disturbances 1. Metabolic a. Metabolic acidosis b. Metabolic alkalosis 2. Respiratory 3. Mixed C. Fluid and electrolyte disturbances 1. Sodium/chloride 2. Potassium 3. Calcium 4. Magnesium 5. Phosphorus	

D. Glucose metabolism 1. Diabetes a. Diabetes mellitus-general presentations b. Diabetic ketoacidosis c. Hyperosmolar coma 2. Hypoglycaemia syndromes E. Adrenal disease 1. Hyperadrenalism 2. Hypoadrenalism F. Pituitary disorders G. Thyroid disease 1. Hyperthyroidism /thyroid storm 2. Hypothyroidism/myxoedema	
XVIII Haematological Disorders A. Anaemia 1. Haemolytic a. Congenital/acquired b. Haemoglobinopathies 2. Hypochromic 3. Megaloblastic 4. Normochromic normocytic B. Disorders of haemostasis 1. Coagulation disorders a. Haemophilia b. Intravascular coagulation 2. Platelet disorders C. Lymphoma D. Pancytopenia E. White Blood cell disorders F. Transfusions 1. Auto transfusions 2. Complications 3. Component Therapy 4. Synthetic Blood Replacement	
XIX Cutaneous Disorders A. Presentations/considerations 1. Specialised examinations 2. Terminology B. Reactive Dermatitis 1. Atopic 2. Drug Induced 3. Photosensitive	

4. Contact C. Infectious Dermatitis 1. Bacterial 2. Fungal 3. Parasitic 4. Viral D. Nodular lesions 1. Erythema Nodosum E. Vascular Disorders 1. Petechia/purpura 2. Stasis dermatitis /ulcers F. Vesicular/bullous lesions 1. Pemphigus variations 2. Toxic epidermal necrolysis G. Erythematous/ Squamous Disorders 1. Psoriasis 2. Pityriasis Rosea H. Erythematous Disorders 1. Urticaria 2. Erythemia multiforme 3. Erythemia Nodosum I. Lesions associated with systemic disease	
XX. Psycho behavioural Disorders A. Considerations 1. Mental status examination/interview techniques 2. Crisis intervention 3. Emergency psychotropic drug therapy 4. Psychiatric commitment 5. Restrains 6. Suicide evaluation 7. Violence B. Affective disorders C. Anxiety Disorders D. Dissociative disorders E. Organic mental disorders F. Paranoid Disorders G. Personality Disorders H. Psychosexual Disorders I. Schizophrenic disorders J. Somatoform disorders K. Substance use disorders	

L. Paediatric psychiatric disorders	
XXI. Administrative aspects of EM A. Departmental administration 1. Cost containment principles 2. Equipment and Supplies 3. Facility design 4. Forms 5. Personnel management 6. Departmental Interaction 7. Governance 8. Structure B. Medical –legal aspects 1. Consent 2. Laws a. Commitment b. Drug-related: i. Controlled substances ii. Drug abuse iii. Investigational drug c. Good Samaritan laws d. Regulations regarding reportable conditions: i. Abuse ii. Assault iii. Communicable disease iv. Deaths e. Transfusion restrictions f. Transplantation C. Liability 1. Duty to treat 2. Negligence 3. Patient related a. Privileged communications b. Research c. Termination of patient care responsibility 4. Resuscitation decisions 5. Risk management D. Practice management 1. Benefits 2. Contracts 3. Structure	

E. Quality Assurance	
XXII EMS A. Disaster/Mass Casualty 1. Field Management 2. Hospital Management 3. Planning B. Special considerations 1. Biological hazards 2. Chemical spills 3. Radiation C. Education 1. CPR 2. EMT training 3. First Aid 4. D. System Operations 1. Communication 2. Empathic listening 3. Objectivity 4. Pain management 5. Problem resolution 6. Self-control 7. Self-resolution	
XXIII. Physician Interpersonal Skills A. Presentations/Considerations 1. Acute Grief Reactions 2. Financial/social impediments to care 3. Problematic patients 4. Repeaters 5. Victims of Violence B. Skills 1. Communication 2. Empathetic listening 3. Objectivity 4. Pain management 5. Problem Resolution 6. Self-control 7. Self-resolution	
XXIV Manipulative Skills A. Airway techniques 1. Cricothyrotomy	

