

POLICY FOR SURGICAL CARE

MSF OCB

Contents

Introduction	2
Why MSF should do surgery?	2
MSF terminology	3
Key principles in surgical care	5
Categories of surgical care	7
Four approaches of surgical care	7
Comprehensive perioperative care	11
Four levels of surgical care	12
Pre-requisites to perform surgical care within MSF-OCB	13
Limits of surgical care activities in MSF-OCB	15
Ethical points	16
Annexe 1: Type of surgical procedure	17
Annexe 2: Levels of surgical care	18

I. INTRODUCTION

Surgical care in this policy is understood as the provision of quality surgery and anaesthesia. The provision of surgery includes: general surgery, obstetrics / gynaecology, orthopaedic, specialized surgery, and others.

Surgery and anaesthesia practised in MSF projects, whether oriented towards emergency aid or meeting health goals in more stable settings, are limited by the constraints of the context. Good quality and safety in Surgery and Anaesthesia for the majority of diseases amenable to surgical treatment can be achieved in the contexts where MSF is working, without putting unrealistic demands on the system. However, minimum conditions are necessary to achieve and maintain these standards.

Furthermore, our activities should be carefully monitored, and objectively analysed (with respect to best practice, adapted to the context) to identify areas for further improvement.

MSF-OCB, conducts several kinds of medical activities and a large range is likewise found within the surgical domain. For practical reasons, we can define four levels of surgical activities, depending mainly on the health structure we are working in, the surgical caseload and the range of surgical procedures performed.

The purpose of this policy is to address this diversity of contexts by providing clear direction regarding the way we perform Surgery and Anaesthesia, in order to achieve the best possible standards of quality and safety. Adherence to the standards set out in this policy is a priority for MSF personnel in a surgical programme.

II. WHY MSF SHOULD DO SURGERY?

Among its objectives, MSF seeks to provide medical care to vulnerable populations, either in:

- Default interventions: within classical emergency interventions, reacting to a break in equilibrium (war, epidemics, natural catastrophe).
- Choice interventions: where the aim is to break an existing unacceptable equilibrium (endemics, exclusion, under-served populations).

Patient with surgical needs are present in these contexts; hence provision of surgical activity supports the organisational values of MSF.

Surgery & Anaesthesia are an integral part of medical care, with evidenced-based overall benefits for the patient in MSF projects. Surgical care may be a logical extension of health projects; e.g., in a woman's health programme, surgical care, in particular Caesarean-section, should be an important objective. The ability to provide surgical care implies assured access to quality surgical and anaesthetic facilities.

III. MSF TERMINOLOGY

In order to facilitate communication and understanding, in MSF-OCB, it is important to clearly define a common vocabulary. Because of the particulars of the contexts in which we work, MSF terminology may differ slightly from that in general use.

- **Anaesthesia¹**: all the actions needed to assure the patient's safety and comfort during a stressful intervention, surgical or otherwise. Often used in a broad sense. For the purpose of this document, the word "Anaesthesia" should be read as the pre-, intra- and post-operative anaesthetic activities that enable surgical activity, and will exclude emergency care, intensive care and pain therapy.
 - **Anaesthesia practitioner**: the person who practises de facto anaesthesia, with or without appropriate formal² qualification or training.
 - **Anaesthesiologist**: medical doctor specialized in anaesthesiology after formal training and accreditation.
 - **Medical Doctor with anaesthesia skills**: medical doctor who practices de facto basic anaesthesia, without completing a full formal specialty (in anaesthesiology), training and accreditation.
 - **Nurse-Anaesthetist**: nurse, specialized in anaesthesia after formal training and accreditation.
 - **Nurse practising anaesthesia**: nurse who practises de facto anaesthesia, without appropriate formal qualification or training.
 - **Medical Doctor practising anaesthesia**: medical doctor who practises de facto anaesthesia, without appropriate formal qualification or training.

- **Surgery**: is the medical specialty that treats diseases or injuries by operative manual and instrumental treatment.
 - **Surgery practitioner**: the person who practises de facto surgery, irrespective of appropriate qualification or training.
 - **Surgeon**: medical doctor specialized in surgery after formal training and accreditation. This also defines gynaeco-obstetricians, paediatric surgeons, orthopaedic surgeons, plastic surgeons and other surgical sub-specialties.
 - **Medical Doctor with surgical and/or obstetric skills**: medical doctor who practises de facto basic surgery, without completing a full formal specialty (in surgery), training and accreditation, but having had complementary training and experience in surgery after his medical studies. It is also a medical doctor who has completed his medical training in a programme, geared to developing countries, with an enriched surgery component, e.g. "tropical doctor", referring to a medical doctor having an additional 2 years training in surgery and medicine in developing countries.

- **Other members of the Operating team**:
 - **Surgical assistant (first assistant)**: is the individual helping the surgeon for surgical procedures. In MSF context, s/he can be a doctor or a nurse, with or without surgical skills.
 - **Scrub nurse (instrument assistant)**: the individual helping the surgeon / surgeon

¹ Anaesthesiology: speciality of medicine, dealing with anaesthesia (as described) plus intensive care, pain therapy and emergency care.

² Formal qualification means having a certificate or diploma.

