

Standard Operating Procedures for Sterilization Services in Camps



Family Planning Division
Ministry of Health and Family Welfare
Government of India

March 2008



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Addl. Secretary & Mission Director

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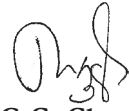
Foreword

In a country where the population has crossed the billion mark provision of assured quality Family Planning services for the people becomes the priority of the policy makers. Sterilization is still the most popular FP method adopted by our people to limit their family. As the demand for sterilization services remains very high with a large unmet need the country has continued with the camp mode to reach the services to people in under served and under reached areas. However, the camp approach throws out challenges in terms of quality in service. Under the recently launched National Rural Health Mission (NRHM) of Government of India the architectural changes envisaged would also address to these issues by ensuring assured, fixed day quality services at FRUs, CHCs and 24x7 PHCs. However, we need to continue with the camp mode for some more time till we achieve the NRHM goals.

As India is witnessing large changes in terms of development in the current era of globalization, the focus is now shifting from mere provision of services to quality service provision. Ensuring quality services in camps becomes one of the essential components in Family Planning service provision. The Government of India has recently revised the Manuals on Female and Male Sterilization and Quality Assurance Manual on Sterilisation, which form the standard guidelines for sterilization service for service providers. This manual on Standard Operating Procedures (SOP) addresses important areas like planning for a camp, logistics and manpower provision, infection prevention measures and monitoring quality of services provided. The manual has been prepared with the expertise and insights received from State Program officers, service providers, specialists like senior Obstetric & Gynecologists, Surgeons, Public Health specialists. It is sincerely hoped that this manual would help in adhering with sterilisation standards in the camps organized in many parts of the country.

The efforts put in by the Family Planning Division in preparing this maiden manual on SOP for Sterilisation services and commitment to ensure quality services in Family Planning is truly commendable and is deeply appreciated.

March 2008


Shri G.C. Chaturvedi
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Dr. M.S. Jayalakshmi
Deputy Commissioner (FP)

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Acknowledgement


This manual entitled “SOP for sterilization services in Camps” has been prepared as a supporting document to the Standards on Female and Male Sterilisation and Quality Assurance Manual on Sterilizations, for ensuring quality care in the Sterilisation camps. As the demand for sterilization services remains high and still there are gaps in organizing fixed day service provision at sub district level in many States, dependence on camps for catering to unmet need for limiting methods will have to continue for some more time. This manual has been prepared based on the intensive inputs received from various service providers, program managers and experts providing FP services in camps. It has been attempted to make the manual practical under the existing service conditions, at the same time ensuring adherence to standards, hallmark of service quality.

I wish to acknowledge the contribution of various experts who have helped the Family Planning division in preparing the manual after extensive discussions and experience sharing. I singularly wish to appreciate the continuous, untiring efforts and valuable inputs received from Dr Alok Banerjee, Dr. B. P. Singh, Dr. Kaza and Dr. Mangal. A special word of appreciation for Dr. Dinesh Agarwal, National Programme Officer, UNFPA for helping in the conceptualization of the manual. I am also thankful to all the State officials whose experience in developing a system in quality care helped the expert group to prepare a need-based manual. I also acknowledge the support rendered by WHO especially Dr Sonia Trikha in facilitating all the meetings. The support extended by UNFPA in publication of this manual is sincerely acknowledged.

The trust and support of Shri Amarjeet Sinha, Joint Secretary in all our endeavors to establish quality care in Family Planning is deeply cherished by the division. My special thanks to Dr. Jaya Lalmohan and Dr. Sonali, Consultants in Family Planning Division who have tirelessly worked for compiling this manual. A special word of appreciation for Dr. S.K. Sikdar, AC (FP) whose contribution has been immeasurable. I acknowledge the secretarial assistance rendered by Shri. Chauhan and Shri Malhotra from FP division to bring out the manual in time.

It is hoped that this manual would encourage districts to ensure the highest quality of care in sterilization service provision.

March 2008


Dr. M.S. Jayalakshmi
Deputy Commissioner (FP)

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Abbreviations

ANM	Auxiliary Nurse Midwife
BCC	Behaviour Change Communication
CHC	Community Health Centre
CMO	Chief Medical Officer
FRU	First Referral Unit
HLD	High Level Disinfection
IEC	Information Education Communication
IP	Infection Prevention
IUCD	Intrauterine Contraceptive Device
LHV	Lady Health Visitor
MO	Medical Officer
MPW	Multipurpose Worker
MSMF	Manual on Standards for Male and Female Sterilization, GOI-2007
NFHS	National Family Health Survey
NRHM	National Rural Health Mission
NSV	No Scalpel Vasectomy
OCP	Oral Contraceptive Pills
OT	Operation Theatre
PHC	Primary Health Center
QAC	Quality Assurance Committee
RCH	Reproductive Child Health
RTI	Reproductive Tract Infection
STI	Sexually Transmitted Infection

Introduction

The recent NFHS III (2005-2006) results show that the total unmet need in contraception for the country still remains high at 13%, out of which 6% is for permanent methods and 7% is for spacing methods. Traditionally the country has been adopting the camp approach in sterilization since the early '70s to address the issue of large need versus low service availability. Under the NRHM and RCH II programmes of Government of India many strategies are being operationalized to reduce the unmet need in RCH services including contraception. However, we need to continue with the camp approach for some more years until adequate institutionalized services are made available as per the needs of the people at the most peripheral level. Though this approach has the advantage and flexibility of reaching the needy at their doorsteps, quality of care becomes an area of concern in such settings. Hence it becomes essential to have guidelines developed for ensuring quality care in camps, addressing to the large demand in difficult to reach/underserved areas which are not usually endowed with routine services.

Camps are an alternate service delivery strategy aiming for meeting unmet demand for sterilization services especially in underserved areas. Clearly there are challenges in ensuring adherence with the standards in the camp setting. Present document addresses these barriers by spelling out operating procedures and thus empowers service providers and camp managers to deliver quality services under all circumstances.

The formulation of Standard Operating Procedures (SOPs) for Sterilization Camps is an important step in ensuring provision of quality services to the growing number of clients coming for sterilization services in the out reach camps. It is envisaged that programme managers and service providers would be encouraged to take appropriate remedial measures for ensuring adherence to standards in the camps as laid down in the “Manual on Standards for male and female sterilization” by Government of India.

The scope of the manual

The *Standard Operating Procedures* would serve as a guide for planning, implementing and monitoring quality of services in sterilization in a camp setting, for programme managers, camp managers and service providers at all levels. This document may also be found useful by the service delivery organisations engaged in organisation of the camps, including NGOs.

1. Range of services in a camp

What is a “camp”?

A sterilization camp is defined as alternate service delivery mechanism, when “operating team located at a remote facility (District HQs/Medical colleges/FRUs) conducts sterilization operations at a sub district health facility, where these services are not routinely available.”

Service package for camp services should include following:

1. Counselling

Counselling is the process of helping clients make informed and voluntary decisions about their fertility. Method specific counselling should be done whenever a client is unable to take a decision or has a doubt regarding the type of contraceptive method to be used. In the case of clients found eligible for sterilization the following steps should be taken before she/he signs the consent form for sterilization:

- ◆ Clients must be informed of all the available methods of family planning and should be made aware that for all practical purposes, sterilization is a permanent one.
- ◆ Clients must make an informed decision for sterilization voluntarily.
- ◆ Clients must be counseled in the language that they clearly understand.
- ◆ Clients should be made to understand what will happen before, during, and after the surgery, its side effects, and potential complications, including failure

In situations where the camp is providing other FP methods, method specific counseling should also be provided

2. Clinical Services

(a) Permanent methods

Vasectomy	◆ Screening and clinical assessment
	◆ Pre-procedure instructions/preparation
and/or	◆ Procedure
	◆ Post-operative examination & instructions
Tubectomy	◆ Follow-up

Depending upon the availability of human resources, service availability at the camp sites, the district programme managers can decide the type of additional services to be offered in Sterilization Camps as given below.