2. Heimlich manoeuvre 3. Intubation a. EOA/EGTOA b. Nasotracheal c. Oral 4. Mechanical ventilation 5. Percutaneous transtracheal ventilation B. Anaesthesia 1. Local 2. Regional IV anaesthesia (upper extremity) 3. Regional nerve blocks C. Diagnostic procedures 1. Arthrocentesis 2. Culdocentesis 3. Lumbar Puncture 4. Nasogastric/ orogastric intubation 5. Paracentesis 6. Pericardiocentesis 7. Peritoneal Lavage 8. Protoscopy 9. Thoracocentesis 10. Slit lamp exam/ tonometry D. Genital/urinary 1. Bladder catheterisation 2. Delivery of newborn E. Head and Neck 1. Control of Epistaxis 2. Laryngoscopy F. Haemodynamic techniques 1. Arterial catheter insertion 2. Central venous access: a. Femoral b. Jugular c. Subclavian d. Umbilical 3. MAST suit application and removal 4. Peripheral venous cutdown 5. Swan-Ganz catheter insertion G. Skeletal procedures 1. Fracture /dislocation	

immobilisation techniques 2. Fracture /dislocation reduction techniques 3. Spine immobilisation techniques/halo application H. Thoracic 1. Cardiac pacing 2. Cardiorrhaphy 3. Pericardiotomy 4. Thoracostomy 5. Thoracotomy I. Other techniques 1. Gastric lavage 2. Incision –drainage 3. Perimortem skull trephination 4. Sengstaken Blakemore tube insertion 5. Skin grafts 6. Suture techniques Trephination, nails	

7.

SUGGESTED READING LIST

Required reading

Emergency Medicine: A Comprehensive Study Guide. Tintinalli, J et al. New York, McGraw Hill.

BLS/ATLS/ACLS/PALS manuals

Reference texts

Emergency Medicine Concepts and Clinical Practice - Rosen et al . St Louis, Mosby Co. (Available online to subscribers to MDconsult)

Suggested Reading

Emergency Radiology - Schwarz and Reisdorf

Journals (All available in the Medical Library)

Annals of Emergency Medicine (available with subscription to ACEP)

Emergency Medicine Clinics of North America

European Journal of Emergency Medicine

Academic Emergency Medicine

Emergency Medicine Journal

WIMJ (especially instructions to authors)

Subspecialty journals as needed

Internet resources

You will often find full text articles using the Internet. Even when this is not available the Internet provides an easy way to search for citations or abstracts relevant to the topic you are discussing. You may then search for the full text in the library. Ideally subscribe to two or three of the following:

MD consult

Annals of Emergency Medicine http://acep.org

Biomednet http://journals.bmn.com

Other useful search engines/journals e.g.:

NLM gateway http://gateway.nlm.nih.gov/gw/Cmd

Medscape http://www.medscape.com

Free Medical Journals www.freemedicaljournals.com

British Med J (free) http://bmj.com/

Emergency Med J (free)

New England J of Med (free)

APPENDIX A - Guidelines for the critical appraisal of a paper

- Who wrote the paper?

- Do they or the institution have a proven academic record?
- Is the paper interesting and relevant?

Introduction

- Did the study introduction address the relevant topics?
- Was the study original?
- Were the aims clearly stated?

Methods

- Was an appropriate group of subjects studied?
    - How were the subjects recruited?
    - What were the inclusion criteria?
    - What were the exclusion criteria?
- Was the sample size justified?
    - Was a power calculation performed?
- Was the study design appropriate?
    - Review – a systematic or meta-analysis
    - Drug treatment – a randomized controlled trial
    - Prognosis – cohort study
    - Causation – case control study
- Were the study groups comparable?
    - Demographics, baseline criteria etc.
- Was the assignment of patients to treatments randomized?
    - How was the randomization performed?
- Were the groups treated equally other than the experimental intervention?
- Were the outcome measures stated and relevant?
- Were the measurements valid and reliable?
- Were patients and healthcare workers “blinded” to the treatment given?
- Were all the patients entered in the study accounted for?
- Is there any missing data?
- Were there any side effects and adverse outcomes documented?
- Was the duration and completeness of follow up appropriate?

Statistics

- Were the statistical methods described?
    - Does the test chosen reflect the type of data?
    - Parametric versus non-parametric tests
- Were analyses performed on an intention to treat basis?
- Was systematic bias avoided or minimized?

