

PART B: PRIMARY LEVEL

Staff May Include	Activities	Facilities	Equipment/Drugs
<p>Auxiliary health workers including:</p> <ul style="list-style-type: none"> • Health assistants • Aides • Dispensers/dressers <p>Nurses</p> <p>Some primary level facilities may have the following staff available:</p> <ul style="list-style-type: none"> • Trained midwives • Medical residents • General practitioners 	<p>All listed for the community level <u>plus</u>:</p> <p>Simple physical and pelvic exam</p> <p>Diagnosis of stages of abortion</p> <p>Resuscitation/preparation for treatment or transfer (if needed) including:</p> <ul style="list-style-type: none"> • Management of the airway and respiration • Control of bleeding • Pain control <p>Haematocrit/haemoglobin test</p> <p>Referral</p> <p>Post abortion family planning counselling and services</p>	<p>Outpatient treatment room or area</p> <p>Side laboratory</p> <p>Family planning area or clinic</p>	<p>Examination couches</p> <p>Gloves/protective clothing</p> <p>Light sources</p> <p>Vaginal specula</p> <p>Soap/disinfectants</p> <p>Standard emergency resuscitation kit (see Annex 9-1)</p> <p>Transport vehicle or standing arrangements for transport</p> <p>Essential drugs (see Annex 9-3)</p> <p>Side laboratory equipment (See Annex 9-7)</p> <p>Wide range of contraceptives including IUD insertion kit</p>
<p>If trained staff and appropriate equipment are available, the following additional activities can be performed at the primary level:</p>			
<ul style="list-style-type: none"> • Initiation of essential treatments, including antibiotic therapy, intravenous fluid replacement, and oxytocics • Uterine evacuation (first trimester) • Pain control including paracervical block, simple analgesia and sedation 			
<p>Remarks: The activities are based on the skills available. Existing facilities are usually adequate. Rearrangement of facilities and updating of equipment may be all that is required to improve the abortion care provided. Some facilities may already have uterine evacuation equipment on hand but for some, purchase may be required. Protocols and standing arrangements for transport to higher levels are necessary. If an ambulance is available, it must be kept in serviceable state. If no ambulance is available, standing arrangements should be made with other sectors. It is important to have a reliable system of communication with the other levels of care.</p>			

PART C: FIRST REFERRAL LEVEL

Activities	Facilities	Equipment/Drug
Staff May Include		
All listed for the primary level <u>plus:</u>	Treatment room in outpatient area or gynaecology ward and recovery area	Sufficient quantity of uterine evacuation equipment for projected caseload (see Annexes 9-3, 9-4, and 9-8)
Trained midwives	Laboratory	Essential drugs for the first referral level (see Annex 9-3)
Medical residents	Surgical theatre	Laboratory equipment and reagents for microscopy, culture and basic haematology (see Annex 9-7)
General practitioners		Blood or blood substitutes
Specialists including a physician with training in Ob/Gyn may sometimes be available		Blood collection, transfusion, and storage equipment (see Annex 9-7)
		Anaesthetic equipment
		Standard laparotomy set (See Annex 9-6)
		Pregnancy tests
		Ambulance
		Full range of contraceptives
Remarks: Most facilities and equipment needed for treatment of abortion complications will already be present in a district hospital for general emergencies and essential obstetric functions. Expansion and/or additional equipment may be necessary. Supply logistics and maintenance procedures may need to be strengthened. A serviceable ambulance should be on hand or other arrangements made. Radio or telephone contact with the tertiary and primary levels is important as is coordination and collaboration of MCH activities at the community level.		

PART D: SECONDARY AND TERTIARY LEVEL

Staff May Include	Activities	Facilities	Equipment/Drug
All of the staff listed for the first referral level <u>plus</u> :	All of the activities listed for the first referral level <u>plus</u> :	Treatment room in outpatient or inpatient gynaecological areas	All of the equipment and drugs listed for the first referral level <u>plus</u> :
Specialists in Ob/Gyn and other allied specialties	Uterine evacuation for all abortions	24 hour access to surgical theatre (may include a specific gynaecological emergency theatre)	More elaborate anaesthetic and intensive care equipment
	Treatment of severe complications (for example, bowel injury, tetanus, renal failure, gas gangrene, severe sepsis, septic shock, coagulopathy) including:	More complete laboratory facilities	X-ray equipment
	<ul style="list-style-type: none"> • Diagnostic X ray • Ultrasonography • Laparoscopy • Laparotomy including hysterectomy 	Intensive care facilities	Sonography equipment
		Shielded X-ray room	Laparoscope
		Blood bank	
Remarks: Most of the facilities and equipment are present. Rearrangement of patient flow or expansion of facilities may improve services. Additional equipment is likely to include vacuum aspiration equipment.			

