

CLINICAL TRAINING *for*
REPRODUCTIVE HEALTH
in EMERGENCIES

Post-Abortion Care



PARTICIPANT GUIDE

RAISE

Reproductive
Health Access,
Information
and Services
in Emergencies

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ACRONYMS

C	Centigrade	L	Litre
CBT	Competency-based training	mg	Milligram
cc	Cubic centimetres	mL	Millilitre
cm	Centimetre	mm	Millimetre
CNS	Central nervous system	mmHg	Millimetre of mercury
DIC	Disseminated intravascular coagulation	mcg	Microgram
DVD	Digital versatile disc	MSI	Marie Stopes International
EmOC	Emergency obstetric care	MVA	Manual vacuum aspiration
F	Fahrenheit	NSAID	Non-steroidal anti-inflammatory drugs
g	Gram	PAC	Post-abortion care
h	Hour	PCI	Provider client interaction
Hg	Mercury	POC	Products of conception
HIV	Human immunodeficiency virus	PID	Pelvic inflammatory disease
HLD	High-level disinfection	RAISE	Reproductive Health Access, Information and Services in Emergencies
IM	Intramuscular	RH	Reproductive health
IP	Infection prevention	STI	Sexually transmitted infection
IPAS	International Pregnancy Advisory Service	TB	Tuberculosis
IUD	Intrauterine device	USAID	United States Agency for International Development
IV	Intravenous	VCT	Voluntary Counselling and Testing
LAM	Lactational amenorrhoea method	WHO	World Health Organisation
LMP	Last menstrual period (first day)		

INTRODUCTION

The rights of displaced people to reproductive health (RH) were recognised at the International Conference on Population and Development in 1994. Since then, RH service provision has progressed, but substantial gaps remain in services, institutional capacity, policy and funding. It has been shown that provision of emergency obstetric care, clinical family planning methods, care for survivors of gender-based violence and management of sexually transmitted infections (STIs) is lacking in most conflict-affected settings.

One of the key barriers to the provision of comprehensive RH services is the lack of skilled providers. In order to address this, RAISE has developed a comprehensive training package, including training centres and course manuals. The clinical training teams provide theoretical and practical training to RH service providers at the training centres, as well as on-site supervision at the participants' workplace and on-going technical assistance. Providing clinical training to humanitarian agency and ministry of health staff from a range of conflict settings, the RAISE training team aims to improve the quality of care of RH services in conflict settings.

The resources in the Clinical Training for Reproductive Health in Emergencies series are based on existing materials and have been updated and adapted for use in emergency settings. All manuals have been pre-tested at the RAISE Training Centre at Eastleigh Maternity Home in Nairobi. Many procedures and protocols remain unchanged from non-emergency settings. However, in some instances it is necessary to adapt a protocol to recognise the particular challenges faced in emergency settings.

The Post-abortion Care (PAC) learning resource package comprises materials and supervised clinical practise. The materials are:

- **trainer guide and reference guide (for the trainer)**
- **participant guide and reference guide (for the training participant)**

INTRODUCTION *to* this TRAINING COURSE

OVERVIEW

This clinical training course will be conducted in a way that is different from traditional training courses. First of all, it is based on the assumption that people participate in training courses because they:

- are interested in the topic
- wish to improve their knowledge or skills, and thus their job performance
- desire to be actively involved in course activities.

For these reasons, all of the course materials focus on the participant. For example, the course content and activities are intended to promote learning, and the participant is expected to be actively involved in all aspects of that learning. Second, in this training course, the clinical trainer and the participant are provided with a similar set of educational materials. The clinical trainer by virtue of his/her previous training and experiences works with the participants as an expert on the topic and guides the learning activities. In addition, the clinical trainer helps create a comfortable learning environment and promotes those activities that assist the participant in acquiring the new knowledge, attitudes and skills. Finally, the training approach used in this course stresses the importance of the cost-effective use of resources and application of relevant educational technologies including humanistic training techniques. The latter encompasses the use of anatomic models, to minimise client risk and facilitate learning.

LEARNING APPROACH

Mastery learning

The mastery learning approach assumes that all participants can master (learn) the required knowledge, attitudes or skills provided sufficient time is allowed and appropriate learning methods are used. The goal of mastery learning is to ensure that 100% of the participants will “master” the knowledge and skills on which the learning is based. Mastery learning is used

extensively in in-service training where the number of participants, who may be practising clinicians, is often low. Although the principles of mastery learning can be applied in pre-service education, the larger number of participants presents some challenges. Although some participants are able to acquire new knowledge or new skills immediately, others may require additional time or alternative learning methods before they are able to demonstrate mastery. Not only do people vary in their abilities to absorb new material, but they also learn best in different ways—through written, spoken or visual means. Effective learning strategies, such as mastery learning, take these differences into account and use a variety of teaching methods. The mastery learning approach also enables the participant to have a self-directed learning experience. This is achieved by having the trainer serve as facilitator and by changing the concept of testing and how test results are used. Moreover, the philosophy underlying the mastery learning approach is one of continual assessment of learning in which the trainer regularly informs participants of their progress in learning new information and skills.

With the mastery learning approach, assessment of learning is:

- competency-based, which means assessment is keyed to the learning objectives and emphasises acquiring the essential skills and attitudinal concepts needed to perform a job, not just to acquiring new knowledge
- dynamic, because it enables participants to receive continual feedback on how successful they are in meeting the course objectives
- less stressful, because from the outset participants, both individually and as a group, know what they are expected to learn, know where to find the information and have ample opportunity for discussion with the trainer.

Mastery learning is based on principles of adult learning. This means that learning is participatory, relevant and practical. It builds on what the participant

already knows or has experienced and provides opportunities for practising skills. Key features of mastery learning are as follows:

- behaviour modelling
- competency-based
- humanistic learning techniques.

Behaviour modelling

Social learning theory states that when conditions are ideal, a person learns most rapidly and effectively from watching someone perform (model) a skill or activity. For modelling to be successful, however, the trainer must clearly demonstrate the skill or activity so that participants have a clear picture of the performance expected of them. Behaviour modelling, or observational learning, takes place in three stages. In the first stage, skill acquisition, the participant sees others perform the procedure and acquires a mental picture of the required steps. Once the mental image is acquired, the participant attempts to perform the procedure, usually with supervision. Next, the participant practises until skill competency is achieved, and he/she feels confident performing the procedure. The final stage, skill proficiency, occurs with repeated practise over time.

Skill acquisition	Knows the steps and their sequence (if necessary) to perform the required skill or activity but needs assistance
Skill competency	Knows the steps and their sequence (if necessary) and can perform the required skill
Skill proficiency	Knows the steps and their sequence (if necessary) and effectively performs the required skill or activity

Competency-based training

Competency-based training (CBT) is learning by doing. It focuses on the specific knowledge, attitudes and skills needed to carry out the procedure or activity. How the participant performs (i.e., a combination of knowledge, attitudes and, most important, skills) is emphasised rather than just the information learned. Competency in the new skill or activity is assessed objectively by evaluating overall performance.

To successfully accomplish CBT, the clinical skill or activity to be taught must be broken down into its essential steps. Each step is then analysed to determine the most efficient and safest way to perform and learn it. The process is called standardisation. An essential component of CBT is coaching, in which the classroom or clinical trainer first explains a skill or activity and

then demonstrates it using an anatomic model or other training aid, such as a video. Once the procedure has been demonstrated and discussed, the trainer then observes and interacts with participants to guide them in learning the skill or activity, monitoring their progress and helping them overcome problems. The coaching process ensures that the participant receives feedback regarding performance:

- before practise - the trainer and participants meet briefly before each practise session to review the skill/activity, including the steps/tasks that will be emphasised during the session
- during practise - the trainer observes, coaches and provides feedback to the participant as he/she performs the steps/tasks outlined in the learning guide
- after practise - immediately after practise, the trainer uses the learning guide to discuss the strengths of the participant's performance and to offer specific suggestions for improvement.

Humanistic training techniques

The use of humanistic techniques also contributes to better clinical learning. A major component of humanistic training is the use of anatomic models, which

closely simulate the human body, and other learning aids. Initially working with models rather than with clients allows participants to learn and practise new skills in a simulated setting. This reduces stress for the participant as well as risk of injury

and discomfort to the client. Thus, effective use of models (humanistic approach) is an important factor in improving the quality of clinical training and, ultimately, service provision.

Before a participant performs a clinical procedure with a client, two learning activities should occur:

- i) the clinical trainer should demonstrate the required skills and client interactions several times using an anatomic model, role-plays or simulations
- ii) under the guidance of the trainer, the participant should practise the required skills and client interactions using the model, role-plays or simulations and actual instruments in a setting that is as similar as possible to the real situation.

Only when skill competency has been demonstrated should participants have their first contact with a client. This often presents challenges in a pre-service education setting when there are large numbers of participants. Before any participant provides services to a client, however, it is important that the participant demonstrates skill competency using models, role-plays or simulations, especially for core skills. When mastery learning, which is based on adult learning principles and behaviour modelling, is integrated with CBT, the result is a powerful and extremely effective method for providing clinical training. And when humanistic training techniques, such as using anatomic models and other learning aids, are incorporated, training time and costs can be significantly reduced.

LEARNING METHODS

A variety of learning methods, which complement the learning approach described in the previous section, are included in the learning resource package. A description of each learning method is provided below.

Illustrated lectures

Lectures should be used to present information about specific topics. During lectures, the trainer should direct questions to participants and also encourage them to ask questions at any point during the lecture. Another strategy that encourages interaction involves stopping at predetermined points during the lecture to discuss issues and information of particular importance.

Group activities

Group activities provide opportunities for participants to interact with each other and learn together. The main group activities cover three important topics: clinical decision-making, interpersonal communication and infection prevention (IP). The group activities associated with these topics are important because they provide a foundation for learning the skills required for clinical decision-making, interpersonal communication and IP. All of these skills are essential for providing post-abortion care (PAC).

Case studies

The purpose of the case studies included in the learning resource package is to help participants develop and practise clinical decision-making skills. The case studies can be completed in small groups or individually, in the classroom, at the clinical site or as homework assignments. The case studies follow a clinical decision-making framework. Each case study has a key that

contains the expected responses. The trainer should be thoroughly familiar with these responses before introducing the case studies to participants. Although the key contains "likely" answers, other answers provided by participants during the discussion may be equally acceptable.

Role-plays

The purpose of the role-plays included in the learning resource package is to help participants develop and practise interpersonal communication skills. Each role-play requires the participation of two or three participants, while the remaining participants are asked to observe the role-play. Following completion of the role-play, the trainer uses the questions provided to guide discussion. Each role-play has a key that contains the likely answers to the discussion questions. The trainer should be familiar with the answer key before using the role-plays. Although the key contains "likely" answers, other answers provided by participants during the discussion may be equally acceptable.

Learning guides and checklists

The learning guides and checklists used in this course are designed to help the participant learn to provide PAC services. The participant guide contains learning guides, whilst the trainer's guide contains both learning guides and checklists. There are learning guides and checklists in the learning resource package

Each learning guide contains the steps or tasks performed by the provider for the specific procedure.

These tasks correspond to the information presented in relevant chapters of the resource materials. This facilitates participant review of essential information. The participant is not expected to perform all of the steps or tasks correctly the first time he/she practises them. Instead the learning guides are intended to:

- help the participant in learning the correct steps and the order in which they should be performed (skill acquisition)
- measure progressive learning in small steps as the participant gains confidence and skill (skill competency).

Before using the learning guides for PAC, the clinical trainer will review each procedure with the participants using the relevant learning materials. In addition, participants will be able to watch each procedure during demonstration sessions with the appropriate model and/or to observe the activity being performed in the clinic with a client. Used consistently, the learning guides and

checklists for practise enable each participant to chart his/her progress and to identify areas for improvement. Furthermore, the learning guides are designed to facilitate communication (coaching and feedback) between the participant and clinical trainer. When using the learning guides, it is important that the participant and clinical trainer work together as a team. For example, before the participant attempts a skill or activity (e.g., manual vacuum aspiration) for the first time, the clinical trainer should briefly review the steps involved and discuss the expected outcome. The trainer should ask the participant whether he/she feels comfortable continuing. In addition, immediately after the skill or activity has been completed, the clinical trainer should debrief the participant. The purpose of the debriefing is to provide positive feedback about the participant's progress and to define the areas (knowledge, attitude or practise) where improvement is needed in later practise sessions.

Using the learning guides

The learning guides for PAC procedures are designed to be used primarily during the early phases of learning (i.e., skill acquisition) when the participant is practising with models.

The Learning Guide for Management of incomplete or unsafe abortion using misoprostol and the Learning Guide for Post-abortion Family Planning Counselling should be used at first during practise (simulated) counselling sessions using volunteers or with clients in real situations.

In the beginning, the participant can use the learning guides to follow the steps as the clinical trainer demonstrates the procedures with a training model or role-plays counselling a woman. Later, during the classroom practise sessions, they serve as step-by-step guides for the participant as he/she performs the skill using the models or counsels a volunteer "client."

Because the learning guides are used to help in developing skills, it is important that the rating (scoring) be done carefully and as objectively as possible. The participant's performance of each step is rated on a three-point scale as follows:

Needs improvement	Step or task not performed correctly or out of sequence (if necessary) or is omitted
Competently performed	Step or task performed correctly in proper sequence (if necessary) but participant does not progress from step to step efficiently
Proficiently performed	Step or task efficiently and precisely performed in the proper sequence (if necessary).

Using the checklists for practise

The checklists for PAC procedures are based on the information provided in the learning guides. As the participant progresses through the course and gains experience, dependence on the detailed learning guides decreases and the checklists may be used in their place. The checklists focus only on the key steps in the entire procedure and can be used by the participant when providing services in a clinical situation to rate his/her own performance. These checklists that the participant uses for practise are the same as the checklists that the clinical trainer will use to evaluate the participant's performance at the end of the course. The rating scale used is described below:

Satisfactory	Performs the step or task according to the standard procedure or guidelines
Unsatisfactory	Unable to perform the step or task according to the standard procedure or guidelines
Not observed	Step or task not performed by participant during evaluation by trainer.

Skills practise sessions

Skills practise sessions provide participants with opportunities to observe and practise clinical skills, usually in a simulated setting. The outline for each skills practise session includes the purpose of the particular session, instructions for the trainer, and the resources needed to conduct the practise session, such as models, supplies, equipment, learning guides and checklists.

Before conducting a skills practise session, the trainer should review the session and ensure that he/she can perform the relevant skill or activity proficiently. The trainer should also ensure that the necessary resources are available and that an appropriate site has been reserved. Although the ideal site for conducting skills practise sessions may be a learning resource centre or

clinical laboratory, a classroom may also be used, provided that the models and other resources for the session can be conveniently placed for demonstration and practise.

The first step in a skills practise session requires participants to review the relevant learning guide, which contains the individual steps or tasks, in sequence (if necessary), to perform a skill or activity in a standardised way. The learning guides are designed to help learn the correct steps and the sequence in which they should be performed (skill acquisition) and measure progressive learning in small steps as the participant gains confidence and skill (skill competency).

Next, the trainer demonstrates the steps/tasks, several times if necessary, for the particular skill or activity and then has participants work in pairs or small groups to practise the steps/tasks and observe each other's performance, using the relevant learning guide.

The trainer should be available throughout the session to observe the performance of participants and provide guidance. Participants should be able to perform all of the steps/tasks in the learning guide before the trainer assesses skill competency, in the simulated setting, using the relevant checklist. Supervised practise should then be undertaken at a clinical site before the trainer assesses skill competency with clients, using the same checklist.

The time required to practise and achieve competency may vary from hours to weeks or months, depending on the complexity of the skill, the individual abilities of participants and access to appropriate models and equipment. Therefore, numerous practise sessions will usually be required to ensure achievement of competency before moving into the clinical skills practise area.

Clinical simulations

A clinical simulation is an activity in which the participant is presented with a carefully planned, realistic re-creation of an actual clinical situation.

The participant interacts with persons and things in the environment, applies previous knowledge and skills to respond to a problem, and receives feedback about those responses without having to be concerned about real-life consequences.

The purpose of using clinical simulations is to develop participants' clinical decision-making skills. The clinical simulations included in the learning resource package, therefore, provide participants with the opportunity to develop the skills they need to address complex, rare or life-threatening situations before moving into the clinical skills practise area. The clinical simulations may, in fact, be the only opportunity participants have to experience some rare situations and therefore may also be the only way that a trainer can assess participants' abilities to manage such situations.

