

9 Occluding the Fallopian Tubes

Since the introduction of female sterilization, numerous methods of tubal occlusion have been employed, including ligature, ligature and excision, occlusion via various mechanical devices (such as silastic rings and clips), and different techniques using electrocoagulation. The selection of the occlusion technique used is related to the surgical procedure selected. Ligature and excision of the tube is generally the occlusion method selected to be used with minilaparotomy.

For occluding the tubes, this guide describes and recommends using the modified Pomeroy technique, which is an effective and safe technique, is easy to learn, and requires only suture material. In contrast, other occlusion methods require devices, device applicators, or special equipment. This tubal occlusion technique follows the same steps for suprapubic and subumbilical minilaparotomy.

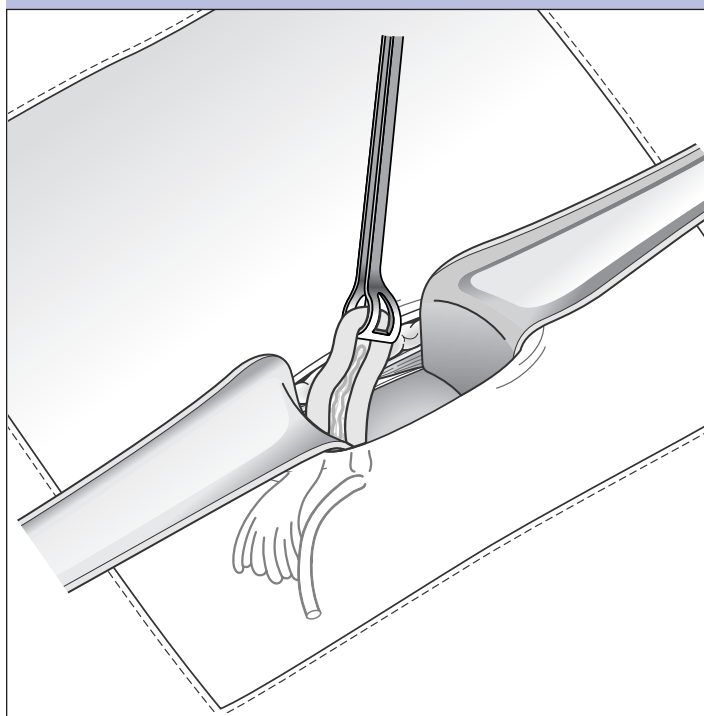
The modified Pomeroy technique is the most commonly used method for occluding the fallopian tubes. The basic concept of the technique is: *Tie a knot onto a loop of an avascular area of the tube, minimize tissue destruction, excise a portion of the tube, and use absorbable suture.*

HINT: Rapidly absorbable suture (chromic or plain catgut) is recommended, to allow the two cut ends of the tube to withdraw quickly from each other. This reduces the risk of failure as a result of spontaneous recanalization.

Modified Pomeroy Technique

With a baby Babcock forceps, grasp and elevate at least a 2-cm loop of fallopian tube at its midsection (the isthmic portion), approximately 2 to 3 cm from the

FIGURE 43. Holding the tubal loop with the baby Babcock forceps



cornual portion of the tube. Position the baby Babcock forceps over an avascular portion of the mesosalpinx. Keeping the forceps in a vertical position, hold the tubal loop (Fig. 43).