Additional Services

(b) *Spacing methods*

IUCD	<ul style="list-style-type: none"> ◆ Counselling ◆ Screening and clinical assessment ◆ Insertion ◆ Follow-up ◆ Management of complications ◆ Removal
Combined Oral Pills	<ul style="list-style-type: none"> ◆ Counselling ◆ Eligibility assessment ◆ Provision
Condoms	<ul style="list-style-type: none"> ◆ Counselling ◆ Provision ◆ Instructions for proper use

(c) *Emergency contraception*

- ◆ Counselling
- ◆ Eligibility assessment
- ◆ Provision

(d) *Screening and management of RTIs/STIs*

- ◆ Diagnosis and management as per national guidelines

3. Lab Tests

- ◆ Hb
- ◆ Urine for sugar and albumin
- ◆ Urine for Pregnancy Test (as indicated in Standards of Male and Female Sterilization)
- ◆ In case of RTI/STI lab tests as per GOI Guidelines

2. Pre-requisites for sterilization camps

The camp should be organized exclusively for sterilization services. Additional services can also be offered depending on the existing service provision for additional services.

1. Site

All Sterilization Camps must be organized only at established health care facilities as laid down in the *Standards* by GOI.

For IUCD insertion, a clean separate room with adequate lighting arrangement and privacy will be sufficient.

Oral Pills, Emergency Contraceptive Pills and Condoms can be dispensed at the counselling area.

Under no circumstances should Sterilization Camps be organized in a school building/Panchayat Bhavan or any other such set up. Camps should be always organised either at CHCs or PHCs.

2. Probable Client Load

Estimation of likely number of clients to turn up for accessing services will help in determining number of teams. For maintaining quality service, each surgeon should restrict to conducting a maximum of:

- ◆ 30 laparoscopic tubectomy (for 1 team with 3 laparoscopes) or
 - ◆ 30 vasectomy (NSV or conventional) or
 - ◆ 30 minilap tubectomy cases.
- * With additional surgeons, support staff, instruments, equipment and supplies, the number of procedures per team may increase proportionately. However, the maximum number of procedures that are performed by a team in a day should not exceed 50.

Depending upon the expected client load, requisite number of teams should be mobilized by the camp manager.

3. Camp Timings

Camp timings should preferably be between 9 a.m. and 4 p.m.

4. Staff

A. For Female Sterilization

(a) Local team

Serial No.	Camp Service Site/Counter	Total No. of Staff	Category and No. of Staff
1.	Registration	1	Male worker/clerk – 1
2.	History & Clinical Assessment	2	MO – 1 Staff Nurse/LHV/ANM – 1
3.	Counselling Area	1	Health supervisor/ANM – 1
4.	Laboratory Examination	2	Lab Technician – 1 Cleaner – 1
5.	Pre-operative Preparation/ Premedication preparation room	1	Staff Nurse/LHV/ANM – 1
6.	Instrument & reusable items processing/sterilization area IP Room	2	OT Attendant – 1 Ward Boy/Aya – 1
7.	Operation theatre	3	Staff Nurse/ANM – 1 (either from the site area or if not there at the site, then to come with the visiting team) OT Attendant – 1 Cleaner – 1
8.	Post-operative room	2	MO – 1 Staff Nurse/ANM – 1
9.	Office-cum-store	2	Accountant – 1 Compounder/Pharmacist – 1
10.	IUCD/Other procedure room	2	ANM– 2

(b) Visiting team members

Serial No.	Staff Category	No. of Staff for Tubectomy	
		Laparoscopy	Minilap
1.	Empanelled tubectomy surgeon	1	1
2.	Anaesthetist (preferable)	1	1
3.	OT Assistant	1	-

B. For Male Sterilization

(a) Local team

Serial No.	Camp Service Site/Counter	Total No. of Staff	Category and No. of Staff
1.	Registration	1	Health worker (M)/clerk – 1
2.	Clinical Assessment	2	MO – 1, Male worker – 1
3.	Counselling Area	1	Male Supervisor/Male worker – 1
4.	Laboratory Examination	2	Lab Technician – 1 Cleaner – 1
5.	Pre-operative Preparation Room	1	Health worker-male – 1
6.	Instrument & reusable items processing/sterilization area	2	OT Attendant – 1 Ward Boy/Aya – 1
7.	Operation theatre	2	Staff Nurse/ANM – 1 Cleaner – 1
8.	Post-operative room	2	MO – 1 Staff Nurse/ANM – 1
9.	Office-cum-store	2	Accountant – 1 Pharmacist – 1

(b) Visiting team members

Serial No.	Staff Category	No. of Staff for Vasectomy
1.	Empanelled Surgeon	1

The responsibility of provision of the additional services is to be borne by the local team as per the guidelines laid down by Government of India.

5. Equipment/Instruments and Supplies

The Equipment/Instruments and supplies needed for ensuring quality services in sterilization camps, is given in Annexure 1.

In camps where other services are offered, additional supplies for those services also need to be made available.

The In-Charge of the facility where the camp is being organised is the CAMP MANAGER who has the overall responsibility for the effective organisation of the camp.

2. Pre-requisites for sterilization camps

The camp should be organized exclusively for sterilization services. Additional services can also be offered depending on the existing service provision for additional services.

1. Site

All Sterilization Camps must be organized only at established health care facilities as laid down in the *Standards* by GOI.

For IUCD insertion, a clean separate room with adequate lighting arrangement and privacy will be sufficient.

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- ✦ 30 minilap tubectomy cases.

* With additional surgeons, support staff, instruments, equipment and supplies, the number of procedures per team may increase proportionately. However, the maximum number of procedures that are performed by a team in a day should not exceed 50.

Depending upon the expected client load, requisite number of teams should be mobilized by the camp manager.

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Camp timings should preferably be between 9 a.m. and 4 p.m.

4. Staff

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Serial No.	Camp Service Site/Counter	Total No. of Staff	Category and No. of Staff
1.	Registration	1	Male worker/clerk – 1
2.	History & Clinical Assessment	2	MO – 1 Staff Nurse/LHV/ANM – 1
3.	Counselling Area	1	Health supervisor/ANM – 1
4.	Laboratory Examination	2	Lab Technician – 1 Cleaner – 1
5.	Pre-operative Preparation/ Premedication preparation room	1	Staff Nurse/LHV/ANM – 1
6.	Instrument & reusable items processing/sterilization area IP Room	2	OT Attendant – 1 Ward Boy/ <i>Aya</i> – 1
7.	Operation theatre	3	Staff Nurse/ANM – 1 (either from the site area or if not there at the site, then to come with the visiting team) OT Attendant – 1 Cleaner – 1
8.	Post-operative room	2	MO – 1 Staff Nurse/ANM – 1
9.	Office-cum-store	2	Accountant – 1 Compounder/Pharmacist – 1
10.	IUCD/Other procedure room	2	ANM – 2

