WHO Workshop on Essential Surgical Skills with emphasis on Emergency Maternal & Child Health (ESSEMCH) in collaboration with Ministry of Health, Pakistan for Punjab & North West Frontier Provinces, and Federally Administered Tribal Areas

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WHO Office, Islamabad, Pakistan
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1. Executive summary

A WHO workshop on 'Essential Surgical Skills with Emphasis on Emergency Maternal and Child Health ' (ESSEMCH), in collaboration with the Ministry of Health (MoH), for training of facilitators representing Punjab and North West Frontier Provinces (NWFP), including Federally Administered Tribal Area (FATA) was held at WHO office in Islamabad, Pakistan.

Participants included policy makers, stakeholders, partners and health-care providers from the medical universities, teaching hospitals, paediatrics, paediatric surgery, obstetrics, surgery, anaesthesia, trauma, orthopaedic, and representatives from the MoH Communicable Disease Control and Maternal & Child Health departments (CDC and MCH) in the Directorate of Health Services Punjab, the Directorate of Health NWFP, Emergency Health Action (EHA) and Child Health Promotion of World Health Organization Pakistan, Child Advocacy International (CAI), and Advanced Life Support Group (ALSG).

WHO partners and stakeholders involved in reducing maternal and child mortality at primary healthcare level to meet the Millennium Development Goals (MDGs), were represented by Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), United Nations Children's Fund (UNICEF), Save the Children, British Council, Department for International Development (DIFID), United Nations Population Fund (UNFPA), United Nations High Commission for Refugees (UNHCR), United State Agency for International Development (USAID) Médecins Sans Frontières (MSF), Health Services Academy (HAS) Pakistan, CIDA Canadian High Commission, Japan International Cooperation Agency (JICA), International Society for Orthopaedics Surgery & Traumatology (SICOT), and Pakistan Women's Health Project.

Participants presented the situation analyses of the need for the training in basic emergency surgical interventions for life threatening injuries as a result of road accidents, falls, burns, pregnancy-related complications, domestic violence in women and children at various levels of care (teaching hospitals, district headquarter hospitals, tehsil headquarter hospitals or rural health centres, basic health units) in Punjab and NWF Provinces. The use of WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) E-learning tools were introduced to policy makers and health providers for incorporation into their education and training programmes in trauma care, obstetrics, paediatrics and anaesthesia for strengthening emergency surgical skills in maternal and child health. The integration of the WHO training project on EESC, into the EMCH training course materials developed by CAI added value, to strengthen capacities at primary healthcare facilities in achieving the MDGs.
The representative of director general of health services endorsed the best practice interventions on emergency surgical procedures and equipment introduced in this training programme and emphasized the need for such basic skills training in situations when it was not possible to refer, to a better equipped health facility. This basic skills training provided at each level would contribute to achieving MDGs in reducing maternal and child mortality.

Recommendations on the action plan were made by the participants. It was agreed that a minimum Essential Surgical Care Package is needed for primary healthcare facilities. Through the WHO facilitators training workshops there will be collaboration to integrate WHO standard best practice guidelines for improving the quality of emergency surgical interventions at tertiary, secondary and primary levels of care improving basic skills training of health personnel (non-specialist doctors, nurses, technicians and paramedical staff), in Punjab and North West Frontier provinces.

The ‘facilitators training’ workshop will be followed up after 6 months by the Multidisciplinary Working Group, which includes members from the MoH and the WHO office, Pakistan. The impact of the workshop will be evaluated for training activities, using WHO IMEESC tools, aimed at equipping healthcare providers at all levels of care, appropriate knowledge and skills to enable them to perform their work efficiently at primary health care facilities. This will ensure training towards the safe use of emergency and essential surgical procedures and equipment, particularly in life threatening conditions in women and children.
2. Background to the workshop:

A World Health Organization training workshop on ESSEMCH, in collaboration with the MoH, Pakistan was held to bring stakeholders, policy makers and health providers together, to improve essential surgical skills for life-threatening injuries as a result of trauma, pregnancy-related complications and infections at primary health care facilities.

2.1 Planning meeting

A year prior to this workshop for facilitators, partners and stakeholders, visits were made by WHO, Geneva for discussions with the office of the WHO Representative of Pakistan, and focal points in the Ministry of Health on the WHO project on emergency and essential surgical care at resource limited healthcare facilities.