Source: WHO, *Complications of Abortion: Technical and Managerial Guidelines for Prevention and Treatment*, in press

ANNEX 2

EXAMPLE OF A REFERRAL FORM FOR COMPLICATIONS OF ABORTION CASES

The attending health worker should complete this form for any patient who is referred for treatment of abortion complications. The form should accompany the patient to the referral centre.

Patient Information

Name:

Date of Admission:

Time of Admission:

Diagnosis:

History

Describe the patient's relevant history

Patient's Clinical Condition

Describe the patient's condition (vital signs, physical/pelvic exam findings)

Initial Treatment

Describe treatment (fluids, drugs given, action to control bleeding, any other medical steps taken)

Assessment of Patient's Condition/Other Information

Health worker reporting (print name)

Location (hospital, clinic)

Signature

Date: _____

ANNEX 3

EMERGENCY RESUSCITATION MATERIALS

Elements of Emergency Resuscitation

Materials

Management of the airway and respiration

Ambu bag
Oral airway
O₂ Cylinder
Suction machine

Control of bleeding/haemorrhage

Oxytocic drugs (ergometrine,
oxytocin)

Intravenous fluid replacement

IV fluids
IV setup

Control of pain

Drugs and instruments to provide
analgesia and anaesthesia

Source: WHO, *Complications of Abortion: Technical and Managerial Guidelines for Prevention and Treatment*, in press

ANNEX 4

ESSENTIAL DRUGS FOR EMERGENCY ABORTION CARE

A. Essential Drugs for First Referral Level

Anaesthetics - General, oxygen, muscle relaxants and preoperative medication

Atropine
Diazepam
Ether
Nitrous oxide
Oxygen
Suxamethonium
Thiopental

Anaesthetics -- Local*

Lidocaine

Analgesics*

Acetylsalicylic acid
Pethidine (or suitable substitute)

Anti-infective/antibiotics

Ampicillin
Benzylpenicillin
Procaine benzylpenicillin
Chloramphenicol
Gentamicin
Metronidazole
Sulfamethoxazole-trimethoprim
Tetracycline

Blood products

Dried human plasma

Anticoagulant and antidote

Heparin
Protamine sulfate (as antidote to heparin)

Diuretics

Furosemide

Skin Disinfectants*¹

Ethanol
2-propanol
Polyvidone iodine

Sera, immunoglobulins and vaccine

Anti-D immunoglobulin (human)
Tetanus antitoxin (antitetanus immunoglobulin human)
Tetanus toxoid

Intravenous solutions*

Water for injections
Compound solution of Sodium lactate (commonly known as Ringer's)
Glucose 5%, 50%
Glucose with sodium chloride
Potassium chloride
Sodium chloride

Oxytocics*²

Ergometrine injection
Ergometrine tablets
Oxytocin injection

B. Drugs for Emergency Abortion Care at the Primary Level

The drugs available at primary level facilities vary from location to location. Nevertheless, the drugs marked with * above are useful in expanding the care available at that level. It is important that staff are trained in their use.

¹ Drugs used for skin disinfecting taken from WHO, *Guidelines on Sterilization and Disinfection Methods Effective Against Human Immunodeficiency Virus (HIV)*, 2nd ed., 1989.

² Oxytocic drugs, particularly ergometrine and methylethergometrine, are sensitive to heat and light and should be stored in cool, dark conditions. Ergometrine and methylethergometrine should be rejected if they are not clear and colourless.