(b) Visiting team members

Serial No.	Staff Category	No. of Staff for Tubectomy	
		Laparoscopy	Minilap
1.	Empanelled tubectomy surgeon	1	1
2.	Anaesthetist (preferable)	1	1
3.	OT Assistant	1	-

B. For Male Sterilization

(a) Local team

Serial No.	Camp Service Site/Counter	Total No. of Staff	Category and No. of Staff
1.	Registration	1	Health worker (M)/clerk – 1
2.	Clinical Assessment	2	MO – 1, Male worker – 1
3.	Counselling Area	1	Male Supervisor/Male worker – 1
4.	Laboratory Examination	2	Lab Technician – 1 Cleaner – 1
5.	Pre-operative Preparation Room	1	Health worker-male – 1
6.	Instrument & reusable items processing/sterilization area	2	OT Attendant – 1 Ward Boy/Aya – 1
7.	Operation theatre	2	Staff Nurse/ANM – 1 Cleaner – 1
8.	Post-operative room	2	MO – 1 Staff Nurse/ANM – 1
9.	Office-cum-store	2	Accountant – 1 Pharmacist – 1

(b) Visiting team members

Serial No.	Staff Category	No. of Staff for Vasectomy
1.	Empanelled Surgeon	1

The responsibility of provision of the additional services is to be borne by the local team as per the guidelines laid down by Government of India.

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In camps where other services are offered, additional supplies for those services also need to be made available.

The In-Charge of the facility where the camp is being organised is the CAMP MANAGER who has the overall responsibility for the effective organisation of the camp.

3. Roles and responsibilities of programme managers and service providers

All functionaries in a camp must work together as a team towards successful and smooth conduction of the camp. The roles and responsibilities given here are only suggestive and they can be interchanged as per need/requirement of a particular situation.

The organization of a camp has 2 stages-

1. Planning for the camp
2. Conduction of the camp

This chapter specifies the roles and responsibilities of officials for both the stages.

I. Pre-camp Activities (beginning of the year)

A. *District chief medical officer*

- ♦ To update the list of empanelled surgeons and circulate to all camp managers
- ♦ To notify/designate camp managers at the facilities likely to organize sterilization camps during the year
- ♦ To organize availability of funds from RCH 2 programme at the facility level
- ♦ To constitute teams for camps in consultation with I/C District hospital/ FRUs from where the providers are going to be sent to camps.

B. *District nodal officer for FP (ADHO, Dy CMHO, DPM or others)*

- ♦ Develop block-wise quarterly camp calendar specifying date and site in consultation with camp in-charge
 - ♦ To ensure communication to the operating teams in advance
 - ♦ To keep ready a list of standby staff so as to meet any contingency requirements
 - ♦ To keep a stock of equipment such as laparoscopes/NSV equipment ready and also arrange for AMC/repairs
 - ♦ To ensure that all necessary supplies required for the camps are made available in adequate quantities before the commencement of the camp
 - ♦ To ensure that adequate funds are available with the camp manager for disbursement as incentives.

C. *Camp manager/sub-district hospital/FRU/CHC/PHC (camp site)*

- ✦ To coordinate the team activities with the district nodal officer
- ✦ To arrange for the required funds for organizing the camps
- ✦ To ensure availability of the local team members
- ✦ To ensure availability of equipment, instruments and other supplies for each camp
- ✦ To ensure intense IEC activities regarding the camp in his area in coordination with the District authorities.

II. During Camp

For the delivery of services in the camps, two teams are required to work in close coordination, i.e. the local team at the camp site and the visiting team.

Local Team

Camp manager

The responsibilities of the Camp Manager are:

- ✦ To ensure all members of visiting team reach in time
- ✦ To assign responsibilities for the facility staff for staffing different stations
- ✦ To check that OT has been disinfected in advance
- ✦ To ensure that emergency medicines and other supplies are available at designated places

Site medical officer

- ✦ To ensure that all clients are counselled properly
- ✦ To conduct full clinical assessment of the clients and document the same as specified in the GOIs Standards manual.
- ✦ To provide pre-procedure instructions to clients (MSMF, pg 54-58)
- ✦ To provide post-procedure check-up and give instructions, both verbal and written before discharge for each operated client (MSMF pg 62,63,69,70)
- ✦ To take care of post-procedure follow-up of clients for any problem inclusive of stitch removal for sterilization clients.
- ✦ To counsel and provide other contraceptive services to clients found not eligible for sterilization.

Staff nurse/ANM

She will be overall in-charge of preparation and maintenance of Operation Theatre (OT) complex and infection prevention measures.

- ✦ To provide counselling for all the clients coming for sterilization

- ♦ To assist MO in performing pre-procedure clinical assessment.
- ♦ To ensure documentation of written informed consent
- ♦ To ensure sufficient material including sterilized linen, instruments and other supplies
- ♦ To ensure proper IP practices at all levels ,before and during all procedures
- ♦ To ensure that all the emergency equipment is in functional order and available
- ♦ To confirm the pre-procedure check-up of clients by empanelled surgeon/gynaecologist and anaesthetist and ensure completion of records before the procedure
- ♦ To assist empanelled surgeon/gynaecologist and anaesthetist during procedures
- ♦ To monitor the clients during the procedure and assist in post-operative care

Laboratory technician

- ♦ To ensure availability of all the laboratory equipment and reagents for the camp
- ♦ To perform pre-procedure investigations like Hb, urine, etc.
- ♦ To document the findings of investigations on the client's chart
- ♦ To maintain the record of all investigations done
- ♦ To ensure quality of all laboratory investigations

Pharmacist

- ♦ To ensure sufficient medicines and other supplies for all the clients
- ♦ To distribute medicines to the clients as per guidance of medical officers/surgical team
- ♦ To perform any other duty assigned by the camp manager

Health supervisor/worker

- ♦ To assist in filling up charts and consent forms of clients
- ♦ To give pre- and post-procedure instructions to clients/attendants
- ♦ To guide the clients for different services
- ♦ In the absence of a Staff Nurse, should perform her duties
- ♦ To be in charge of the registration counter
- ♦ To perform any other duty assigned by the camp manager

Class IV (OT attendant/ward boy/ayah, etc.)

- ♦ To prepare facility for the camp under guidance of supervisors
- ♦ To shift clients to and from OT
- ♦ To carry equipment/articles from and to the vehicle
- ♦ To assist OT Assistant and staff nurse in OT

- ◆ To decontaminate articles
- ◆ To clean instruments and linen
- ◆ To perform any other job assigned by the camp manager

Safai karmchari

- ◆ To clean the premises including lab, procedure room and OT
- ◆ To trim hair in vasectomy clients
- ◆ To disinfect procedure room and OT under guidance of OT Staff
- ◆ To help the other Class IV workers to shift equipment and linen from one place to another and also to shift the clients, if necessary
- ◆ To perform any other job assigned by the camp manager

Visiting Team

Surgeon/gynaecologist

- ◆ To ensure that each client has been adequately counselled and screened as per laid down Standards in the prescribed format including ensuring/confirming pre-procedure fitness and informed consent of client for the procedure
- ◆ To fill the checklist before conducting the procedure
- ◆ To ensure requisite equipment/instruments and supplies for the procedure as well as those needed for emergency preparedness are as per the Standards.
- ◆ To perform sterilizations of screened clients as per the laid down procedures
- ◆ To ensure emergency and surgical procedure preparedness
- ◆ To practice and ensure adherence to universal IP practices in all procedures
- ◆ To document procedural details and post-operative instructions on the records of all operated cases as given in the Standards
- ◆ To do post-operative check-up wherever required as per Standards.
- ◆ To deal with emergencies and ensure appropriate referral to higher centre in case of complications