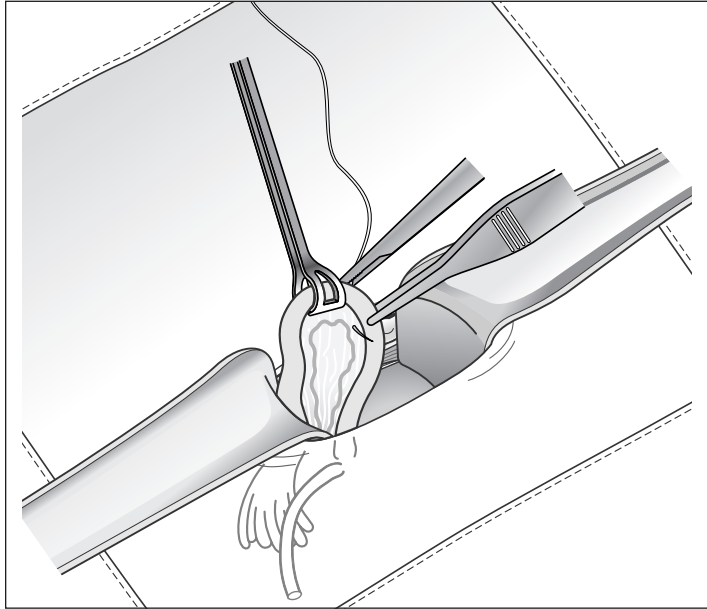
HINT: It is important that the tubal loop is large enough so that at least 1 cm of the tube can be excised but enough of the margin of the tube remains that it does not slip out of the suture.

Transfixing the suture. Using a surgical dissecting forceps, hold the tube by its distal side and pass a needle with absorbable suture Number 0 through the avascular section of the mesosalpinx, taking care to avoid blood vessels (Fig. 44a).

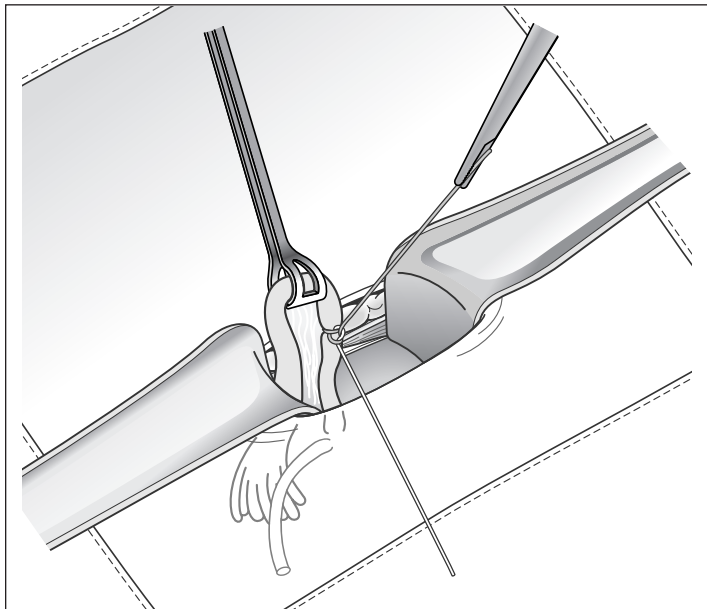
Place an **anchor tie** around the proximal side of the loop of fallopian tube. Be sure to use a square knot (Fig. 44b). Tie the same suture on **the other side of the looped tube**, using a square knot (Fig. 44c, page 88).

FIGURE 44. Steps in the modified Pomeroy technique

(a) Transfixing the suture



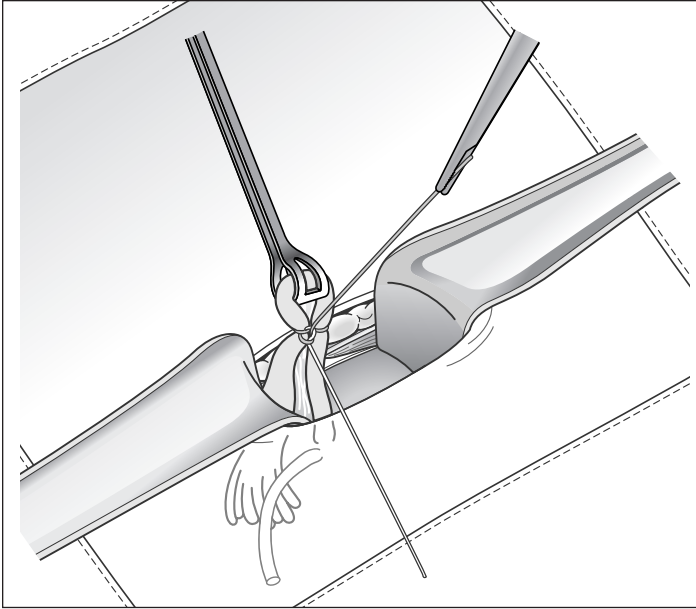
(b) Tying a square knot around the proximal side