Results

- How large was the treatment effect?
- How precise was the estimate of the treatment effect?

Discussion

- Were the aims of the study fulfilled?
- Were the sources of error discussed?
- Are the relevant findings justified?
- Are the likely treatment benefits worth the potential harm or costs?

- What is the impact of this paper?
- Can the results be generalized to other populations?
- What do you think of the paper?

APPENDIX B -THE 10 COMMANDMENTS OF EMERGENCY MEDICINE

Introduction

Emergency physicians approach patients differently than their counterparts in other specialties because of time constraints and because they deal with critically ill patients without the benefit of an ongoing relationship. The potential for error is therefore great. We developed the following ten commandments of emergency medicine to help others avoid these errors. We believe that remembering these commandments could improve patient care, physician-patient relations and risk management.

Secure The ABC's

The emergency physician should initially direct attention to the patency of the patient's airway, the adequacy of the patient's breathing and the assurance of cardiovascular stability. Securing the ABC's in every patient every time is essential, whether the patient appears to have trivial complaints or is severely ill.

We have expanded the ABC's to ABC2DEFG 2. the steps represented by the letters A through E are well understood by emergency physicians. "F" stands for fetal heart tones because the vital signs of a pregnant patient are not complete without listening for the fetal heart tones. Likewise, in pregnant patients, the need for rhogam (the first "G") should always be considered. The second "G" represents the guard rails on the stretchers, which are all too often left down. Even alert patients may roll off a bed; the elderly or confused patient is guaranteed to "go to ground." Emergency physicians are often the worst offenders when they leave the bedside after examining a patient.

Consider or Give Naloxone, Glucose, and Thiamine

The need for naloxone, glucose and thiamine (NGT) should be assessed in every patient with altered mental status. A single 2-mg IV dose of naloxone almost never causes toxicity in an adult emergency department patient. Blood glucose should be assessed immediately by an accurate and rapid fingerstick method, or D50W should be administered in the rare event that a fingerstick blood glucose cannot be performed. Rapid IV administration of 100mg thiamine has been demonstrated to be very safe and should be provided to any cachetic or malnourished patient, including all chronic alcoholics, patients with malabsorption of cancer, and young patients with AIDS or anorexia nervosa.

Get A Pregnancy Test

Because the reproductive, contraceptive, and menstrual histories of patients in their child-bearing years are unreliable, it is necessary to consider obtaining a pregnancy test in every patient who has a functioning uterus; it is difficult to treat most complaints of reproductive-age women if their pregnancy status is unknown. Likewise, inappropriately obtaining radiographs in patients who are pregnant can be dangerous. The easiest way to rule out an ectopic pregnancy in the ED is with a pregnancy test.

Assume The Worst

We must always rule out the most serious potential cause of a patient's symptoms and be certain that adequate attention has been given to the most catastrophic probabilities, even if they are unlikely. Then, and only then, can we ascribe a patient's complaint to a less severe and more likely possibility.

One of the most insidious serious errors is to diminish the magnitude of the patient's complaint. Often this happens because there is peer pressure to not admit patients. At other times, a patient's complaint is downplayed because of a negative attitude toward his "emotional overstatement" of pain. During the initial evaluation, we should take all complaints at face value and not make subjective judgements. It is a bad idea to project our expectations onto our patients.

Do Not Send Unstable Patients To Radiology

Portable radiographs are not as good as radiographs performed in the radiology department. Radiologists, however, do not treat unstable patients as frequently as do emergency physicians. Their skills may be rusty, and life-saving drugs and equipment may be inaccessible in the radiology department. Unstable patients who must have films in radiology must be accompanied by a person trained to manage their condition should it deteriorate.

Look For The Common Red Flag

Because the ED evaluation of a patient must take place quickly, it is important to keep some recurring "red flags" in mind. *First* and foremost, there are the four vital signs, all four must always be evaluated, and any abnormal vital sign must be explained in writing. Emergency physicians must be careful in interpreting axillary and oral temperatures that may be misleadingly low. Orthostatic blood pressure and pulse measurements must be considered in any patient at risk for volume depletion or acute blood loss. Orthostatic vital signs, however, are never indicated in a hemodynamically unstable patient.