The simulations in this package combine elements of case studies, role-plays and skills practise using anatomic models. The situations they present were selected because they are clinically important, require active participation by the participants, and include clinical decision-making and problem-solving skills. The simulations are structured so that they accurately reflect how clinical situations develop and progress in real life. Participants are provided with only a limited amount of information initially. Once they have analysed this information and have identified the need for additional information, this information is provided. Participants may also perform any procedures or other skills as needed if the appropriate models and equipment are available. Based on the data they collect, participants make decisions regarding diagnoses, treatment and further information needed. The trainer asks the participants questions about what they are doing, why a particular choice was made, what the other alternatives might be, what might happen if circumstances or findings were to change, and so forth. In other words, the trainer explores the participants' decision-making process, depth of knowledge, and understanding, and then provides feedback and suggestions for improvement.

The simulation should be conducted in as realistic a setting as possible, meaning that the models, equipment and supplies needed for managing the situation should be available to the participant. Because many of the situations addressed in simulations are clinically complex, providing the models and other equipment often requires creativity and ingenuity. Participants will need time and repeated practise to achieve competency in the management of the complex situations presented in the simulations. They should be provided with as many opportunities to participate in simulations as possible.

The same simulation can be used repeatedly until the situation it presents is mastered. It can also be adapted to address different causes for the problem it presents, different treatment options or different outcomes, to provide participants with as wide a variety of experiences as possible. When a simulation is used for assessment, one standard version should be used with all participants to ensure the consistency of assessment standards and allow comparison of the performance of individual participants.

COMPONENTS *of the* POST-ABORTION CARE (PAC) LEARNING RESOURCE PACKAGE

COURSE DESIGN

The course builds on each participant's past knowledge and takes advantage of his/her high motivation to accomplish the learning tasks in the minimum time. Training emphasises doing, not just knowing, and uses competency-based evaluation of performance.

Specific characteristics of this course are as follows:

- during the morning of the first day, participants demonstrate their knowledge of PAC by completing a written Pre-Course Questionnaire
- classroom and clinical sessions focus on key aspects of PAC
- progress in knowledge-based learning is measured during the course using a standardised written assessment (Mid-Course Questionnaire)
- clinical skills training builds on the participant's previous experience relevant to PAC. For many of the skills, participants practise first with anatomic models, using learning guides that list the key steps in performing the skills/procedures for managing obstetric emergencies. In this way, they learn the standardised skills more quickly
- progress in learning new skills is documented using the clinical skills learning guides
- a clinical trainer uses competency-based skills checklists to evaluate each participant's performance
- clinical decision-making is learned and evaluated through case studies and simulated exercises and during clinical skills practise with clients
- appropriate interpersonal skills are learned through behaviour modelling, role-play and evaluation during clinical skills practise with clients.

Successful completion of the course is based on mastery of the knowledge and skills components, as well as satisfactory overall performance in providing care for women who require post-abortion care.

EVALUATION

This clinical training course is designed to produce healthcare providers (i.e., doctors, midwives and/or nurses with midwifery skills) who are qualified to provide PAC, as team members, at health centres and hospitals. Qualification is a statement by the training institution(s) that the participant has met the requirements of the course in knowledge, skills and practise. Qualification does not imply certification. Only an authorised organisation or agency can certify personnel. Qualification is based on the participant's achievement in three areas:

- **knowledge:** a score of at least 85% on the Mid-Course Questionnaire
- **skills:** satisfactory performance of clinical skills for managing obstetric emergencies
- **practise:** demonstrated ability to provide care in the clinical setting for women who experience obstetric emergencies.

The participant and the trainer share responsibility for the participant becoming qualified. The evaluation methods used in the course are described briefly below:

- **Mid-Course Questionnaire.** Knowledge will be assessed at the end of the second week of the course. A score of 85% or more correct indicates knowledge-based mastery of the material presented during classroom sessions. For those participants scoring less than 85% on their first attempt, the clinical trainer should review the results with the participant individually and guide him/her on using the reference manual(s) to learn the required information. Participants scoring less than 85% may take the Mid-Course Questionnaire again at any time during the remainder of the course.
- **Clinical skills.** Evaluation of clinical skills will occur in three settings—during the first three weeks of the course, with models in a simulated setting and with clients at the clinical training site; and during the six-week to three-month self-directed practicum, at the time of the mentoring visit at the participant's

hospital. In each setting, the clinical trainer will use skills checklists to evaluate each participant as they perform the skills and procedures needed to manage obstetric emergencies and interact with clients. Case studies and clinical simulations will be used to assess problem-solving and decision-making skills. Evaluation of the interpersonal communication skills of each participant may take place at any point during this period through observation of participants during role-plays. Participants should be competent in performing the steps/tasks for a particular skill or procedure in a simulated setting before undertaking supervised practise at a clinical site. Although it is desirable that all of the skills/procedures included in the training course are learned and assessed in this manner, it may not be possible. For example, because obstetric emergencies are not common, opportunities to practise particular skills with clients may be limited; therefore, practise and assessment of skill competency should take place in a simulated setting.

- **Clinical skills practise.** It is the clinical trainer's responsibility to observe each participant's overall performance in providing PAC during the group-based course and during the self-directed practicum. This includes observing the participant's attitude—a critical component of quality service provision—towards women who experience obstetric emergencies and towards other members of the PAC team. By doing this, the clinical trainer assesses how the participant uses what he/she has learned. Further evaluation is provided during the six-week to three-month self-directed practicum (see below) and is important for several reasons. First, it not only provides the participant direct feedback on his/her performance, but also provides an opportunity to discuss any problems or constraints related to the provision of PAC (e.g., lack of instruments, drugs and other supplies). Second, and equally important, it provides the clinical service/training centre, via the clinical trainer, key information on the adequacy of the training and its appropriateness to local conditions.

COURSE SYLLABUS

Course description

This clinical training course is designed to prepare participants to manage incomplete and unsafe abortion and work effectively as members of a team. The course begins with a two-week block at a designated training site and focuses on the development, application and

evaluation of knowledge and skills; the first week takes place in the classroom and the second week in designated clinical sites. The first two weeks are followed immediately by a six-week to three-month self-directed practicum at the participant's worksite, during which the clinical trainers for the course provide at least one follow-up visit for mentoring and further evaluation. See page 15 for participant guidelines for the self-directed practicum.

Course goals

- influence in a positive way the attitudes of the participant towards teamwork and his/her abilities to manage and provide PAC services
- provide the participant with the knowledge and clinical skills needed to respond appropriately to obstetric emergencies
- provide the participant with the decision-making skills needed.
- provide the participant with the interpersonal communication skills needed to respect the right of women to life, health, privacy and dignity.

Learning objectives

By the end of this course, participants will be able to:

1. Use the recommended IP practices for all aspects of PAC
2. Describe the process of rapid initial assessment and management of a woman who presents with a problem
3. Describe and identify the presenting signs and symptoms of shock and describe immediate and specific management
4. Describe and identify the presenting signs and symptoms of complications of unsafe or incomplete abortion
5. Provide post-abortion family planning counselling and methods.

Training/learning methods

- illustrated lectures and group discussions
- case studies
- role-plays
- simulated practise with anatomic models
- simulations for clinical decision-making
- guided clinical activities (providing care and performing procedures for women who require post-abortion care).

Timetable: Week 1 (Day 1 – Day 6)

TIME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6
8:30am-10:30am	<p>Session 1 Registration Welcome and Introductions Participants Expectations Group Norms Pre-Course Questionnaire Bio-data Form Logistics Course Goals, Objectives and Schedule Review of Course Materials Review of Course Evaluation System</p>	<p>Agenda Warm-up Recap</p> <p>Session 3 MVA Pain Control for MVA</p>	<p>Agenda Warm-up Recap</p> <p>Session 5 Infection Prevention</p>	<p>Agenda Warm-up Recap</p> <p>Session 8 Post-abortion Family Planning</p>	<p>Agenda Warm-up Recap</p> <p>Preparation for Practicals</p>	PRACTICALS
10:30am-11:00am	MORNING TEA BREAK					
11:00am-1:00pm	<p>Session II Introduction to PAC Concept of Comprehensive Abortion Care</p>	<p>Performing MVA Procedure</p>	<p>Session 6 Post-abortion Complications</p>	<p>Session 9 Record keeping</p>	PRACTICALS	PRACTICALS
1:00pm-2:00pm	LUNCH BREAK					
2:00pm-3:30pm	<p>Client Assessment and Preparation</p>	<p>Session 4 Counselling</p>	<p>Post-abortion Complications</p>	<p>Working on Models</p>	PRACTICALS	
3:30pm-4:00pm	AFTERNOON TEA BREAK					
4:00pm-5:00pm	<p>Methods Available for Abortion</p>	<p>Counselling</p>	<p>Session 7 Community Linkages</p>	<p>Working on Models (cont'd)</p>	PRACTICALS	PRACTICALS
5:00pm-5:30pm	<p>End-of-day Evaluation Summary</p>	<p>End-of-day Evaluation Summary</p>	<p>End-of-day Evaluation Summary</p>	<p>End-of-day Evaluation Summary</p>	<p>End-of-day Evaluation Summary</p>	<p>End-of-day Evaluation Summary</p>

Week 2 (Day 8 - Day 12)

TIME	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12
8:30am-10:30am	PRACTICALS	PRACTICALS	PRACTICALS	PRACTICALS	Review and Discussion of Course Post-course Test
10:30am-11:00am	MORNING TEA BREAK				
11:00am-1:00pm	PRACTICALS	PRACTICALS	PRACTICALS	PRACTICALS	Develop Action Plans
1:00pm-2:00pm	LUNCH BREAK				
2:00pm-3:30pm	PRACTICALS	PRACTICALS	PRACTICALS	PRACTICALS	Post-test Feedback
3:30pm-4:00pm	AFTERNOON TEA BREAK				
4:00pm-5:00pm	PRACTICALS	PRACTICALS	PRACTICALS	PRACTICALS	Post-course Evaluation Review and End
5:00pm-5:30pm	End-of-day Evaluation Summary	End-of-day Evaluation Summary	End-of-day Evaluation Summary	End-of-day Evaluation Summary	

Learning materials

The learning materials for the course are as follows:

- reference manuals:
 - MSI - DVD. The Marie Stopes Procedure
 - MSI - DVD. Vocal Local
 - MSI - DVD. Preventing the Spread of Infection
- instruments and equipment:
 - vaginal speculum (Sims)
 - sponge (ring) forceps or uterine packing forceps
 - single tooth tenaculum forceps
 - basic uterine evacuation instruments PLUS:
 - vacuum syringes (single/double valve)
 - silicone lubricant
 - adapters
 - flexible cannulae, 4 - 12mm
 - pelvic models
- Additional materials:
 - Family Planning: A Global Handbook for Providers

Participant selection criteria

Participants for this course must be:

- practising clinicians (doctors, midwives and/or nurses with midwifery skills) who work at a facility where PAC is being provided or planned actively involved in the management of incomplete or unsafe abortion at the beginning of the course and committed to continuing their involvement upon completion of the course, including the provision of PAC services
- selected from health facilities capable of demonstrating consistent institutional support for PAC services (i.e., supplies, equipment, supervision, linkages with referral facilities)
- supported by their supervisors or managers to achieve improved job performance after completing the course. In particular, participants should be prepared to communicate with supervisors or managers about the course and seek endorsement for training, encouragement for attendance and participation, and involvement in the transfer of new knowledge and skills to their job.

Course duration

The course is composed of 10 classroom sessions (four days), followed by one week of supervised clinical skills practise and a six-week to three-month self-directed

practicum. It is important to note that course duration may need to be revised depending on participants' experience and progress in learning new knowledge and skills. For example, if participants do not develop skills competency by the end of the course, it may be necessary to extend supervised clinical skills practise and/or the self-directed practicum. Alternatively, it may also be necessary to extend the classroom component of the course.

PARTICIPANT GUIDELINES FOR SELF-DIRECTED PRACTICUM

The purpose of the six-week to three-month self-directed practicum is to provide participants with an opportunity to apply the knowledge and skills learned during the first five weeks of the PAC training course, at their worksites. During the self-directed practicum, trainers will visit participants' worksites towards the end of the first and third months of the practicum to provide individual and team guidance, support and evaluation. Additional visits will be scheduled, if necessary, based on the individual and team needs of participants. The dates for mentoring visits will be agreed upon before the practicum begins.

PARTICIPANT RESPONSIBILITIES

- During the self-directed practicum, participants will be expected to apply their knowledge and skills while providing PAC. The participant must record the experience in his/her Clinical Experience Log Book, including the client's unit/hospital number, presenting symptom(s), diagnosis, treatment and outcome. Participants should, in particular, seek learning opportunities that will help meet the specific learning needs noted at the end of the week-long clinical skills practise period that preceded the self-directed practicum. In conjunction with skills practise, participants will be expected to demonstrate accountability for their actions
- demonstrate recognition of and respect for the right of women to life, health, privacy and dignity
- use appropriate interpersonal communication skills when providing care, with particular emphasis on PAC apply recommended IP practices.

TEAM RESPONSIBILITIES

As team members, participants will be responsible for implementing the Action Plan developed at the end of the week-long clinical practise period. At a minimum,

this should include conducting emergency drills ensuring readiness of the health facility for managing abortion complication

ensuring consistent availability of equipment, supplies and drugs for abortion complications ensuring IP practices are in place.

Team members should meet twice weekly (e.g., Mondays and Fridays) to discuss the following:

Start of week meetings:

- plan for the week
- emergency drills
- readiness of all areas of the hospital for managing complications of abortion
- availability of equipment, supplies and drugs

End of week meetings:

- clinical cases of complications of abortion: presenting symptom(s), diagnosis, treatment and outcome
- factors that facilitated clinical skills development
- factors that made clinical skills development difficult, overcoming difficulties
- individual and team strengths with respect to clinical skills practise
- aspects of individual and team work that need to be strengthened and how to accomplish this.

DOCUMENTING ACTIVITIES

Participants will be expected to use their Clinical Experience Log Book and their Action Plan Worksheets to document the activities undertaken during the self-directed practicum.

Clinical experience log book

Participants must record activities/experience in the relevant section of their Clinical Experience Log Book on a daily basis. This will include information on clients for whom PAC has been provided, notes on perceptions of their individual progress and notes on team meetings/progress.

Action plan worksheets

Participants will annotate their action plans with the dates the steps were accomplished or make revisions to any aspects of the overall plan. During mentoring visits and subsequent supervisory visits, the trainer/supervisor will assess the degree to which these steps have been achieved.

KNOWLEDGE QUESTIONNAIRES

How the results will be used

The main objective of the Pre-Course Knowledge Questionnaire is to assist both the trainer and the participant as they begin their work together in the course by assessing what the participants, individually and as a group, know about the course topics. This allows the trainer to identify topics that may need additional emphasis during the course. Providing the results of the pre-course assessment to the participants enables them to focus on their individual learning needs. In addition, the questions alert participants to the content that will be presented in the course.

The questions are presented in the true-false format. A special form, the Individual and Group Assessment Matrix, is provided to record the scores of all course participants. Using this form, the trainer and participants can quickly chart the number of correct answers for each of the questions. By examining the data in the Matrix, the group members can easily determine their collective strengths and weaknesses and jointly plan with the trainer how to best use the course time to achieve the desired learning objectives.

For the trainer, the questionnaire results will identify particular topics that may need additional emphasis during the learning sessions. Conversely, for those categories where 85% or more of participants answer the questions correctly, the trainer may elect to use some of the allotted time for other purposes.

KNOWLEDGE QUESTIONNAIRE

Instructions:

In the space provided, print a capital **T** if the statement is **TRUE** or a capital **F** if the statement is **FALSE**.

