A Joint WHO-Ministry of Health and Social Welfare Meeting on WHO Integrated Management for Emergency and Essential Surgical Care

16-20 January, 2007
Tanzania (Dar-Es-Salaam, Ifakara, Zanzibar)
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1. Executive summary

The quality of emergency and essential surgical care is inadequate in first referral health facilities in Tanzania due to lack of trained medical personnel, poor facilities and limited Supplies.

A Joint WHO-Ministry of Health and Social Welfare (MOHSW) meeting on the WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) for Facilitators was held during 16-19 January, 2007 in Tanzania. The overall objective of this meeting was to strengthen capacities of health personnel in emergency and essential surgical care (EESC). Field visits were made for a situation analysis for availability of life saving emergency and essential surgical and anesthesia interventions to various levels (tertiary, secondary and primary health facilities in: Ifakara region, Zanzibar Islands and Dar-es-Salaam). The field visit team comprised of focal persons representing WHO/HQ and WHO Country office, MOHSW, International Federation of Rural Surgeons (IFRS).

MOHSW, The Association of Surgeons of East Africa (ASEA) and Muhimbili University College of Health science (MUCHS) agreed that EESC is a worthwhile project and EESC training would be endorsed for in-service training by MOHSW. MOHSW will produce a concept paper on EESC training. The target audience would be pre-training students and continuing professional development to update skills of those already in practice.

The meeting led to establishment of a committee (task force) by MOHSW and WHO country office for EESC to develop strategies for rolling out the IMEESC package in line with the Global Initiative for Emergency and Essential Surgical Care (GIEESC), integrate the EESC to first referral level health facility and local adaptation of the WHO IMEESC toolkit for strengthening capacities through a standardized training for the frontline health personnel performing life saving emergency and surgical (including anaesthesia) interventions in Tanzania. The impact of the proposed comprehensive package (personnel, supplies and facilities) will be closely monitored and assessed.
2. Background

Tanzania is composed of Mainland and Zanzibar Island. Most of the disease burden in Tanzania is the result of preventable diseases: communicable diseases – HIV/AIDS, malaria and tuberculosis; reproductive disorders; childhood disorders – over 75% of under-five deaths are attributable to pneumonia, diarrhoea, measles and malnutrition; non-communicable diseases, including diabetes, hypertension and cardiovascular diseases, all rising with the changes in lifestyles and accounting for a considerable proportion of hospital admissions. Child mortality and morbidity are major problems in the country. Mother-to-child transmission of HIV/AIDS is an important contributor to deaths in children.

Figures from 1999 indicate an extensive health service infrastructure on the Mainland, composed of 280 hospitals and specialized clinics, 479 health centres, 3,955 dispensaries for a total of about 32,000 beds (1:896 people). The ratio of a medical doctors and nurses to the population is 1:20,000 and 1:5,000 respectively. Zanzibar has 6 hospitals, 103 primary health care units and 4 primary health care centres (approx. 960 beds in all), with a doctor to population ratio of 1:13,115.

Geographical coverage of health care facilities is equitable, providing access to more than 80% of the population, but the quality of care is generally low. Staff is unequally distributed, especially in Zanzibar and in rural health facilities in the Mainland, due to the lack of incentive to attract and retain health professionals in underserved remote areas. Drugs and medical supplies are inadequate at all levels. Transport availability in districts depends mostly on donor support, hindering the referral system, supervision and implementation of programmes.

The human resources for health (HRH) policy (1996) and the five-year plan (1996/2001) were developed in the initial stage of health sector reforms in Tanzania Mainland. The Masters of Public Health and District Health Management courses have been established as part of the HRH plan to equip Council Health Management Teams and other managers with planning and management skills. Training of professional health workers is being improved through a review of curricula in line with the reforms requirements. However, major problems prevail, including the inequitable distribution of health staff, especially in Zanzibar and in rural health facilities in the Mainland, lack of human resources information for planning and absence of incentive packages to attract and retain health professionals in underserved remote areas. The brain drain, especially in Zanzibar, is a matter of great concern.