The meeting deliberations resulted in:

- adoption of multidisciplinary approach for training of health personnel to improve emergency surgical care at district, tehsil, rural hospitals and basic health units.
- a project proposal approved by MoH, to improve emergency surgical care with emphasis on emergency maternal and child health
- incorporation of WHO training tools into trauma, maternal and child health training programs in collaboration with international organizations
- identification of 3 districts (Charsada, Swat, Bahawalpur) in 2 provinces (Punjab, NWFP) and FATA
- identification of participants (health providers, partners and stakeholders) for the WHO workshop to facilitate emergency and essential surgical care
- venue for the WHO workshop
- program agenda for the WHO workshop

2.2 Situation analysis of needs assessment of rural health facilities

Pakistan is comprised of 4 provinces (Punjab, Northwest Frontier, Balochistan, Sindh) and the Federally Administered Tribal Area. Each province is divided into 26 administrative divisions with 106 districts, tehsils and talukas. People living in large pockets of hard-to-reach and difficult areas in the country are especially vulnerable as existing health services are mainly concentrated in urban areas where less than one-third of Pakistan’s population lives and the rural health facilities which are inadequate in numbers are often poorly staffed and under equipped.

In Pakistan, rural communities do not have adequate access to emergency surgical care. A community survey of surgical emergencies for one year in a rural population (118 villages) in the Northern areas of Pakistan concluded that the incidence of acute abdominal, trauma and obstetrics emergencies far exceeded the rates of acute surgical intervention (editorial British Medical Journal, 2004, vol. 328; 782). Mortality rates were correspondingly high. The few public hospitals that carry out complex surgery have to cope with a huge influx of poor and malnourished patients, in the late stages of disease. Such evidence points to a large unmet surgical need and ought to spur improvements in access to basic quality emergency surgical services.

3. Introduction to the workshop and the need for an integrated training to meet the MDGs

The inaugural session, chaired by Dr Najib Ullah Mujadaddi, WHO Medical officer in Emergency Preparedness, started with a prayer and introductions of the participants. Dr Meena Nathan Cherian, WHO/Essential Health Technologies, introduced the Clinical Procedures unit, which is responsible for provision of guidance and support to
implementation, for safe, efficient and appropriate essential surgical care at first-referral level health facilities and for assuring the ethics, safety and quality of cell, tissue and organ transplantation.

Dr John Bridson explained the role of CAI/ALSG in the development of the Emergency Maternal and Child Health (EMCH) training course adapted for Pakistan. CAI/ALSG has developed a structured life support hands-on skills training course on emergency maternal and child health, which has been adapted for Pakistan and awards accreditation. Dr Assad Hafeez, WHO Pakistan presented the vision for integration of the WHO guidelines on emergency and essential surgical care training tools with the EMCH course materials, which added value to strengthen capacities at district, tehsil, rural, basic health units, including at community level, towards achieving the MDGs.

Dr Zahid Larik, Director of the Primary Health Care program (MoH) endorsed the comments made by various speakers and emphasized the need for essential surgical skills training to manage trauma and pregnancy-related complications provided at each level, which would contribute to reduce maternal and child morbidity and mortality.

As a result of a shortage of health care specialists (surgeons, obstetricians, paediatrician anaesthesiologists) in rural areas, inadequate facilities and inadequately trained staff at some district, tehsil/rural and basic healthcare facilities, the non-availability of emergency surgical interventions is a major concern.

There is a need for:

- training which should address patient safety issues, basic skills, monitor surgery outcomes and decisions on referrals to reduce death and disability in acute surgical conditions, trauma and pregnancy-related complications.
- appropriate facilities at district, tehsil and basic health unit level with minimum basic essential emergency equipment;
- reinforcement of basic emergency and surgical skills of health personnel working at first referral level healthcare facilities, and
- good national strategies for motivation and retention of these health personnel at first referral healthcare facilities.

4. Objectives:

The overall objective was capacity building to improve the quality of emergency and essential surgical care with emphasis on emergency maternal and child health at resource-limited healthcare facilities in Pakistan.

Specific objectives:

- Training in the use of WHO 'Integrated Management on Emergency and Essential Surgical Care' (IMEESC) e-learning tool for education and existing training programs in obstetrics, trauma, anaesthesia and HIV prevention.
- Integration of WHO training tools adapted to local needs for training of health personnel in the management of road traffic accidents, burns, falls, pregnancy-related complications, domestic violence and infections.

