Guide to Development of a Training Curriculum on Essential Emergency Surgical Skills

(Compiled from WHO manual Surgical Care at the District Hospital 2003)

PART 1: ORGANIZING THE DISTRICT HOSPITAL SURGICAL SERVICE

1. Organization and management of the district surgical service  
   1.5 Record keeping  
   1.6 Evaluation  
   1.7 Disaster and trauma planning  

2. The surgical domain: creating the environment for surgery
   2.1 Infection control and asepsis
      ▶ Universal precautions
      ▶ Hand washing
      ▶ Prevention of transmission of HIV
      ▶ Aseptic technique
   2.2 Equipment
      ▶ Care and repair
      ▶ Use
   2.3 Operating room
      ▶ Room maintenance
      ▶ Sponge and instruments count
      ▶ Scrubbing and gowning
      ▶ Skin preparation
      ▶ Draping
   2.4 Cleaning, sterilization and disinfection
   2.5 Waste disposal

PART 2: FUNDAMENTALS OF SURGICAL PRACTICE

3. The surgical patient
   3.1 Approach to the surgical patient
      ▶ History and physical examination
      ▶ Investigations
      ▶ Decision making
      ▶ Preoperative note
      ▶ Preparation of surgery
      ▶ Intra-operative care
      ▶ Operative note
      ▶ Postoperative note and orders
      ▶ Aftercare- prevention of complications and pain management
   3.2 The paediatric patient
      ▶ Physiological considerations
      ▶ Anaesthesia and pain control
      ▶ Pre and post operative care
      ▶ Surgical problems in neonates
      ▶ Surgical problems in young children

4. Surgical techniques
   4.1 Tissue handling
      ▶ Incision technique
      ▶ Haemostasis
   4.2 Suture and suture technique
   4.3 Prophylaxis
5. Basic surgical procedures

5.1 Wound management

- Primary repair, delayed primary closure, secondary healing
- Drains
- Split skin grafting

5.2 Specific lacerations and wounds

- Blood vessels, nerves and tendons
- Facial lacerations
- Lip lacerations
- Wounds of tongue
- Ear and nose lacerations
- Nose Bleed
- Ocular trauma
- Measurement of intraocular pressure
- Tendon lacerations
- Animal bites

5.3 Burns

- Classification of depth of burn
- Wound care

5.4 Foreign bodies

- Eye, Ear, Nose
- Airway
- Gastrointestinal tract
- Soft tissue
- Body cavities

5.5 Cellulites and abscess

- Surgical drainage
- Specific sites - face, eye, ear, dental, throat and neck, breast, thoracic empyma, pyomyositis, hand infections, perianal rectal and pilonidal sinuses

5.6 Excision

- Perianal haematoma, anal fissure, haemorrhoids

PART 3: THE ABDOMEN

6. Laparotomy and abdominal trauma

6.1 Laparotomy

- Laparotomy for patients with life threatening abdominal conditions including trauma

6.2 Abdominal trauma

- Primary survey
- Diagnostic peritoneal lavage
- Penetrating and blunt injuries

7. Acute abdominal conditions

7.1 Assessment and diagnosis

7.2 Intestinal obstruction

- Non operative and operative management

7.3 Peritonitis

7.4 Stomach and duodenum

- Medical management of Bleeding peptic ulcer

7.6 Appendix

- Emergency appendectomy for acute appendicitis
Management of intussusception and sigmoid volvulus

8. Abdominal wall hernia
   8.1 Groin hernias
     - Assessment
   8.2 Surgical repair of inguinal hernia
   8.4 Surgical treatment of strangulated groin hernia

9. Urinary tract and perineum
   9.1 The urinary bladder
     - Urethral catheterization of male patient
     - Suprapubic puncture
     - Suprapubic cystostomy
   9.2 The male urethra
     - Urethral dilation for urethral stricture
     - Male circumcision
     - Orchidectomy for torsion testis
     - Surgery for scrotal hydrocele in adults
     - Vasectomy
   9.3 The perineum
     - Female genital injuries and mutilation
     - Perineal abscess, Bartholin abscess, hematocolpos
     - Male perineal infections- Fournier’s gangrene, periurethral abscess

PART 4: EMERGENCY OBSTETRIC CARE

10. Hypertension in pregnancy
    10.1 Hypertension
    10.2 Assessment and management
    10.3 Delivery
    10.4 Postpartum care
    10.5 Chronic hypertension

