

Amputation of the Udder	
Purpose	<p>Used in the treatment of:</p> <ul style="list-style-type: none"> - Toxic, gangrenous, or chronic unresponsive mastitis, - Large udder abscesses, - Neoplasms, - Precocious udder, - Severe breakdown of the udder's support
Anatomy	<p>Structure:</p> <ul style="list-style-type: none"> - Skin: consists of the nipple and areola - Parenchyma: glandular tissue consisting of branching ducts and terminal secretory lobules - Stroma: the support system, consists of fibrous stroma and fatty stroma. The fibrous stroma → medial suspensory ligament <p>Blood supply and drainage:</p> <ul style="list-style-type: none"> - External Pudendal arteries - External Pudendal veins - Subcutaneous abdominal (milk) vein - Mammary branches of the ventral perineal artery and the ventral labial vein <p>Lymphatics:</p> <ul style="list-style-type: none"> - superficial inguinal (mammary) lymph nodes <p>Nerves:</p> <ul style="list-style-type: none"> - Iliohypogastric (L2), - Ilioinguinal(L3) - Genitofemoral (L3) nerves - pudendal nerve (Sacral 2-4) → Caudal part of the udder
Equipment and materials	<ul style="list-style-type: none"> - suture material: chromatic catgut, non-absorbable synthetic sutures - scalpel and scalpel blade - needle and syringes - haemostats - needle holder - scissors - forceps (atraumatic) - general anaesthesia/ local anaesthesia of clinicians choice - sharp-blunt scissors - electrocautery if available

<p>Restraints</p>	<ul style="list-style-type: none"> - halter and rope restraints for the legs or - chemical restraint
<p>Procedure</p>	<ul style="list-style-type: none"> - The animal is placed in dorsal recumbency, with the legs positioned in such a way, that it is not blocking access to the udder - The area around the udder is surgically prepared (umbilicus to the perineal area) - Then a skin incision is made from 6-8 inches cranial to the udder to the perineal skin A combination of blunt and sharp dissection is used to separate the skin from the mammary tissue. - The skin is retracted proximally (the junction of mammary gland and abdominal wall should be identified on the lateral aspect of the gland) - All small blood vessels encountered, should be ligated, or closed off with electrocautery. - 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, then ligated - Dissection is continued cranially, and the subcutaneous abdominal vein is ligated - The perineal vessels are also ligated - 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 - Once the mammary gland is removed, A Penrose drain should be placed for 3 days following surgery to decrease fluid accumulation - Then the incision site should be sutured closed
<p>Post operative care</p>	<ul style="list-style-type: none"> - Keep the site clean - Remove the Penrose drain three days post op - Antibiotics should be administered - Antibacterial and anti-myiasis spray should be placed on the site
<p>Considerations and complications</p>	<ul style="list-style-type: none"> - Surgical site infection - In cows, Removal of one quarter not recommended since there is no clear division between cranial and caudal mammary glands on a particular side - General anaesthesia can exacerbate conditions during surgery - Fluid loss can occur in severely compromised animals during surgery

VETM 4001

Large animal surgery

Amputation of the udder

	<ul style="list-style-type: none">- 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
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