* Useful at the primary level

ANNEX 5

SUPPLIES FOR SURGICAL UTERINE EVACUATION PROCEDURES

A. Basic supplies

IV equipment and fluids (sodium lactate, glucose, saline)

Syringes--5, 10-20 ml

Needles:

22 gauge 3½ inch spinal (for paracervical block)

25 gauge 1½ inch standard (for intracervical block)

21 gauge for drug administration

Sterile gloves, sizes 5 to 10

Cotton balls or gauze sponges

Antiseptic solutions: ethanol, 2-propanol, polyvidone iodine or substitutes

Haemostatic chemicals: Silver nitrate sticks, Monsels solution

Long needle holder

B. Additional supplies for vacuum aspiration

Cannulae:

flexible: 5, 6, 7, 8, 9, 10, 12 mm

curved rigid: 7, 8, 9, 10, 11, 12, 14 mm

straight rigid: 7, 8, 9, 10, 11, 12 mm

Silicone lubricant

ANNEX 6

INSTRUMENTS AND EQUIPMENT FOR FIRST TRIMESTER UTERINE EVACUATION

A. Basic Uterine Evacuation

Tenaculum
Sponge (ring) forceps or uterine packing forceps
Malleable metal sound
Pratt or Denniston dilators: sizes 13 to 27 French
Sharp curette: size 0 or 00
Medium speculum, self retaining
50 ml container for local anaesthetic
500 ml container for antiseptic solution
Plastic strainer
Clear glass dish for tissue inspection
Long dressing forceps
Container for cleansing solution
Single tooth tenaculum forceps

B. Vacuum Aspiration with Electric Pump

Basic uterine evacuation instruments plus:
Vacuum pump with extra glass bottles
Connecting tubing
Cannulae (any of the following):
flexible: 5, 6, 7, 8, 9, 10, 12 mm
curved rigid: 7, 8, 9, 10, 11, 12, 14 mm
straight rigid: 7, 8, 9, 10, 11, 12 mm

C. Manual Vacuum Aspiration

Basic uterine evacuation instruments plus:
Vacuum syringes (single or double valve)
Adapters
Flexible cannulae, size 4 to 12 mm

D. "Ten Week Plus"

Basic uterine evacuation instruments plus:
Pratt or Denniston dilators: sizes 29 to 43
Curette: size 1 or 2

E. Additional--Should be available wherever uterine evacuation is performed but not necessarily present on every tray

Special specula:

Small Pederson type

Large Graves type

Sims

Uterine sound

Large (sharp) curette

Extra dilator packs

Extra cotton balls and/or 2" gauze sponges

Needle holder

Tissue forceps

ANNEX 7

INSTRUMENTS AND EQUIPMENT FOR SECOND TRIMESTER UTERINE EVACUATION

A. Instruments for each second trimester abortion tray:

Open-sided vaginal speculum
Atraumatic tenaculum forceps, 9½" angled
Sponge forceps
Sopher forceps, large, 14 mm jaws
Long dressing forceps
Container for cleansing solution
Single tooth tenaculum forceps
1 large and 1 smaller curette, preferably blunt
Instrument tray for instrument storage and tissue collection
Container (500 ml) for prepping solution
Gauze sponges 4x4"
Cotton balls

B. Equipment for intravenous infusion of oxytocic drugs

Sets for intravenous infusion, including needles
IV fluids

C. Additional--Should be available wherever second trimester uterine evacuation is performed but not necessarily present on every tray

Vaginal retractors, 1 pair (Medium)
Sponge forceps, 9 1/2" curved
Pratt dilators, sizes 37/39, 41/43, 45/47
Pratt dilators, full set of largest sizes (to 75)
Needle holder, long
Tissue forceps 10"
Scissors, large, curved
Container (50 ml) for local anaesthetic
Chlorprocaine or Lidocaine 1% - 15 ml
Syringe, 10 ml with control grip for paracervical block
Needle, 1-1/2" 25 gauge or 22 gauge spinal