11. Management of slow progress of labour
    11.1 General principles
    11.2 Slow progress of labour
    11.3 Progress of labour
    11.4 Operative procedures
      - Caesarean section
      - Tubal ligation during Caesarean section
      - Induction and augmentation of labour
      - Instrumental delivery- vacuum extraction, forceps delivery
      - Craniotomy and craniocentesis

12. Bleeding in pregnancy and childbirth
    12.1 Bleeding
      - Bleeding in early pregnancy- spontaneous abortion, induced abortion
      - Unsafe abortion, septic abortion, ectopic pregnancy
      - Bleeding in late pregnancy and labour- placental abruption, placenta praevia, uterine rupture
      - Post partum haemorrhage
    12.2 Diagnosis and initial management
    12.3 Specific management
      - Threatened abortion
      - Inevitable abortion
      - Incomplete abortion
Complete abortion
Ectopic pregnancy- autologous blood transfusion
Abruptio placenta
Coagulopathy (Clotting failure)
Ruptured uterus
Placenta praevia
Atonic uterus
Tears of cervix, vagina, perineum
Retained placenta
Inverted uterus
Delayed Post partum haemorrhage

12.4 Procedures
- Manual vacuum aspiration
- Dilation and curettage
- Culdocentesis
- Colpotomy
- Salpingectomy for ectopic pregnancy
- Salpingostomy
- Repair of ruptured uterus
- Repairing the uterine tear
- Rupture through cervix and vagina
- Rupture laterally through uterine artery
- Rupture with broad ligament haematoma
- Repair of bladder injury
- Manual removal of placenta
- Repair of cervical tears, vaginal and perineal tears
- Management of neglected cases- haematoma, infections, necrotising fascitis, faecal incontinence, rectovaginal fistula,
- Uterine inversion
- Uterine and utero-ovarian artery ligation
- Post partum hysterectomy

12.5 Aftercare and follow-up
- Abortion
- Ectopic pregnancy
- Molar pregnancy
- Bleeding in late pregnancy and labour and post partum haemorrhage

PART 5: RESUSCITATION AND ANAESTHESIA
13. Resuscitation and preparation for anaesthesia and surgery
13.1 Management of emergencies and cardiopulmonary resuscitation
- Airway and breathing
- Cardiac arrest and inadequate circulation
- Cardiac life support
- Haemorrhage
- Shock
- Unconsciousness

13.2 Other conditions requiring urgent attention
- Anaemia
- Convulsions

13.3 Intravenous access
- 13–11

13.4 Fluids and drugs
What fluids to give
How much to give
Paediatric fluids
Speed of intravenous fluid therapy
What blood pressure should you aim for?

13.5 Drugs in resuscitation 13–18
13.6 Preoperative assessment and investigations 13–20
- Consent and expectations
- Preoperative fasting and fluids
- Premedication
- Investigations

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- Anaesthetic techniques
- Safety of general and conduction techniques
- Choice of technique in emergency anaesthesia

13.8 Important medical conditions for the anaesthetist 13–36
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- Hypertension
- Respiratory diseases- Tuberculosis, Asthma and chronic bronchitis
- Diabetes
- Obesity
- Prevention of blood spread infections during anaesthesia

14. Practical anaesthesia
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- Preparation for General anaesthesia
- Intravenous induction
- Intramuscular
- Inhalational
- Using draw over apparatus
- Using a compressed gas machine
- Maintenance of anaesthesia
14.2 Anaesthesia during pregnancy and for operative delivery 14–12
14.3 Paediatric anaesthesia 14–14
- preparations before induction
14.4 Conduction anaesthesia 14–21
- Toxicity and safety of local anaesthetic drugs
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- Ketamine anaesthesia
- General anaesthesia with intubation
- Inhalational technique without intubation
- Total intravenous anaesthesia
- Specimen spinal technique for elective caesarean section
- Anaesthesia for evacuation of retained products of conception (ERPC)
- Emergency laparotomy
- Emergency case with a complicated airway
14.6 Monitoring the anaesthetized patient 14–34
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- In Recovery
- Post operative extubation
- Pain management and techniques
- Post operative fluid management
15. Anaesthetic infrastructure and supplies
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PART 6: TRAUMATOLOGY AND ORTHOPAEDICS

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   16.3 Six phases of Primary Trauma Care Management 16–3
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      ▶ Insertion of the chest drain and underwater seal Drainage
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      ▶ Skeletal traction
   17.2 Casts and splints 17–6
      ▶ Materials
      ▶ Cast application
      ▶ Splint application
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      ▶ Septic arthritis
      ▶ Pyogenic osteomyelitis

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