5. Target audience

There were 57 participants representing policy makers, Federal Ministry of Health Directorate of Health Services Punjab and NWFP, health providers (directors, nursing in charge, doctors from various disciplines paediatrics, paediatric surgery, obstetrics, surgery, anaesthesia, trauma, orthopaedic departments in medical universities, teaching hospitals and 7 officers from WHO departments. The workshop included WHO partners and stakeholders representing CAI/ALSG, GTZ, UNICEF, Save the Children, British Council, DIFID,
6. Training workshop methodology

The technical session was chaired by Professor Mumtaz Hassan, (Chief of Paediatrics at Pakistan Institute of Medical Sciences, Islamabad) and co-chaired by Professor Aslam (Department of Obstetrics, Lahore General Hospital, Lahore) and Dr Aqeel Safdar (Head of Paediatric Surgery, Military Hospital, Rawalpindi). Dr John Bridson explained the development process and the role of various collaborators for the ESSEMCH course. The teaching methodology adopted in this structured life support course accredited by ALSG includes scenarios, lectures, hands-on skill stations, small group discussions. Although this methodology was adopted, the course content was developed according to local requirements, by the local experts.

6.1 Presentations on situation analysis of emergency care in Punjab and NFWP health care facilities

The situation analysis was presented to identify the need for life-saving surgical interventions, in particular for women and children, towards achieving MDGs, by experts representing various medical disciplines (surgery, obstetrics, paediatrics, orthopaedic, anaesthesia) and clinical settings (district headquarter hospitals, teaching hospitals) of Punjab and North West Frontier provinces.

Dr Irfan (consultant paediatric surgeon) presented the emergency surgical care in state hospitals in Gujranwala district and other areas of Punjab, highlighting the deficiencies in basic emergency equipment (such as gloves and oxygen) and management skills in paediatric and obstetrics cases. Prof Raza Balouch (paediatrician) presented the paediatric care at state hospitals in Lahore, Faisalabad and other areas of Pakistan, where a large proportion of emergency care is still being provided by private sector, which is not accessible to the poor, in particular women and children. Dr Shamsa Zafar (obstetrician) explained the three delays (decision to seek care; transportation; and receiving appropriate care at the health care facility), contributing to maternal mortality and emphasised the role of emergency skills for prevention of death and disability particularly in pregnant women. Prof Awais Ahmed described the trauma care and tele-diagnostic medicine being extended in a
teaching hospital and a proposed tool for data collection developed in collaboration with SICOT, Belgium in the teaching hospital for follow up of the patients. Trauma care is available in only a few medical colleges and data collection was developed at some hospitals for the follow up of the patients.

Dr Aqeel Safdar (paediatric surgeon) presented the national burden of injury-related morbidity and mortality in Pakistan, where road traffic injuries are common and children belonging to poorer communities are mostly affected. Besides road traffic injuries, falls from heights is the second largest group, especially while flying kites, which accounted for 76% of children admitted to one hospital. Other causes of injuries in Pakistan include firecracker injuries, blasts, stray bullets during celebrations with gunfire, kite-string injuries, drowning, injuries from unsupervised use of agricultural and industrial machinery. The burden of death and disability is due to lack of focus on emergency care at primary level.

6.2 WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) e-learning tool

Several good training courses on obstetrics, trauma, paediatrics, surgery, anesthesia, disaster management and nursing, exist in Pakistan, which have common cross-cutting best practice guidelines on resuscitation, prevention of HIV, oxygen, and hygiene. The participants were introduced to the use of IMEESC e-learning tool, for reference and for incorporation of standard WHO recommendations on the cross-cutting issues into their education programs for quality essential surgical care at resource-limited health care facilities. The contents of this tool are aimed at policy makers and health care providers to facilitate implementation of guidelines on policies, training curriculum, essential emergency equipment list, anaesthetic infrastructure and supplies at various levels of health care facilities. It also includes training and teaching materials such as the WHO manual *Surgical Care District Hospital*, videos, teaching slides, evaluation of self learning, best practice protocols for clinical procedures safety, and in disaster situations, needs assessment, model agenda, participant's evaluation and sample of a brief report of training workshop.

6.3 Round Table Discussions

This workshop brought together policy makers, various health experts and international organizations to support and collaborate with WHO and MoH, to strengthen emergency surgical intervention skills with emphasis on maternal and child health towards achieving the MDGs. The following issues were discussed:

- Sustainability of the trainings should be ensured by involving multiple partners.
- The quality of trainings must not be allowed to deteriorate and accreditation (such as ALSG/CAI) should be maintained to assure this.
The course material and teaching should be as structured as possible to ensure uniformity of the trainings.