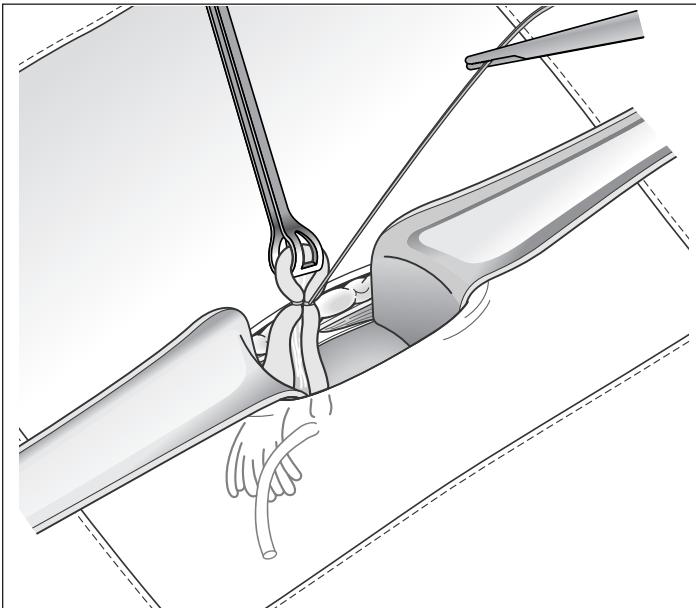
PITFALL: Do not place ligatures near the fimbrial portion of the tube, since this increases the potential for recanalization and failure.

FIGURE 44. Steps in the modified Pomeroy technique (cont'd.)

(c) Tying the distal side



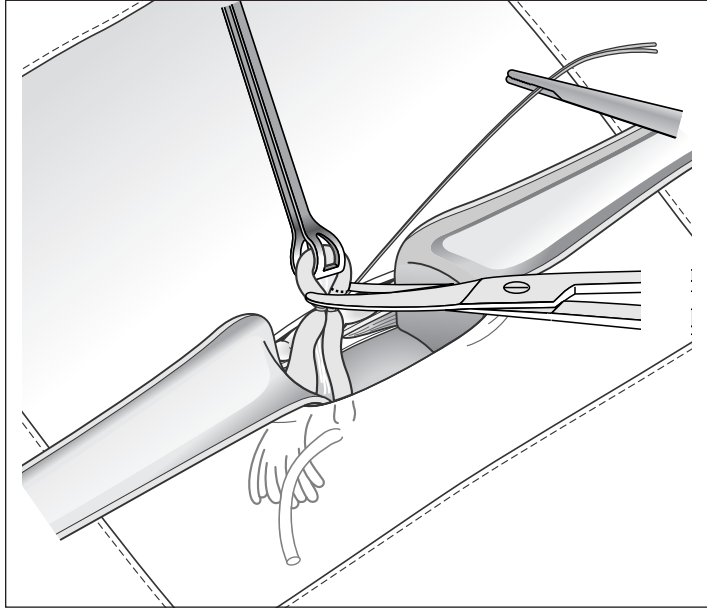
(d) Tying off the loop of the fallopian tube