- assistant by passing the instruments during the surgery; and s/he is required to be scrubbed in.
- **Circulating nurse:** the individual³ who remains in the Operating room (OR) throughout the surgery and provides required materials to the scrub nurse / surgeon, from the non-sterile environment to the sterile surgical environment.
 - **OD nurse:** in MSF context, is the common group name for nurses / paramedics functioning as scrub nurse, circulating nurse or surgeon assistant.
 - **OD Major or OD Head nurse:** in MSF context, the nurse who oversees the organization and functioning of the Operative department, often including Sterilization.
 - **Surgical Ward nurse:** nurse working in the surgical ward and having specific experience, training or qualification regarding pre- and post-operative care.
- **Operating department (OD):** is a specific structure, inside a hospital, where Surgical and Anaesthetic practices are performed and which is only accessible to patients requiring such care, occasional visitors and the staff engaged in providing it. The different areas follows the OD set-up of which MSF-OCB has three configurations⁴. This depends of the surgical workload and the availability of human and material resources:
 - **Configuration 1:** Preparation / recovery area, staff changing room, scrub area, operating room (with a place for storage of sterile material, surgical material, drugs and medical supplies).
 - **Configuration 2:** Preparation area, staff changing room, scrub area, operating room 1 and 2 (with a place for storage of sterile material, surgical material, drugs and medical supplies), recovery area, soiled utility room, lavatory⁵.
 - **Configuration 3:** Like Configuration 2 with a special area for storage of sterile material, surgical material, drugs and medical supplies, housekeeping store area, and office.
 - **Operating department components:**
 - **Preparation area:** where the patient is received, and checked (administratively and medically), before transfer to the OR for actual surgery. This is where the patient may be prepared for anaesthesia, but the actual induction takes place in the OR. In certain instances, this area may be combined with the recovery area. In exceptional cases, the patient could be prepared (washed / shaved) in this room, if circumstances have prevented this from taking place in the Emergency department or ward prior to arrival.
 - **Staff changing room:** where the surgical staff is allowed to change clothes. Depending of the configuration, a lavatory should be available.
 - **Scrub area:** where OD personnel scrub hands before gowning up for surgery.
 - **Operating room:** where surgery and anaesthesia take place. Depending of the configuration, it is important that it has cupboards for storage of sterile material, and for storage of material used by the surgeon and the anaesthetist.
 - **Recovery area:** provides, in the immediate post-operative period, care and monitoring of the patient in order to assure comfort and stable medical status.
 - **Soiled utility room:** where it is collected and stored soiled reusable medical devices and linen coming from the OR.
 - **Storage areas:** sufficient space for stock of sterile surgical sets and instruments, and of drugs, disposables, and other material.
 - **Housekeeping store area:** where it is stored the material and equipment used to

³ In some missions, it may be impossible to find skilled staff, and therefore this function might be carried out by less qualified staff.

⁴ Guideline for Planning and Design of Health Facilities - OCB, 2012: L043ZBB0001

⁵ Lavatory: a room with conveniences for washing and usually with one or more toilets.

- clean and disinfect the OD.
 - **Office:** room for administrative purposes and as a rest area in between interventions.
- **Type of surgical procedure:** Definitions and distinctions between major and minor procedures have evolved along with surgical practice itself, and continue to be surrounded with much confusion and ambiguity. Some people continue to use the word Minor and Major when discussing surgical procedures. It's important to be aware that despite different definitions, statistics regarding surgical and anaesthesia programmes must be collected according to the standardised MSF data collection system and terminology (*in Annexe 1*):
 - Minor surgery
 - Wound surgery
 - Visceral surgery
 - Orthopaedics
 - Gynaecology-obstetrics & urology
 - Specialized surgery

IV. KEY PRINCIPLES IN SURGICAL CARE

1. Privacy and respect for the patient are mandatory.
2. Surgery and Anaesthesia will not be performed without the consent of the patient or, if incapable, his representative.
3. Surgery and Anaesthesia should be seen as a component of medical services, allowing the patient to receive the most complete care.
4. Surgery is intrinsically linked to Anaesthesia and vice versa. Surgical activities cannot be performed without the presence of an anaesthesia service.
5. Surgery practitioners, as well as anaesthesia practitioners, should have a formal qualification and / or MSF headquarters validation. The same rule should apply for national staff⁶.
6. Both MSF Surgery and Anaesthesia arsenals (implies techniques, equipment and drugs) supporting surgical care, should be safe, simple and effective, allowing a low dependence on sophisticated technology, addressing lifesaving procedures as a minimum requirement, and being relevant for the main surgical pathologies found in our contexts and adapted to local constraints. The used arsenal should take into consideration as much as possible the knowledge and skills of local staff and the availability of drugs and material in the project in order to assure sustainability of services after MSF ceases its intervention.
7. Before starting surgery and anaesthesia activities, a number of requirements should be assured. The description of these requirements is further detailed.
8. Surgery and Anaesthesia encompasses pre-, intra-, and post-operative care. Pre- and post-operative cares are as essential as the surgical and anaesthesia interventions themselves.
9. Based on the needs of the population and operational decisions, we can define different

⁶ In MSF settings there is always a need to be flexible, and it might be possible to have someone performing surgery or anaesthesia without formal qualification, but this should be validated by the respective referent of the headquarters.

levels of surgical care. Each level has its proper scope of surgery and anaesthesia possibilities, human resources needs, drugs, material and equipment, as well as infrastructure standards.