ANNEX 8

INSTRUMENTS AND SUPPLIES FOR LAPAROTOMY

Laparotomy

Curved dissecting scissors, 1 pair	Suction nozzle, 1
Scalpel handle and blade, 1	Diathermy electrode, 1
Short dissecting scissors, 1 pair	Flexible probe, with round point, 1
Long dissecting scissors, 1 pair	Grooved director, 1
Stitch scissors, 1 pair	Nasogastric tube, 1
Small, curved artery forceps, 6 pairs	Towel clips, 6
Small, straight artery forceps, 6 pairs	Stainless steel bowls, 2
Large, curved artery forceps, 6 pairs	Kidney dishes, 2
Small, straight artery forceps, 6 pairs	Gallipots, 2
Needle holder, long, 1	Linen tape
Needle holder, short, 1	Gauze swabs
Retractors (Langenbeck), medium, 1; narrow 1	Abdominal packs, 5
Retractors (Deaver), medium, 1; narrow 1	Dissecting gauze rolls, 10
Self-retaining retractor, 1	Antiseptic solution
Dissecting forceps, toothed, 1 pair	Adhesive tape
Long dissecting forceps, non-toothed, 1 pair	Tubing for tension sutures
Tissue forceps (Allis), 2 pairs	Drainage tubes
Tissue forceps (Duval), 2 pairs	Safety pin, 1
Tissue forceps (Babcock), 2 pairs	Colostomy bags (optional)
Sponge forceps, 4 pairs	Sterile drapes
Malleable copper retractors (spatulae), 2	Sterile gloves, at least 3 pairs
Occlusion clamps, straight, 2; curved 2	
Crushing clamps, large, 2; small 2	
Syringe, 10 ml with needle, 1	
Syringe, 20 ml with needle, 1	
Sutures, No. 1, 0, and 2/0 chromic catgut and 2/0 plain catgut, ties and with needles	
Sutures, No. 1, 0, 2/0, and 3/0 thread, ties and with needles	
Sutures, No. 1, 0, and 2/0 nylon, ties and with needles	

ANNEX 9
LABORATORY AND BLOOD MATERIALS

A. Side Laboratory

TEST

Haematocrit

MATERIALS

Microhaematocrit centrifuge
Scale for reading
haematocrit results
Heparinized capillary
tubes 75 mm x 1.5 mm
Spirit lamp
Blood lancets
Ethyl alcohol

Haemoglobin

Haemoglobinometer
Blood lancets

B. Essential Materials for the Provision of Donor Blood for Transfusion

Blood cross-match

Patient's serum
Patient's red cells
Donor red cells from pilot bottle
8.5 g/l sodium chloride solution
20% bovine albumin
37°C water bath or incubator
Centrifuge
Pipettes
Test-tubes - small and medium

Collection of blood

Healthy adults aged between 18 and 50 years
Haemoglobin level above 11 g/dl
Pregnant women are not to donate blood
Blood donation by an individual can take place at six
month intervals.

Collection and storage of blood

Cotton wool and ethyl alcohol
Sphygmomanometer cuff
Airway needle for collecting blood
Blood collecting set containing 120 ml of acid-citrate
glucose solution
An object for donor to squeeze
Artery forceps
Pair of scissors
Adhesive tapes
Pilot bottle containing 1 ml acid-citrate glucose
solution attached to the collecting bottles
Refrigerator temperature 4°C to 6°C) for storage of
donor blood. A domestic refrigerator
operated either on gas or electricity can also
be used, but the refrigerator must not be
opened too often. A refrigerator which opens
at the top is preferred to a cabinet refrigerator.
(Note: A kerosene-operated refrigerator is not
suitable for blood storage)

ANNEX 10

MANUFACTURERS, SUPPLIERS AND SOURCES OF PROCUREMENT OF EMERGENCY GYNAECOLOGIC EQUIPMENT

A. Manufacturers and Suppliers of Emergency Gynaecologic Equipment

Manual Vacuum Aspiration Kits and Flexible Karman Cannulae:

IPAS
303 East Main Street, P.O. Box 100
Carrboro, North Carolina 27510
USA
Telephone: (919) 967 7052
Telefax: (919) 929 0258
Telex: 3799366 IPAS

Jan Mangal Sanstha
816, Maker Chambers V
Nariman Point
Bombay 400 021
INDIA
Telephone: 224939
Cable: GEMINIGLO

Electric Vacuum Aspiration Pumps and Accessories (flexible & rigid cannulae):

Medela AG Medical Equipment
P.O.Box 140, Lattichstrasse 4
CH 6340 Baar
SWITZERLAND
Telephone: (27) 311616
Telefax: (27) 315021

Lameris Instrumenten BV
Bilstraat 449 3572
AW Utrecht
NETHERLANDS

Cabot Medical Corporation
2021 Cabot Boulevard West
Langehorne, Pennsylvania 19047
USA
Telephone: (215) 752 8300
Telefax: (215) 750 0161
Telex: 510 667 2280 KLI LAHN