Anaesthetist (if available)

- ◆ To verify the availability and functionality of anaesthetic instruments and drugs at the camp site
- ◆ To ensure pre-operative check-up and fitness for anaesthesia whenever required.
- ◆ To supervise local and administer regional or general anaesthesia according to the situation
- ◆ To deal with any emergency/complication related to procedures

- ♦ To document anaesthesia notes in the chart of each client
- ♦ To do immediate post-operative follow-up of cases operated under anesthesia

Operation theatre assistant (OTA)

- ♦ To work in coordination with staff nurse/ANM/LHV
- ♦ To verify the availability of all the equipment and instruments and ensure that they are in functional condition in the operation theatre
- ♦ To ensure HLD/sterilization of equipment, instruments, linen, etc.
- ♦ To ensure cleanliness and disinfection of OT
- ♦ In case of female sterilization, to make sure that the laparoscopes are processed after each procedure and at the end of the camp session, as laid down in the Standards.
- ♦ To assist the empanelled surgeon and anaesthetist during procedures
- ♦ To perform any other job assigned by the visiting team

4. Conduction of camp

In the following paragraphs, an attempt has been made to list different activities which are critical to deliver quality services in a camp setting.

1. Pre-camp Activities

1.1 Communication Activities

- i. Inform ANMs, ASHAs, AWWs, VHSC members in advance during monthly meetings about the camp dates and venue
- ii. Organise wall paintings at busy sites i.e. bus stands, display banners
- iii. Use local cable TV network if possible

1.2 Planning for the Camp

- ✦ Orientation of site staff on previous day by camp manager
- ✦ Review of infrastructure and availability of equipment and supplies including case sheets, consent forms, follow up cards, etc.
- ✦ Mobilization of staff from periphery/additional PHC/other sites if required
- ✦ Preparation of duty list and intimation of the staff
- ✦ Ensuring electricity and running water supplies
- ✦ Ensuring availability of compensation money
- ✦ Confirming availability of surgical team at scheduled time
- ✦ Ensuring availability of transport facility for referrals
- ✦ Putting up display boards in health institutions, one month prior to the camp, which shall intimate the date of camp with time and services to be provided on that day
- ✦ Providing adequate sitting and waiting arrangements with protected space (from sun and rain) provided for both clients and attendants.
- ✦ Making adequate arrangements for drinking water, sanitation and toilet facilities for the health personnel as well as the clients and their attendants. One toilet should be earmarked for women

2. Camp Activities

- ✦ Primary responsibility for organizing the camp lies with the designated camp manager

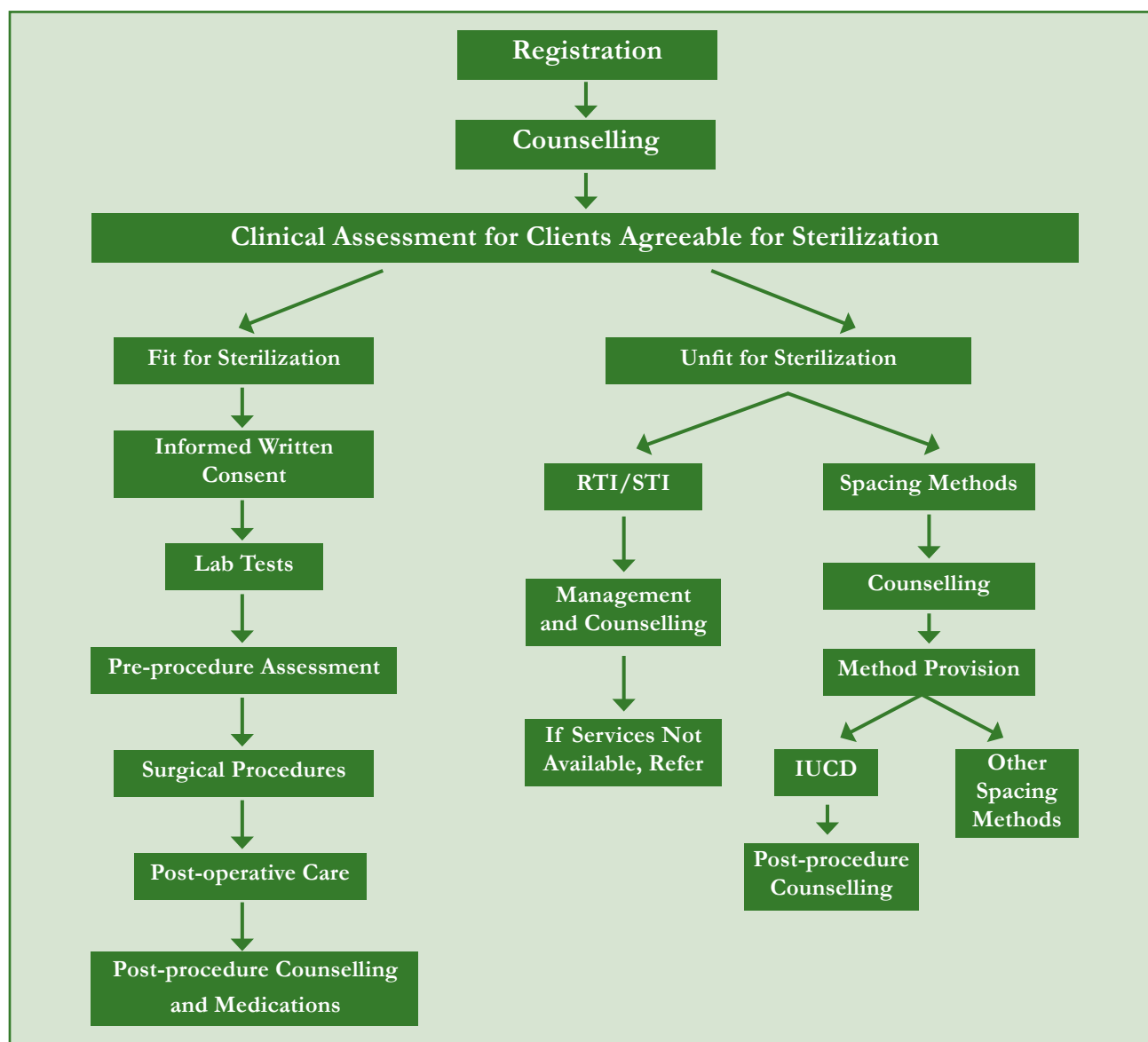
- ◆ All instruments, drugs and supplies for the camps should be made available in advance and put in their right places.
- ◆ Site facility should ensure enough sterilized linen and other material including stationery and forms as per expected client load.
- ◆ The normal functioning of the CHC/PHC should not be disrupted.
- ◆ Adequate safety arrangements in coordination with the local police authorities should also be provided for, to prevent any untoward incidents If large number of clients are expected
- ◆ There should be clear signages for the different service areas as specified below to facilitate the smooth flow of clients.

GENERAL AREAS:

- ◆ Waiting area
- ◆ Registration area
- ◆ Counselling Area
- ◆ Clinical Examination
- ◆ Laboratory Examination
- ◆ Office-cum-store

PROCEDURE AREAS:

- ◆ Pre-procedure preparation area
- ◆ Instrument processing area
- ◆ Scrub area
- ◆ Operation theatre - if both tubectomy and vasectomy services are provided, there should be separate operation theatres
- ◆ Post-operative or recovery room/ward

Flow Chart for Camp Services

3. Post-camp Activities

- ◆ Provide follow-up care as laid down in the Standards Manual
- ◆ Attend to complications of procedures, if any, that were performed in the camp (Refer to Standards for Female and Male Sterilization)

All staff of the health care facility should preferably be trained in emergency management.