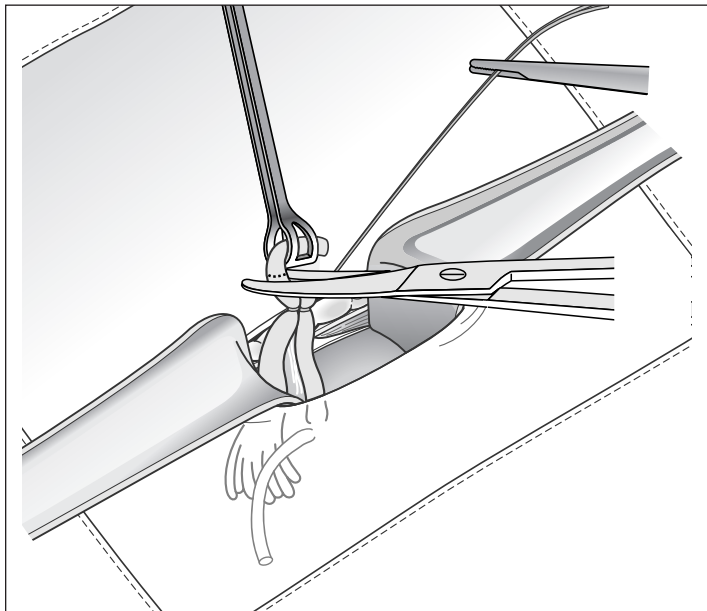
Cutting the tube. After tying the loop of the fallopian tube (Fig. 44d), use a hemostat to hold the suture knot. While holding the knot, cut off 1 cm of the loop of fallopian tube above the knot, using the Metzenbaum

FIGURE 45. Cutting the tube

(a) Cutting the proximal side of the tube

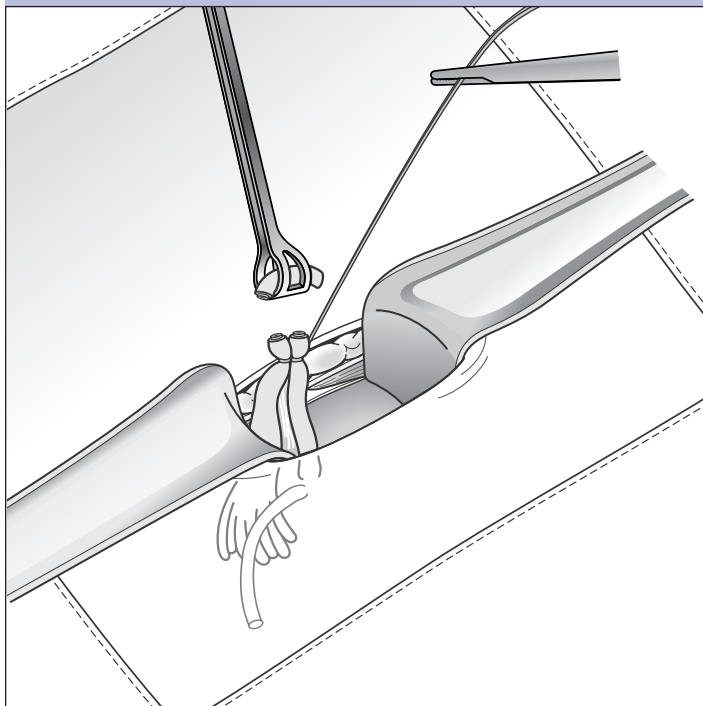


(b) Cutting the distal side of the tube



scissors, leaving at least a 0.5-cm tubal stump above the knot. Cut the proximal side first (Fig. 45a) and then the distal side (Fig. 45b). Examine the stump for bleeding (Fig. 46, page 90).

FIGURE 46. Checking the stump for bleeding



HINT: Because some blood vessels of the mesosalpinx are caught in the ligature, hemostasis must be assured before the tube is released and returned to the abdominal cavity. Be sure to hold the tube but not to pull it, as the pressure exerted could hide the bleeding.

Cutting the suture. After examining the cut tubal stump to ensure that hemostasis has been achieved, cut the suture above the knot and allow the tube to return into the abdomen by releasing the hemostat.

At this point, access and deliver the second fallopian tube, as was described in the previous section, and occlude it.

After both fallopian tubes have been occluded and returned to the abdomen, have the client monitor or the circulating nurse return the table to its initial horizontal position (if the Trendelenburg position was used).