1.	The rights of women to choose when, if and with whom to engage in sexual activity and whether or when to have children is a basic human right.	
2.	Unsafe abortion is a procedure performed either by persons lacking in necessary skills or in an environment lacking in medical standards.	
3.	Taking herbs, poison or traditional medicine to induce an abortion may lead to cramping nausea and vomiting.	
4.	Manual vacuum aspiration is the most widely used recommended method of uterus evacuation.	
5.	If a client is suffering from shock they should rest in a quiet room away from other clients.	
6.	High blood pressure is a sign of shock.	
7.	The MVA procedure can begin before the size of the uterus has been determined.	
8.	The Uterine size can be determined using bimanual examination.	
9.	During an abdominal examination you should check for masses, suprapubic or pelvic tenderness and distended abdomen with decreased bowel sounds.	
10.	Spontaneous abortion occurs in one in five (20%) of clinically recognised pregnancies.	
11.	MVA instruments are made up of a semi rigid cannula and a vacuum forming syringe.	
12.	Any size of cannula is used for the MVA procedure.	
13.	The risks associated with MVA procedures are lower than those with sharp curettage procedures and full term delivery.	
14.	After a PAC procedure a normal menstrual period should begin within 2 weeks.	
15.	The goal of pain management is to ensure that the procedure can be done as quickly as possible so that many patients can be seen in one day.	
16.	Fear and anxiety can increase the amount of pain experienced.	
17.	The MVA procedure causes no pain at all to the client.	
18.	Vocal Local is a pain management method that is drug free and is based on reducing anxiety, involving the client and demedicalising the procedure.	

Knowledge Questionnaire (cont'd)

19. Misoprostol, a drug effective in post abortion care, is administered in 4 doses.	
20. Bleeding is considered a side effect, after administering misoprostol.	
21. Staff attitude towards the client can be helpful but is not that important.	
22. Women will return to fertility 4 weeks after an abortion.	
23. Family planning methods should be available at the site were the PAC procedure is offered.	
24. One designated individual in each health facility should be responsible for infection prevention.	
25. Careful handling of sharps is essential to protect staff members from exposure to TB.	
26. To decontaminate instruments a solution of 50% chlorine should be used.	
27. Ten minutes is enough time for instruments to be soaked in a chlorine solution.	
28. Instruments do not need to be cleaned and decontaminated before sterilising by autoclave.	
29. The maximum storage time for wrapped sterile items is 14 days.	
30. Sharps can be destroyed by burning.	

Mid-Course Individual and Group Assessment Matrix

Correct – ✓ Incorrect – ✗

Dates: Clinical trainer(s):

QUESTION NUMBER	CORRECT ANSWERS (PARTICIPANTS)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													

Mid-Course Individual and Group Assessment Matrix (cont'd)

QUESTION NUMBER	CORRECT ANSWERS (PARTICIPANTS)													
	1	2	3	4	5	6	7	8	9	10	11	12	13	
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
PERCENTAGE														



**SKILLS PRACTISE SESSION:
LEARNING GUIDES**



SKILLS PRACTISE SESSION: MANAGEMENT *of* INCOMPLETE *or* UNSAFE ABORTION

Purpose

The purpose of this activity is to enable participants to practise management of incomplete abortion and unsafe abortion using MVA or misoprostol, achieve competency in the skills required and develop skills in post-abortion family planning counselling.

Instructions

This activity should be conducted in a simulated setting, using the appropriate model.

Participants should review the Learning Guide for Post-abortion Care (MVA) before beginning the activity and the Learning Guide for Post-abortion Family Planning Counselling.

The trainer should demonstrate the preliminary steps (medical evaluation, explaining the procedure, pelvic examination), followed by the steps in the MVA procedure for participants. Under the guidance of the trainer, participants should then work in pairs to practise the steps/tasks and observe each other's performance, using the Learning Guide for Post-abortion Care (MVA).

The trainer should then demonstrate the steps/tasks in providing post-abortion family planning counselling.

Under the guidance of the trainer, participants should then work in groups of three to practise the steps/tasks and observe each other's performance; one participant should take the role of the post-abortion woman, the second should practise counselling skills and the third should observe performance using the Learning Guide for Post-abortion Family Planning Counselling. Participants should then reverse roles until each has had an opportunity to practise counselling skills.

Participants should be able to perform the steps/tasks in the Learning Guide for Post-abortion Care (MVA) and Learning Guide for Post-abortion Family Planning Counselling before skill competency is assessed by the trainer in the simulated setting, using the Checklist for Post-abortion Care (MVA) and Checklist for Post-abortion Family Planning Counselling.

Finally, following supervised practise at a clinical site, the trainer should assess the skill competency of each participant, using the Checklist for Post-abortion Care (MVA) and Checklist for Post-abortion Family Planning Counselling.¹

¹ If clients are not available at clinical sites for participants to practise PAC in relation to obstetric emergencies, the skills should be taught, practised and assessed in a simulated setting.

Resources

The following equipment or representations thereof:

- Pelvic model
- High-level disinfected or sterile surgical gloves
- Personal protective equipment
- MVA syringes and cannula
- Vaginal speculum
- Single-toothed tenaculum or vulsellum forceps

Learning Guide for Post-abortion Care (MVA)

Learning Guide for Post-abortion Family Planning Counselling

Learning Guide for Post-abortion Care (MVA)

Learning Guide for Post-abortion Family Planning Counselling

1. LEARNING GUIDE FOR PREPARING MANUAL VACUUM ASPIRATION (MVA) EQUIPMENT

(To be completed by **Participants**)

Rate the performance of each step or task observed using the following rating scale (Write 1, 2 or 3 as the case may be in the box provided):

1. **Needs Improvement:** Step or task not performed correctly or out of sequence (if necessary) or is omitted
2. **Competently Performed:** Step or task performed correctly in proper sequence (if necessary) but participant does not progress from step to step efficiently
3. **Proficiently Performed:** Step or task efficiently and precisely performed in the proper sequence (if necessary)

(Many of the following steps/tasks should be performed simultaneously)

STEP/TASK	CASES				
	1	2	3	4	5
SELECT CANNULA AND SYRINGE					
1. Assess uterine size.					
2. Select cannula appropriate to uterine size and cervical dilations.					
3. Inspect cannula for cracks or signs of weakness. Discard if any seen.					
4. Select syringe and adapter (if required).					
5. Inspect syringe and adapter for cracks or signs of weakness. Discard if any seen.					
ASSEMBLE CANNULA AND SYRINGE					
1. Attach adapter (if required) to end of syringe or cannula.					
2. Check that the plunger is positioned fully within the barrel of the syringe, with the pinch valve open and the valve button out.					
3. Grasp the barrel of the syringe and pull back on the plunger until the arms of the plunger snap outward.					
4. Check that the plunger cannot move forward without being released.					
5. Check the syringe for vacuum tightness by leaving the syringe for a couple of minutes once the vacuum is established then open the pinch valve and listen for a rush of air into the syringe.					
6. Place the prepared equipment on sterile cloth and cover until procedure begins.					

2. LEARNING GUIDE FOR POST-ABORTION CARE [MANUAL VACUUM ASPIRATION (MVA)]

(To be completed by **Participants**)

Rate the performance of each step or task observed using the following rating scale (Write 1, 2 or 3 as the case may be in the box provided):

1. **Needs Improvement:** Step or task not performed correctly or out of sequence (if necessary) or is omitted
2. **Competently Performed:** Step or task performed correctly in proper sequence (if necessary) but participant does not progress from step to step efficiently
3. **Proficiently Performed:** Step or task efficiently and precisely performed in the proper sequence (if necessary)

(Many of the following steps/tasks should be performed simultaneously)

STEP/TASK	CASES				
	1	2	3	4	5
INITIAL ASSESSMENT					
1. Greet the woman respectfully and with kindness.					
2. Assess client for shock and other life-threatening conditions.					
3. If any complications are identified, stabilise the client and transfer, if necessary.					
MEDICAL EVALUATION					
1. Obtain a reproductive health history.					
2. Perform limited physical (heart, lungs and abdomen) and pelvic examinations.					
3. Perform indicated laboratory tests.					
4. Provide the woman with information about her condition and what to expect.					
5. Discuss her reproductive goals, as appropriate.					
6. If she is considering an IUD: <ul style="list-style-type: none"> ■ She should be fully counselled regarding IUD use. ■ The decision to insert the IUD following the MVA procedure will be dependent on the clinical situation. 					
GETTING READY					
1. Explain to the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.					
2. Provide continual emotional support and reassurance, as feasible.					
3. Explain that she may feel discomfort during some of the steps of the procedure and that you will warn her in advance.					
4. Give paracetamol by mouth to the woman 30 minutes before the procedure.					
5. Determine that the necessary equipment and supplies are present: <ul style="list-style-type: none"> ■ Ensure the required sterile or high-level disinfected instruments are present. ■ Ensure the appropriate size cannula and adapters are available. 					
6. Check the MVA syringe and charge it (establish vacuum).					
7. Check that client has recently emptied her bladder.					
8. Check that client has thoroughly washed and rinsed her perineal area. If she is too unwell, ensure this is done for her.					
9. Put on personal protective equipment.					
10. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a sterile cloth or air dry.					
11. Put high-level disinfected or sterile surgical gloves on both hands.					
12. Arrange sterile or high-level disinfected instruments on sterile tray or in high-level disinfected container.					

2. LEARNING GUIDE FOR POST-ABORTION CARE [MANUAL VACUUM ASPIRATION (MVA)] (cont'd)

STEP/TASK	CASES				
	1	2	3	4	5
PRE-PROCEDURE TASKS					
1. Inform client of each step in the procedure prior to performing it.					
2. Perform bi-manual pelvic examination, checking the size and position of uterus and degree of cervical dilatation.					
3. Insert the speculum and remove blood or tissue from vagina using sponge, forceps and gauze.					
4. Apply antiseptic solution to cervix and vagina three times using gauze or cotton sponge.					
5. Remove any products of conception (POC) from the cervical os and check cervix for tears.					
ADMINISTERING PARACERVICAL BLOCK (WHEN NECESSARY)					
1. Prepare 20mL 0.5% lidocaine solution without adrenaline.					
2. Draw 10mL of 0.5% lidocaine solution into a syringe.					
3. If using a single-toothed tenaculum, inject 1mL of lidocaine solution into the anterior or posterior lip of the cervix (the 10 o'clock or 12 o'clock position is usually used).					
4. Gently grasp anterior lip of the cervix with a single-toothed tenaculum or vulsellum forceps (preferably, use ring or sponge forceps if incomplete abortion).					
5. With tenaculum or vulsellum forceps on the cervix, use slight traction and movement to help identify the area between the smooth cervical epithelium and the vaginal tissue.					
6. Insert the needle just under the epithelium and aspirate by drawing the plunger back slightly to make sure the needle is not penetrating a blood vessel.					
7. Inject about 2ml of a 0.5% lidocaine solution just under the epithelium, not deeper than 3mm, at 3, 5, 7 and 9 o'clock.					
8. Wait two minutes and then pinch the cervix with the forceps. (If the woman feels the pinch, wait two more minutes and then retest.)					
MVA PROCEDURE					
1. Gently apply traction on the cervix to straighten the cervical canal and uterine cavity.					
2. If necessary, dilate cervix using progressively larger cannula.					
3. While holding the cervix steady, push the selected cannula gently and slowly into the uterine cavity until it just touches the fundus (not more than 10cm). Then withdraw the cannula slightly away from the fundus.					
4. Attach the prepared MVA syringe to the cannula by holding the cannula in one hand and the tenaculum and syringe in the other. Make sure cannula does not move forward as the syringe is attached.					
5. Release the pinch valve(s) on the syringe to transfer the vacuum through the cannula to the uterine cavity.					
6. Evacuate any remaining contents of the uterine cavity by rotating the cannula and syringe from 10 to 2 o'clock and moving the cannula gently and slowly back and forth within the uterus.					
7. If the syringe becomes half full before the procedure is complete, detach the cannula from the syringe. Remove only the syringe, leaving the cannula in place.					
8. Push the plunger to empty POC into the strainer.					
9. Recharge syringe, attach to cannula and release pinch valve(s).					

2. LEARNING GUIDE FOR POST-ABORTION CARE [MANUAL VACUUM ASPIRATION (MVA)] (cont'd)

STEP/TASK	CASES				
	1	2	3	4	5
10. Check for signs of completion (red or pink foam, no more tissue in cannula, a “gritty” sensation and uterus contracts around the cannula). Withdraw the cannula and MVA syringe gently.					
11. Remove cannula from the MVA syringe and push the plunger to empty POC into the strainer.					
12. Remove tenaculum or forceps from the cervix before removing the speculum.					
13. Perform bi-manual examination to check size and firmness of uterus.					
14. Rinse the tissue with water or saline, if necessary.					
15. Quickly inspect the tissue removed from the uterus to be sure the uterus is completely evacuated.					
16. If no POC are seen, reassess situation to be sure it is not an ectopic pregnancy.					
17. Gently insert speculum and check for bleeding.					
18. If uterus is still soft or bleeding persists, repeat steps 3-10.					
POST-PROCEDURE TASKS					
1. Before removing gloves, dispose of waste materials in a leakproof container or plastic bag.					
2. Place all instruments in 0.5% chlorine solution for 10 minutes for decontamination.					
3. Attach used cannula to MVA syringe and flush both with 0.5% chlorine solution.					
4. Detach cannula from syringe and soak them in 0.5% chlorine solution for 10 minutes for decontamination.					
5. Empty POC into utility sink, flushable toilet, latrine or container with tight-fitting lid.					
6. Use antiseptic handrub or wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.					
7. Check for bleeding and ensure that cramping has decreased before discharge.					
8. Instruct client regarding PAC and warning signs.					
9. Tell her when to return if follow-up is needed and that she can return anytime she has concerns.					

TROUBLESHOOTING DURING MVA PROCEDURE

(To be completed by **Participants**)

Rate the performance of each step or task observed using the following rating scale (Write 1, 2 or 3 as the case may be in the box provided):

1. **Needs Improvement:** Step or task not performed correctly or out of sequence (if necessary) or is omitted
2. **Competently Performed:** Step or task performed correctly in proper sequence (if necessary) but participant does not progress from step to step efficiently
3. **Proficiently Performed:** Step or task efficiently and precisely performed in the proper sequence (if necessary)

(Many of the following steps/tasks should be performed simultaneously)

STEP/TASK	CASES				
	1	2	3	4	5
1. Loss of vacuum due to full syringe.					
1.1 Close valves, disconnect syringe from the cannula, empty the syringe into a kidney dish.					
1.2 Recharge syringe and reattach it to the cannula and release the pinch valves to resume aspiration.					
2. Loss of vacuum due to aperture of the cannula being withdrawn beyond the cervical os.					
2.1 Remove the cannula taking care not to contaminate it through contact with the vaginal wall or other non-sterile surfaces.					
2.2 Close the pinch valve of the syringe.					
2.3 Detach the syringe from the cannula, empty the syringe, and recharge the syringe.					
2.4 Reinsert the cannula if it has not been contaminated or insert another sterile cannula if contamination has occurred.					
2.5 Reconnect the syringe, release the pinch valve and resume aspiration.					
3. Cannula becomes clogged with POC.					
3.1 Remove the syringe and cannula, taking care not to contaminate the cannula through contact with vaginal wall or non-sterile surface.					
3.2 Remove the material from the opening in the cannula using a sterile forceps or sponge, without contaminating the cannula. Proceed as in steps 2.2 - 2.5.					
4. Bleeding persists after MVA, and uterus is still soft.					
4.1 Repeat steps 12-18 of the MVA procedure.					