The health priorities include: improving the health system to address the need for better quality care, by translating policies into actions and results that promote evidence-based planning, and strengthening support mechanisms such as drugs and human resources; reducing the burden of disease, by paying special attention to the delivery of essential health services, and addressing major problems, such as HIV/AIDS, malaria, maternal and child mortality as well as the new challenge posed by noncommunicable diseases; providing a supportive and enabling environment through legislative reform and the application of health promotion strategies; improving the capacity and resources for preparedness and response to outbreaks and emergencies at all levels; addressing the special health and human resource needs of Zanzibar in the context of reforms; ensuring sustainability of programmes through increased allocation of national resources to the health sector. (1, 2).

1 http://www.who.int/hac/crises/tza/en/
3. Objectives

- Joint WHO- MOHSW meeting towards strengthening capacities of health personnel on IMEESC at regional health facilities in Tanzania
- Introduction of the WHO IMEESC toolkit towards a standard training
- Visits to health facilities for a situation analysis.

4. Visit to the health facilities and situation analysis for access to emergency and essential surgical interventions

The field visits were made in Ifakara region, Zanzibar Islands and Dar-es-Salaam region for a situation analysis for availability of life saving emergency and essential surgical and anesthesia interventions to various levels (tertiary, secondary and primary health facilities). The field visit team comprised of focal persons representing WHO/HQ and WHO country office, MOHSW and IFRS.

The following health facilities were visited:

Ifkara: St. Francis Designated District Hospital (SFDDH), Ifakara Health Research and Development Center (IHRDC), Tanzania Training Centre for International health (TTCIH), Mangula Health centre, Sonjo Dispensary Kibaoni Health Centre, Kisawasawa Dispensary,

Dar-es-Salaam: Muhimbili National Hospital

Zanzibar: Kivunge District Hospital, Gamba Dispensary, Mfenesini Dispensary, Magogoni Hospital (1st Referral Hospital), Mnazimmoja Hospital

Some country hospitals are unable to carry out sometimes even basic emergency surgical interventions due to lack of continuous oxygen supply and anaesthesia equipment, which explains the difficulty of patient referral especially in urgent situations, resulting in death and disability.

5. Joint WHO- MOHSW Facilitators Meeting

A Joint WHO- MOHSW Facilitators Meeting was held for the inauguration of WHO EESC Project and need assessment for EESC in Tanzania. The meeting participants represented key policy makers, health providers, directors of surgical, obstetrics, anesthesia and nursing departments and WHO country office.

The WHO IMEESC toolkit was introduced, its applicability demonstrated in the day to day practice, training, and guidance on policy decisions at all levels of healthcare aiming to reduce death and disability in trauma, pregnancy related complications and infection (including HIV).

6. Discussions

The discussions were on the following issues:

- Lack of specialists and inadequately trained health personnel at first referral level health facilities raises the concern on the safety of surgical and anaesthesia interventions.
- Experiences of introduction and implementation of the IMEESC training project in the 15 countries were shared.
- Research is required on the situation analysis of access to safe emergency and essential surgical interventions at the first referral health facilities in Tanzania.
- Establishment of GIEESC in December 2005.
- There is an urgent need to strengthen capacities at primary health care facilities in Tanzania Mainland and Zanzibar Islands, in order to reduce death and disability in injuries.
- MOHSW expressed the need to adapt IMEESC for Tanzania.
- The need for both training in procedures and functioning equipment particularly anesthesia and regular supply of oxygen was emphasized.
- There is a need to form a committee with chair from MOHSW possibly from HR or curative services department and representatives of rural key training sites and 5 main hospitals. The committee should meet in February 2007 to consolidate on concept paper.
- It was reported that MUCHS had done trainings through Canadian Network for International Surgery (CNIS) assistance to strengthen capacities of clinical officers in EESC were presented. CNIS has conducted 5 days workshops for interns, first year post-graduates, obstetricians, general surgeons, and orthopaedics since 2003.
- Suggestions for Training of Trainers (TOT) included: to identify pilot district hospitals with 3 people in each hospital and adapt generic curriculum for assistant medical officers. MOHSW would be acting as driving force or to have zonal training centres and equipping them over a period of 4 years.
- Interest was generated about the possibility of organizing back to back, TOT on IMEESC with the IFRS congress in Ifakara region, September 2007
- Possibilities of Tanzania, as an optimal venue, taking advantage of surgeons participating in the IFRS, to hold GIEESC in Sept. 2007.
- TTCIH in Ifakara can play a role in the EESC training program by providing a high quality training venue for participants. They have qualified health specialists who can facilitate the training including access to a modern computer lab since the program also has an e-learning component.