10 Closing the Abdomen

Before closing the abdomen, visually explore the surgical area to exclude the possibility of any injury or bleeding. Two layers of the abdomen must be closed: the fascia and the skin. *Peritoneal closure is not necessary*, as data have shown that the peritoneum heals by itself in 24 to 48 hours, without adhesions (Janschek et al., 2003).

While grasping both sides of the fascia, starting at one end of the incision, close the fascia using a continuous (running stitches) suture with absorbable suture Number 0 (Fig. 47). Two or three stitches may be needed, depending on the length of the incision and the extent of superficial bleeding or the need to control bleeding. Observe for bleeding.

FIGURE 47. Closing the fascia

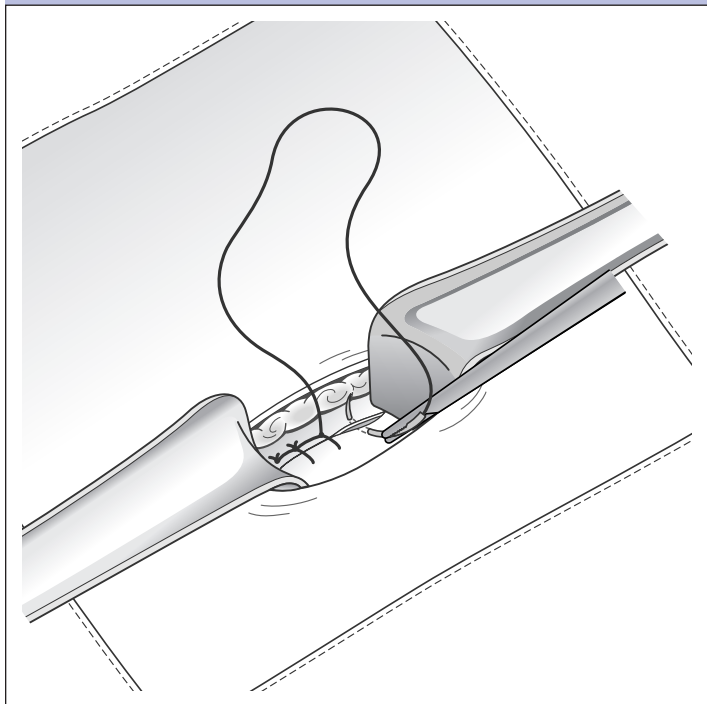
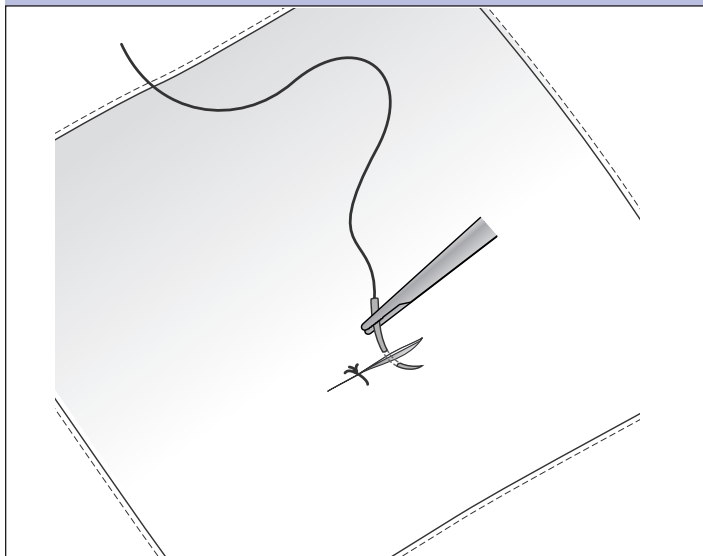