3. LEARNING GUIDE FOR POST-ABORTION CARE TREATMENT OF INCOMPLETE ABORTION WITH MISOPROSTOL

(To be completed by **Participants**)

Rate the performance of each step or task observed using the following rating scale (Write 1, 2 or 3 as the case may be in the box provided):

1. **Needs Improvement:** Step or task not performed correctly or out of sequence (if necessary) or is omitted
2. **Competently Performed:** Step or task performed correctly in proper sequence (if necessary) but participant does not progress from step to step efficiently
3. **Proficiently Performed:** Step or task efficiently and precisely performed in the proper sequence (if necessary)

(Many of the following steps/tasks should be performed simultaneously)

STEP/TASK	CASES				
	1	2	3	4	5
INITIAL ASSESSMENT					
1. Greet the woman respectfully and with kindness.					
2. Assess client for allergy to misoprostol or other prostaglandins, shock, ectopic pregnancy and signs of pelvic infections and or sepsis.					
3. If any of these complications are identified, do not administer misoprostol.					
MEDICAL EVALUATION					
1. Take a reproductive health history.					
2. Perform limited physical (heart, lungs and abdomen) and pelvic examination to confirm the incomplete abortion status.					
3. The crucial clinical findings are an open cervical os and a uterine size less than 12 weeks of gestation.					
4. Where available, use ultrasound as an additional diagnostic tool if you cannot confirm incomplete abortion status by history and clinical exam.					
5. Give the woman information about her condition and what to expect.					
6. Discuss her reproductive goals, as appropriate.					
7. If she has an IUD in place, IUD should be removed before drug administration.					
8. Make sure she has no coagulation disorders or is currently taking anticoagulants.					
GETTING READY					
1. Explain to the woman (and her support person) what is going to be given to her, listen to her and respond attentively to her questions and concerns.					
2. Provide continual emotional support and reassurance, as feasible.					
3. Explain that she may have some side effects.					
4. Inform client of the course of treatment which involves a follow-up visit.					
REGIMEN					
1. A single dose of 600mcg oral.					
COURSE OF TREATMENT					
1. Explain the use of misoprostol as well as possible side effects and success rate to the woman. Explain that surgical intervention may be needed to empty the uterus for some women.					
2. Explain to her that expulsion can occur over several hours to several weeks and bleeding will most likely be heavy for about three to four days followed by light bleeding or spotting for several weeks.					
3. The woman can take the misoprostol at health facility or at home. Encourage her to ask any questions or voice any concerns.					

3. LEARNING GUIDE FOR PAC TREATMENT OF INCOMPLETE ABORTION WITH MISOPROSTOL (cont'd)

STEP/TASK	CASES				
	1	2	3	4	5
4. Routine antibiotic coverage is not necessary and local norms regarding antibiotic use should be followed if the woman requires antibiotic coverage based on history or clinical exam.					
FOLLOW-UP VISIT IN 7-14 DAYS					
1. Take clinical history and conduct bi-manual exam to see if uterus is firm and well involuted.					
2. Decide surgical completion only on clinical condition of the woman.					
3. Surgical intervention not recommended prior to 7 days after treatment unless medically necessary (i.e., for haemostatic or infection control).					
4. Provide contraceptive counselling and a suitable contraceptive method if desired (See Learning Guide for Post-abortion Family Planning).					
EFFECTS AND SIDE EFFECTS					
1. Bleeding: tell her to seek medical help if she soaks more than two extra large sanitary pads or equivalent per hour for two consecutive hours.					
2. Cramping: give analgesia (e.g., paracetamol).					
3. Fever and/or chills: advise her to seek medical attention if she has a fever that persists more than 24 hours after taking misoprostol.					
4. Advise her that nausea and vomiting may occur two to six hours after taking misoprostol and that this usually resolves within six hours.					
5. Advise her that she may experience diarrhoea but that it should resolve within a day.					
6. Advise her that she may experience a skin rash and that it should resolve within several hours.					

4. LEARNING GUIDE FOR POST-ABORTION FAMILY PLANNING COUNSELLING

(To be completed by **Participants**)

Rate the performance of each step or task observed using the following rating scale (Write 1, 2 or 3 as the case may be in the box provided):

1. **Needs Improvement:** Step or task not performed correctly or out of sequence (if necessary) or is omitted
2. **Competently Performed:** Step or task performed correctly in proper sequence (if necessary) but participant does not progress from step to step efficiently
3. **Proficiently Performed:** Step or task efficiently and precisely performed in the proper sequence (if necessary)

(Many of the following steps/tasks should be performed simultaneously)

STEP/TASK	CASES				
	1	2	3	4	5
INITIAL INTERVIEW					
1. Greet the woman respectfully and with kindness.					
2. Assess whether counselling is appropriate at this time (if not, arrange for her to be counselled at another time and be sure she understands that she can become pregnant before her next menses).					
3. Assure necessary privacy.					
4. Ask if she was using contraception before she became pregnant. If she was, find out if she:					
■ Used the method correctly					
■ Discontinued use					
■ Had any trouble using the method					
■ Has any concerns about the method.					
5. Discuss fertility preferences and desire to get pregnant soon or delay/limit future pregnancy.					
6. Make sure that the woman does not have a medical condition that would contraindicate the use of a particular method (see Family Planning: A Global Handbook for Providers).					
7. Provide general information about family planning.					
8. Provide the woman with information about the contraceptive choices available and the benefits and limitations of each:					
■ Show where and how each is used.					
■ Explain how the method works and its effectiveness.					
■ Explain possible side effects and other health problems.					
■ Explain the common side effects.					
9. Discuss the woman's needs, concerns and fears in a thorough and sympathetic manner.					
10. Help the woman begin to choose an appropriate method.					
11. Explain potential side effects and make sure that each is fully understood.					
12. Perform further evaluation (physical examination), if indicated. (Non-medical counsellors must refer woman for further evaluation.)					
13. Discuss what to do if the woman experiences any side effects or problems.					
14. Provide follow-up visit instructions.					
15. Assure woman she can return to the same clinic at any time to receive advice or medical attention.					
16. Ask the woman to repeat instructions.					
17. Answer the woman's questions.					

CASE STUDY 1:

Maria is a refugee staying with her mother in a camp. Her mother brings her to the clinic with a history of heavy menstrual flow. You assess her and make a diagnosis of incomplete abortion.

Assessment (history, physical examination, screening procedures/laboratory tests)

1. What do you include in your initial assessment of Maria?
2. What particular aspects of Maria's physical examination will help you make a diagnosis or identify her problems/needs? Why?

Diagnosis (identification of problems/needs)

When you examine Maria, you find the following:

3. Which of the above findings help you diagnose Maria to be having incomplete abortion? Why?

Care provision (planning and intervention)

4. Based on your diagnosis (problem/need identification), what is your plan of care for Maria? Why?

Once you have helped Maria decide the best plan of care for her, provide her with appropriate treatment.

5. What instructions will you give Maria before discharge?

CASE STUDY 2:

Caroline is 24 years old and lives alone. She presents with a history of feeling dizzy after bleeding for four days. On examination, you find her to be pale, weak and having heavy vaginal bleeding.

Assessment (history, physical examination, screening procedures/laboratory tests)

1. What do you include in your initial assessment? Why?
2. What particular aspects of Caroline's physical examination will help you make a diagnosis of incomplete abortion?

Diagnosis (identification of problems/needs)

On your examination of Caroline and history taking, you find the following:

3. What symptoms and signs help you to arrive at the diagnosis?

Care provision (planning and intervention)

4. Based on your diagnosis (problem/need identification), what is your plan of care for Caroline? Why?

CASE STUDY 3:

Amina is 32 years old. She comes to the clinic with a five-day history of vaginal bleeding after amenorrhoea of eight weeks. You find her to be febrile with tender uterus. On vaginal examination, you find foul-smelling products of conception (POC).

Assessment (history, physical examination, screening procedures/laboratory tests)

1. What will you include in your initial assessment of Amina?
2. Which particular findings on physical examination will help you make a diagnosis or identify her problems/needs? Why?

Diagnosis (identification of problems/needs)

3. Based on these findings, what is Amina's diagnosis (problem/need)? Why?

Care provision (planning and intervention)

4. Based on your diagnosis (problem/need identification), what is your plan of care for Amina? Why?

Evaluation

Amina underwent MVA successfully. She does not want to conceive until after five years.

5. Based on these findings, what is your continuing plan of care for Amina? Why?

CLINICAL TRAINING *for*
REPRODUCTIVE HEALTH
in EMERGENCIES

Post-Abortion Care



REFERENCE GUIDE

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ACRONYMS

C	Centigrade	L	Litre
CBT	Competency-based training	mg	Milligram
cc	Cubic centimetres	mL	Millilitre
cm	Centimetre	mm	Millimetre
CNS	Central nervous system	mmHg	Millimetre of mercury
DIC	Disseminated intravascular coagulation	mcg	Microgram
DVD	Digital versatile disc	MSI	Marie Stopes International
EmOC	Emergency obstetric care	MVA	Manual vacuum aspiration
F	Fahrenheit	NSAID	Non-steroidal anti-inflammatory drugs
g	Gram	PAC	Post-abortion care
h	Hour	PCI	Provider client interaction
Hg	Mercury	POC	Products of conception
HIV	Human immunodeficiency virus	PID	Pelvic inflammatory disease
HLD	High-level disinfection	RAISE	Reproductive Health Access, Information and Services in Emergencies
IM	Intramuscular	RH	Reproductive health
IP	Infection prevention	STI	Sexually transmitted infection
IPAS	International Pregnancy Advisory Service	TB	Tuberculosis
IUD	Intrauterine device	USAID	United States Aid
IV	Intravenous	VCT	Voluntary Counselling and Testing
LAM	Lactational amenorrhoea method	WHO	World Health Organisation
LMP	Last menstrual period (first day)		

Women seek abortion care services for a wide range of reasons. Spontaneous abortion, also known as miscarriage and women seeking to induce abortion, or seeking treatment for the management of unsafe abortion, all have a need for good quality services, provided by non-judgemental service providers. To ensure women have access to post-abortion care (PAC), services should be available at the lowest level health facility possible. Misoprostol can be provided in a simple health post, as long as manual vacuum aspiration (MVA) is available nearby.¹ MVA can be performed at health centre level, by trained mid-level providers. Surgery, for example to repair a ruptured uterus, should be performed at the referral hospital, with blood transfusion available.

Women have the right to seek PAC services. Providers should treat all clients with empathy and respect. A woman should be provided with services whatever her age, parity or marital status.

Good quality PAC services utilise internationally-recognised methods to manage complications of abortion. MVA is the most widely used recommended method of uterus evacuation. Recently, the use of misoprostol has been recognised as a safe, non-invasive method to achieve the same. Good infection prevention (IP) practices, effective pain management and management of complications are essential components of good quality PAC services.

Components of Good Quality Post-abortion Care Services

- Staff are non-judgemental and empathetic, with good communication skills.
- Staff are skilled in providing internationally-recognised methods of uterine evacuation.
- IP prevention protocols are in place and are followed.
- Pain management begins as soon as the woman arrives, using vocal local technique as well as pharmaceutical pain relief if required.
- Services are private and confidential.
- Post-abortion family planning counselling is provided to all PAC clients.
- Range of contraceptive methods is available for women who wish to delay or limit future pregnancies.
- Referral to related services is available for those women requiring additional services. For example, management of sexually transmitted infections; psychosocial counselling for clients who have experienced gender based violence.

Methods of Uterine Evacuation

- MVA (up to 12 weeks gestation)
- Misoprostol (up to 12 weeks gestation for management of incomplete abortion)
- Dilation and evacuation (after 13 weeks gestation)

¹ World Health Organisation. Safe abortion: technical and policy guidance for health systems. Geneva 2003.

RIGHTS-BASED APPROACH

The rights of women to choose when, if and with whom to engage in sexual activity, and whether or when to have children, have been recognised in a number of human rights documents. The reproductive rights of displaced and refugee women were explicitly recognised in the International Conference on Population and Development held in Cairo in 1994. In addition to an understanding of the global rights frameworks, health providers need to be aware of the legal status of abortion in their country of work. Abortion is completely restricted in very few countries in the world. In most countries, abortion is unrestricted in order to save the life of the woman. Rape is an indication for which abortion is unrestricted in more than half the countries of the world.

In emergency settings, providing PAC services may be very challenging. Rape may be more common in conflict-affected settings. PAC, family planning and

other reproductive health services may not be available in conflict-affected settings. Despite the challenges, health providers should be able to provide good quality post-abortion services.

The essential elements of PAC to reduce death and suffering from the complications of unsafe and spontaneous abortion are:

- treatment of incomplete and unsafe abortion and abortion-related complications
- counselling to identify and respond to women's emotional and physical health needs and other concerns
- availability of family-planning counselling and methods to help women prevent an unwanted pregnancy
- linkages or referrals to other related services, including management of STIs and psychosocial support for gender-based violence.

DEFINITIONS

Spontaneous Abortion	The loss of pregnancy before foetal viability (22 weeks gestation). The stages of spontaneous abortion include: <ul style="list-style-type: none"> ■ Threatened abortion - the client may experience bleeding and cramping. On examination, the cervical os is closed. The pregnancy may continue. ■ Inevitable abortion - pregnancy will not continue, bleeding and cramping lead to expulsion of products of conception (POC). ■ Incomplete abortion - POC have been partially expelled. May be spontaneous or induced abortion. Bleeding may continue and become life threatening. ■ Complete abortion - POC have been completely expelled. May not require medical intervention.
Induced Abortion	Termination of pregnancy through a deliberate intervention intended to end the pregnancy, which may be medical, surgical or result from the use of herbal preparations or other traditional practices that cause the uterus to expel or partly expel its contents (WHO, 2003).
Unsafe Abortion	Procedure performed either by persons lacking in necessary skills or in an environment lacking in minimal medical standards or both (WHO, 1992).
Septic Abortion	Abortion complicated by infection. May occur following any kind of abortion but is more common following illegal abortion and incomplete abortion. Sepsis may result from the infection if microorganisms ascend from the lower genital tract following either spontaneous or unsafe abortion.

INITIAL ASSESSMENT

Health workers should consider the possibility of incomplete abortion in any woman with vaginal bleeding as part of the differential diagnosis. She may not know or suspect that she is pregnant, regardless of her obstetric, menstrual or contraceptive history.

The first step in providing care to a woman suspected of having an incomplete abortion is to assess her clinical situation. The initial assessment may reveal or suggest the presence of immediate life-threatening complications such as shock, severe vaginal bleeding, infection/sepsis or intra-abdominal injury. These problems should be addressed without delay in order to save the client's life or keep her condition from worsening. Even without complications, incomplete abortion can become life threatening if definitive treatment (removal of any retained POC) is delayed. The initial assessment should be followed by prompt treatment or, if indicated, stabilisation and transfer of the client to a higher level facility.

The goal of initial assessment is to:

1. make accurate diagnoses.
 - a) identify life-threatening conditions
 - b) confirm presence of incomplete/inevitable abortion
 - c) determine the size of the uterus.
2. detect presence of complications
3. determine need for appropriate treatment including
 - a) appropriate treatment for evacuation of the uterus (misoprostol, MVA, dilation and evacuation)
 - b) antibiotic drug therapy.
4. identify constraints with respect to treatment or contraindications:
 - allergic reactions
 - chronic illnesses
 - bleeding disorders.

MANAGEMENT OF POST-ABORTION COMPLICATIONS

Shock

Shock is a life-threatening condition that requires immediate and intensive treatment to save the patient's life. Shock is the loss of oxygen supply and blood flow to the tissues due to failure of the circulatory system. It may be due to many causes; however, in the case of incomplete abortion, shock usually is caused by blood loss (haemorrhage), infection/sepsis or trauma.

Patients suffering from shock must be treated immediately and watched closely because their condition can worsen quickly. The primary goal in treating shock is to stabilise the patient; that is, to restore the volume and efficiency of the circulatory system as measured by an increase in the blood pressure and decrease in the pulse and breathing rates.

Signs of shock are:

- fast, weak pulse (rate < 110 per minute)
- low blood pressure (< 60mmHg/< 90mmHg)
- pallor (especially of inner eyelid, palms or around the mouth)
- sweating/clammy skin
- rapid breathing (respirations \geq 30 per minute)
- anxiousness, confusion or unconscious.

Initial treatment

The first steps in the care of shock can be life-saving:

- Make sure the **Airway** is open. If available, give oxygen, 6 to 8L per minute by mask or nasal cannula.
- Ensure the client is **Breathing** regularly.
- Raise the patient's legs or the foot of the bed to help blood return to the heart and improve **Circulation**. If this causes difficulty in breathing, she may be experiencing heart failure and

pulmonary oedema; in this case, lower her legs and raise her head to relieve fluid pressure on the lungs.

- Keep the patient warm because hypothermia is a danger, but do not apply external heat sources. Turn the woman's head to the side so that if she vomits, she is less likely to inhale the vomit.
- Regularly monitor breathing, pulse and blood pressure.
- Monitor urine output, if possible. Hourly urine output lower than 30ml is suggestive of decreased circulatory fluid volume (hypovolemia) and may represent acute renal failure.