7. Recommendations and Action Plan

This meeting resulted in the following recommendations and action plan:

- The IMEESC was seen as a way towards improving the first referral level health facility’s services. The WHO GIEESC package was hence forth unanimously accepted.
- The meeting resulted in the establishment by MOHSW of a committee on EESC and designation of a secretary whose function is to totally integrate the IMEESC to first referral level health facility.
- The committee members include MOHSW, WHO Country Office, Universities and Professional Societies of surgery and anesthesia.
- The first task of this committee is to prepare and submit a strategic/ concept paper on EESC in Tanzania by mid February 2007.
- The other task is to plan and identify persons from Mainland and Zanzibar who would carry out TOT who would in turn do the cascade trainings at the first referral level health facilities.
- A TOT workshop for strengthening capacities in EESC at first referral level health facilities will be held in September 2007.
- A report for the Facilitators meeting will be prepared for dissemination including WHO website.
- WHO IMEESC toolkits will be sent to WHO country representative for the training workshops.
- WHO country office along with WHO HQ will assist in the adaptation of the WHO IMEESC toolkit for local needs.

8. Conclusions

The meeting concluded with a consensus by MOHSW and WHO country office and EESC was seen as a way towards improving the first referral level health facility’s services. The WHO Global Initiative package was
hence forth unanimously accepted. A committee (Task force) on EESC was established to develop strategies for rolling out the IMEESC package in line with the GIEESC, integrate the EESC to first referral level health facility and local adaptation of the WHO IMEESC toolkit for strengthening capacities through a standardized training for the frontline health personnel performing life saving emergency and surgical (including anaesthesia) interventions in Tanzania.

The members in the committee on EESC include:

Dr. Amos Mwakilasa, Chairperson
Dr. Pascience Kibatala, Secretary
Dr. Paul Marealla, Member
Dr. Naboth Mbembati, Member
Dr. Maliki, Member
Dr. Hassan Mkoko, Member
Prof. Victor Mwafongo, Member
Prof. Chugulu,
Prof. Leonard Lema
Prof. Laurence Museru
Dr. Julieta Magandi
Dr. Michael Msella
Dr. Mhando
Dr. Angelo Nyamtema
Dr. Othman Kaloloma

9. Acknowledgment and collaborations for support

- Directors and staff of health facilities visited
- MOHSW Tanzania
- WHO country office Tanzania, and WHO/AFRO
- Departments of Essential Health Technologies, Evidence and Information for Policy (Patient Safety), Making Pregnancy Safer, Violence and Injury Prevention, Child and Adolescent Health, WHO
- Canadian Network for International Surgery (CNIS)
- The Association of Surgeons of East Africa (ASEA)
- Tanzania Surgical Association.
- Tanzanian Training Centre for International Health in Ifakara
- International Federation of Rural Surgeons
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Annexe 2. Program Agenda