FIGURE 48. Closing the skin

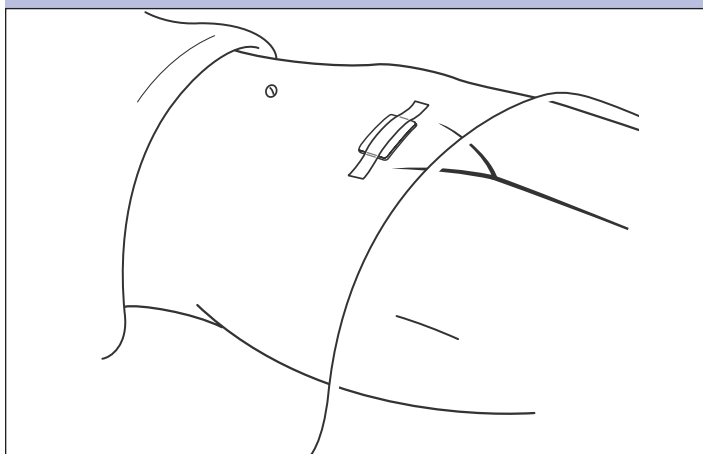


Close the skin with interrupted stitches, using either absorbable or nonabsorbable suture Number 0 (Fig. 48). The skin can be closed with stitches about 1 cm apart, depending on the need to control bleeding.

PITFALL: If nonabsorbable suture is used to close the skin, make sure that the client has access to a facility where the suture can be removed.

Finally, dress the closed incision (Fig. 49) before removing gloves, gowns, and drapes.

FIGURE 49. Dressing the wound



11 Postprocedure Tasks and Client Recovery

Client-Related Tasks That Take Place in the Operating Theater

Once the closed incision is dressed, the surgical team should perform the following steps: First, they should make sure that the client is feeling well and is calm. Next, they should remove the client's abdominal drapes. Finally, they should remove the uterine elevator (if this was a suprapubic procedure).

Help the client off the table and escort her to the recovery room, where she must be monitored regularly until she is discharged.

ALTERNATIVE: If the client was sedated, she should be transported to the recovery room on a stretcher or in a wheelchair.

Infection Prevention Tasks in the Operating Theater

Remove all sharps (needles and scalpels) from the surgical tray. Place *disposable* sharps in puncture-proof containers to be incinerated or buried. Place used instruments in a 0.5% chlorine solution for 10 minutes for decontamination. Dispose of waste materials in accordance with standard infection prevention procedures. Wipe any potentially contaminated surfaces with a 0.5% chlorine solution.

Before removing their gloves, all team members should briefly dip their gloved hands in a 0.5% chlorine solution. After removing gloves, team members must wash their hands thoroughly. Reusable gloves should be immersed in a 0.5% chlorine solution for 10 minutes and then processed following standard infection prevention procedures.

Client Recovery Tasks

The tasks described below are performed by a nurse or other staff member who is trained and designated to monitor clients in the recovery room, initiate emergency management should a complication arise, and discharge the clients.

Client monitoring consists of observing and recording the client's vital signs (respiratory rate, pulse, and blood pressure), checking her general conditions and comfort, and observing her surgical drape to promptly identify any bleeding. The client should be monitored every 15 minutes for at least the first hour after surgery. If the client is not awake, monitoring should continue every 15 minutes until she is fully awake. Clients should be monitored for at least two hours before discharge.

HINT: Engaging the client in conversation is a form of monitoring; the ability to talk and follow simple instructions is a good sign that the client is recovering appropriately.

If possible, or available, give the client sweetened liquids (i.e., tea or juice) to raise her blood sugar level, as she may have fasted for several hours prior to surgery.

The client may be discharged when she is able to retain oral fluids, urinate, converse, dress herself, and walk around. This usually occurs within two hours; however, if a sedative has been used, this time frame will vary, according to the type of sedative used and dosage given.

After sedation has worn off and before discharge, a trained staff member should repeat the postoperative instructions to the client or designated accompanying person. A written copy of the postoperative instructions should also be provided. (See Appendix E for sample instructions.)

Before being discharged, the client should be instructed to return for routine follow-up within one week, and to return at any time if warning signs arise. Staff should discuss the nature of those warning signs with the client and with the person accompanying the client from the facility, and should verify their understanding of this information. The client should have received this information in advance; at this time, it should be reiterated, and the person in charge of the client's discharge should make sure that she understands it.