10. Routine is essential for a well-functioning OD service. In the context where only lifesaving surgery is being performed, in time periods with low surgical activities, essential surgery should be considered in order to maintain acceptable skill levels among the OD staff.
11. Emergency Preparedness is essential in MSF activities, in order to respond to any catastrophe, regardless of its extent (e.g. traffic accident, multiple casualty incident, etc.) to keep ensuring the following:
 - Maintenance of skills by assuring routine surgery.
 - Permanent availability of a minimum number of instruments sets, materials / disposables and drugs for the most prevalent emergency procedures.
 - Well-functioning sterilization department.
 - Regular review and updating of the Multiple / Mass Casualty Plan for large influx of patients.
12. Quality Control. Assurance of quality and efficacy of the surgical and anaesthetic activities of MSF should be respected in every project. Protocols and recommendations of the MSF International Working Groups should be implemented in the field. Surgery and anaesthesia practitioners should comply with the proposed tools for quality assessment in order to facilitate transparency and analysis of our activities. Important are:
 - Appropriate recordkeeping in patient file, anaesthesia and surgical records.
 - Application of MSF guidelines and protocols.
 - MSF international surgery and anaesthesia data collection system.
 - Proper use, documentation and archiving of these tools.
13. Collaboration between surgeon and anaesthesia practitioners. A particularly important and complicated issue are the respective authorities and responsibilities of either surgeon (or medical doctor) or anaesthesiologist (or nurse-anaesthetist). Resulting conflicts are not in the best interest of either the patient or the surgical team. These “relational” problems should be discussed between the surgery and anaesthesia practitioners with respect for each other’s competences and limitations. In order to address medico-legal responsibility. The following scheme is suggested:
 - The surgery practitioner is responsible for the indication and selection of the surgical technique with the best match between effectiveness and safety, taking anaesthetic considerations into account.
 - If an anaesthesia practitioner is involved, s/he takes full responsibility for the anaesthesia, including the selection and proper execution of the anaesthetic technique, taking surgical considerations into account.
14. Training and updating courses for local staff should be promoted as much as possible but it is important to stress that “*ad hoc*”⁷ training of anaesthesia and surgery is prohibited. It can easily give a dangerous and false sense of security, and result in medical misadventures.

⁷ “Ad hoc” meaning: occasional explanations, given to local staff on surgical / anaesthesia techniques, without a proper training schedule and subsequent evaluation.

V. CATEGORIES OF SURGICAL CARE

It is common to divide surgical care in two categories: emergent (lifesaving) and elective surgery. This classification might hide the need of elective surgery in patients in need of procedures with important impact on health status. Accordingly, 3 categories are used within the MSF context, based on the urgency of surgical care, and importance of the surgical pathology.

- **Lifesaving surgical care:** generally performed for an acute surgical state in which the patient's life / vital organ / limb is at stake and which needs to be done as soon as possible, usually within a few hours. In this situation, the benefit of performing the surgical intervention outweighs the risk and justifies proceeding with the surgery.
- **Essential surgical care:** addresses a condition amenable to a proven surgical treatment which may not affect health / life immediately, but considerably impairs the quality of life and / or may present a serious health threat in the future (e.g. obstetric fistulas, bladder stones, some major hernias, delayed surgery of war wounded, open and closed fractures, skin grafting, etc.). This surgery, with evidence based chances of success, has to take into account the real context of that specific MSF project and can be delayed and scheduled, till the conditions necessary to assure a successful outcome are met. Indeed, some of these procedures require specific perioperative conditions (e.g. medical stabilization, expert practitioners, specific material or equipment, specific budget, etc.), and accordingly, may be pooled until appropriate personnel and resources can be mobilised. This is why essential surgery is considered as planned (scheduled) surgery. Essential surgery is never the first priority, and should always be considered after lifesaving surgery.

Failing to Plan = Planning to Fail

- **Non-Essential surgical care:** is subject to choice. Such procedures are rarely compatible with MSF-OCB health objectives, and are not considered priorities in surgical programmes. This is as well a planned (scheduled) surgery. These are procedures which may be helpful, but are not necessarily essential. It may be either medically required (e.g. cataract surgery, foot drop, congenital pathologies, etc.), or optional (e.g. breast augmentation, implant, etc.) surgery. However within MSF, there are exceptions in which non-essential surgery is necessary to be performed to elevate the quality of life physically or improve psychologically. MSF may in some instances choose to perform non-essential surgery such as plastic / reconstructive surgery depending on the context.

VI. FOUR APPROACHES OF SURGICAL CARE

Surgical care is usually performed under the following approaches:

1. Surgical care in an emergency response

MSF is a key humanitarian actor for health issues related to violence and catastrophe, especially when the secondary level of care is low and incomplete. In such a situation, MSF should offer assistance to the direct victims of violence or catastrophe, and as well for the indirect victims, who are suffering from the lack of access (e.g. geographic, safety, transportation, etc.) to surgical care (e.g. Caesarean section, acute surgical abdomen, etc.).

Triage is an intrinsic and essential part of an emergent surgical programme which implies, besides prioritisation of surgical interventions, that not all cases should or could be dealt with. Indeed certain cases / pathologies may be considered futile, unnecessary, too risky or impossible to being taken care of.

The first priority to be offered by MSF in such a situation will be lifesaving surgical care and stabilization of traumatology including emergent surgery of wounds and burns. Because the emergency of the situation, this surgery should occur even if the surgical facility is not yet fully operational at capacity or functioning according to the best MSF standards, especially when starting the activities.

After the initial phase, where initial emergency and urgent surgery have been dealt with, resultant pathologies will remain either follow-up care or cases which were withheld in the triage process. Essential and specialized surgery of these wounds and burns (specifically orthopaedic care, skin grafting, rehabilitation, etc.) are usually the main surgical pathology related to these extreme events. Such cases should in principle not be dealt with until the surgical programme is fully operational. Actually, it implies that they should be already foreseen and organised from the starting point of designing such an emergency surgical programme but they need classically to be scheduled in time as they require specific conditions:

- Ability to handle a higher case load without compromising its emergency function. It will be introduced only when surgical care is already well functioning and ready to increase in capacity and technical level.
- Functioning with the MSF minimal pre-requisites for surgical care (including availability of drugs, equipment and sterilisation).
- Ability to introduce specific and more technical surgical and anaesthesia procedures.

Remember that if the basics conditions are not functioning well for lifesaving activities, they will not function better when you increase the workload, the sophistication and the technical level.

In the meantime, these cases and pathologies should then either be referred to other well-functioning medical structures or be postponed until the hospital is fully operational according to what was explained above.