N.B.: *If IV fluids and other medications are not available, make arrangements to transfer the patient immediately to a health facility where they are available.*

Treatment of shock

- To restore fluid volume, give IV fluids immediately (Ringer's lactate or isotonic saline solution at rate of 1L in 15 to 20 minutes). It may take 1 to 3L of IV fluids to stabilise a client who has lost a lot of blood or is in shock. Do not give fluids by mouth.
- If haemoglobin is 5g/100ml or less, or haematocrit is 15 or less blood transfusion is required.
- If there is any indication that infection may be present, including fever, chills or pus, give broad spectrum antibiotics (IV or IM).
- Consider ruptured ectopic pregnancy or septic abortion and identify treatment options or need for referral.

Laboratory tests:

If available, laboratory tests can help with management of the post-abortion client. Tests which might be utilised are:

- haemoglobin
- haematocrit
- full blood count, including platelet
- Rhesus type and crossmatch blood
- urea and electrolytes.

History Taking

Reproductive information

Specific reproductive health information needed include:

- menstruation history, including irregularity as well as history of amenorrhoea from first day of last menstrual period (LMP)
- pregnancy history, including delivery and loss
- previous or current reproductive tract infection
- current and previous use of contraception
- vaginal bleeding (duration and amount)
- cramping (duration and severity)
- fainting (syncope) and blackouts
- fever, chills or general malaise
- abdominal or shoulder pain
- tetanus vaccination status
- possible exposure to tetanus.

Medical information

- drug allergies
- bleeding disorders
- chronic medications
- poison ingestion
- other health conditions, including previous surgery.

Interpretation of information

After obtaining health information, it is important to interpret the information properly:

- A herb, poison or medicine for instance may cause serious side effects, including cramping, nausea and vomiting.
- Fever may be due to malaria in pregnancy.
- IUD, implants and progestin-only injectables and pills can be associated with bleeding. This may be mistaken for threatened or incomplete abortion.
- Abdominal or shoulder pain may indicate intra-abdominal injury or ectopic pregnancy.
- Possible exposure to tetanus must be considered if there is evidence of insertion of unclean instruments or other materials into the uterus.
- Bleeding disorders such as platelet disorders may cause excess bleeding.

Physical Examination

As part of the initial assessment, it is necessary to conduct a physical examination. Explain to the client what will happen. Be sure to keep her covered with a sheet or towel during the examination to protect her dignity.

During a physical examination:

- Check and record the client's vital signs (temperature, pulse, respirations and blood pressure).
- Note the general health status of the woman (nutritional, anaemia).
- Do systemic examination (lungs, heart, extremities, nervous system).
- During abdominal examination, check for:
 - masses, palpable uterus or gross abnormalities
 - distended abdomen with decreased bowel sounds
 - rebound tenderness with guarding
 - suprapubic or pelvic tenderness.

Pelvic Examination

Prior to the pelvic examination, explain the purpose of the examination to the client and be sure she has emptied her bladder. For the examination, the client should lie on an examination couch and she should be covered with a cloth or drape to protect her dignity and privacy. The clinician should wear clean undamaged gloves during pelvic examination.

The purpose of the pelvic digital examination is to:

- determine the size, consistency and position of the uterus
- check for tenderness
- determine the degree of cervical dilation
- carefully assess the vagina and cervix to check for tears and bleeding.

If the uterine size is difficult to assess, it may be because the uterus is tilted backward (retroversion), the client is overweight or has abdominal guarding (not relaxing the abdomen enough for the uterus to be felt). It is important not to begin MVA procedure for incomplete abortion until the size of the uterus has been determined. If problems in determining the size or position of the uterus are encountered, have a more experienced clinician (if available) assess the uterine size. If there is any doubt, treat the woman as if the pregnancy was more advanced than suspected initially.

Speculum Examination

- Before inserting the speculum:
 - Look at the genital area to see if there is bleeding and assess the amount.
 - Check the odour and colour of the vaginal blood or discharge.
- Insert the speculum to visualise the cervix. Remove any visible POC from the vaginal canal or cervical os and keep the tissue for examination.
- Note any abnormal smelling discharge, the amount of bleeding and whether the cervix is open (dilated) or not. Check for cervical or vaginal tears, lacerations or perforations. Check for pus in the cervix. Cervical infection increases the chance of post-operative uterine infections. This includes acute pelvic inflammatory disease (PID). If infection is present or suspected, take samples for bacteriological culture if possible. Begin antibiotic treatment with broad-spectrum antibiotics before performing MVA.

Vaginal Bleeding

DIAGNOSIS OF VAGINAL BLEEDING IN EARLY PREGNANCY		
Presenting symptom and other symptoms and signs typically present	Symptoms and signs sometimes present	Probable diagnosis <i>(Note: This does not give a differential diagnosis. Consider other causes, such as ectopic pregnancy)</i>
<ul style="list-style-type: none"> ■ light bleeding ■ closed cervix ■ uterus corresponds to dates 	<ul style="list-style-type: none"> ■ cramping/lower abdominal pain ■ uterus softer than normal 	<ul style="list-style-type: none"> ■ threatened abortion
<ul style="list-style-type: none"> ■ light bleeding ■ abdominal pain ■ closed cervix ■ uterus slightly larger than normal ■ uterus softer than normal 	<ul style="list-style-type: none"> ■ fainting ■ tender adnexal mass ■ amenorrhoea ■ cervical motion tenderness ■ signs of shock 	<ul style="list-style-type: none"> ■ ectopic pregnancy
<ul style="list-style-type: none"> ■ light bleeding ■ closed cervix ■ uterus softer than normal 	<ul style="list-style-type: none"> ■ light cramping/lower abdominal pain ■ history of expulsion of poc 	<ul style="list-style-type: none"> ■ complete abortion
<ul style="list-style-type: none"> ■ heavy bleeding ■ dilated cervix ■ uterus corresponds to dates 	<ul style="list-style-type: none"> ■ cramping/lower abdominal pain ■ partial expulsion of poc 	<ul style="list-style-type: none"> ■ inevitable abortion
<ul style="list-style-type: none"> ■ heavy bleeding ■ dilated cervix ■ uterus larger than dates ■ uterus softer than normal ■ partial expulsion of poc which resembled grapes 	<ul style="list-style-type: none"> ■ nausea/vomiting ■ spontaneous abortion ■ cramping/lower abdominal pain ■ ovarian cysts (easily ruptured) ■ early onset pre-eclampsia ■ no evidence of a foetus 	<ul style="list-style-type: none"> ■ molar pregnancy

a) Light to moderate bleeding: takes longer than one hour for a lean pad or cloth to be soaked.
b) Heavy bleeding: blood soaks a pad an hour for two consecutive hours.

Management of Threatened Abortion

- Medical treatment is usually not necessary.
- Advise the woman to avoid strenuous activity and sexual intercourse. Bed rest may be necessary.
- If bleeding stops, encourage the woman to attend antenatal clinic. Reassess if bleeding recurs.
- If bleeding persists, assess for foetal viability using pregnancy test or ultrasound if available or ectopic pregnancy.

Do **not** give medications such as hormones (e.g., oestrogens or progestins) or tocolytic agents (e.g., salbutamol or indomethacin) as they will not prevent miscarriage.

Management of Incomplete Abortion

- If pregnancy is less than 12 weeks and abortion is spontaneous, discuss with client preference for expectant management of evacuation of uterine contents. If expectant management is the preference, provide her with information as to what to expect during the process and warning signs which indicate she should return to the health facility.
- If bleeding is light to moderate and pregnancy is less than 16 weeks, use fingers or ring (or sponge) forceps to remove POC protruding through the cervix.
- If client prefers evacuation of uterine contents or this is the chosen option due to induced abortion, give misoprostol 600mcg by mouth.²

² Blum J, Winikoff B, Gemzell-Danielsson K, Ho PC, Schiavon R, Weeks A. Treatment of incomplete abortion and miscarriage with misoprostol. International Journal of Gynecology & Obstetrics 2007; 99: Supplement, pp.186-89.

- If history of foreign objects inserted into vagina or uterus to induce abortion or if signs of infection, give prophylactic antibiotics.

For all women presenting with incomplete abortion, provide family planning counselling and method as appropriate.

Management of Complete Abortion

- Evacuation of the uterus is usually not necessary.
- Observe for heavy bleeding.
- Provide family planning counselling and method as appropriate.
- Ensure follow-up of the woman after treatment.

Follow-up

- Before discharge, tell a woman who has had a spontaneous abortion that spontaneous abortion is common and occurs in up to 20% (one in every five) of clinically recognised pregnancies.³ Also reassure the woman that the chances for a subsequent successful pregnancy are good.
- Some women may want to become pregnant soon after having an incomplete abortion. The woman should be encouraged to delay the next pregnancy until she is completely recovered. Current evidence suggests that women who have experienced abortion should wait at least six months before attempting to get pregnant again.⁴
- It is important to provide family planning for women who have had an unsafe abortion as some methods of family planning can be started immediately (see p. 55 *Post-abortion Family Planning*).
- Identify any other reproductive health services that a woman may need. For example, some women may need:
 - tetanus prophylaxis or tetanus booster
 - treatment/management for reproductive tract infections and human immunodeficiency virus (HIV)
 - psychosocial support for gender-based violence, including intimate partner violence.

Management of Ectopic Pregnancy

An ectopic pregnancy is one in which implantation occurs outside the uterine cavity. The fallopian tube is the most common site of ectopic implantation (greater than 90%).

Signs and symptoms are extremely variable depending on whether the pregnancy has ruptured. If available, ultrasound should be used to confirm the diagnosis.

Ruptured ectopic pregnancy is a life-threatening condition and requires immediate surgery.

If not ruptured, the ectopic pregnancy can be treated with methotrexate alone, if available.

If methotrexate is not available or contraindicated, surgery is required.

Immediate management of ruptured ectopic pregnancy

- Observe for signs of shock and treat appropriately.
- If surgery is not available, arrange immediate transfer to referral facility.
- Cross-match blood and arrange for immediate laparotomy. **Do not wait for blood before performing surgery.**
- At surgery, inspect both ovaries and fallopian tubes:
 - Do not remove ovary or fallopian tube until ectopic has been identified.
 - If there is **extensive damage to the tube**, perform salpingectomy (the bleeding tube and the POC are excised together). This is the treatment of choice in most cases.
 - Rarely, if there is **little tubal damage**, perform salpingostomy (POC can be removed and the tube conserved). This should be done only when the conservation of fertility is very important to the woman, as the risk of another ectopic pregnancy is high.

³ Alberman E. Spontaneous abortion: epidemiology. In: Stabile S, Grudzinkas G, Chard T, editors. *Spontaneous Abortion: Diagnosis and Treatment*. London: Springer-Verlag. 1992. pp. 9-20.

⁴ What Works: A Policy and Program Guide to the Evidence on Post-abortion Care, USAID 2007. <http://www.infoforhealth.org/pac/research/Compendium.pdf>

Subsequent management

- Prior to discharge, provide counselling and advice on prognosis for fertility. Given the increased risk of future ectopic pregnancy, family planning counselling and provision of a family planning method, if desired, is especially important.
- Correct anaemia with ferrous sulphate or ferrous fumarate. Dose will vary by amount of anaemia.
- Schedule a follow-up visit at four weeks.

Management of Molar Pregnancy

Molar pregnancy is an abnormality of the placenta caused by a problem when the egg and sperm meet. Instead of becoming a viable pregnancy, the placenta develops into a fast-growing mass of cysts (hydatidiform mole).

Immediate management

- If the diagnosis of molar pregnancy is certain, provide blood transfusion or refer to a centre where there is provision of blood transfusion.
- Evacuate the uterus using MVA.
 - Have three syringes cocked and ready for use during the evacuation. The uterine contents are copious and it is important to evacuate them rapidly.
 - If available, use electric aspiration and flexible cannulae.

Subsequent management

- Recommend a very reliable family planning method for a least one year to prevent pregnancy. Voluntary surgical sterilisation may be offered if the woman has completed her family.
- Follow-up every eight weeks for at least one year with urine pregnancy tests because of the risk of persistent trophoblastic disease or choriocarcinoma. **If the urine pregnancy test is not negative after eight weeks** or becomes positive again within the first year, refer the woman to a tertiary care centre for further follow-up and management.

PERFORMING MANUAL VACUUM ASPIRATION

Manual Vacuum Aspiration (MVA) is a safe, effective, and low-cost method of uterine evacuation used for treatment of incomplete abortion. MVA can be used in out-patient settings, thus extending women's access to care. The procedure can be performed by a trained provider in simple procedure room and hence is ideal for emergency settings.

INSTRUMENTS

The MVA instruments (cannula and syringe), which are currently being widely used, were developed by the International Pregnancy Advisory Service (IPAS). These are the instruments to be used during this MVA training. However, other syringes and cannulae are available. Slight adaptations to other equipment may be required.

The MVA equipment is composed of the following parts:

- a valve with a pair of buttons that control the vacuum, a cap and a removable liner
- a plunger with a plunger handle and O-ring
- a 60cc cylinder for holding evacuated uterine contents, with a retaining clip for the collar stop
- a collar stop
- the smaller cannulae (4mm-8mm) that have two opposing apertures
- the larger cannulae (9, 10 and 12mm) that have a larger single scoop aperture
- dots imprinted on each cannula indicate the location of the main aperture; the first dot is 6cm from the cannula tip and dots thereafter are spaced at 1cm intervals.
- cannulae are semi-rigid and have permanently attached colour-coded bases; separate adapters are not necessary. Wings on the bases aid in connection to and disconnection from the aspirator. Some syringes may require adapters to connect to the cannulae.

When selecting your syringe and cannulae check for cracks or other flaws. If any of the below are seen, discard and replace.

Aspirator

- cylinder is brittle or cracked or mineral deposits inhibit plunger movement
- valve parts are cracked, bent or broken
- buttons are broken
- plunger arms do not lock
- aspirator no longer holds a vacuum.

Cannula

- cannula has become brittle
- cannula is cracked, twisted or bent, particularly at the aperture.
- cleaning the cannula does not completely remove tissue.

Assembly and charging of the syringe for aspiration

In preparation for use, the aspirator must first be charged with vacuum, as follows:

1. Open the valve and put the liner in place by aligning the internal ridges. Then close the valve and snap the cap into place.
2. Check the O-ring. Ensure that the O-ring is in the groove at the tip of the plunger. Lubricate it with a single drop of lubricant such as silicone, glycerol or liquid detergent. Never use petroleum-based products such as petroleum jelly on the O-ring as they can deteriorate the rubber. Take care not to over-lubricate the O-ring.
3. Place the syringe into the valve, making sure that the buttons are not engaged while doing so.
4. Insert the plunger all the way into the cylinder. Make sure that the buttons, the wide side of the cylinder base and the plunger handle are in alignment.

5. Affix the collar stop by sliding it under the retaining clip and pushing its tabs into the holes at the base of the cylinder.
6. Push the buttons down and forward until you feel them snap into place.
7. Charge the aspirator by pulling back on the plunger until its arms snap outward and catch on the wide sides of the cylinder base. With the plunger arms in this position, the plunger will not move forward and vacuum is maintained. Incorrect positioning of the arms could allow them to slip back into the cylinder, possibly injecting the contents of the aspirator into the uterus.
8. Never grasp the aspirator by the plunger arms.

Check for vacuum retention before use

1. After establishing the vacuum, leave the aspirator for several minutes and then release the buttons.
2. You should hear a rush of air into the aspirator, indicating that there is a vacuum.
3. If you do not hear a rush of air, displace the collar stop, withdraw the plunger and check that the O-ring is properly placed, lubricated, and free of damage and foreign bodies.
4. Check that the cylinder is firmly placed in the valve. Then reinsert the plunger, reposition the collar stop and retest the aspirator.
5. If vacuum is still not retained, the aspirator cannot be used. Discard it and use another aspirator.

THE MVA PROCEDURE

Prepare the sterile instrument tray.

- Put the following materials which go into the uterine cavity in the “no-touch” space:
 - cannula tips
 - long artery forceps (as a backup).
- Put the following materials in the “gloved hand” part of the tray:
 - handles of ring forceps
 - speculum
 - forceps for cleaning the cervix
 - multi-toothed tenaculum (or vulsellum forceps).

Client care during MVA

- Explain the MVA procedure to the patient.
- Ask about any allergies to antiseptics or anaesthetics.