Laboratoires Luneau
B.P. 252
28005 Chartres
FRANCE
Telephone: (37) 25 25 25
Export Department: (37) 25 20 20
Telefax: (37) 25 75 99
Telex: 760 637 F

Berkeley Medevices, Inc.
907 Camelia Street
Berkeley, California 94710
USA
Telephone: (415) 526 4046
Telefax: (415) 526 0149

Stern Industries
P.O. Box 407
Dayton, New Jersey 08810
USA
Telephone: (609) 655 7500
Telefax: (609) 655 4499

Nouvag AG
Rosengartenstr. 15
CH - 9400 Rorschach
SWITZERLAND
Telephone: (71) 424 433
Telefax: (71) 424 402
Telex: 71484

Atmos (endometrial aspirators)
Postfach 1160
D - 7852 Lenzkirch
GERMANY
Telephone: (7653) 6890
Telefax: (7653) 68989

Pan Gas (endometrial aspirators)
Postfach
6002 Lucern
SWITZERLAND
Telephone: (41) 429 529
Telefax: (41) 418 997
Telex: 862462

Wisap Gesellschaft (endometrial aspirators)
Rudolf Diesel Ring 20
D - 8029 Sauerlach
GERMANY
Telephone: (81) 041 067
Telefax: (81) 049 664
Telex: 528197

Cannulae only:

Rocket USA
29 Knight Street
Norwalk, Connecticut 06851
USA
Telephone: (203) 838 3777
Orders: (800) 424 1234
Telefax: (203) 838 2189

Cellpack AG
CH - 5610 Wohlen
SWITZERLAND
Telephone: (57) 211 111
Telefax: (57) 122 6890
Telex: 52699

Downs Braintree Ltd.
Springwood Industrial Estate
Rayne Road
Braintree Essex
UNITED KINGDOM
Telephone: (376) 20960
Telefax: (376) 48394

Porges S.A.
9-15 Rue Leon Blun Z.I.
91120 Palaiseau
FRANCE
Telephone: 1 6920 6059
Telex: 604560

B. Sources of Procurement of Emergency Gynaecologic Equipment

Emergency gynaecologic equipment may also be available through international procurement and distribution systems, including the following:

Family Planning International Assistance (FPIA)
810 Seventh Avenue
New York, NY 10019
USA
Telephone: (212) 541 7800
Fax: (212) 247 6274

International Planned Parenthood Federation (IPPF)
Regent's College
Inner Circle
Regent's Park
London, NM1 4NS
ENGLAND
Telephone: (71) 4860741
Telex: 919573 IPEPEE G
Cable: IPEPEE London
Fax: (71) 487 7950

United Nations Children's Fund (UNICEF)
UNIPAC Guide
UNICEF Plads
Freeport
DK-2100 Copenhagen 0
DENMARK
Telephone: (31) 26 24 44
Telefax: (31) 26 94 21
Telex: 19813
Cable: UNICEF Copenhagen

United Nations Population Fund (UNFPA)
220 East 42nd Street
New York, NY 10017
USA
Telephone: (212) 297 5000
Telex: 422031
Cable: UNFPA New York

ANNEX 11

MANUAL VACUUM ASPIRATION (MVA)

Preparing Cannulae and Vacuum Syringes

Instruments need to be sterile when they are inserted through the cervix. The parts of dilators, cannulae, or uterine sounds that will enter the uterus should not touch objects or surfaces that are not sterile, including the vaginal walls, before being inserted.

- 1) **Have ready several cannulae** of approximately the size you will need, based on the indication for use and the uterine size. Each cannula is sterilized in the wrapper; check to make sure the wrapper is intact.

For **Treatment of Incomplete Abortion**, the largest size cannula which can be readily admitted by the cervix, and is adequate for evacuation, should be used. It is important to use a cannula that fits snugly through the cervix in order to transfer the vacuum without leaks from the syringe to the uterus. It is advisable to have cannulae of several sizes on hand. The cannula sizes listed here are guidelines; the actual size needed may vary.

Approximate Uterine Size (weeks LMP)	Approximate Cannula Size
5-7 LMP	5 mm
7-9 LMP	6 mm
9-12 LMP	7-12 mm

- 2) **Select syringes, cannulae, and adapters** (if needed), referring to the following chart. It may be helpful to prepare two syringes before beginning a procedure because the quantity of aspirate is difficult to predict. Note that the coloured dots on the cannulae match the colour of the appropriate adapter.