At the end of the emergency situation, the surgical programme can be continued as surgical care in stable context or can be ended by MSF. In the latter case, attention must be paid in order to assure appropriate follow-up for the remaining patients.

2. Surgical care in stable context (non-emergency response)

Here, surgery and anaesthesia should be seen as a functional part of a global medical programme incorporating a referral system (either internal or external). The main objective is to assure that patients receive the most complete medical care.

It will be mainly found in the following situations:

- Surgical care as a part of a focused health project. The surgical activity is done to achieve the best possible result. E.g. availability of Caesarean section to reduce maternal mortality.
- Surgical care as an integral part of a hospital structure, which provides secondary health care in a broad range of medical activities.
- Surgical care as a support of a network of primary care activities.

Before starting, prior assessment of the impact of the programme should be done taking into

account important issues as the prevalence of the health care problem that is focused, accessibility and possibilities for referral and counter referral of the patients in order to assure adequate follow-up.

An important point is to assure that other needs for lifesaving surgery (other than the problem where the specific programme is intended for), are covered as well (not necessarily by MSF). E.g. in a maternal mortality reduction programme, MSF may take care of the Caesarean section but a case of an acute surgical abdomen should be taken care off by another health care partner.

3. Surgical care with training component

In OCB surgical programmes it is possible to consider the following training methods:

- ***Basic and refresher training***

MSF is working with local staff in all our medical structures. Ongoing training and updating of this staff should therefore be considered essential for assuring appropriate quality and effectiveness of our surgical and anaesthesia activities.

The objectives of this training are rather simple and imply:

- All local staff, having basic tasks in surgical wards and OD should be familiarized with MSF principles, standards, tools and guidelines. This ongoing training can be offered, throughout the year, by a permanent expatriate presence, especially in the beginning of a project.
- For posts with specialized functions (like anaesthesia practitioners, doctors with surgical skills, etc.), regular visits by an experienced person in that concerned domain to check and give refresher training may be indicated.

This basic and refresher training should be clearly distinguished from specialty training of nurses or medical doctors not having qualifications to perform anaesthesia or surgery. It can easily give a dangerous false sense of security, and result in medical misadventures

- ***Specialized training***

In some programmes, at the beginning we employ qualified expatriate surgery and anaesthesia practitioners for substitution. However, the ultimate goal is to be able to replace them by building capacities in the local staff. We should not make the mistake to believe that anaesthesia or surgery can be assured by local nurses or local general doctors, without having received qualified specialty training, even if they have been practising under supervision of qualified surgeons and anaesthesia practitioners.

The training programme by itself should provide services to the hospital, being part of the service in the concerned domain. The training programme should follow principles and rules of MSF.

The following specific training programmes may be considered:

- Training in surgery for medical doctors, to improve their surgical capacities.
- Training in obstetric surgery for medical doctors to improve their emergency obstetric response.
- Training in basic orthopaedics to medical doctors to improve their basic management in fractures.
- Training in anaesthesia for nurse-anaesthetists to improve their medical knowledge and anaesthesia skills.

Under no condition MSF will endeavour in post graduate speciality training in anaesthesia and

surgery⁸.

Specific training programmes may be considered under the following circumstances:

- In stable contexts to strengthen surgical and anaesthesia care capacity.
- When there is no local training structure in the concerned field.
- To promote expertise of MSF staff, by giving specific training on certain skills.

The needed pre-requisites for a specialized training programme are the following:

- Should be undertaken after a thorough consultancy assessment, who should take into account the local context and selection of adequate candidates.
- There should be specific and clear objectives.
- Clear Terms of References should be given.
- The Ministry of Health and other relevant authorities should have a strong commitment and agreement of the training project and be willing to certify the training programme after due evaluation.
- There is an identified trainer who is a validated specialist dedicated towards training and ideally is prepared to complete a full training cycle.
- The candidate trainee should:
 - Possess a certified qualification.
 - Be selected on the basis of best potential to complete successful training and probability to stay in the region where they are trained for.
 - Have passed a transparent and objective selection process.
- A structured training (comprehensive theoretical and practical training), should follow the existing national guideline, with a pre-training evaluation, appropriate training tools (e.g. contents of the courses, syllabuses, didactic material, etc.) and continuous and transparent evaluation of the candidate.

4. Surgical care for specialised surgery

Specialized surgery, in a MSF context, is usually essential surgery, addressing a serious medical problem in a project but requiring specific knowledge and facilities not readily available in ordinary MSF surgical missions. E.g. obstetric fistula repair, orthopaedic surgery, burns, etc.

It will not only require specific expertise by specialist surgeons (orthopaedic, paediatric, ophthalmologist, obstetric fistula expert, etc.) and anaesthetists (anaesthesiologist, paediatric anaesthetist, etc.) but specific drugs, disposables and equipment; and possibly, dedicated post-operative convalescent and rehabilitative resources, as well.

In every mission, the kind and scope must be defined; one mission could differ from another, according to the needs of the population and the operational goals.

As it requires a more specialized level of surgical care, requiring advanced and appropriate planning, preparation, and organization (especially regarding specific human resources and perioperative skills), it should not be started before the minimal pre-requisites for surgical care are working well, with no major problems.

Some of these specialist surgeons may not be available within the MSF pool of specialists but will have to be recruited through collaboration with external organizations and associations. These partners should be willing to abide by MSF values, policies, guidelines and protocols.

Furthermore, it should be made clear that MSF has some limits, which will define its scope of

⁸ MSF health facilities performing surgical care could give opportunities for training of certain specialties in close coordination with academic institutions of the place where the project is located.

surgical activity, thus, MSF will not undertake to perform every kind of specialized surgery.