PREPARING FOR THE PROCEDURE

1. Ensure that all necessary equipment and supplies are available.
2. Select appropriate cannulae. It is advisable to have cannulae of several sizes available. Using a cannula that is too small may result in retained tissue or loss of suction.
3. Ensure emergency supplies and equipment are available in the procedure room: intravenous infusion set and fluids (or a mechanism for stabilisation and referral).
4. Inspect instruments. Ensure that the aspirator holds a vacuum. Discard aspirators with visible cracks or defects and those that do not hold a vacuum.
5. Charge the aspirator. If vacuum is not retained, check the O-ring and lubricate if necessary. If vacuum is still not retained, discard and use another aspirator.

NO-TOUCH TECHNIQUE

In procedures such as MVA where the uterine cavity is entered, it is possible to introduce pathogens into the uterus, resulting in potentially serious infection. To avoid infection, clinicians should always use the no-touch technique during the entire procedure and only use instruments that are sterilised or high-level disinfected before use.

Using the no-touch technique means that the part of the cannula or any other instrument that enters the uterine cavity should not contact contaminated surfaces before insertion through the cervix. Specifically, the tenaculum, cannula or cervical dilator tip should not touch the examination table, unsterile areas of the instrument tray, gloves or vaginal walls before they are inserted. Clinicians should handle the cannulae and other instruments only by the area or end that does not come into contact with the patient. For example, if both ends of metal or plastic cervical dilators are inserted, they should be held by the middle and turned carefully so that they do not touch the speculum or vaginal walls. Also remember to pass the cannulae and dilators through the cervical os as few times as possible. (This minimises contamination of the uterine cavity through microorganisms introduced during dilation and MVA.)

PERFORMING THE PROCEDURE

The MVA procedure can be started once all instruments and supplies are ready and the woman is prepared and

has given her consent to start. Make sure that the bladder is empty and the woman is in semilithotomy or lithotomy position.

1. Initiate vocal local.
2. Confirm findings of initial examination through bi-manual exam, watching for any signs of infection and treating promptly according to protocols.
3. Gently insert the speculum in an oblique direction. Now that you have touched the woman's vagina, your gloves are no longer sterile.
4. Perform cervical antiseptic prep.
5. Give paracervical block (lidocaine), if indicated.
6. Place tenaculum or ring forceps and apply gentle traction.
7. Dilate cervix, if necessary.
 - Cervical dilatation is necessary when the cervical canal will not allow passage of a cannula appropriate to the uterine size.
 - When required, dilatation should be done gently with progressively larger cannulae or tapered mechanical dilators, taking care not to traumatise the cervix. Misoprostol can also be used to soften the cervix (200mcg is inserted vaginally three hours before the procedure).

Suction of uterine contents

Gently introduce the cannula just past the internal os. Slowly push the cannula into the uterine cavity until it touches the fundus and then withdraw it slightly. Rotate the cannula with gentle pressure to help ease insertion.

- Do not insert the cannula forcefully, as forceful movements may cause undue pain or uterine perforation or damage to the cervix, pelvic organs or blood vessels.
- Remain alert to signals that may indicate perforation throughout the procedure and stop suction immediately if they appear.

Attach cannula to aspirator, holding the tenaculum and end of the cannula in one hand and the aspirator in the other. Slide the aspirator backward to attach it to the cannula to avoid the forward movement that may cause perforation.

- Release vacuum by pressing the buttons in; suction will begin immediately.
- Evacuate by slowly and gently rotating cannula and aspirator in a circular direction while using an in-and-out motion. Take care not to withdraw the aperture of the cannula beyond the cervical os, as this will cause a loss of vacuum.

- Blood and tissue will be visible through the cannula and in the aspirator cylinder.
- Check for signs of completion:
 - i) red or pink foam without tissue passes through the cannula
 - ii) gritty sensation as the cannula passes over the surface of the evacuated uterus
 - iii) uterus contracts around the cannula
 - iv) patient feels increased cramping when the uterus is empty, indicating contraction.
- When the procedure is finished, depress the buttons and disconnect the cannula from the aspirator. Alternatively, withdraw the cannula and aspirator together without depressing the buttons.

Inspection of aspirated tissue

It is essential to inspect the aspirated tissue for quantity and presence or absence of POC. Empty the contents of the aspirator into an appropriate container by ensuring the cannula is detached, releasing the buttons, squeezing the plunger arms and pushing the plunger fully into the cylinder. Keep instruments available in case re-aspiration is necessary. Inspecting aspirated tissue is extremely important since it indicates whether the evacuation was complete or whether there is the possibility of an ectopic or molar pregnancy.

If no POC are seen, the possibility of ectopic pregnancy, incomplete procedure or a complete spontaneous abortion should be considered.

- If retained tissue is suspected, repeat the aspiration.

After determining that the procedure is complete, wipe away excess blood from the os and assess the quantity of blood still coming from the uterus or elsewhere.

- Ensure that bleeding is minimal.
- Proceed with any concurrent procedures such as IUD insertion or tubal ligation, which were consented to during pre-abortion family planning counselling.
- Clean instruments and prepare for next client.

Technical difficulties

The most common technical problem seen with MVA instruments is loss of vacuum. During most MVA procedures, the vacuum remains constant until the aspirator is approximately 80% or 50mL full. However, a decrease in vacuum may occur before the aspiration is complete for several reasons, including:

- the aspirator is full
- the cannula is withdrawn past the external os
- the cannula becomes clogged.

If the cylinder fills so that suction stops:

- depress the buttons
- disconnect the aspirator from the cannula, leaving the cannula in place inside the uterus
- empty the aspirator into a container by pressing the buttons and pushing the plunger into the cylinder
- re-establish vacuum in the aspirator, reconnect to the cannula and resume the aspiration.

Never try to empty or unclog the cannula by pushing the plunger back into the cylinder.

Some providers keep a second prepared aspirator on-hand during the procedure and switch aspirators if one becomes full.

If the aperture of the cannula is withdrawn from the uterus beyond the external os, remove the cannula, taking care not to contaminate it through contact with the vaginal walls or other nonsterile surfaces:

- detach the aspirator from the cannula, empty the aspirator, then re-establish vacuum
- reinsert the cannula if it has not been contaminated
- if contamination has occurred, insert another sterile or high-level disinfection (HLD) cannula
- reconnect the aspirator, release the vacuum and continue aspiration.

If the cannula becomes clogged, a lack of tissue or bubbles flowing into the aspirator will be noted:

- ease the cannula back toward, but not through, the cervical os

If this does not unclog the cannula:

- depress the buttons and disconnect the cannula from the aspirator before removing from the uterus, or withdraw the cannula without depressing the buttons
- remove tissue from the opening in the cannula using sterile/HLD forceps or sterile gauze, taking care not to contaminate the cannula
- reinsert the cannula using no-touch technique
- reattach the aspirator and continue the procedure.

Other reasons why the aspirator might not hold a vacuum are:

- incorrect assembly
- a defective aspirator
- the need for a larger cannula to create a tighter seal in the cervix.

Possible complications

Complications are rare with MVA procedures on uterine sizes of less than 12 weeks LMP, particularly when performed by trained providers. Risks with MVA are significantly lower than those with sharp curettage procedures and full-term delivery.

Table 1

SIGNS AND SYMPTOMS	POSSIBLE DIAGNOSIS
Vaginal bleeding; uterus smaller than expected; less tissue than expected; abdominal pain; signs of infection.	Incomplete evacuation Retained tissue
Torn or lacerated cervix; heavy vaginal bleeding; vaginal bleeding after evacuation; sudden excessive pain; rapid heart rate; falling blood pressure; instruments pass further than expected; fat, bowel or momentum in aspirate.	Cervical or abdominal injury Uterine perforation
Vaginal bleeding; large soft uterus.	Molar pregnancy Retained POC at larger gestational age
Fever; chills; foul-smelling discharge; lower abdominal pain; prolonged vaginal bleeding; uterine tenderness.	Pelvic infection
Positive pregnancy test; continued signs of pregnancy; no POC upon tissue inspection.	Ectopic or molar pregnancy Requires immediate action
Respiratory distress; rash; swollen face; metallic taste; ringing in ears; disorientation; seizures; slurred speech.	Medication-related reaction - lidocaine
Hard, enlarged, blood-filled uterus hours/days after procedure; pelvic pain; scant vaginal bleeding ; pain disproportionate to procedure.	Acute haematometra
Inability of blood to clot; serosanguinous bleeding.	Disseminated intravascular coagulation (DIC)

Table 1 (see p. 49) lists complications that may be seen during or after an MVA procedure. The risk of complications increases with greater uterine size, although all complications are rare. Some of these conditions can lead to secondary infertility, serious injury or death. Providers of MVA procedures should also be aware that a vagal reaction (fainting) may occur.

POST-PROCEDURE CARE

Monitor the woman's recovery. Have the woman rest in a comfortable position. Assess and respond sensitively to her emotional state. Monitor her until:

- her pulse and blood pressure are normal for her
- she is able to walk and drink fluids
- she is not experiencing undue pain or bleeding
- she has passed urine.

Provide post-procedure counselling and information.

The post-abortion period provides a critical opportunity to provide information on contraception, recovery, follow-up care, and other sexual and reproductive health issues. Women should be given detailed information regarding the following:

- Post-abortion contraception:
 - Women can become pregnant as soon as 10 days after the procedure.
 - Some methods of contraception should be started immediately following the procedure.
 - Contraceptive counselling and the woman's method of choice should be provided before she leaves the clinic.

Instruction for care

- instructions for taking medications
- information about routine hygiene
- information about resumption of sexual activity which should be delayed until post-abortion bleeding has stopped, usually five to seven days
- signs and symptoms requiring emergency attention
- where to seek emergency care, if needed
- list of counselling and other available services
- date, time and location of follow-up visit, if required.

Signs of a normal recovery

- Some uterine cramping can be expected over the next few days, similar to that of a normal menstrual period.

- Discomfort may be eased by mild analgesics, warm compress or bath.
- Spotting or bleeding should not exceed normal menses.
- A normal period should begin within four to eight weeks.

Signs and symptoms requiring immediate care

- fever, chills, nausea or vomiting for more than 24 hours
- cramping for more than a few days
- tenderness, pain or distention of the abdomen
- heavy bleeding—soaking more than one pad an hour for two consecutive hours
- foul-smelling vaginal discharge
- delay in resumption of menstrual period by more than eight weeks
- fainting or dizziness.

PAIN MANAGEMENT

MVA can be performed in facilities other than a hospital operating room. This has many advantages, including non-pharmacological pain control. There are a number of advantages to non-pharmacological pain control, including potential complications which might arise from the side effects of analgesics. In conflict-affected settings, drugs may not be available and therefore it is good practice for providers to use alternative methods of pain management. It is preferable that analgesics and local anaesthetic are available to ensure that the client has choices about her pain management and is able to choose to have pharmacological pain control if she prefers.

Goal of pain management

The goal of pain management is to guarantee that the patient experiences minimal worry and discomfort with the lowest possible health risks.

Types of pain

1. **Pre-existing pain:** Women who have undergone an incomplete or complicated abortion may already be in pain when they arrive at the health centre, as a result of:
 - expulsion of uterine contents
 - possible infection
 - possible trauma
 - arduous trip to health centre.

2. **Fear and anxiety** will augment the pain experienced by some women as well. A woman may be feeling fear of:

- a serious problem that might need expensive and extensive treatment
- her future health and fertility
- blame and disapproval from health centre staff
- prosecution (in some areas)
- blame from her husband, parents, relatives or community members.

3. **The MVA procedure itself** will cause additional pain and cramping. Patients undergoing MVA for treatment of incomplete abortion may commonly experience two types of pain:

- i) deep pain and cramping caused by dilation of the cervix and stimulation of the internal cervical os
- ii) a diffuse lower abdominal pain with cramping that is caused by movement of the uterus, scraping of the uterine wall, and uterine muscle contractions related to the emptying of the uterine cavity.

Unnecessary intense pain can result from trying to dilate the cervix forcefully, or too quickly.

Pain management techniques require:

- efficient, well-trained team
- quiet, non-threatening treatment room (de-medicalisation)
- friendly, calm, non-judgemental and attentive health workers
- supportive attention from staff before, during and after the procedure
- clear explanations of what is happening
- accurate assessment of the patient's baseline level of pain, anxiety and current reserve (how exhausted she is)
- accurate assessment of the anticipated procedure's impact on the patient's level of comfort (expected difficulty and duration of the procedure)
- timely application of pain control measures
- gentle uterine evacuation
- pain relief as needed following the procedure.

Vocal local

One of the safest approaches to managing MVA pain is to provide the patient with verbal anaesthesia. Given that MVA is a quick, gentle procedure, reducing the patient's anxiety by applying verbal anaesthesia is often sufficient to control pain.

Providing "verbal anaesthesia" also called "vocal local"

Providers can help patients manage pain better through supportive treatment called vocal local.

To provide vocal local:

- De-medicalise the clinic setup so that the environments look homely. Keep emergency drugs and equipment covered so that they are out of sight.
- The room is set up with equipment in place so that the client is in the procedure room for a short time.
- Provider client interaction (PCI) should be warm and friendly.
- One provider shows the client into the room and talks to her throughout the procedure. The provider encourages the client to talk. This partnership with the patient reduces fear and makes her a part of the pain control team.
- One provider performs the procedure, quickly with gentle technique.
- Move slowly, without jerky or quick motions.
- Use flexible non-traumatic instruments.

N.B.: See *Marie Stopes International Training Manual on Vocal Local*.

MEDICAL MANAGEMENT *of* INCOMPLETE ABORTION

Developments in drug therapy mean that surgical aspiration is no longer the only method of safely removing retained POC. Misoprostol is a synthetic prostaglandin E1 analogue which primes the cervix and causes contractions of the uterus. It is relatively cheap, has a long shelf life and is stable at room temperature, making it ideal for low resource settings. It can be administered by non-surgically trained healthcare workers at primary healthcare facilities.

Misoprostol has also been shown to be effective in PAC.

REGIMEN

A single dose of **600mcg orally** is indicated for treatment of incomplete abortion for women presenting with an open cervical os and uterine size equivalent to 12 weeks gestation. It is possible to ascertain gestation from the client history and clinical examination. Eligibility of use of misoprostol should also be assessed.

A woman should not be given misoprostol if she has:

- suspected ectopic pregnancy
- signs of pelvis infection and/or sepsis
- known allergy prostaglandins
- IUD in situ.

TREATMENT AND FOLLOW-UP

Treatment is simple and involves two visits to health centre. At the first visit, the provider assesses pregnancy status and explores options with the client for management of incomplete abortion. The options for expectant management, surgical or medical intervention are explained. The woman, with help from the health provider, chooses the course of treatment which is most suitable for her.

The course of treatment is brief and usually involves two out-patient visits. At the first visit, the incomplete abortion status should be confirmed by history and clinical exam and eligibility for misoprostol assessed. The woman takes the single dose of misoprostol either at the health centre or at home.

At the second visit, 7 to 14 days after the administration of misoprostol, the healthcare worker checks that the abortion is complete.

Routine provision of antibiotics is not necessary. However, if there are signs or symptoms of infection, the healthcare worker may provide appropriate antibiotics. Contraceptive advice and methods are provided at the follow-up visit.

Women are informed of the process and what to expect. Side effects are minimal and short-lived. She is also informed of the success rate and the possible need to undergo MVA to surgically empty the uterus.

BLEEDING

Bleeding is a desired effect after administration of misoprostol and therefore is not considered a side effect. Bleeding may be heavy for three to four days before becoming moderate. This will typically lasts up to two weeks with additional days of spotting that can continue until the next menstrual period.

Women are instructed to contact a healthcare provider if they:

- soak one or more large pads per hour for two consecutive hours
- suddenly experience heavy bleeding after bleeding has slowed or stopped for several days
- have a bleed that is like a normal period, but continues for two weeks
- begin to feel dizzy or light-headed.

SIDE EFFECTS

Cramping: Cramping may begin within 10 minutes of administration of misoprostol. The pain may be similar to or less than usual period pain and can be managed with non-steroidal anti-inflammatory drugs (NSAIDs) or other analgesia such as paracetamol.

Fever and/or chills: Chills are a common side effect of misoprostol but usually pass quickly. Fever is less common, though it does not necessarily indicate infection. If fever or chills persist beyond 24 hours after taking misoprostol, the woman may have an infection and should see a healthcare provider.

Nausea and vomiting: Nausea and vomiting may occur and will within six hours after administration. An antiemetic can be used if needed.