Guidelines for emergency management should be followed as given in Annexure 2

5. Prevention of infection: asepsis and antisepsis

It is mandatory to practice appropriate infection prevention (IP) procedures at all times with all clients to decrease the risk of transmission of infection, including the Human Immunodeficiency virus (HIV), Hepatitis C (HCV), and Hepatitis B (HBV). Standard universal precautions of infection prevention include:

- ✦ Washing hands
- ✦ Ensuring self-protection by wearing attires, gloves and employing other physical barriers
- ✦ Adopting safe work practices (to prevent injuries from sharp instruments)
- ✦ Maintaining proper methods of environmental cleanliness
- ✦ Ensuring the proper processing of instruments and other items
- ✦ Following proper waste-disposal practices and handling, transporting, and processing used and/or soiled linen in the recommended and prescribed manner.

Detailed guidelines for IP practices are given in the Standards for Male and Female Sterilization. However, some of the important steps are highlighted in this chapter.

1. Maintenance of Asepsis in OT

Before Surgery

- ✦ Clean the floor with a mop soaked in 0.5% chlorine solution.
- ✦ Clean the table/counter top with a cloth soaked in 0.5% chlorine solution

After Surgery

- ✦ Decontaminate all operating room surfaces that come into contact with the patient (such as table) between procedures by scrubbing and wiping them with 0.5% chlorine solution
- ✦ The operating table, counters/table tops and light handles should be wiped with a detergent and 0.5% chlorine solution
- ✦ Chlorine solution should be prepared fresh daily

When Not in Use

- ✦ The OT should be locked when not in use
- ✦ Daily cleaning: Scrub and wipe the room with the recommended disinfectant i.e. 0.5% chlorine solution

Movement in and around the OT

- ✦ The entry of people and their movement inside the OT should be minimal as the introduction of a number of micro-organisms is related directly to the number of people and their movement
- ✦ During surgery, the door of the OT should be kept closed
- ✦ Only the personnel performing or assisting should enter the OT
- ✦ Personnel who have any infection should not enter the OT at all

Recovery Room (RR)

- ✦ The entry of people and their movement inside the RR should be minimal as the introduction of a number of microorganisms is related directly to the number of people and their movement
- ✦ During post-operative care the door of the RR should be kept closed
- ✦ Only the personnel involved in post-operative care like the attending surgeon/anaesthetist should enter
- ✦ Personnel who have any infection should not enter the RR at all
- ✦ Only one relative should be allowed

2. Processing of Equipment, Instruments and Other Reusable Items

Steps involved are:

1. Decontamination of Equipment, Instruments, and Other Reusable Items

- ✦ Surgical instruments, reusable gloves, and other items that have been in contact with blood or other body fluids should be decontaminated prior to cleaning
- ✦ Immediately after use, these items should be placed in a plastic bucket containing a solution of 0.5% chlorine for 10 minutes
- ✦ After 10 minutes, the items should be removed from the chlorine solution and rinsed with water or cleaned immediately
- ✦ Utility gloves and clothes should be worn during this and subsequent steps
- ✦ A new chlorine solution should be prepared at the beginning of each day

2. Cleaning of Equipment, Instruments, and Other Reusable Items

- ✦ Cleaning reduces the number of micro-organisms and endospores on instruments and equipment
- ✦ The instruments and other items should be scrubbed vigorously with a brush (a tooth brush is a good option) in lukewarm water with detergent to remove all blood, tissue, and other residue
- ✦ Detergent should be used as water alone will not remove proteins or oil

- ✦ Soap is not recommended as it can leave a residue
- ✦ Hot water should not be used because it can coagulate protein such as blood, making it harder to remove
- ✦ The items should then be rinsed thoroughly with water and allowed to air-dry. Items that require HLD by boiling can be placed directly in a pot of water after cleaning

Preparation of 0.5% Chlorine Solution

Mix 150 gm of commercially available bleaching powder (about 10 tablespoonful/30 teaspoonful) in ten litres of tap water. Before mixing, make a paste in small quantity of pre-measured water and mix into the remaining measured water. The prepared chlorine solution can be used for 24 hours. Prepare fresh chlorine solution at the beginning of camp.

3. Sterilization or High-Level Disinfections (HLD)

HLD by Boiling

- ✦ Instruments for HLD must be decontaminated and cleaned with detergent and water prior to boiling
- ✦ Once the water starts boiling, boil for 20 minutes in a pot with a lid. Articles must be completely immersed in the water
- ✦ Do not add anything to the pot after boiling begins
- ✦ After boiling, remove objects with a sterile or previously HLD forceps
- ✦ Use objects immediately or store them in a covered, airtight, dry HLD container for up to seven days
- ✦ If stored in an ordinary covered container, the objects can be used for up to 24 hours

HLD by Chemical Method

- ✦ After decontaminating, cleaning, and drying the used objects, soak for 20 minutes in a solution containing 2% glutaraldehyde.
- ✦ Thoroughly rinse the objects with water boiled for 20 minutes before use
- ✦ Use objects immediately or place them in a covered, dry HLD container
- ✦ Items should never be kept soaked in water or solutions such as Cetavalone, spirit, carbolic acid, glutarelddehyde, etc. Always store HLD items dry.

Steam Sterilization (Autoclaving)

- ✦ Always consult the specific operating instructions supplied by the manufacturer
- ✦ Decontaminate, clean, and dry all instruments that are allowed to be autoclaved

- ✦ Wrap cleaned instruments in cloth or newspaper, or place unwrapped instruments in a metal container
- ✦ Arrange wrapped packs in the chamber or drum to allow free circulation of heat or steam among the surfaces of all items.
- ✦ Items such as scissors and forceps should be sterilized in an open position
- ✦ Sterilize instruments for the recommended time as shown below:

**** Sterile water can be prepared by autoclaving at 15 lbs. pressure**

Time necessary to autoclave liquids like water depends on many factors and the most important of which is the volume of water being autoclaved. In general timings are:

✦	75-100 ml	–	20 minutes
✦	100-500 ml	–	25 minutes
✦	500-1000 ml	–	30 minutes
✦	1000-1500 ml	–	35 minutes
✦	1500-2000 ml	–	40 minutes

Sterilization by Chemical Method

- ✦ Decontaminated, cleaned, and dried items are put in 2% glutaraldehyde solution for at least 8 to 10 hours.
- ✦ Items such as scissors and forceps should be put into the solution in an open position.
- ✦ Do not add or remove any items once the timer starts.
- ✦ Items should be rinsed well with sterile water** (not boiled water), air-dried, and stored in a covered sterile container for up to 7 days.
- ✦ This method is most suitable for endoscopes and plastic cannulae.

Processing Laparoscopes

- ✦ Laparoscopes and accessories should be sterilized or should undergo HLD using the chemical method by soaking in 2% glutaraldehyde solution. All steps of the decontamination and cleaning process must be followed before the laparoscopes and accessories are put in the chemical solution.
- ✦ **Decontamination:** Immediately after use, gently wipe the laparoscope, fibrotic light source, and cable and plastic tubing with lure lock using a cloth soaked in 60–90% ethyl or isopropyl alcohol to remove all blood and organic material.
- ✦ **Cleaning:** Place the dissembled parts of the laparoscope in a basin of clean water. Wash all outer surfaces using a soft cloth. Clean the inner channels with a clean brush supplied with the laparoscopic kit. Dry with clean soft cloth.