VII. COMPREHENSIVE PERIOPERATIVE SURGICAL CARE

Surgery and anaesthesia does not limit itself to the surgical and anaesthetic acts of the intervention itself, but encompasses the whole perioperative period defined by the pre-, intra- and post-operative periods. The surgery and anaesthesia practitioners have distinct tasks and responsibilities in this, but should closely collaborate with each other during this perioperative period.

1. Pre-operative care components:

- The surgery practitioner is responsible for evaluating the indication for the intervention and determining the surgical plan, taking into account feasibility and risks in the actual context and obtaining informed consent for the surgical procedure.
- The anaesthesia pre-operative visit is an essential part of quality in anaesthesia and surgery and is mandatory. It aims to examine the patient and to assess the risk of anaesthesia and surgery, to choose the most appropriate anaesthetic technique and to obtain informed consent.
- Stabilisation and optimisation of patient status and optional prescription of pre-medication is conducted by the anaesthesia practitioner.
- If needed, a discussion between the surgery and anaesthesia practitioners should take place, in order to define the best medical and surgical care, and possible postponement or cancellation of surgery.

2. Intra-operative care components:

- In Anaesthesia:
 - Assure safety as well as the comfort of the patient by preventing or treating pain and anxiety, and if needed by providing hypnosis and amnesia.
 - Assure the most appropriate anaesthesia techniques, taking into account the patient, the planned surgery, and the context.
 - Facilitate the surgical acts thus directly contributing to the quality of surgery.
 - Maintain body homeostasis, which implies that the patient's vital as well as non-vital functions are monitored, preserved or treated against the noxious effects provoked by surgery and anaesthesia.
- In Surgery:
 - Select the most appropriate surgical techniques.
 - Execute surgery with meticulous care in the best hygienic and aseptic environment.

3. Post-operative components:

- In Anaesthesia:
 - Assure the patient's safety, homeostasis and comfort, by preventing any pain, anxiety and nausea / vomiting; remains the most important responsibility in the post-operative period.
 - The anaesthesia practitioner takes the responsibility for the operated patient at least until the patient has regained stable and adequate autonomic control of his vital functions in such a way that normal supervision in the ward is possible. Usually, the patient stays in the recovery room.
 - The duration of the post-operative responsibility of the anaesthesia practitioner is an arbitrary defined period which classically extends up to 24 hours after the end of surgery but which is often subject to local arrangements.

- In Surgery:
 - Remain accessible in case of problems in the immediate post-operative period.
 - Surveillance of the patient and his wound.
 - Adapt the nutrition, according to the stage of recovery and clinical progress of the patient.
 - Start basic rehabilitation and adapt it towards the surgical pathology.

VIII. FOUR LEVELS OF SURGICAL CARE

Based on the needs of the population and MSF-OCB operational decisions, we can define four different levels of surgical care. Each level has its own scope of surgery and anaesthesia options, human resources, drugs, material and equipment requirements, as well as related infrastructure standards. Sometimes, these different levels run parallel with the complexity of an existing health structure in which we are working in. The identified levels of surgical care are the following (*in Annexe 2*):

- **Level 1:** Health Centre / Small hospital
- **Level 2:** District hospital
- **Level 3:** Provincial hospital / Referral hospital
- **Level 4:** Specialized hospital

By setting different levels of surgical care it makes possible to answer effectively to project demands due to the wide scope of surgical activities performed within OCB. By standardizing the means and needs of a project, it is also possible to know in advance the requirements for surgical activities when planning a project opening.

IX. PRE-REQUISITES TO PERFORM SURGICAL CARE WITHIN MSF-OCB

Surgical care is intrinsically linked to a minimum of pre-requisites that are essential to assure the basic standards of quality.

1. Adequate infrastructure:

The main point is not necessarily the kind of material used for the structure of the Operative department and the surgical ward. The most important essential conditions are protection from external environment (weather, dust, etc.) availability of water and appropriate lighting and electricity.

Several different possibilities for setting up an Operating department are available: from temporary and ready to use solutions (such as tents, inflatable tents, etc.), to semi-temporary solutions (such as modular containers, adapting a non-hospital structure), and finally permanent solutions (such as an existing hospital structure).

2. Water and Sanitation:

Adequate water and sanitation provisions, in quality and quantity, are essential in medical activities and especially for performing surgical activities. They allow performance of surgical procedures and the perioperative care under ideal conditions.

For information purposes, the average water requirements are approximately:

- 100 litres / intervention; in the Operating department.
- 40-60 litres / person / day; in the Inpatient department.

In the same time, waste management should be a priority as surgical activities produce a huge quantity of organic, liquid and dangerous waste.

And last but not least, management of dead bodies should be taken into consideration as well when starting surgical activities.

3. Supply of essential disposables, drugs and equipment:

All essential disposables, drugs and equipment should be available as standardized MSF equipment fully described in the MSF catalogues.

The needed drugs and disposables should be in place for anaesthesia and surgical procedures. This will be determined by the level of performed surgical care and the context.

The minimal equipment must be simple, safe, easy to understand and maintain. They should be available and functional in every Operating room that is being used.

4. Infection control:

Surgical and anaesthesia techniques are highly dependent on hygiene. Infection, cross-contamination are significant hazards for patients and personnel alike. Observation of the hygienic

rules and standard / universal precautions should be very strict with respect to surgical / anaesthesia material and equipment, and throughout the scope of surgical care.

5. Sterilization:

Surgical and anaesthesia techniques are highly dependent on sterilization. It is absolutely mandatory that sterile equipment is used for surgical and anaesthesia procedures. Accordingly, once a decision to implement surgery has been made, a sterilization service should be set up, which implies adequate equipment, adapted to the workload of the health structure and the surgical activity.