Diarrhoea: Diarrhoea usually resolves within a day.

Skin rash: Occasionally skin rash occurs after administration of misoprostol and should resolve within a matter of hours.

COMMUNICATION

A woman's experience during post-abortion care (PAC) is both physical and emotional. This is the case for women regardless of whether the abortion is spontaneous or induced, safe or unsafe. When women seek professional healthcare they can expect emotional support in addition to medical treatment. When this is provided the woman is better able to understand and accept her medical condition, manage any pain, complete the recommended treatment, and face possible outcomes and related health concerns. Helping women achieve this through a de-medicalised approach and counselling is a highly successful way for providers to offer emotional care to women receiving PAC.

Effective counselling is an integral part of good quality PAC. Counselling provides an opportunity to support the patient in exploring her feelings, assessing her coping ability, managing her anxiety and comprehending the information she needs to make informed decisions. Counselling helps providers identify when patients need special care because of extreme emotional distress or personal circumstances. The most immediate benefits of counselling are more effective patient-provider relationships, treatment that is less painful and distressing, and greater patient satisfaction with the health-care encounter.

STAFF ATTITUDE

Women attending a health facility for PAC may be distressed and anxious. The way in which staff communicate and engage with the client is important in her experience. She may find the treatment less challenging if she feels the staff is sympathetic and non-judgemental. Key elements of staff attitude for PAC clients:

- non-judgemental
- asks open-ended questions
- sympathetic, yet professional

- recognises that her own values may be different than those of clients
- respects clients' values and attitudes
- aware of body language and other non-verbal ways of communicating.

DEFINITION OF COUNSELLING

Counselling is a structured interaction in which a person voluntarily receives emotional support and guidance from a trained person in an environment that is conducive to openly sharing thoughts, feelings and perceptions.

Counselling is...

- soliciting the person's feelings and thoughts
- accepting the person's perceptions and feelings, regardless of societal norms
- respecting the person's privacy and confidentiality
- focusing on the person's—not the counsellor's—needs and concerns
- communicating effectively
- supporting the woman in making her own decision and acting on it
- providing information and helping the person apply that information to meet her needs and desires.

Emotional support for PAC clients

Effective support for PAC clients begins as soon as the client enters the health facility, with a non-medicalised environment, and equipment and supplies discreetly covered or out of sight in cupboards. The client is greeted in a welcoming, non-judgemental way by the staff who receives her at the health centre. Two-way communication between the client and staff members continues throughout her contact with all members of staff who engage with her during her visit.

The client is given additional information before she leaves the health facility. This includes:

- information on her treatment, outcome and any test results as well as follow-up visits which may be required
- when she can resume sexual activity
- information on family planning (see Table 2 on p. 56)
- Any additional information she requires.

PRIVACY AND CONFIDENTIALITY

All clients attending health services should expect privacy and confidentiality, and this may be particularly important for PAC clients.

- Privacy refers to the provision of services, including consultation, tests and treatment, without others being able to see or hear.
- Confidentiality refers to the private nature of information disclosed by the client and which may not be disclosed to others without the consent of the client.

It is important for the client to consult in private with the staff, whether clinician or counsellor, without family or partner present.

POST-ABORTION FAMILY PLANNING

Women can return to fertility within 10 days of abortion, and family planning services should be offered to women at the time of PAC, unless she is extremely unwell. All women should be provided with post-abortion family planning counselling to explore their feelings about the pregnancy which has just ended and future fertility preferences. The majority of women who attend for PAC will require post-abortion family planning. Many women experience unintended pregnancies and it is estimated that approximately 60% of women attending for PAC do not wish to be pregnant at that time. Women who experience the loss of a wanted pregnancy may also have a need for family planning. Current guidance recommends that women who experience abortion wait a minimum of six months before becoming pregnant again.⁵

A range of method mix should be available for women so that they can be helped to choose the method which is most appropriate for them.

The method of family planning which is most appropriate will depend on:

- the nature and severity of complications
- whether the pregnancy was wanted or not
- her risk of sexually transmitted infections
- her preference for choice of method.

Methods should be available at the site where the PAC is provided as it has been shown that women who take a method of family planning at the time of PAC are more likely to take an effective method and less likely to experience repeat abortion within two years⁶

Women who have been treated for post-abortion complications may have medical conditions that could affect the selection of a contraceptive method. Table 2 (see p. 56) presents a number of elements that should be considered in the selection of a contraceptive method.

⁵ <http://www.infoforhealth.org/pac/research/Compendium.pdf>

⁶ Johnson BR, Ndhlovu S, Farr SL, Chipato T. *Studies in Family Planning*, June 2002,33(2), pp. 195-202.

Table 2

METHOD	TIMING
Condoms - male or female	As soon as sexual activities resume.
Daily oral pills	Immediately
Injectables	If heavy bleeding has resulted in acute anaemia, delay until resolved. If moderate or light bleeding, begin use immediately.
Implants	If heavy bleeding has resulted in acute anaemia, delay until resolved. If moderate or light bleeding, begin use immediately.
IUD	If no complications, can be inserted at time of procedure. If infection suspected or confirmed, delay until infection is treated (three months). If bleeding and injuries, delay until injuries have healed. If anaemic, treat anaemia and delay until situation improves.
Female sterilisation	May be possible at time of procedure, depending on complications. Referral may be required. Ensure adequate time for woman to make decision about permanent method.
Vasectomy	May be conducted immediately. Ensure adequate time for couple to make decision about permanent method.

Source: *Blumenthal and McIntosh, 1995; Leonard and Ladipo, 1994.*

Natural methods of family planning which rely on the woman's cycle are not recommended until a regular menstrual pattern returns. For more detail on appropriate methods of family planning, refer to *Family Planning: A Global Handbook for Providers*.⁷

⁷ World Health Organisation Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Centre for Communication Programs (CCP), INFO Project. *Family Planning: A Global Handbook for Providers* (2008 update). Baltimore and Geneva: CCP and WHO, 2008.

The following pages are a useful review of basic infection prevention (IP) methods and procedures. Infection Prevention has several different components, we have included a few key areas below for your revision.

For more comprehensive information or training, we recommend Engender Health Infection Prevention Online Course <http://www.engenderhealth.org/ip> or Marie Stopes Infection Prevention Training Pack, available from Marie Stopes International, Medical Development Team, 1 Conway Street, Fitzroy Square, London, W1T 6LP.

Why is it so important to prevent the spread of infection?

Over recent years, we have seen increased outbreaks of infections that were once better controlled, like measles and tuberculosis (TB). Now there are new incurable illnesses, such as those caused by HIV and Hepatitis B and C, viruses which have become a significant cause of serious illness and death in many parts of the world.

Health facilities are 'ideal' places for infections to spread because:

- we perform invasive procedures involving contact bloodstream and tissues under the skin
- unseen microorganisms can get into parts of the body where they cause infections
- service providers and the centre team are constantly exposed to infectious materials
- some clients may be infected already or be susceptible to infection
- some clients have infections that can be passed onto others; we may not know whether our clients are infected or not
- we often have many clients during a day, close together in a small space.

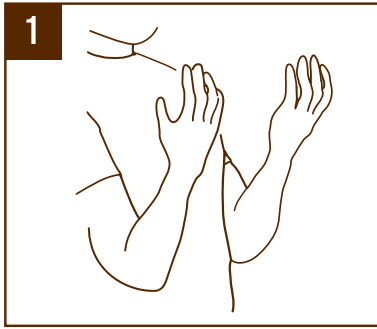
Also, we may not know how many of our clients pick up infections, such as HIV, Hepatitis B or C, as a result of using health services. Clients may go elsewhere for treatment and it can be difficult to trace an infection to its source. The absence of this information can lead us to think that our IP measures are acceptable when in fact they could be improved. We need to be confident that **all IP measures are performed, by all members of the team, with all clients all the time.**

GLOVES AND GLOVING

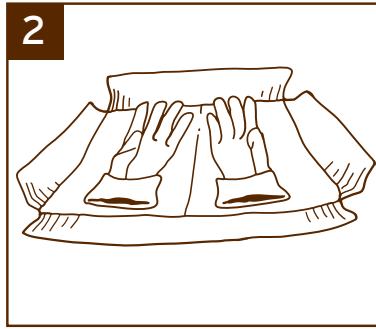
Gloves protect both clients and team members by acting as a barrier against microorganisms. There are three kinds of gloves:

- sterile—for use when there is contact with bloodstream or tissues under the skin (surgical procedures, bilateral tubal ligation etc.)
- clean examination gloves—for when there is contact with intact mucous membranes, or when you want to reduce the risk of exposure
- utility—for handling contaminated items, medical or chemical waste, and for housekeeping.

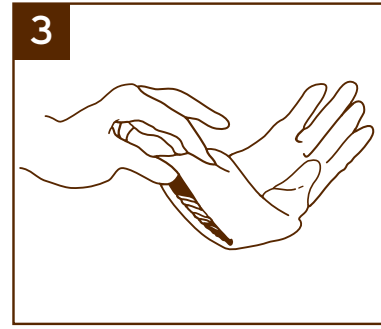
Steps of Putting on Surgical Gloves



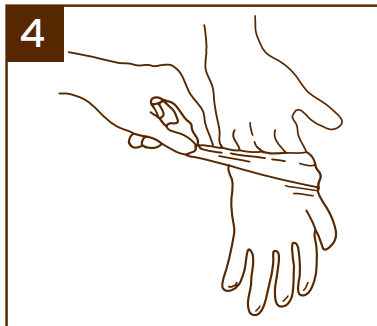
1 Prepare a large, clean, dry area for opening the package of gloves. Either open the outer glove package and then perform a surgical scrub, or perform a surgical scrub and ask someone else to open the package of gloves for you.



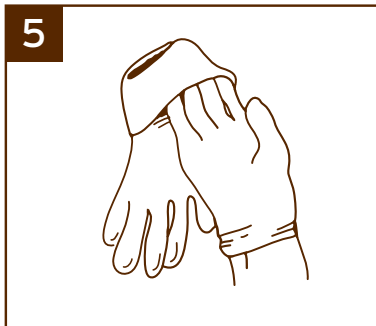
2 Open the inner glove wrapper, exposing the cuffed gloves with the palms up. Gloves are cuffed to make it easier to put them on without contaminating them. When putting on sterile gloves, remember that the first glove should be picked up by the cuff only. The second glove should then be touched only by the other sterile glove.



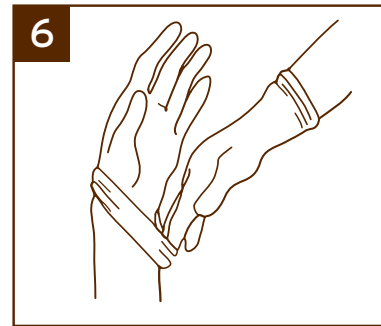
3 Pick up the first glove by the cuff, touching only the inside portion of the cuff (the inside is the side that will be touching your skin when the glove is on).



4 While holding the cuff in one hand, slip your other hand into the glove. (Pointing the fingers of the glove toward the floor will keep the fingers open.) **Be careful not to touch anything, and hold the gloves above your waist level.**



5 Pick up the second glove by sliding the fingers of the gloved hand under the cuff of the second glove. Be careful not to contaminate the gloved hand with the ungloved hand as the second glove is being put on.



6 Put the second glove on the ungloved hand by maintaining a steady pull through the cuff. Adjust the glove fingers and cuffs until the gloves fit comfortably.

N.B.: If the first glove is not fitted correctly, wait until the second glove is on before making any adjustments. Then use the sterile fingers of one glove to adjust the sterile portion of the other glove.

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Injuries from needles and other sharps are the number one cause of infections for team members from blood-borne infectious microorganisms such as HIV, Hepatitis B and C. All team members who use sharps are at risk. Careful handling of sharps is an essential way to avoid complications in delivering services.

Injuries can occur when:

- team members recap, bend or break needles
- someone carrying an unprotected sharp accidentally sticks another team member or client
- sharps are left in linens
- service providers are working in confined spaces and cannot easily see what is going on
- handling and disposing of waste containing sharps
- clients move suddenly during injections.

ASEPTIC TECHNIQUE

This section describes the practices carried out before or during a **surgical procedure** to reduce the client's risk of post-procedure infection. Aseptic technique prevents infection-causing microorganisms from entering the body.

The key features of aseptic technique are:

- the use of barriers such as gowns and masks (where necessary)
- surgical scrub and gloving
- proper preparation of the client
 - cleaning the surgical site with soap and water if visibly dirty
 - preparing the incision site by wiping with antiseptic, working in a circular motion from the centre of the site outwards
 - properly preparing the vagina, cervix and other mucous membranes.
- the set up and maintenance of a sterile field (for invasive procedures)
 - place only sterile items within the sterile field
 - open or transfer sterile items without contaminating them
 - recognise what is and is not sterile
 - act in ways that do not contaminate the sterile field
 - recognise and maintain the service provider's sterile area
 - do not place sterile items near open windows or doors.
- the use of good surgical technique
 - gentle tissue handling and minimal incisions reduce the risk of post-procedure infection in the client.

- creating a clean surgical/procedure area, for example:
 - restricting the numbers of people who come in and out of the space
 - setting up the space to reduce potential for infection; do not set up a sterile field near an open door or window
 - when in doubt about whether an item is sterile, consider it contaminated
 - cleaning and disinfecting all surfaces that may have been contaminated before a new client enters.

REMEMBER:

- only authorised people should be allowed to enter the procedure room
- keep doors and curtains closed
- enclose the space to minimise dust and keep out insects
- disinfect and clean all surfaces that may have been contaminated before a new client enters.

PROCESSING INSTRUMENTS

Proper processing is vital for reducing infection transmission during clinical or surgical procedures. Correct handling and processing also reduces the centre team's risk of infection.

There are four steps:

Step 1 - Decontamination

Step 2 - Cleaning

Step 3 - Sterilisation or HLD

Step 4 - Storage.

Step 1 - Decontamination

This step:

- kills viruses (including Hepatitis B virus, other viruses which cause hepatitis, HIV and many other microorganisms)
- makes instruments and other items safer to handle by the team members who do the cleaning and further processing
- makes items easier to clean by preventing blood, other body fluids and tissue from drying on them (although cleaning is still needed because decontamination does not remove the blood and tissue on the items).

How to decontaminate

Use a 0.5% chlorine solution. Chlorine is usually the cheapest, most available disinfectant.

See the box below about how to prepare a 0.5% solution. Use a plastic bucket with a lid and mark the bucket 0.5% chlorine solution.

All instruments must be decontaminated immediately after use.

Soak for 10 minutes, using a timer which sounds when the time is up (longer soaking will corrode metal instruments).

Making up a 0.5% chlorine solution

Chlorine in bleach comes in different concentrations. You can use any type of bleach, no matter what the concentration, to make a 0.5% solution, using the formula below. Look on the bleach container to find the concentration.

(% active chlorine in liquid bleach divided by 0.5) - 1 = parts of water for each part of bleach.

[Handy tip: dividing by 0.5 is the same as multiplying by 2]

A 'part' can be any unit of measure - for example a jug or bowl may be used. (see box with formula below)

The person responsible for ordering supplies should tell the team member if the product has been changed.

Too weak a solution will not kill the microorganisms; too strong a solution will damage or corrode the items put in the solution.

The decontamination solution should be changed daily, or earlier if it is cloudy (see *Tips about decontamination* on next page).

Step 2 - Cleaning

Cleaning means scrubbing with a soft sponge or brush, detergent and water. It is essential because it:

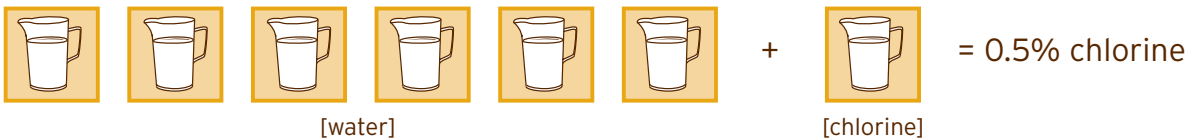
- removes organic material, dirt and other matter that can interfere with sterilisation or HLD
- reduces the number of microorganisms including bacterial endospores on instruments and other items.

Without cleaning:

- microorganisms trapped in blood clots and other organic material may be protected and survive sterilisation
- organic material and dirt can reduce the effectiveness of chemicals used in some instrument processing techniques.