- ♦ **High-level disinfection:** Put clean and dried disassembled equipment in a basin containing 2% glutaraldehyde solution for 20 minutes. For the disinfection to be effective, all parts of the laparoscope must be fully immersed and the disinfectant must touch all the surfaces of the instrument. Rinse twice with HHD water (water boiled for 20 minutes and cooled) to remove all traces of the disinfectant.
- ♦ **Sterilization:** To sterilize, soak the clean and dried disassembled laparoscope in 2% glutaraldehyde solution for 8 to 10 hours. Rinse at least three times with sterile water to completely remove all traces of the disinfectant and store in a sterile covered container.

4. Disposal of Waste, Needles, and Other Materials

- ♦ Contaminated waste is a potential source of infection for the staff as well as the local community. Therefore, waste should be disposed of properly.
- ♦ Waste should be buried or burnt. Burning should preferably be done in an incinerator or steel drum as opposed to open burning.
- ♦ If burning is not possible, then the waste should be put in a pit and buried, but it should never be thrown outside or left in open pits.
- ♦ For waste that is to be picked by the municipal authorities, these should be placed in closed dumpsters prior to removal.
- ♦ Solid waste, including dressings and other items contaminated with blood and organic material, should be disposed of in leak-proof washable containers conveniently located in the OT/procedure house.
- ♦ Liquid waste should be poured down a utility drain or into a toilet or latrine with a flush; or else it should be buried. Avoid splashing when disposing of liquid waste.
- ♦ Sharp objects (hypodermic needles, scalpel blades, suture needles) should be disposed of in a puncture-resistant container with a lid made of either metal or heavy rigid plastic or cardboard.
- ♦ Containers with needles and sharp objects should be disposed of by burning or burying on site.

Summary of Methods of Sterilization and High-Level Disinfection for Various Reusable Materials

Materials	Method	
	HLD	Sterilization
Linen (Drapes, sponges, scrub suits, operating packs, etc.)	Not recommended	Autoclaving: 121° C at 15 lb./sq. inch pressure for 30 minutes. Should be used within one week. If drum is opened, then use within 24 hours.
Rubber goods (gloves, catheters, and rubber tubing) and Surgical Instruments	By boiling: 20 minutes	By autoclaving: At 15 lb./sq. inch pressure for 30 minutes Always wrap items in paper/newspaper before autoclaving. Gloves should always be sterilized for 30 minutes at 15 lb./sq inch pressure by wrapping in paper/newspaper and should be used 24 – 48 hours after sterilization so that they regain their elasticity
	By immersing in chemical: a. Glutaraldehyde – 20 minutes or b. Parasitic acid – 10 minutes	By immersing in chemical: a. Glutaraldehyde – 10 hours or b. Parasitic acid – 30 minutes

6. Assurance of quality in camp setting

The quality of sterilization services provided can be assessed through the already existing documentation tools available at the facilities and instrument/tools specifically designed for this purpose. The areas requiring improvement should be identified using these tools and this will ultimately be beneficial in improving the quality of the services delivered.

The following need to be monitored for assuring quality care in a camp:

- ◆ Facility inputs
- ◆ Procedures adopted
- ◆ Maintenance of records and registers
- ◆ Client care and satisfaction

The District Quality Assurance Committee (DQAC) as well as the Quality Improvement Committee (QIC) at the facility level are responsible for monitoring quality.

Role of DQAC

The DQAC should monitor at least 10% of the camps held in the district to ensure quality of care as per the checklists for Client case record, Facility Audit, Observation of Asepsis and surgical procedure, and Client Exit interview laid down in the “Quality Assurance Manual for Sterilization Services” by Government of India.

Role of Quality Improvement Committee

At each service delivery site sterilization service needs to be monitored and reviewed.

This task can be performed by service providers from the facility itself through a process of self-assessment that will identify issues related to quality improvement, help in resolving the identified problems, recommend solutions, and ensure that high-quality services are provided.

The suggested composition of the QIC at District Hospitals/Civil Hospitals/Sub-divisions/Referral Hospitals is as follows:

- ◆ I/C Hospital/Medical Superintendent: Chairperson
- ◆ I/C Operation Theatre/Anaesthesia I/C, Surgeon
- ◆ I/C Obstetrics and Gynaecology
- ◆ I/C Nursing
- ◆ I/C Ancillary Services (ward boys)

- ◆ I/C Transport
- ◆ I/C Stores
- ◆ I/C Records

At the level of CHC, a smaller committee of 4 to 5 members comprising the Medical Superintendent, I/C Surgery, I/C Obstetrics and Gynaecology, I/C OT, Nursing I/C and other key members of staff should be constituted.

The scope of work of this QIC will include all the processes involved in the sterilization services being provided at the camp.

The responsibilities of the QIC will be as follows:

- ◆ Identifying critical quality processes in light of the standards for sterilization
- ◆ Reviewing the processes with the help of the checklists on client case audit/ facility audit/ observation of sepsis and surgical procedure
- ◆ Developing a work plan listing activities for improvement and putting this into action

The QIC should meet once a month to review, analyze and recommend solutions to the problems experienced in holding FW Camps and assess the quality of care. This is essential for taking remedial actions for future camps, as camps are to be organized as a regular, fixed day monthly activity at facilities like CHCs and PHCs where regular weekly services are not being provided.



Annexures

C. Anaesthesia Drugs

Serial No.	Drugs	No. Required	
		Female Sterilization	Male Sterilization
1.	Inj. Diazepam	30 amps	5
2.	Inj. Promethazine	30 amps	5
3.	Inj. Pentazocine	30 amps	5
4.	Inj. Atropine	30 amps	5
5.	Inj. Pethidine	30 amps	-
6.	Inj. Xylocaine 2%	25 vials	15 vials
7.	Inj. Ketamine 50mg/ml*	1 vials	-
8.	Inj. Scoline*	1 vials	-
9.	Inj. Pentothal 1 gm vial*	1 vials	-

(*as per requirement, if anaesthetist is available)

D. Emergency Drugs; *for Both – Tubectomy & Vasectomy Camps

Serial No.	Name	No. Required
1.	Inj. Adrenalin	10 amps
2.	Inj. Hydrocortisone	10 vials of 100 ml each
3.	Inj. Chlorpheniramine Maleate	10 amps
4.	Inj. Frusamide	5 amps
5.	Inj. Atropine	10 amps
6.	Inj. Mephentine	2 vial
7.	Inj. Aminophylline	5 amps
8.	Inj. Deriphylline	5 amps
9.	Inj. Soda Bicarb.	12 amps
10.	Inj. Diazepam	5 amps
11.	I/V fluids 5% dextrose	5 vials
12.	Normal Saline	5 vials
13.	Ringer Lactate	5 vials

* Anaphylaxis trays and emergency trays should be maintained and both trays should be readily available in operation theatre and injection room

E. Post-Operative Drugs

Serial No.	Name	No. Required	
		Tubectomy	Vasectomy
1.	Cap. Amoxycillin-cloxacillin 500 mg	500 capsules	600 capsules
2.	Tab. Ciprofloxacin	500 capsules	600 capsules
3.	Tab. Ibuprofen 400 mgs	500 tablets	600 tablets
4.	Tab. B Complex 200 tablets	200 tablets	200 tablets
5.	Tab. Iron	200 tablets	-

F. Disinfectants/Antiseptics, etc.

Serial No.	Name	No. Required	
		Tubectomy	Vasectomy
1.	Gluteraldehyde *	10 litre	5 litre
2.	Povidine Iodine 5%	1.5 litre	1.5 litre
3.	Spirit	2 litre	1 litre
4.	Bleaching Powder 150 gms packets	15 packets	15 packets
5.	Surgical Hand scrub	500 ml	500 ml
6.	Detergent powder	250 gms.	250 gms.