6. Blood transfusion capability:

Transfusion is an important aspect in surgical care and MSF should take greater responsibility in the management of transfusion during the perioperative care.

Transfusion therapy in MSF should be guided by the following principles:

- Transfusion of blood should be available in every hospital.
- Transfusion in contexts where MSF works should be restricted to lifesaving indications. In these cases all efforts should be done to avoid any delay in transfusion.
- Prevention of blood transfusion should receive maximal attention by following the following strategy:
 - Maximizing blood and iron stores (e.g. vitamin, Iron therapy, nutrition, etc.).
 - Decrease and prevention of blood loss: early treatment of causes of haemorrhage, meticulous surgical technique, appropriate anaesthetic technique, recuperation of blood loss (intra-operative blood salvage).
 - Adequate fluid therapy (normovolaemia).
 - Appropriate blood transfusion trigger. The indication for blood transfusion should be transparent and be motivated by evidence based rules.

7. Human Resources in quality and quantity:

- Surgery and anaesthesia practitioners:

The role and definition of the anaesthesia and surgeon practitioners have been defined earlier in this document. In this section, the differences in their scope will be highlighted:

- *Medical Doctor with surgical / obstetric skills:* should be reserved for the basic surgical care, where emergency obstetric care, simple life saving surgical procedures, minor traumatology, and stabilization (A-B-C-D) before referral are done. These are the only procedures which are expected to be performed. Also they are assigned in projects where low level of surgical activities is expected.
 - *Surgeon:* can be assigned in the following cases:
 - Increase in the level of surgical activities.
 - Increase in the scope and complexity of surgical procedures.
 - *Anaesthesiologist vs. Nurse-Anaesthetist:* The main differences are that anaesthesiologists are experienced dealing with perioperative complications, while nurse-anaesthetists don't have that experience. Anaesthesiologists can be also assigned to the Emergency department and Intensive Care unit.
- Operating department staff and Ward nursing staff:

- *In quantity*: Increased number of staff and increased levels of skills may be required, especially for post-operative care, according to the complexity of surgical care and the number of patients. This is a major factor to anticipate and fulfil when increasing the level of surgical care.
- *In quality*: MSF should be aware of and prepared to address the fact that most local staff will require additional or refresher training courses to upgrade their skills, and meet standards of good surgical care.

X. LIMITS OF SURGICAL CARE ACTIVITIES IN MSF-OCB

Up to now, in MSF contexts, the risks of some surgery outweigh the benefits for the patient. The underlying reasons are:

- The capacity to create an aseptic environment.
- The turnover rates of surgery and anaesthesia practitioners, difference in their skills, etc.
- Limited resources for appropriate pre-operative screening.
- Type of surgery is often too technically demanding relative to the availability of appropriate perioperative resources, post-operative care and aftercare in the context.
- Limited blood transfusion capabilities.
- Absent or limited possibilities for multidisciplinary treatment or follow-up.

In terms of surgical care, MSF-OCB refrains from the following:

- Essential procedures requiring a high and demanding technic (e.g. coeloscopy surgery, etc.).
- Any non-essential procedure but with exceptions.
- All non-emergency oncologic procedures.
- In cases that it is not possible to assure qualified surgical and anaesthesia management, high technical procedures should not be performed.

MSF-OCB doesn't want to introduce:

- Surgery of congenital malformations (e.g. maxillofacial, branchiogenic, spinal cord, urological, etc.) unless there is a high number of identified cases, and there is a real need to elevate the quality of life for a large number of patients.
- Specialized orthopaedic corrective surgery (e.g. correction of mal-union or old non-union, bone grafting, internal fixation, etc.) in non-specialized surgical projects.
- Neurosurgery, except trepanation for subdural haematoma or epidural hematoma where good post-operative care is not assured.

XI. ETHICAL POINTS

1. Exceptional circumstances

- Surgical practitioners in lower level health structures may consider undertaking lifesaving surgery (most commonly, emergency Caesarean section), even when all conditions cannot be met. The decision is based on the benefits outweighing the risks.
- The exceptional circumstances leading to such deviations from standards must be documented and reported to the medical-coordinator, on a case to case basis.
- Departures from standards should never become routine or common practice, or allowed to define a new scope of practice.

The exception should not become the rule.

2. Limits of our surgical action

- Very often, there is a great discrepancy between the way we practice medicine in a MSF mission and the way we would practice in our industrialised world. How can we decide what should or should not be treated? One of the answers is that we have to balance population needs (what are the main surgical pathologies in this population, having an impact on their mortality?) against individual needs, and take into account our limited resources. It becomes obvious, using this answer that we cannot help everyone and that some difficult choices need to be made.
- Another factor is the limitations of technology that is feasible in most of the contexts we are working in. Attempting to install advanced technology in a setting that cannot support it, could create unsafe conditions for the patient and ultimately, harm him. E.g. How could we introduce internal fixation when the hygienic environment is still not good? How can we start non-emergency oncologic surgery while there is no capacity for specific diagnostics and non-surgical treatment for the patient? How can we start surgery needing specific post-operative care?