- Meeting and discussions with WHO Country Office
- Visits to health facilities for a Situation analysis.
- WHO Meetings with directors of teaching hospitals and rural health facilities, Ministry of Public Health
- Introduce and facilitate the use of WHO IMEESC tool kit
- Discussions
- Collaborative approach to surgical training on emergency and essential surgical procedures and linked equipment
- Recommendations and follow up action plan
- Conclusions of meetings and visits
**Annexe 3:** WHO training tools for improving skills of health personnel

**Needs Assessment and Evaluation Form for Resource Limited Health Care Facility**

**Essential Emergency Equipment in Emergency Room**

*At an entry point in any health facility such as: Emergency room / Admission room / Treatment room / Casualty room*

### 1. Name/Address of Health Care Facility

<table>
<thead>
<tr>
<th>Country</th>
</tr>
</thead>
</table>

### 2. Type of Health Care Facility (please check one)

- Primary or First referral level facility / District Hospital/Rural Hospital
- Health Centre

### 3. Human Resources in emergency room (please indicate number of health staff)

- Doctors
- Nurses
- Clinical or Health officers
- Technicians
- Paramedical staff

### 4. Physical Resource

**Infrastructure**

- Is there an area or room designated for emergency care?
- Is there running water?
  - If yes: Interrupted / Uninterrupted (please circle one)
- Is there an electricity source?
  - If yes: Interrupted / Uninterrupted (please circle one)

**Equipment**

- Is a list of essential emergency care equipment available?
- Is following available
  - Oxygen Cylinder: Interrupted / Uninterrupted (please circle one)
  - Oxygen Concentrator: Interrupted / Uninterrupted (please circle one)
  - Equipment for oxygen administration available (tubes, masks)

### Essential Emergency (EE) Equipment

<table>
<thead>
<tr>
<th>Yes, in some equipment</th>
<th>Yes, in all equipment</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the EE equipment in working order?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there access to repair if equipment fails?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there access to repair within the health care facility?</td>
<td></td>
<td></td>
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<tr>
<td>Is there access to repair outside the health care facility?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
  - If yes, how far (in km): 1-25 / 26-50 / 51-200 / >200 (please circle one)
| Is there an agreement for the maintenance of the equipment with the supplier? | | |
| Do the health care staff in the emergency room get training in the use of the equipment? | | |
| Is information available on supply, repair, and spare parts for the equipment? | | |

### 5. Quality, safety, access and use

- Are the best practice protocols for management of essential emergency procedures available?
- Are the protocols for safe appropriate use of equipment in essential emergency procedures available?
- How often is ‘room to room inspection’ performed to ensure that EE equipment and supplies required for the essential emergency procedures are available and functioning? (please circle one)
  - Daily / weekly / monthly / 6-monthly / yearly / once in ___ years / never

### 6. Policy

- Is there a policy to promote training for health care staff in the essential emergency management of trauma, obstetric care and anaesthesia?
- Is there a policy to update the protocols for the emergency management of trauma and obstetric care adapted to local needs?
- Are there any guidelines on donation, procurement, and maintenance of all EE equipment?
- Is there a list of extra health personnel to be contacted in disaster situations?

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*For guidance use WHO generic list of Essential Emergency Equipment*

[Department of Essential Health Technologies, World Health Organization, 20 Avenue Appia, 1211, Geneva 27, Switzerland]

Fax: 41 22 791 4836 | Internet: [www.who.int/surgery](http://www.who.int/surgery)
## WHO Generic Essential Emergency Equipment List

Checklist describes minimum requirements for emergency and essential surgical care at the first referral health facility