* Should be available with the team, if site does not provide regular sterilization services.

G. Dressing Material

Serial No.	Name	No. Required	
		Tubectomy	Vasectomy
1.	Medicated tape large size		50
2.	Adhesive plaster-10 cm wide	2 rolls	-
3.	Bandages 6"	3 dozen	4 dozen
4.	Cotton ½ kg. roll	2	2
5.	Gauze Thin	4	4

Annexure 1

Equipment for Male/Female Sterilization

Equipment/instruments and supplies are given for a client load of 30 for one surgical team

A. Sterilization Equipment for Male/Female Sterilization

Serial No.	Item	No. Required	
		Female Sterilization	Male Sterilization
1.	Laprocator/laparoscope sets	3	-
2.	Minilap sets	5	-
3.	NSV Kits		5
4.	Conventional Vas Kit	-	5
5.	Voltage stabilizer	1	
6.	Falope-rings	40 pairs	-
7.	CO2 cylinder (if available)	2	-
8.	Insufflators	1	-

B. Anaesthesia Equipment

Serial No.	Item	No. Required
1.	Portable Boyle's apparatus*	1
2.	Oxygen cylinders with mask (adult) and wrench	2
3.	Nitrous oxide cylinders*	2
4.	Laryngoscope	1
5.	Ambu bag adult size	1
6.	Endotracheal tubes	1 of each size

* If anaesthetist available

H. Other Equipment and Articles

Serial No.	Name		No. Required	
			Tubectomy	Vasectomy
1.	Cidex tray		3	2
2.	Female Urethral Catheter		2 (metal)	--
3.	Enema cans		2	--
4.	Sponge holding forceps		6	6
5.	Vaginal Speculum (Sims)		3	--
6.	Volsellum		3	--
7.	Sterilized surgical gloves	6.5 Nos. 7 & 7.5 Nos.	40 pairs 40 pairs 40 pairs	30 pairs 30 pairs 40 pairs
8.	Utility Gloves	7, 8 and 9 Nos.	6 pairs	6 pairs
9.	BP apparatus		3	2
10.	Stethoscope		3	2
11.	Torch 4 cell		1	1
12.	Heat convectors		2	2
13.	Sterilization drums		12	6
14.	Autoclave		2	2
15.	Boilers for HLD		3	2
16.	Steel bowls		6	6
17.	Chittle's forceps		3	2
18.	Sharp scissors for gauze cutting		1	1
19.	Sterilized Syringes	10 ml	40	20
		5 ml	40	20
		2 ml	40	5
20.	Surgical blades No. 11, 15		10 pieces each	10 pieces each *
21.	Catgut chromic 1-0		15 foils	25
22.	Silk thread 2-0		2 roll	2 roll
23.	4 burner stove		2	2
24.	Anterior vaginal wall retractor		2	--
25.	Uterine sound		2	--

* If conventional vasectomy done

Contd...

Serial No.	Name	No. Required	
		Tubectomy	Vasectomy
26.	Powder for gloves * *	500 gms	500 gms
27.	Wash basin	2	2
28.	Kidney trays, stainless steel	3	3
29.	Hypodermic needles numbers 23,24,26	4 dozen each	4 dozen each
30.	I/V Sets	5	5
31.	Scalp vein sets size 21	35	5
32.	Venflon 20G	5	5
33.	Plastic Ccontainers for decontamination	2	2
34.	Plastic tubs for cleaning instruments	2	2
35.	Plastic linen container (for used linen), with cover	2	2
36.	Waste containers	4	4
37.	Wall clock	1	1

** If autoclaved gloves are used

I. Linen

Serial No.	Name	No. Required	
		Tubectomy	Vasectomy
1.	Surgical Gowns	20	10
2.	Plastic aprons	6	6
3.	Caps	20	10
4.	Masks	20	10
5.	Eye cover / shield *	12	6
6.	Covered plastic shoes sizes 8 & 9 or shoe cover	12 pairs	12 pairs
7.	Sterilized surgical sheets (Cut sheets)	40	40
8.	Mackintosh sheet	15 meters	15 meters
9.	Surgeon suits	12	--
10.	Patient suits	30	

* If service provider uses own power glasses, then not required, other wise plain glasses/eye shield required

Annexure 2

Management of Emergencies in Sterilization Services

It is essential that when an emergency occurs the doctors, nurses and other staff should respond competently in order to save the life of the client. Members of the staff must be trained to handle specific complications. The person monitoring the client in the operating operation room theatre and in the recovery room must be aware of early signs of complications, and be able to take initial emergency action. At least one member of the team must know how to administer cardiopulmonary resuscitation.

Knowing what to do in an emergency requires knowledge of:

- ◆ Clinical situations, their diagnosis and the treatment
- ◆ Drugs, their use, administration and side effects
- ◆ Emergency equipment and how it functions and
- ◆ The role of each team member in an emergency

A. Approach to an Emergency

When some one collapses or becomes suddenly ill:

- ✦ Try to keep calm and think logically: you probably do know what to do.
- ✦ Make sure that some one with medical knowledge stays with the client
- ✦ Call for help. Delegate someone to call other assistants and get the oxygen cylinder, Ambu bag and emergency drugs.
- ✦ Talk to the client; ask questions.
- ✦ Stop any procedures that are in progress on the client and
- ✦ Proceed with the following -
 - ◆ Lower the head of the table
 - ◆ Give oxygen
 - ◆ Start an IV if not in place
 - ◆ Note the time
 - ◆ Continue to monitor vital signs
 - ◆ Assess the client's ABC : Airways, Breathing and Circulation

B. Assess the Client's ABCs

Airway:

Is there anything blocking the mouth or throat? Has the tongue fallen back? Try to extend the neck and pull the jaw forward.

Breathing:

Is the client breathing? Put your cheek down to the client's mouth to look, listen and feel for the passage of air.

Circulation:

Check for pulse, preferably carotid. Use 5 seconds to check the pulse in the neck.

C. Cardio-pulmonary Resuscitation (CPR)

Step A: Airways

1. Open air ways, use head tilt – chin lift position to correct obstruction by tongue.
2. Look, listen and feel for breathing for 3-5 seconds
3. Keep air way open
4. Clear air way by suctioning any secretions or vomitus

Head Tilt – Chin Lift



If client is not breathing, follow Step B

Step B: Breathing

1. Insert oral airway. Insert airway up side down (curved tip pointing to roof of the mouth) and rotate the air way 180 degrees during insertion until the flange is against teeth.
If oral air way cannot be passed, insert a nasopharyngeal air way.
2. Ventilate patient using either an Ambu bag with 100% oxygen or manual resuscitator with room air. Place mask over mouth and nose. Apply pressure to keep sealed. Compress bag to deliver air.
If the above is not available – perform mouth- to- mouth resuscitation.