Oral analgesics can be prescribed or given, to be taken during the first two days following the procedure. There is no need to prescribe antibiotics.

Discharge

12 Emergency Prevention and Management

Preventing the occurrence of complications is the first and most important measure to follow. It is for this reason that appropriate assessment of the client's physical condition is so critical, as is the need to follow updated and sound service-provision protocols. These include not only guidelines for service implementation, but also guidelines for emergency preparedness and management.

Facilities that provide minilaparotomy services must be able to manage minor complications on-site and must have the capability to transfer clients for management of serious complications. For more serious complications that the site cannot manage, the client should be stabilized and promptly referred. In short, *emergency management preparedness is a vital and absolutely necessary component of minilaparotomy for female sterilization services.* This includes:

- *The ability to recognize and manage early warning signs and complications.* All who provide direct client care and all operating theater personnel should be able to recognize cardiorespiratory distress and resuscitate the client. For clinic personnel to have these skills, they need specialized training, followed by periodic skills refreshment (which can be accomplished through drills and role plays).
- *Client monitoring for early recognition of complications.* Client monitoring must be routine and complete (as outlined on pages 37 and 94, because such monitoring facilitates the early recognition of complications, through early observation of changes in the client's vital signs and responsiveness).
- *Availability of functional equipment, adequate supplies, and appropriate drugs.* Regardless of the type of anesthesia used, emergency drugs and equipment for treating a sedative overdose or any other reactions (e.g., vasovagal reaction, or fainting) *must* be available. These need to be near at hand

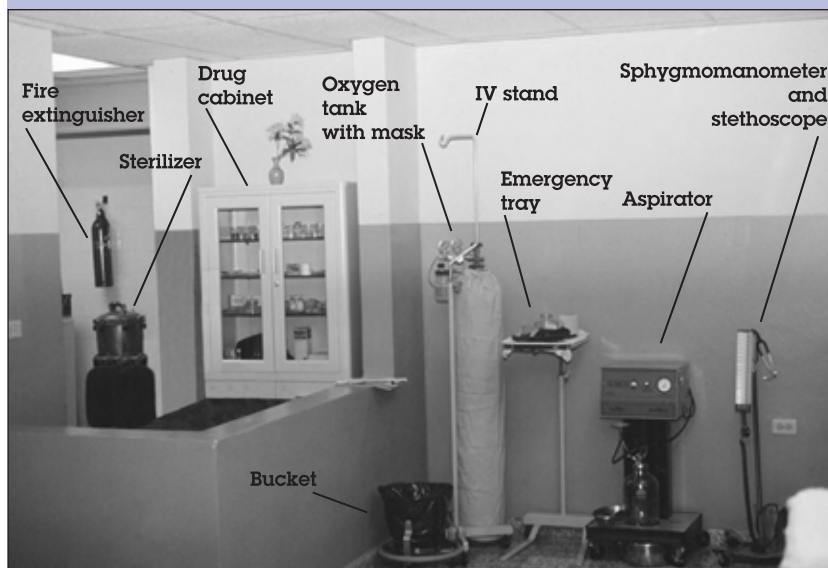
both in the surgical area (Fig. 50) and in the recovery area (Fig. 51) (see Appendix F). Also, staff must have been appropriately trained to manage such complications.

- *Transfer capability and a back-up referral facility.* After stabilization, for complications that need fur-

FIGURE 50. The emergency trolley



FIGURE 51. Appropriate emergency equipment for the recovery room



ther treatment, staff must be prepared to be able to transfer a client to a facility capable of managing serious complications. For this purpose, the service facility where the original procedure took place should ensure that it has the capability, procedures, and arrangements (such as transport and a nearby back-up referral facility to which clients can be transferred for prompt and definitive care of complications, as needed). Providers and other appropriate staff at the facility must be familiar with these procedures, referral linkages, and transport arrangements, and must ensure that transport is provided in a timely manner.

NOTE: For more information about emergency preparedness and management, see EngenderHealth's *Emergency Management for the Operating and Recovery Rooms* (AVSC International, 2000).