<table>
<thead>
<tr>
<th>Capital Outlays</th>
<th>Quantity</th>
<th>Date checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resuscitator bag valve and mask (adult)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resuscitator bag valve and mask (paediatric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen source (cylinder or concentrator)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mask and Tubings to connect to oxygen supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light source to ensure visibility (lamp and flash light)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stethoscope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suction pump (manual or electric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood pressure measuring equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalpel # 3 handle with #10,11,15 blade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalpel # 4 handle with # 22 blade</td>
<td></td>
<td></td>
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<tr>
<td>Scissors straight 12 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scissors blunt 14 cm</td>
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<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (adult size)</td>
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<td></td>
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<tr>
<td>Oropharyngeal airway (paediatric size)</td>
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<tr>
<td>Forcep Kocher no teeth 12-14 cm</td>
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<tr>
<td>Forcep, artery</td>
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<tr>
<td>Kidney dish stainless steel appx. 26x14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourniquet</td>
<td></td>
<td></td>
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<tr>
<td>Needle holder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towel cloth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste disposal container with plastic bag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterilizer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nail brush, scrubbing surgeon's</td>
<td></td>
<td></td>
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<tr>
<td>Vaginal speculum</td>
<td></td>
<td></td>
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<tr>
<td>Bucket, plastic</td>
<td></td>
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<tr>
<td>Drum for compresses with lateral clips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examination table</td>
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<tr>
<td>Wash basin</td>
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**Renewable Items**

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<table>
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<tbody>
<tr>
<td>Suction catheter sizes 16 FG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tongue depressor wooden disposable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasogastric tubes 10 to 16 FG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batteries for flash light (size C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous fluid infusion set</td>
<td></td>
<td></td>
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<tr>
<td>Intravenous cannula # 18, 22, 24</td>
<td></td>
<td></td>
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<tr>
<td>Scalp vein infusion set # 21, 25</td>
<td></td>
<td></td>
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<tr>
<td>Syringes 2ml</td>
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<td></td>
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<tr>
<td>Syringes 10 ml</td>
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<tr>
<td>Disposable needles # 25, 21, 19</td>
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<td></td>
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<tr>
<td>Sharps disposal container</td>
<td></td>
<td></td>
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<tr>
<td>Capped bottle, alcohol based solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterile gauze dressing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bandages sterile</td>
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</tr>
<tr>
<td>Adhesive Tape</td>
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<td></td>
</tr>
<tr>
<td>Needles, cutting and round bodied</td>
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<tr>
<td>Suture synthetic absorbable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Splints for arm, leg</td>
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<td></td>
</tr>
<tr>
<td>Urinary catheter Foleys disposable #12, 14, 18 with bag</td>
<td></td>
<td></td>
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<tr>
<td>Absorbent cotton wool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheet, plastic PVC clear 90 x 180 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloves (sterile) sizes 6 to 8</td>
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<td></td>
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<tr>
<td>Gloves (examination) sizes small, medium, large</td>
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<tr>
<td>Face masks</td>
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<td>Eye protection</td>
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<tr>
<td>Apron, utility plastic reusable</td>
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<tr>
<td>Soap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory list of equipment and supplies</td>
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<tr>
<td>Best practice guidelines for emergency care</td>
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### Supplementary equipment for use by skilled health professionals

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<table>
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<tbody>
<tr>
<td>Laryngoscope handle</td>
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</tr>
<tr>
<td>Laryngoscope Macintosh blades (adult)</td>
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<td></td>
</tr>
<tr>
<td>Laryngoscope Macintosh blades (paediatric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV infusor bag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magills Forceps (adult)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magills Forceps (paediatric)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylet for Intubation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spare bulbs and batteries for laryngoscope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endotracheal tubes cuffed (# 5.5 to 9)</td>
<td></td>
<td></td>
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<tr>
<td>Endotracheal tubes uncuffed (# 3.0 to 5.0)</td>
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<tr>
<td>Chest tubes insertion equipment</td>
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<tr>
<td>Cricothyroidectomy</td>
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</tbody>
</table>
This list was compiled from the following WHO resources:

WHO training manual: Surgical Care at the District Hospital
WHO Emergency Relief Items, Compendium of Basic Specifications*
WHO/UNFPA Essential drugs and other commodities for reproductive health services.
WHO Essential Trauma Care Guidelines
* For specifications refer to this book

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