- Private sector should also be included in the program.
- The program must not be a vertical activity; it should be incorporated into existing or planned interventions, with a horizontal approach.
- Evaluation tools must be developed and utilised to understand short-term and long-term impact of the trainings.
- A few of the participants expressed their reservations on involvement of state machinery in the process which could put bureaucratic restraints on the implementation. Involving non-governmental sector appropriately was suggested.
- Involvement of provincial focal persons on maternal and child health was stressed.
- The selection of faculty must be done very carefully to include motivated and academic professionals only.
- The non-provision of per diems to the participants has proved very successful. This ensures that only those participants who actually attend to emergencies and would be able to utilise the skills in saving lives, attend the training course. This trend should also be utilised by other agencies.
- Advocacy, to include the trainings in the upcoming national maternal newborn and child health programs, was emphasised. It was brought to the notice of the audience that the information on training it has already been shared with the concerned agencies and departments.
- A one-day Urdu version of training targeting community health workers as birth attendants, ambulance drivers, paramedics and others, should be pilot tested to complement the ongoing 5 days trainings in the district hospitals.

### 7. Recommendations

The workshop resulted in the following recommendations:

- The trainings of health personnel should be extended as a national program by the Ministry of Health with the support of World Health Organization, in collaboration with local and international partners (e.g. Child Advocacy International).
- ESSEMCH training package should have a national scope and should be incorporated in the upcoming national maternal and child health programs.
- The accreditation to maintain quality must be continued.
- Private sector should be included following the establishment of the program.
- ESSEMCH should become part of the 'District Health Package' in which essential equipment, medical supplies others are also taken care of by the local government.
- WHO, in collaboration with MoH, will develop an 'Essential package for district hospitals' to:
- Support implementation of policies, guidelines and plans to link the emergency and essential surgical care projects with disaster planning, HIV, trauma, maternal and child health projects.
- Support WHO training materials adapted to the needs of Pakistan to facilitate their wider use.

Facilitate dissemination of recommendations of the WHO workshop report and WHO training tools to sensitize and support policy makers, health providers, scientific societies, in the:
- development of national policies and guidelines on emergency surgical care to reach the district, tehsil, rural and basic health unit facilities.
- integration of emergency and essential surgical care interventions into education and training programs in medical and nursing schools, districts, tehsil and basic health units.

The role of partnership is essential in supporting national initiatives to promote essential emergency and surgical care through training and education of health personnel in the reduction of maternal and child mortality, by:
- Implementation of best practice guidelines for emergency and surgical interventions in life-threatening injuries and pregnancy-related complications
- Prevention of HIV transmission and other infectious agents during clinical surgical procedures through training in the use of universal precautions, intravenous fluids, surgical and anaesthetic techniques to reduce blood loss, early assessment of anaemia to avoid unnecessary blood transfusions, particularly in district, tehsil hospitals which lack access to safe blood.

8. Evaluation and Follow up

The 'facilitators training' workshop will be followed up after 6 months by the Multidisciplinary Working Group, which includes members from the MoH and the WHO office, Pakistan, to evaluate the impact of the workshop, for training activities of health personnel at all levels of care, using the WHO IMEESC tool, towards the safe use of emergency and essential surgical procedures and equipment, particularly at resource-limited healthcare facilities.

9. Conclusion

In the closing session, the WHO representative Dr Khalif Bile, emphasized the need for training in basic skills to manage trauma and pregnancy-related complications, as the incidence of road traffic injury, post-operative complications and burns in children, was rising in Pakistan. Considering the difficulties in accessing quality emergency surgical care at resource-limited healthcare facilities, the participants reiterated that such ESSEMCH training has enormous potential to fulfil the training needs of health providers to reduce maternal and child mortality. At the end, Dr Mujadadi thanked the participants and emphasised the role of WHO as a partner in the development of indigenous programs in member countries, for achieving MDGs through capacity building.
10. Acknowledgements to collaborations and support

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International Society of Orthopaedics and Traumatology (SICOT)

11. Annexes
1. Annexe 1: Participants list
2. Annexe 2: Program Agenda
3. Annexe 3 Needs Assessment and Evaluation Form For Resource Limited Health Care Facility
### Annexe 1: List of Participants

**WHO workshop on Essential Surgical Skills with emphasis on Emergency Maternal & Child Health (ESSEMCH)**

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World Health Organization,
National Institute of Health,
Islamabad.
WHO workshop on Essential Surgical Skills with emphasis on Essential Maternal Child Health (ESSEMCH)
11 April 2005, WHO Office, Islamabad, Pakistan

1. **Inauguration session**
   - Opening remarks (MoH)
   - Introduction to WHO/EHT/CPR project (WHO)
   - Integration of WHO IMEESC tools with EMCH, vision and plans (CAI)
   - Concluding remarks (Chief guest)

2. **Situation Analysis & assessment needs in Pakistan on emergency care at first referral level health facilities: (Focal points from health facilities)**