ANNEXE 1: TYPE OF SURGICAL PROCEDURE

<p>Minor Surgery</p> <ul style="list-style-type: none"> • Simple wound treatment (suturing, cleaning, dressing), minor debridement, drainage of abscesses, circumcision, etc. • Insertion and removal of drain, puncture or drainage of cavity, chest drains, laparo- and pericardiocentesis. Dressings under sedation (except burn), etc.
<p>Wound surgery</p> <ul style="list-style-type: none"> • Burns dressings. • Extensive debridement, including fasciotomy, delayed closure, removal of sequestrs, amputation of digits or toes, etc. • Graft of skin or muscle • Foreign body removal
<p>Visceral surgery</p> <ul style="list-style-type: none"> • Hernia, hydrocele, haemorrhoids. Includes all interventions on external genitals and anus, except circumcision. • Exploratory laparotomies if no other surgical actions are performed (open, look & close). Includes 2nd look laparotomy with lavage. • Solid viscous: resection or repair. Spleen, liver, kidney (ex. splenectomy, liver repair, nephrectomy, etc.) • Gut: resection or repair. Intestine, stomach (perforation), colon, etc. Includes stoma and restoration of integrity or continuity, volvulus, appendectomy, etc. • Other general/visceral surgery. Removal of tumours, mammectomy, thyroidectomy, etc. Excludes minor surgery and pelvic tumour.
<p>Orthopaedics</p> <ul style="list-style-type: none"> • Reduction of fractures and dislocations, with our without plaster, (skin) traction. • Reduction with placement of external fixator. • Osteosynthesis or internal fixation. • Osteosynthesis out (removal). • Bone graft. • Curettage for osteomyelitis. • Orthopaedic joint surgery. • Orthopaedic for nerve pathologies, e.g. carpal tunnel syndrome • Amputation of a limb. Excludes amputation of fingers or toes. • Other orthopaedic surgery. Corrective procedures, etc.
<p>Gynaecology & Obstetrics + urology</p> <ul style="list-style-type: none"> • Caesarean section. • Extra uterine gravidity. • Obstetric fistula correction or relief (of vesico-vaginal, recto-vaginal, etc.). • Hysterectomy + variants, ovariectomy, removal of pelvic tumour (only if access to small pelvis). • Curettage: curettage post-delivery (placenta retention), abortion therapeutic, etc. • Urology: small pelvis. Prostatectomy, bladder stones. Excludes intervention on external genitals and kidney. • Other gyn/obs surgery. E.g. delivery in OR, craniotomy, ligature of tuba, repair of episiotomy or laceration of perineum but excludes mammectomy.
<p>Specialized surgery</p> <ul style="list-style-type: none"> • Neurosurgery. Implies open of cranial vault, excludes scalp injuries. • Vascular surgery: suturing, patching or anastomosis of major vessel. • Plastic and reconstructive, relief of contractures, etc. • Thoracotomy. Implies opening of thoracic cavity, excludes chest drain. • Ear-nose-throat. Includes tracheotomy. Excludes thyroidectomy. • Ophthalmology, maxillofacial. • Other forms of specialized surgery.

ANNEXE 2: LEVELS OF SURGICAL CARE

This table should be used as a canvas, and it is not an exhaustive list of items.

	Level 1	Level 2	Level 3	Level 4
	Health Centre / Small Hospital	District hospital	Provincial hospital / Referral hospital	Specialized hospital
Description	<ul style="list-style-type: none"> • Less than 50 beds health structure. • Provides emergency measures and short term treatment for 90% of obstetric emergencies, common life-threatening surgical and trauma pathologies. • No essential planned surgery. • Referral possibilities of patients for further management at a higher level. 	<ul style="list-style-type: none"> • Between 50 and 100 beds health structure. • Provides emergency measures and short term treatment for 90% - 95% of obstetric emergencies, common life-threatening surgical and trauma pathologies. • No essential planned surgery, except to keep a routine workload. • Referral possibilities of patients for further management at a higher level. 	<ul style="list-style-type: none"> • More than 100 beds health structure. • Provides emergency measures and short term treatment for more than 95% of obstetric emergencies, common life-threatening surgical and trauma pathologies. • Essential planned surgery. • Possibilities to perform specialized surgery. 	<ul style="list-style-type: none"> • Hospital exclusively dedicated to a specific surgical speciality or treatment: e.g. obstetric fistula, orthopaedic – trauma centre, burn centre, etc. • Bed capacity in line with specific morbidity incidence. • Provides emergency measures and short term treatment for specific surgical conditions. • Essential planned surgery is performed. • Non-essential planned surgery can be performed in line to hospital specificities.
Workload	<ul style="list-style-type: none"> • 3 – 7 major surgeries per week. 	<ul style="list-style-type: none"> • 1 - 3 major surgeries per day. 	<ul style="list-style-type: none"> • More than 3 major surgeries per day. 	<ul style="list-style-type: none"> • It depends of the caseload, and availability of specialized human resources.
Operating department structure	<ul style="list-style-type: none"> • 1 Operating Room. • Preparation / Recovery areas. • Scrub area. • Changing room. 	<ul style="list-style-type: none"> • 1 – 2 Operating Rooms. • Preparation / Recovery areas. • Scrub area. • Changing room. 	<ul style="list-style-type: none"> • 2 or more Operating Rooms. • Preparation room. • Recovery room. • Scrub area. • Changing room. 	<ul style="list-style-type: none"> • 1 or more operating rooms. • Preparation / Recovery areas / rooms. • Scrub area. • Changing room.