<u>Cannula Size</u>	<u>Adapter Colour</u>	<u>Syringe Type</u>
4, 5, 6 mm	No adapter needed	Single
4, 5, 6 mm	Blue	Double
7 mm	Tan	Double
8 mm	Ivory	Double
9 mm	Dark brown	Double
10 mm	Dark green	Double
12 mm	No adapter needed	Double

- 3) **Inspect the syringes.** A syringe must be able to hold a vacuum in order to be effective. Discard syringes with any visible cracks or defects, or ones that do not hold a vacuum.
- 4) **Attach the adapter** (if required) to the end of the syringe or cannula. The cannula will be attached to the syringe via the adapter later, after the tip of the cannula has been inserted through the cervix.

- 5) **Check the plunger and valve(s).** The plunger should be positioned all the way into the barrel and the pinch valve(s) should be open, with the valve button(s) out.
- 6) **Close the pinch valve(s)** by pushing the button(s) down and forward toward the syringe tip. You will hear and feel the valve(s) lock into place.
- 7) **Prepare the syringe** by grasping the barrel and pulling back on the plunger until the arms of the plunger snap outward at the end of the syringe barrel, holding the plunger in place. Check the stable positioning of the plunger arms. Both plunger arms must be fully extended to the sides and secured over the edge of the barrel. With the arms snapped in this position, the plunger will not move forward and the vacuum is maintained.

Incorrect positioning of the arms could allow them to slip back inside the barrel, possibly injecting the contents of the syringe or air into the uterus. *Never grasp the syringe by the plunger arms.*
- 8) **Check the syringe for vacuum tightness before use.** Leave the syringe for several minutes with the vacuum established. Open the pinch valve(s) by releasing the button(s). You should hear a rush of air into the syringe, indicating that there was a vacuum in the syringe. If you do not hear a rush of air, lubricate the o-ring with silicone and test the vacuum again. Replace the o-ring or use another syringe if the syringe still will not hold a vacuum.
- 9) **Repeat steps 5 through 8** to reestablish the vacuum at the time of the procedure.

The Manual Vacuum Aspiration Procedure

Observe a No-Touch Technique throughout the procedure: any instruments, or parts of instruments, that enter the uterus need to be sterile. Do not contaminate the cannula. Be careful not to allow the tip to touch objects or surfaces before being introduced through the cervical canal.

- 1) **Assess the woman's need for pain control medication and administer as needed.** Generally, paracervical block, analgesia, and/or mild sedation are sufficient for the patient's comfort during the procedure. Precautions to paracervical block include screening for allergy to the local anaesthetic, and taking care not to inject into a blood vessel. It is preferable that the patient be awake during the procedure to alert the clinician to any sudden increase in pain (indicating possible perforation) and to avoid a long recovery time; heavy sedation or general anaesthesia is rarely necessary and carries additional risk.
- 2) **Assess the size and position of the uterus** by means of bimanual exam. Be alert for any signs of infection, and treat promptly according to standard protocols.
- 3) **Insert the speculum** to expose the cervix.
- 4) **Inspect the cervix** for dilation and signs of infection, trauma, or laceration.

- 5) **Swab the cervical and vaginal areas** with an antiseptic solution. The perineum should be cleansed but extensive preparation of the perineal area is not necessary.
- 6) **Hold the cervix steady** with a tenaculum and gently apply traction to straighten the cervical canal.

Administer paracervical block, if needed. The cannula can be used for sounding by counting the dots visible on the cannula when it is inserted to the fundus. The dot nearest the tip of the cannula is 6 cm from the tip, and the other dots are at 1 cm intervals.

- 7) **Dilate the cervix (as required)**. Cervical dilation is necessary when the cervical opening's size will not allow passage of a cannula appropriate to the uterine size. Cervical dilation is not usually required for endometrial biopsy. When required, dilation should be done gently with mechanical or osmotic dilators or with cannulae of increasing size, taking care not to traumatize the cervix.
- 8) **Introduce the cannula** gently through the cervix into the uterine cavity just past the internal os. Rotating the cannula with gentle pressure often helps ease insertion.
- 9) **Attach the prepared syringe** to the cannula, holding the end of the cannula in one hand and the syringe in the other. Make sure that the cannula does not move forward into the uterus as you attach the syringe.
- 10) **Push the cannula slowly into the uterine cavity** until it touches the fundus. Then withdraw the cannula slightly.
- 11) **Release the pinch valve(s)** on the syringe to transfer the vacuum through the cannula to the uterus. Bloody tissue and bubbles should begin to flow through the cannula into the syringe.
- 12) **Evacuate the contents of the uterus** by moving the cannula gently and slowly back and forth within the uterine cavity, rotating the syringe as you do so.