3. **EMCH program in Pakistan: Development & progress (ESSEMCH coordinator)**

4. **Introduction to the WHO training tools on “Essential Emergency and Essential Surgical Procedures” at resource limited healthcare facilities” (WHO, Geneva)**

5. **Roundtable discussions & presentations integration of WHO EES tools with existing EMCH**
   - Using the WHO IMPEESC tool in first referral level health facilities, medical and nursing education and training programmes.
   - Collaborative approach & integration to emergency procedures in trauma, obstetrics, anaesthesia, infection control (HIV), patient safety at first referral level health facilities linking training materials from other WHO departments.
   - Evaluation forms for assessment of quality of care at first referral level health facilities.

6. **Conclusion & recommendations**
   (concluding remarks by WR Pakistan)
Annexe 3  
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

________________________________________________________
________________________________________________________

Country

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

(a) Infrastructure

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there an area or room designated for emergency care?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there running water?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- If yes: Interrupted / Uninterrupted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there an electricity source?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- If yes: Interrupted / Uninterrupted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Equipment

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is a list of essential emergency care equipment available?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is following available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Oxygen Cylinder: Interrupted /Uninterrupted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Oxygen Concentrator: Interrupted /Uninterrupted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Equipment for oxygen administration available (tubes, masks)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Essential Emergency (EE) Equipment</th>
<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>
<td></td>
</tr>
<tr>
<td>Is there access to repair if equipment fails?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there access to repair within the health care facility?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there access to repair outside the health care facility?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- If yes, how far (in km): 1-25 / 26-50 / 51-200 / &gt;200 (please circle one)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there an agreement for the maintenance of the equipment with the supplier?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do the health care staff in the emergency room get</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes, in some procedures</th>
<th>Yes, in all procedures</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the best practice protocols for management of essential emergency procedures available?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Are the protocols for safe appropriate use of equipment in essential emergency procedures available?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the information, education and training materials on emergency procedures and equipment available in the emergency room for health care staff use?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Are there introductions of any new procedures/interventions? (please specify)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

- Has referral to other health facility decreased because of skills and knowledge of procedures and intervention?

- Are records maintained?

6. Policy

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a policy to promote training for health care staff in the essential emergency management of trauma, obstetric care and anaesthesia?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there a policy to update the protocols for the emergency management of trauma and obstetric care adapted to local needs?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Are there any guidelines on donation, procurement, and maintenance of all EE equipment?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is there a list of extra health personnel to be contacted in disaster situations?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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
WHO Generic Essential Emergency Equipment List

This checklist of essential emergency equipment for resuscitation describes minimum requirements for essential emergency surgical care at the first referral health facility (small or rural hospital/health centre)

<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>
</tr>
<tr>
<td>Scissors straight 12 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scissors blunt 14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (adult size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharyngeal airway (paediatric size)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forcep Kocher no teeth 12-14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forcep, artery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney dish stainless steel appx. 26x14 cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourniquet</td>
<td></td>
<td></td>
</tr>
<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>
</tr>
<tr>
<td>Vaginal speculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bucket, plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drum for compresses with lateral clips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examination table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash basin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Renewable Items</th>
<th></th>
<th></th>
</tr>
</thead>
<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>
</tr>
<tr>
<td>Intravenous cannula # 18, 22, 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scalp vein infusion set # 21, 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syringes 2ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syringes 10 ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposable needles # 25, 21, 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps disposal container</td>
<td></td>
<td></td>
</tr>
<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>
<td></td>
<td></td>
</tr>
<tr>
<td>Adhesive Tape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needles, cutting and round bodied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suture synthetic absorbable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Splints for arm, leg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Urinary catheter Foleys disposable #12, 14, 18 with bag
Absorbent cotton wool
Sheeting, plastic PVC clear 90 x 180 cm
Gloves (sterile) sizes 6 to 8
Gloves (examination) sizes small, medium, large
Face masks
Eye protection
Apron, utility plastic reusable
Soap
Inventory list of equipment and supplies
Best practice guidelines for emergency care

Supplementary equipment for use by skilled health professionals
Laryngoscope handle
Laryngoscope Macintosh blades (adult)
Laryngoscope Macintosh blades (paediatric)
IV infusor bag
Magills Forceps (adult)
Magills Forceps (paediatric)
Stylet for Intubation
Spare bulbs and batteries for laryngoscope
Endotrachael tubes cuffed (# 5.5 to 9)
Endotrachael tubes uncuffed (# 3.0 to 5.0)
Chest tubes insertion equipment
Cricothyroidectomy

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