3. Give two slow breaths.
 - ◆ Maintain head tilt – chin lift position
 - ◆ Ensure breaths go in by watching chest rise and by listening for breath sounds with stethoscope on side of patient's chest
 - ◆ If breaths do not go in, reposition head and try again to give breaths.
 - ◆ Allow all air to escape between breaths
 - ◆ Avoid overly large volumes of breaths
4. Check carotid pulse. If patient has no pulse, follow Step C.
5. Continue breathing at the rate of 10-12 breaths per minutes until the patient breathes spontaneously. Avoid more rapid breaths.
6. Place Endo-tracheal tube (if trained and skilled personnel available).

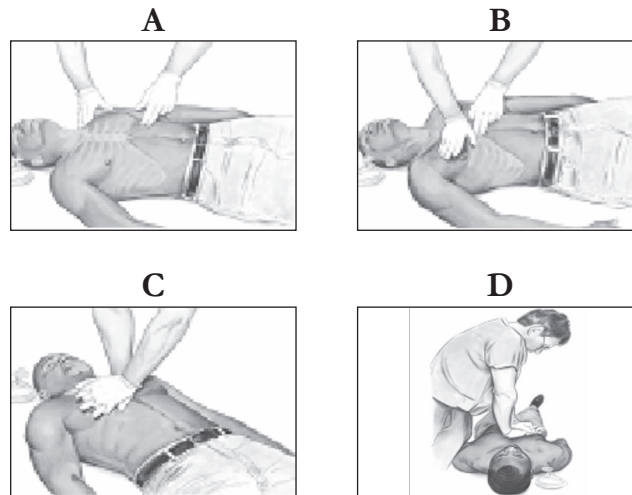
Step C: Circulation

Perform external cardiac compression

(1) Chest compression technique

1. Place your fingers on the lower margin of the client's rib cage on the side nearer you (Shown in Figure).
2. Slide your fingers up the rib cage to the notch where the ribs meet the lower sternum in the centre of the lower part of the chest.
3. Place the base of one hand on the lower half of the sternum (Shown in Figure) and the other hand on top of the first, so that the hands are parallel (Shown in Figure).
4. Keep hands in contact with the chest at all times.
5. Compress sternum down 4 to 5 cm. smoothly.

Position the rescuer's hand on the lower half of the sternum



Two person rescue:

- ◆ Give 5 compressions in approximately 3 seconds
- ◆ Give 1 full breath. After every 5 compressions pause to allow second medical attendant to give 1 breath. Give breaths as in Step B.

One person rescue:

- ◆ Give 15 compressions in approximately 10 seconds
 - ◆ Give 2 full breaths. After every 15 compressions give two breaths. Give breaths as in Step B.
6. Stop CPR after one minute to determine if the patient has resumed spontaneously breathing or circulation; otherwise do not stop CPR for more than 5 seconds.
 7. Continue CPR until client responds or for a minimum of 30 minutes
 8. Apply ECG leads if available. Continue CPR and transfer the patient to a higher centre if needed.

Annexure 3

Common Emergency Drugs

Drug	Situation	Dose	Precautions/ Comments	Effects
Pheneramine Maleate 25 mg tabs 2cc amp- 25 mg /cc	Allergic reactions or anaphylactic reaction	With early symptoms (rash, hives, rhinitis) give 25 mg orally. If symptoms of respiratory difficulty give 50 mg SC/IM or IV and follow with adrenaline	Causes drowsiness. Do not exceed 75 mgs. If anaphylaxis worsen, give adrenaline	Allergic reactions and anaphylaxis: It is antihistaminic and will reduce the rash, hives, itching, congestion and inflammation caused by the allergic reaction (histamine release). It is the first drug given when allergic symptoms are observed.
Adrenaline Epinephrine) 1:1000	- Severe asthma or - Anaphylactic reaction	0.5 mg. SC or IM (Massage injection site). May repeat every 10 minutes until symptoms improve	1:1000 is not the concentration for IV use. 1:1000 must be diluted in 10-20 cc IV fluids to give by IV route. If symptoms progress give Dexamethasone	- Asthma and anaphylaxis: Adrenaline produces bronchodilation, which relieves breathing difficulties during bronchospasm. In small doses adrenaline causes vaso dilation which can correct lung constriction and wheezing. Giving adrenaline during an anaphylactic reaction or acute asthma may save the client's life. - Anaphylactic Shock: In large doses, adrenaline is a vaso-constrictor that will raise blood pressure and pulse rate. Thus adrenaline is a life saving drug in anaphylactic shock. - Cardiac arrest: Adrenaline produces cardiac and central nervous system stimulation. When there is no breathing and no or faint pulse, giving adrenaline is to attempt to stimulate the heart to begin beating again.
	- Cardiac arrest or no pulse - no breathing	0.5 mg of 1: 1000 diluted in 10 – 20 ml IV fluids or 0.5 mg of 1: 10000 IV. May repeat every 3 minutes	Do not give adrenaline 1:1000 IV undiluted or quickly. Adrenaline will precipitate if mixed with other IV drugs	
Atropine 0.6 mg/ml 1 cc Vial	Vaso-vagal reaction / syncope (fainting)	0.6 mg /ml	Side effects of dry mouth and tachycardia (fast heart rate)	- Vaso-vagal syncope (fainting from severe fear or pain): Atropine increases the heart rate and cardiac output.

Contd...

Drug	Situation	Dose	Precautions/ Comments	Effects
	Cardiac arrest	0.6 mg/ml	1 mg IV may be repeated every 5 minutes to total of 3 mg	Atropine is effective in faintness after/during a procedure (minilap, IUD insertion) - Cardiac arrest: Atropine increases heart rate of pumping and may correct dysrhythmias caused by a slow heart rate. - Pre surgery: Atropine is used as a premedication for surgery, as it decreases secretions (respiratory and GI tracts) and may prevent a slow heart rate (bradycardia) which is the side effect of some pain medications (Pentazocine) used during tubectomy.
Dexa-methasone vial – 4mg / cc	Anaphylaxis or severe asthma	8 mg IV	Hydrocortisone 200 mg if Dexamethasone is not available	- Anaphylaxis or severe asthma: During an asthma attack or severe allergic reaction the body reacts with inflammation/swelling. Dexamethasone and hydrocortisone are corticosteroids that decrease inflammation and increase the capillary permeability. In asthma or anaphylactic reaction, a steroid will ease the breathing difficulties. Steroids also are used in cerebral oedema and septic shock
Diazepam 2cc vial – 5 mg /cc	Seizure	5 mg IV may be repeated every 10 minutes to maximum of 20 mg.	Give slowly over 2 minutes. Side effect of respiratory depression	- Seizure: Diazepam causes skeletal muscle to relax and is used to stop status-epileptics and/or titanic muscle spasm. - Pre-surgery: Reduces feeling of anxiety and helps clients be calm and co-operative during pain/fear producing procedures
Naloxone 1cc vial - 5 mg/1cc	Narcotic drug overdose	0.4 mg SC/IM/IV and may be repeated every 2 minutes to maximum of 10 mg	Reverses respiratory depression from narcotic medications.	- Opiate overdose: Naloxone reverses the effect of narcotics (pethidine, Pentazocine, morphine etc.) in the case of a narcotic overdose. Naloxone will reverse respiratory depression and thus is a life saving drug
Promethazine 2cc vial – 25 mg/cc	Nausea and vomiting	25 mg IM/IV/PO		- Nausea/vomiting: Promethazine is an antihistamine that produces sedation and reduces nausea. Vomiting in a sedated patient has potential risk of aspiration. Promethazine is also used as an adjunct drug to prevent nausea from pre-surgical medications (Pentazocine)

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