Second, age, especially extremes of age, should alert the clinician to the presence of potential comorbid conditions. The presence of HIV risk factors is another red flag that signals the need for an aggressive workup. HIV risk factors are present in all socioeconomic levels and ages. Emergency physicians must ask the "embarrassing" questions about sexual preference and activity as well as those concerning the use of illicit drugs.

Third, any unscheduled return to the ED for the same complaint is another red flag. The initial problem may have been inappropriately or incorrectly treated, and for patients to be seen again in the chaos of the ED setting gives special significance to the complaint.

Last, there are three questions that must be asked of every ED patient' a negative answer to any one represents a red flag. First, "Have you ever had this complaint before?" If the complaint is new, it clearly requires a different approach diagnostically than if the complaint is chronic. Second, "Can the patient take adequate nutrition by mouth," and third, "Can the patient walk?" If the patient is unable to provide for himself but could previously, he should not be routinely discharged home.

Trust No One, Believe Nothing (Not Even Yourself)

Errors are often made when we depend on assumptions. Important decisions must be based on facts, not hearsay or someone else's perception that is presented as "fact." A physician's or nurse's words are not a substitute for written medical records. An ECG or radiographic report is not a substitute for viewing the tracing or film.

This commandment is also meant to be a caution against blind trust in the expertise or opinions of others. It is always comforting to have the advice of a subspecialist, but emergency physicians must remember that they often know the most about the patient at that time.

It is important to keep an open mind. Many of our worst errors have occurred when we adopted a mindset about the patient and refused to let other opinions or data change our initial perception. Emergency physicians should not be afraid to ask for help or admit uncertainty. Family, friends, nurses, and medical students often provide very cogent observations that can positively alter the course of the patient's illness. No advice should be rejected out of hand; hubris is a physician's worst enemy.

Institutional tradition and lore are areas that commonly introduce an element of bias. Institutions tend to become inbred. There is often more that one way to approach a specific complaint and old traditions die hard. Lore must be validated by the scientific method. Always maintain an element of skepticism about old adages or new trends.

Learn From Your Mistakes

We all make mistakes of varying severity, regardless of our level of experience. The key to dealing appropriately with mistakes is not to deny them by rather to embrace them and learn from them. It is not healthy to dwell on mistakes; it is healthy to use a mistake to become an expert in a particular area. No one is immune to mistakes. As a colleague, it is also incumbent to not be too judgmental. We should learn from each other's mistakes, not use them to impugn one another.

Do Unto Others As You Would Your Family (And That Includes Coworkers)

When confronted with a difficult decision or an ethical dilemma, we should consider how we would like one of our family members to be treated. Patients are not the enemy. At times they may have habits or behaviors that we do not like, but every patient must be treated within the context of his illness. Unfortunately, the illness may have many comorbid contributors, including psychiatric disease, addiction, family problems, and job stresses. We are here to treat, not to judge.

The "do unto others" commandment also applies to coworkers. Treating colleagues, interns, residents, nurses, aides, emergency medical technicians, and secretaries with respect should be integral to out approach. Treating anyone with disrespect might return to haunt you.

When In Doubt, Always Err On The Side Of The Patient

There is no getting away from an element of uncertainty in medicine, particularly in emergency medicine. As physicians, our ultimate goals should be relief of symptoms and optimal patient outcome. When significant uncertainty exists, emergency physicians must be sure that their decisions take into account the potential for a bad outcome. We should always err in a way by which the patient will suffer the least. Decisions to admit or discharge, perform another test, or call a consultant should always be made with the patient's best interests and safety as the major deciding factors. Our ultimate goals should not be to save money, keep hospital beds open, or protect out peers.

Closing Thoughts

These ten commandments are an outgrowth of our experience as emergency physicians. As with the original Ten Commandments, no one will be able to observe all of them all the time. There are probably many examples of exceptions and additions to these commandments. Exceptions are fine, as long as they are made with awareness. The number of exceptions any physician makes should relate directly to his level of expertise. We welcome input on what we may have overlooked. It is our belief that keeping some form of these ten commandments in mind will prevent mistakes and improve patient care and satisfaction.

Keith Wrenn, MD, FACP
Corey M. Slovis, MD, FACEP, FACP
Division of Emergency Medicine
University of Rochester School of Medicine
Rochester, New York

An Editorial to the Annals of Emergency Medicine, 20:10 October 1991