Amputation technique

The simple method described here covers all indications and urgency categories with slight modification in extremely urgent cases.

i. Materials: antiseptic solution; scalpel; scissors; 75 cm of plain rubber shock cord of 1cm diameter; heavy gauge, non absorbable suture material and a large curved needle (preferably round bodied).

ii. Procedure: In cases not extremely urgent bathe with antiseptic solution and/or otherwise surgically prepare the postero-dorsal surface of the exposed uterus. Avoiding cotyledons, make a hand sized incision within the prepared area into the everted uterine sac. With a surgically prepared hand explore for any contained viscera, e.g. bladder and if found repel same towards the abdominal cavity. Place the centre of the rubber cord over the mass, as far forward as possible, if possible anterior to all cotyledons but posterior to all cervical folds.

Pull the ends of the rubber shock cord down their respective sides, around and exchange ends left and right beneath the mass. Then have an assistant pull the ends firmly to right and left. Next, particularly if one has already been repelled, check that no viscus is included within the encircling rubber. The rubber should now be pulled tight enough to cause a reduction of approximately 50% in its diameter, the ends brought around to the top and, maintaining the tension, tied off with a reef knot. Some tension should be kept on the ends to prevent the knot creeping slack.

The suture needle is threaded with about 20cm of the suture material. The threaded needle is passed under the rubber surrounding a short distance from one side of the knot. While still maintaining enough tension to prevent knot creep, the free end of the rubber on that side is brought down between ends of the suture material which is then tied off firmly. A second, similar, suture is placed on the other side of the knot. The purpose of the suture material is to maintain enough tension in the rubber to prevent the knot becoming slack. The rubber must remain tight enough to cause necrosis of all tissue distal to it. A round bodied needle is preferred since it does not possess cutting edges; even so, the needle should be passed deeply enough to prevent damage, and consequent weakness, to the rubber. Even shallow penetration of the uterine wall is preferable to damaging the rubber.

The whole organ may be left intact. It quickly dehydrates, and within the next 48 hours it becomes considerably lighter and less bulky. The rubber tourniquet prevents further loss of blood and absorption of toxic products. Complete sloughing takes about 7 days. Alternatively, the organ may be transected at least 20cm distal to the rubber. If it has been placed with enough tension there is little fear of the rubber slipping. Initially it is maintained by the mass of the organ and it quickly beds in as the tissue beneath it devitalises. If the operator is concerned, an anchoring can be placed diametrically through the organ on one side of the tourniquet and back through the organ on the other. Tails of rubber and sutures can be trimmed to about 3cm.

iii. Extremely urgent cases, where ongoing haemorrhage is suspected, should be dealt with by first getting the rubber quickly in place and held with tension, but not tied off. Then the inspection for enclosed viscera is done; with luck there won't be any. If there is, slacken the rubber just enough to repel and quickly retighten.

iv. Supporting therapy consists of antibiotic cover, and appropriate fluid therapy. The latter can only be determined by the clinical state of the animal and an assessment of the volume of blood lost. Tetanus antitoxin should be given.

v. Aftercare: it is best to allow the animal to regain its feet in its own time. Depending upon the property, excitable beef animals may be best left in their own, familiar herd, or with a few suitable companions. Quiet dairy animals may be better separated to avoid disturbance in the milking herd. The animal should have plenty of opportunity to drink, especially during the first 24 post operative hours.

After sloughing has occurred a gentle, clean vaginal examination can be made and any remaining foreign body (rubber cord, suture etc.) can be removed. If sloughing has not occurred within 12 days examination may reveal the reason (this has not happened in the author's experience).