Personnel	<p>Minimum:</p> <ul style="list-style-type: none"> • Nurse-anaesthetist. • Medical doctor with surgical and / or obstetrical skills. • Scrub nurse. 	<p>Minimum:</p> <ul style="list-style-type: none"> • Nurse-anaesthetist. • Surgeon. • Gynaeco-obstetrician (depending on caseload). • Scrub nurse. • Circulating nurse. 	<p>Minimum:</p> <ul style="list-style-type: none"> • Anaesthesiologist. • Surgeon. • Gynaeco-obstetrician (depending on caseload). • Orthopaedic Surgeon (depending on caseload). • Surgical assistant. • Scrub nurse. • Circulating nurse. • OD head nurse. 	<p>Minimum:</p> <ul style="list-style-type: none"> • Nurse-anaesthetist up to anaesthesiologist, depending on case severity. • Specialized surgical provider: e.g. general surgeon, orthopaedic surgeon, gynaeco-obstetrician, plastic surgeon, etc. • Surgical assistant. • Scrub nurse. • Circulating nurse. • OD head nurse.
Equipment	<ul style="list-style-type: none"> • Basics for surgery: operating surgical table, operating lamp, Mayo table, instrument table. • Basics for anaesthesia: laryngoscope, oxygen concentrator, pulse oxymeter, infusion stands, trolley. • Safety box for needles and sharps. • Mechanical suction pump. • Cupboard for sterile material. • Cupboard for surgical and anaesthesia material. 	<ul style="list-style-type: none"> • Basics for surgery: operating surgical table, operating lamp, Mayo table, instrument table. • Basics for anaesthesia: laryngoscope, oxygen concentrator, pulse oxymeter, infusion stands, trolley. • Safety box for needles and sharps. • Surgical electric suction pump. • Anaesthesia electric suction pump. • Manual anaesthesia circuit or anaesthesia ventilator (the chose depends of local personnel skills and caseload). • Multi-parameter monitor with capnography (if anaesthesia ventilator). 	<ul style="list-style-type: none"> • Basics for surgery: operating surgical table, operating lamp, Mayo table, instrument table. • Basics for anaesthesia: laryngoscope, oxygen concentrator, pulse oxymeter, infusion stands, trolley. • Safety box for needles and sharps. • Surgical electric suction pump. • Anaesthesia electric suction pump. • Anaesthesia ventilator. • Multi-parameter monitor with capnography. • Cupboard for sterile material (better a special room or area out of the operating room). • Cupboard for surgical 	<ul style="list-style-type: none"> • Basics for surgery: operating surgical table, operating lamp, Mayo table, instrument table. • Basics for anaesthesia: laryngoscope, oxygen concentrator, pulse oxymeter, infusion stands, trolley. • Safety box for needles and sharps. • Surgical additional equipment will depend on the specific type of performed surgery: e.g. for obstetric fistula: operating surgical table with extreme Trendelenburg; for internal fixation, X-ray imagine intensifier (C-arm), etc. • Anaesthesia additional equipment will depend on the severity of treated cases

		<ul style="list-style-type: none"> • Cupboard for sterile material. • Cupboard for surgical material. • Cupboard for anaesthesia material. 	<ul style="list-style-type: none"> • material. • Cupboard for anaesthesia material. 	<ul style="list-style-type: none"> • and type of performed anaesthesia. • Cupboard for sterile material (better a special room or area out of the operating room). • Cupboard for surgical material. • Cupboard for anaesthesia material.
Activities	<ul style="list-style-type: none"> • Wound suturing, debridement and dressing. • Uterine evacuation, Caesarean section and hysterectomy, ectopic pregnancy, etc. • Peritonitis, appendicitis, strangulated hernia, etc. • Primary trauma care. • Cleaning or stabilization (e.g. plaster and traction) of open and closed fractures. • Chest drainage. 	<ul style="list-style-type: none"> • Wound suturing, debridement and dressing. • Circumcision. • Uterine evacuation, Caesarean section and hysterectomy, ectopic pregnancy, tubal ligation, etc. • Peritonitis, appendicitis, strangulated hernia, etc. • Hydrocele and hernia reduction, etc. • Primary trauma care. • Cleaning or stabilization (e.g. plaster and traction) of open and closed fractures. • Amputation. • Chest drainage. 	<ul style="list-style-type: none"> • Wound suturing, debridement and dressing. • Circumcision. • Uterine evacuation, Caesarean section and hysterectomy, ectopic pregnancy, tubal ligation, etc. • Peritonitis, appendicitis, strangulated hernia, etc. • Hydrocele and hernia reduction, etc. • Primary trauma care. • Cleaning or stabilization (e.g. plaster and traction) of open and closed fractures. • Amputation. • External fixation techniques. • Chest drainage and possibility of thoracic management. • Paediatric surgery. 	<ul style="list-style-type: none"> • The activities are in line with the specificity of the surgical project: e.g. for obstetric fistula: vesico-vaginal fistula repair; for orthopaedic centres: external and internal fixation (when minimal pre-requisites are in place), etc. • Due to MSF characteristics, each specialized project should be capable to face multiple casualty incidents: from primary trauma care up to case management.
Additional facilities	<ul style="list-style-type: none"> • Laboratory: blood grouping and rhesus factor, Hep B and Hep C, HIV 1 + 2, syphilis, malaria rapid test, 	<ul style="list-style-type: none"> • Laboratory: blood grouping and rhesus factor, Hep B and Hep C, HIV 1 + 2, syphilis, malaria rapid test, 	<ul style="list-style-type: none"> • Laboratory: blood grouping and rhesus factor, Hep B and Hep C, HIV 1 + 2, syphilis, malaria rapid test, 	<ul style="list-style-type: none"> • Highly depends of the type of specialized surgery performed in the health facility.

	<p>pregnancy, urine dipstick (basic 2 tests), haemoglobin.</p> <ul style="list-style-type: none"> • Blood transfusion capacity. • Intensive care - Level 0. 	<p>pregnancy, urine dipstick (complete 8 tests), haemoglobin, glycaemia, serum electrolytes, bilirubin, urea, creatinine.</p> <ul style="list-style-type: none"> • Blood transfusion capacity. • Intensive care – Level 0 or more. • X-ray availability. 	<p>pregnancy, urine dipstick (complete 8 tests), haemoglobin, glycaemia, serum electrolytes, bilirubin, urea, creatinine, ,blood gas analysis, liver and cardiac enzymes, coagulation, tests.</p> <ul style="list-style-type: none"> • Blood bank capacity. • Intensive care – Level 1 or higher. • X-ray availability. 	
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