It is important not to withdraw the cannula apertures beyond the cervical os, as this will cause the vacuum to be lost.

While the vacuum is established and the cannula is in the uterus, **never grasp the syringe by the plunger arms** to ensure that the plunger arms do not move from their locked position on the rim of the barrel. Accidentally allowing the plunger to slip back into the syringe may eject tissue or air back into the uterus.

- 13) **Check for signs of completion**. The procedure may be much quicker than dilation and curettage and is complete when the following conditions occur:

Red or pink foam and no more tissue is seen in the cannula, a gritty sensation is felt as the cannula passes over the surface of the evacuated uterus, and the uterus contracts around (grips) the cannula.

- 14) **Detach syringe and remove all instruments** (cannula, tenaculum, and speculum).
- 15) **Inspect aspirated tissue.**

Inspect the aspirated tissue for quantity and for presence of products of conception to judge its correspondence to the duration of gestation and to assure complete evacuation of an intrauterine pregnancy. Products of conception include villi, fetal membranes, or, after 9 weeks LMP, fetal parts. Absence of villi may signal an ectopic pregnancy. Strain and rinse the tissue to remove excess blood and clots and then place it in a clear container of water or weak acetic acid (vinegar) to examine visually. Samples of tissue may also be sent to the pathology lab as indicated. Follow standard infection control protocols for handling samples.

- 16) **Monitor patient's recovery.**
 - a) Take vital signs while the patient is still on the treatment table.
 - b) Allow the patient to rest comfortably where her recovery can be monitored.
 - c) Check bleeding at least once before discharge. Check to see that cramping has subsided. Prolonged cramping is not considered normal.
 - d) If the woman is Rh negative, administer Rh immune globulin before discharge.

The patient may be discharged as soon as she is stable and ambulatory.

- 17) **Provide post-operative counselling and information to patient**, including:
 - Signs of a normal recovery:
 - some uterine cramping over the next few days which may be eased by mild analgesics
 - a normal menstrual period should begin within 4-8 weeks
 - Instructions for taking any prescribed medications
 - Information about personal hygiene and resumption of sexual activity, resumption of menses, and family planning:
 - patient should not have intercourse or put anything into the vagina until a few days after bleeding stops (no sex, no douching, no tampons)
 - patient's fertility will return soon after the procedure, so she needs contraceptive counselling and referral if another pregnancy is not desired at this time
 - Schedule follow-up visit as required

- Signs and symptoms requiring immediate emergency attention:
 - prolonged bleeding (more than two weeks)
 - bleeding more than normal menstrual bleeding
 - severe or increased pain
 - fever, chills, or malaise
 - syncope (fainting)
- Sources of emergency care (if it is needed)

ANNEX 12

DILATION AND CURETTAGE (D&C)

Assessment

Carry out a general examination to check for anaemia and other diseases, followed by a detailed clinical (including vaginal) examination. Assess the size and position of the uterus and note the condition of the fornices. Check for ectopic or intrauterine pregnancy. Infection is a contraindication to dilatation and curettage, except in cases of septic incomplete abortion (when the patient must also be given antibiotics).

Procedure

1. Give the patient a **general anaesthetic** or local anaesthesia (paracervical block).
2. Place her in the lithotomy position and clean and drape the area. Introduce a vaginal speculum, identify the anterior lip of the cervix, take hold of the lip with vulsellum forceps.
3. **Sound the uterus** by passing a uterine sound to assess the length and direction of the uterus. Then progressively **dilate the cervix** with dilators.
4. Introduce a small sponge holder (or polyp forceps) to **check for polyps**. Then **gently curette each wall and angle** of the uterus. All material obtained should be sent for histopathological examination, if required for diagnosis.
5. Apply a vaginal or gauze pad.

Complications

Possible complications include perforation of the uterus, injury to the bladder or bowel, cervical tear, extension of pre-existing infection, and rarely amenorrhoea due to trauma.