Procedure for Mastectomy/Udder Amputation

Traditional

* An elliptical incision is made around the udder. The skin incision may need to be placed distally on the udder (toward the teats) so that enough skin remains for closure. The skin incision is made from 6-8 inches cranial to the udder to the perineal skin.
* Following the skin incision, a combination of blunt and sharp dissection is used to separate the skin from the mammary tissue. The skin is retracted proximally, and the junction of mammary gland and abdominal wall should be identified on the lateral aspect of the gland.
* Blunt dissection is usually sufficient to separate the mammary gland from the body wall and is superior to sharp dissection because hemorrhage is less. However multiple small vessels are inadvertently encountered and electrocautery or another method of hemostasis should be employed to decrease blood loss.
* As dissection is continued, attention should be paid to identification of the external pudendal vasculature to avoid inadvertent transection. Dissection is continued until the external pudendal arteries and veins are encountered passing through the inguinal rings.
* These vessels are bluntly (and gently) separated from the surrounding tissue so that they may be ligated. Double or triple ligations are performed. Use #2 or #3 chromic gut with 2 proximal circumferential sutures and a transfixation suture distal. (use of non-absorbable sutures such as cotton umbilical tape for these ligations have also been used)
* A clamp or another ligature is placed on the udder’s side of these vessels and the vessel is transected. The pudendal artery and vein should be ligated separately.
* Dissection is continued cranially and the subcutaneous abdominal vein is ligated in a similar manner. The perineal vessels are also ligated as they are encountered at the caudal aspect of the mammary gland. Near the medial aspect of the mammary gland, the median suspensory ligament requires sharp transection. The suspensory ligament should be transected at approximately 1 cm from the body wall. Transection of the ligament too close to the body wall may inadvertently incise through the body wall or create weakness in the ventral body wall support.
* Complete mastectomy involves creation of considerable dead space. A Penrose drain should be placed for 3 days following surgery to decrease fluid accumulation. The drain should exit at the most ventral (dependent) aspect of the dead space pocket.
* If possible, dead space should be ablated with sutures prior to skin closure. The skin incision is closed routinely. Tension relieving sutures (vertical mattress) should be used as needed if the skin is under a lot of tension when closed.

Alternative

* The animal is placed in lateral recumbency with the affected side uppermost and the upper limb is tied upward to allow access to the inguinal region.
* Sedation can be used but at a reduced dose.
* After infiltration of local anesthetic over the inguinal area, a 10- to 15-cm incision is made parallel to the external inguinal ring.
* Using a curved scissor, the surgeon incises superficial fascia.
* Blunt dissection is used to locate the external pudendal vessels, which are identified as the only two vascular structures exiting the inguinal canal
* The external pudendal artery is triple ligated and transected with a double ligation on the cardiac side and a single ligation on the mammary side.
* The procedure is repeated on the external pudendal vein.
* The subcutaneous tissues are closed by using three or four pursestring-like sutures.
* Multiple bites of loose tissue, inguinal fat, and subcutaneous tissue are taken, which reapposes all tissues superficial to the external inguinal ring on either side of the incision.
* The skin is closed in a routine manner. After ligation and division of the external pudendal vessels, teats from the affected quarters should be amputated at their bases with curved Mayo scissors to allow drainage.
* A small incision is made ventral to the milk vein on the abdominal region. The subcutaneous abdominal vein is then ligated twice.
* Skin and tissue there is routinely closed using simple continuous patterns and tension relieving pattern for the skin.

Chemical

* 100ml of a solution containing 10% formaldehyde diluted in 500 ml of sterile saline/

 50 to 100 cc of 3% silver nitrate solution/ 20 ml of 5% copper sulphate/ 250 ml of a solution

 containing 1 gm of acriflavine in 500 ml of sterile water/or 60 ml of chlorhexidine is injected into

 affected quarters and not milked out.

* Significant inflammation (pain swelling and erythema) results, with subsequent atrophy of that part of the gland.
* If excessive inflammation occurs, it is managed by milking out the preparation 24 to 48 hours after infusion.

*NB:* very uncomfortable to animals, consider other options