Any instrument with old blood still on it after instrument processing cannot be considered sterile or HLD.

Formula for making a 0.5% chlorine solution using 3.5% active chlorine bleach



Handy guide to making up a chlorine solution

To mix a **0.5% chlorine solution** using the formula (% of active chlorine in original bleach bottle divided by 0.5) - 1 = number of parts of water used to dilute the bleach, then:

- if the concentration of bleach is 3.5% then one part of bleach is mixed with six parts of water
- if the concentration of bleach is 4% then one part of bleach is mixed with seven parts of water
- if the concentration of bleach is 4.5% then one part of bleach is mixed with eight parts of water
- if the concentration of bleach is 5% then one part of bleach is mixed with nine parts of water
- if the concentration of bleach is 5.5% then one part of bleach is mixed with 10 parts of water
- if the concentration of bleach is 6% then one part of bleach is mixed with 11 parts of water. Team members responsible for mixing the 0.5% chlorine solution should understand that bleach concentrations can differ between products. Doing the calculations or following the manufacturer's instructions if using bleach powder or chlorine releasing tablets is essential.

Tips about decontamination

- use a plastic bucket with a lid for the decontamination solution; chlorine corrodes metals
- use a marker pen to write '0.5% chlorine solution' on the bucket
- place used instruments in the decontamination bucket without splashing
- always rinse procedure gloves in the decontamination bucket before removing them
- never leave instruments in the decontamination bucket for more than 10 minutes as this will damage them
- change the decontamination solution daily (because chlorine evaporates) or when it becomes contaminated with blood or becomes cloudy
- never use the decontamination solution on the skin or mucous membranes
- set up a bucket of tap water next to the decontamination bucket so that, when the items are ready to come out of the disinfectant solution, they can be placed in the water until the staff member is ready to clean them
- utility gloves should always be used when removing items from the decontamination bucket.

Cleaning steps

1. Using a soft brush or old toothbrush, water and enough **detergent** to make the water frothy or sudsy (do not use soap, which leaves an oily residue that microorganisms flourish in):
 - a. scrub instruments and other items vigorously to remove blood, body fluids, tissue and other organic matter
 - b. use utility gloves with long cuffs when cleaning
 - c. carry out the cleaning in a bowl or basin near a sink to rinse the cleaned items in
 - d. hold the instruments under the water to avoid splashing
 - e. disassemble instruments and brush in the grooves, teeth and joints where organic material can collect and stick
 - f. do not use abrasives in instrument cleaning as these can cause tiny scratches on metal instruments where microorganisms can hide.
2. Rinse items thoroughly with clean water to remove all detergent. Detergent residue can reduce the effectiveness of chemical processing.
3. Allow items to air dry or dry them with a clean towel. Instruments which will be processed with chemical solutions must be completely dry, otherwise the solution will be diluted; items that will be high-level disinfected by being boiled or steamed do not need to be dried first.

Step 3 - Sterilisation and HLD

Sterilisation or HLD: what are the differences and when should each be used?

Sterilisation kills all microorganisms that can cause infection: bacteria, viruses, fungi, parasites and bacterial endospores which cause diseases like tetanus and gas gangrene.

HLD kills bacteria, viruses, fungi and parasites but does not reliably kill all bacterial endospores.

Sterilisation is preferred and should be used wherever possible.

HLD should be available for instruments which have a low risk of carrying bacterial endospores such as MVA cannulae. Because MVA cannulae are flexible plastic, heat sterilisation is not possible and extensive international research supports the recommendation that HLD is suitable for MVA cannulae.

The following notes summarise the most common sterilisation and HLD methods. They may not all be in use in your centre. As you read through the notes, compare what is recommended with what happens in your centre.

Methods of sterilisation

There are three methods. For each method it is essential that items are decontaminated and properly cleaned before they are sterilised. Clots of blood can harbour harmful microorganisms even after sterilisation.

1. Steam sterilisation or autoclaving

Destroys microorganisms on clean items by applying moist heat under pressure.

Autoclave should be used for sterilising:

- liquids (sterile water)
- metal instruments and other items
- gowns and surgical drapes. These can only be sterilised in an autoclave and they are essential to create a sterile field where instruments enter tissues under the skin.

2. Dry heat sterilisation (electric oven)

Destroys microorganisms on clean items by applying dry heat for a given period of time. The lower the heat, the longer the time needed for sterilisation.

Dry heat should be used for sterilising:

- glass or metal objects (other items may melt or burn).

3. Chemical sterilisation

Destroys microorganisms on clean items (which should also be dry as water dilutes the chemicals) by soaking them in a chemical disinfectant solution (e.g., cidex) and rinsing them with sterile water.

Chemical sterilisation should be used for:

- heat sensitive items.

What is the purpose of wrapping items before autoclaving, steam or dry heat sterilisation?

Wrapping helps to prevent contamination after sterilisation but before use. Where storage conditions are good and the items are handled as little as possible, properly wrapped items can be considered sterile as long as they remain intact and dry, for up to seven days.

When wrapping for steam sterilisation, use muslin or cotton fabric. Do not use canvas because the steam cannot penetrate the material.

When wrapping for dry heat sterilisation, use foil, double-layered cotton or muslin fabric.

Steps of steam sterilisation (autoclave)

1. Decontaminate and clean items.
2. Disassemble items with sliding or multiple parts to allow steam to reach all parts.
3. Wrap, using muslin or cotton fabric (do not use canvas because steam cannot penetrate the material).
4. Arrange packages or items in autoclave so that the steam can circulate freely.
5. Follow the manufacturer's instructions for how long and at what pressure to autoclave.

6. Shut off the autoclave (unless automatic) after the desired time and leave items until they dry completely (could be 30 minutes).
7. Remove sterile packs using sterile pickups for unwrapped items, place on a surface padded with paper or fabric to prevent condensation until they reach room temperature.
8. Store properly:
 - wrapped: for best results store in closed cabinets in low-trafficked areas at moderate temperatures and zero or low humidity for up to seven days
 - unwrapped: use immediately on removal from autoclave or keep covered in a dry, unopened, sterile container, and use within seven days.
9. Timings– always check with the manufacturer. Typical timings are:
 - wrapped items - 30 minutes
 - unwrapped items - 20 minutes.

Steps of dry heat sterilisation

1. Decontaminate, clean and dry all items.
2. Either wrap, using foil, double layered cotton or muslin, or put unwrapped items on a tray or shelf, or put items in a metal lidded container (it is not necessary to unlock or disassemble because dry heat raises the temperature of the entire item).
3. Put items in the oven and heat to the correct temperature. Do not begin timing until the required temperature has been reached (and then use a timer or record the time).

Temperature	Time at required temperature
170° C (340°F)	1 hour
160° C (320°F)	2 hours
150° C (300°F)	2.5 hours
140° C (285°F)	3 hours

The total time for sterilisation is likely to be twice as long as above because of the time taken during heating up and cooling.

REMEMBER, do not sterilise sharps at temperatures above 160° because dry heat dulls them.

4. Leave items in the oven to cool, then remove and use or store immediately, using sterile pickups to remove unwrapped items.

5. Store properly:

- wrapped: for best results store in closed cabinets in low-trafficked areas with moderate temperatures and dry or low humidity
- unwrapped: use immediately on removal from autoclave or keep covered in dry sterile container, and use within seven days.

Steps of chemical sterilisation

1. Decontaminate, clean and dry (water from wet instruments dilutes chemical solution and makes it less effective).
2. Prepare the solution according to the manufacturer's instructions or use a solution prepared earlier, provided it is not cloudy and has not expired.
3. Open all instruments so the solution can contact all the parts. Submerge them in the solution and place bowls and containers upright so they can fill with solution.
4. Follow the manufacturer's instructions for soaking time. If the solution contains glutaraldehyde (cidex), cover the container and allow to soak for at least 10 hours (remembering not to add anything else once soaking has begun).
5. Remove sterilised instruments using sterile pickups (lifters, Cheatle forceps) and rinse thoroughly with **sterile water** to remove solution residue which is toxic to skin and tissues (**remember that boiled water is not sterile and rinsing with boiled water can contaminate sterile instruments**).
6. Store properly:
 - place items on a sterile tray or in a sterile container and allow to air dry before use or storage
 - use immediately or keep in a covered, dry, sterile container to use within seven days.

What methods are there for HLD?

1. HLD by boiling

- this can be done anywhere provided there is clean water and a heat source
- instruments are placed in a pot or boiler, covered with water and boiled for 20 minutes.

Tips for HLD by boiling

- cover with a lid; make sure that boiling water can reach all parts of the instrument by disassembling items with multiple parts and opening hinged instruments
- always boil for 20 minutes, start timing when water reaches a rolling boil
- do not add or remove anything once boiling begins; this contaminates the water
- remove items using sterile pick-ups/Cheatle forceps and place in a sterile tray or container.

2. Chemical HLD

- soak in glutaraldehyde or chlorine for 20 minutes
- rinse with **sterile water**
- some chemicals should NOT be used for chemical HLD; for example, antiseptics (like betadine or savlon), formaldehyde (which can be cancer forming), alcohol (which does not kill all viruses).

Tips for chemical HLD

- make sure items are completely covered with chemical solution, disassembling or unhinging items with multiple parts
- soak for 20 minutes
- do not add or remove anything once timing begins
- remove items from the solution using dry, sterile pick-ups (lifters, Cheatle forceps)
- thoroughly rinse items with **sterile water** to remove the chemicals as these are toxic to skin and tissues
- place items on a sterile tray or container and allow to air dry before storage.

3. HLD by steaming

- in a tiered steamer for 20 minutes
- useful for PAC cannulae and surgical gloves.

Tips for HLD by steaming

- do not pack equipment too tightly in the trays; allow steam to circulate
- when steam comes out between the trays, water is boiling and timing can start
- steam for 20 minutes; use a timer or record the start time
- lift out with sterile lifters and place on a sterile tray or container.

Special considerations when using HLD

- reusable needles and syringes:
 - do not reuse needles and syringes
 - disposable needles and syringes are preferred as reusables are difficult to process properly.
- gowns and surgical drapes:
 - only steam sterilisation is appropriate.
- MVA instruments:
 - MVA cannulae - sterilisation or HLD
 - MVA syringe - requires decontamination and proper cleaning but because it does not come into contact with the client, does not need sterilisation or HLD.

Step 4 - Storage

Proper storage is as important as proper decontamination, cleaning, sterilisation and HLD. If instruments and other items are not stored properly, all the efforts made to follow the correct processing of supplies will be wasted.

NEVER store instruments or other items in solutions. ALWAYS store them dry. Microorganisms can live and multiply in both disinfectant and antiseptic solutions and items left in contaminated solutions can lead to infections in clients.

NEVER use antiseptic solutions to process objects. REMEMBER, antiseptics are for use on people; disinfectants are for use on objects.

REMEMBER:

- if a sterile item comes into contact with anything or anybody not considered to be sterile/HLD, then that item is contaminated

- unwrapped sterile or HLD items should be used immediately or kept in a covered sterile container for no longer than 24 hours. Unwrapped items are at increased risk of contamination
- once a pack or container is opened its contents must be used or reprocessed within 24 hours
- **the maximum storage time for wrapped sterile items is seven days.**

The shelf life of a wrapped item is influenced by:

- the type of packing material
- how many times the pack is handled
- the number of people who handle the pack
- cleanliness, humidity and temperature of handling area; damp items must be considered contaminated
- whether or not packs are stored on open or closed shelves
- whether or not dust covers are used.

It is best to place sterile packs in closed cupboards in areas which are not heavily trafficked, have moderate temperatures and are dry and of low humidity. In these conditions, with limited handling, properly wrapped items can be considered sterile as long as they are intact and dry. If a pack of instruments is wet it must be considered unsterile.

Storage and handling time should be kept to a minimum because the likelihood of contamination increases over time and with increased handling.

If in doubt, re-sterilise before use.

WASTE DISPOSAL

This is often the most neglected part of IP.

All team members who handle waste are at risk of waste-related injuries. Sharps pose the greatest risk and can cause transmission of serious infections, including HIV and Hepatitis B.

Anyone who handles contaminated waste from the time it is disposed of by the service provider until it reaches the site for final disposal is at risk of infection and injury. Poor disposal of waste is a great threat in communities where waste dumps are open to children and scavengers. Every step in waste disposal should be carefully considered.

Proper disposal of waste:

- minimises the spread of infection and reduces the risk of accidental injury to service providers and the local community
- helps to create a pleasant centre environment
- reduces unpleasant smells
- helps keep down the numbers of insects and animals
- reduces the risk of contamination of local soil or ground water by microorganisms or chemicals.

There are three kinds of waste:

1. General waste

- waste that presents no risk of injury or infection – paper, boxes, bottles, plastic containers, food-related waste.

2. Medical waste

- waste generated in client treatment
- blood, blood products and other body fluids as well as bandages, surgical sponges and other materials containing fresh or dried blood or other body fluids
- organic waste: tissue, POC
- sharps, used or unused, including hypodermic and suture needles, blades, IV tubes, glass slides, cover slips.

3. Chemical waste

- cleaning products and disinfectants.

Developing a waste management plan

Every centre should have a waste management plan and a named person whose responsibility it is to look after the management of medical waste, which is potentially the most harmful waste generated.

There are four parts to a waste management plan:

1. Sorting waste by type where it is generated
2. Handling – collecting and transporting waste within the centre
3. Interim storage in the centre until the waste can be disposed of
4. Final disposal – removing or transporting dangerous waste from the centre.

Sorting

Sorting saves energy and resources by reducing the amount of waste that needs special handling:

- locate containers, clearly marked for either general or medical waste, conveniently close to where the waste is generated
- distinguish the containers by colour and easily readable labels
- sharps containers should be in convenient places so team members do not have to walk carrying used sharps.

Handling

- waste containers should be emptied before they become too full, at least once a day
- dispose of sharps containers when they are $\frac{3}{4}$ full
- never put your hands into a container of medical waste
- always use utility gloves when handling waste.

Interim storage

- make sure this is short term, ideally only a few hours before disposal
- store waste in a closed area that is inaccessible to staff, clients and visitors; the number of people who come into contact with medical waste should be kept to a minimum
- make sure all containers have lids and seal tops of plastic bags with tape to prevent spills and smells
- never store medical waste in open containers and never throw it into an open pit.

Final disposal

Solid medical waste should be disposed of on the premises. Options include:

- burning – this is the best option. Use an incinerator or oil drum to prevent scattering
- burying – in a pit big enough for all the waste generated at the site, with a fence or wall surrounding the pit, to prevent access to it
- transporting waste – this can be considered if neither burning nor burial at the site is possible. Ensure that the people transporting the waste are aware of the risks and take proper precautions. If transporting waste, it is vital that you know where the waste can be disposed of correctly.

Liquid medical and chemical waste

Always wear utility gloves and closed footwear when handling liquid medical waste.

Cleaning solutions and disinfectants should be handled in the same way as liquid medical waste:

- carefully pour liquid waste down a sink, drain, flushable toilet or latrine, remembering, before doing this, to make sure you know where the drain empties, checking that it does not run through an open gutter and drain into the ground locally
- rinse the sink, drain or toilet thoroughly with water, avoiding splashing. Clean these areas with a disinfectant solution at the end of each day or more frequently if they become heavily soiled
- decontaminate the container that held the liquid waste by soaking it for 10 minutes in a 0.5% chlorine solution before washing it and washing your hands.

Disposing of sharps

- sharps are not destroyed by burning except in large, industrial incinerators
- place needles, plastic syringes and scalpels in a puncture resistant, sealable container and, when the container is $\frac{3}{4}$ full, pour in fuel, ignite and allow to burn until the fire goes out. The plastic syringes will melt and when cool become a solid block of plastic with the sharps embedded in it and this can then be buried in the burial pit
- always wash your hands after handling sharps containers.

Disposing of foetal waste and POC

Foetal waste and POC should be disposed of in a sympathetic and appropriate manner. As with other medical waste, foetal waste may be poured into a sink, drain, functioning sewage system or maintained pit latrine. You must consider where the drain empties. The drain must not run through open gutters or empty onto ground. Rinse and disinfect any drain that is used with a 0.5% chlorine solution. Alternatively, products should be placed into containers, which can then be sealed and burnt.