



Republic of Rwanda
Ministry of Education



RTB | RWANDA
TVET BOARD

MINOR SURGERY

ANHMS302

Perform Minor Surgery

Competence

RQF Level: 3

Learning Hours



50

Credits: 5

Sector: Agriculture And food Processing

Trade: Animal Health

Module Type: Specific

Curriculum: AFPANH3002- TVET Certificate 3 in ANIMAL HEALTH

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Purpose statement	This module describes the skills and knowledge required to perform minor surgery on animals without supervision is intended for learners who have successfully completed nine years' basic education, level or equivalent pursuing TVET level III in animal health or other related qualification. Upon completion of the module, the learner will be able to perform injections, perform wound and abscess treatment, execute male castration, perform dehorning, apply hoof trimming techniques, perform livestock caudectomy, Perform trocarization.				
Learning assumed to be in place	Workplace preparation for veterinary intervention, Applied biology, Applied chemistry				
Delivery modality	Training delivery	100%	Assessment	Total 100%	
	Theoretical content	30%	Formative assessment	30%	
	Practical work:	70%		70%	50%
	<ul style="list-style-type: none"> Group project and presentation 				
	<ul style="list-style-type: none"> Individual project /Work 	50%			
			Summative Assessment	50%	

Elements of Competency and Performance Criteria

1. Perform Injections	1.1 Material tools and equipment for injections are properly selected.
	1.2 Injection sites are properly identified
	1.3. Injections techniques are properly applied.
2. Perform wound and abscess treatment	2.1 Material tools and equipment for wound and abscess treatment are properly selected
	2.2 wound are cleaned and debrided .
	2.3 wound suturing and dressing techniques are properly applied
3. Execute male castration	3.1 Material tools and equipment are properly selected .
	3.2 Animal restraining techniques are appropriately applied .
	3.3 Bleeding castration techniques are adequately applied.
4. Perform dehornings	4.1 selection of material tools and equipment for dehorning and restraining are selected
	4.2 Animal restraining techniques are properly applied.
	4.3 Disbudding/ dehorning techniques are adequately applied.
	4.4 Saw dehorning method are properly conducted

5. Apply hoof trimming techniques	5.1 Material tools and equipment for hoof and claw trimming are properly selected.
	5.2 Animal restraining techniques are properly selected.
	5.3 hoof and claw condition are carefully checked.
	5.4 hoof and claw trimming operation are properly conducted.
6. Perform small ruminant caudectomy	6.1 Material tools and equipment for caudectomy and restraining are properly selected.
	6.2. Animal restraining techniques properly applied.
	6.3. Bleeding caudectomy operation are properly conducted.
	6.4. Non-bleeding caudectomy operation are properly conducted.
7. perform trocarization	7.1 Material tools and equipment for rumen trocarization are properly selected.
	7.2 Animal restraining techniques are properly applied.
	7.3 Rumen trocarization techniques are properly applied.

Course content

Learning outcomes	<p>At the end of the module the learner will be able to:</p> <ol style="list-style-type: none"> 1. Perform Injections 2. Perform wound and abscess treatment 3. Execute male castration 4. Perform dehorning 5. Apply hoof trimming techniques 6. Perform small ruminant caudectomy 7. Perform trocarisation of the rumen
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Learning outcome 1: Perform Injections	Learning hours: 10
Indicative content	
<ul style="list-style-type: none"> • Identification of different types of injections <ul style="list-style-type: none"> ✓ Different types of injections • Identification of the sites of injection <ul style="list-style-type: none"> ✓ Predilection sites of different injections • Application of injections techniques <ul style="list-style-type: none"> ✓ Aseptic preparation of site Injection techniques 	

Resources required for the learning outcome	
Equipment	Restraining material, Crush, , PPE), adhesives tape, pans, boxes, Wash bottles, Audio-visual material, Board, Pen, Flip chart, Computer, Posters
Materials	Animals, anti-inflammatory, disinfectant, Tranquilizers, Internet connection,
Tools	Cotton, gauze, clips, scissors, needles, syringes, surgical blades, scalpel, handle, nose ring and ropes,
Facilitation techniques	Demonstration and simulation, Group discussion Demonstrations on types of injections, Practical works on types of injections, Audiovisual presentation on different types of injections, Internet research on types of injections
Formative assessment methods	Written assessment <ul style="list-style-type: none"> • Oral presentation • Performance assessment

Learning outcome 2: Perform wound and abscess treatment	Learning hours: 5
Indicative content	
<ul style="list-style-type: none"> • Selection of material tools and equipment for wound and abscess treatment <ul style="list-style-type: none"> ✓ Materials tools and equipment used in wound and abscess treatment • Incision of an abscess <ul style="list-style-type: none"> ✓ Types of abscess ✓ Abscess maturation ✓ Abscess puncture and incision ✓ Drainage of abscess • Dressing a wound <ul style="list-style-type: none"> ✓ Types of wounds ✓ Wound suturing ✓ suture materials 	

- ✓ suture patterns.
- ✓ Wound cleansing technique
- ✓ Cleaning
- ✓ Shaving
- ✓ Trimming
- ✓ Wound dressing

Resources required for the indicative content

Equipment	PPE, Cotton,Gauze, adhesives tape, Wash bottles ,Board, Pen, Posters, Books, Flip chart
Materials	Antibiotics, antiseptics, anti-inflammatory, Tranquilizers ,Anaesthetics,
Tools	Scissors, Crush, Ropes, Nose lead,Needles,Syringessurgical blades scalpel handle,
Facilitation techniques	Demonstration and simulation, Individual and group work, Practical exercise, Individualized, Trainer guided, Group discussion, Group discussion
Formative assessment methods	Written assessment, Oral presentation, Performance assessment

Learning outcome 3: Execute male castration

Learning hours: 10

Indicative content

- Selection of material tools and equipment for male castration and restraining
 - ✓ Materials tools and equipment
- Application of animal restraining techniques
 - ✓ Restraining techniques for different species
- Application of bleeding castration techniques
 - ✓ Castration purpose
 - ✓ Gross anatomy of testicle
 - ✓ Bleeding castration procedures
 - ✓ Castration complications
 - ✓ Haemorrhage
 - ✓ Infection
 - ✓ Postoperative care

- Application of non-bleeding castration techniques
 - ✓ Tips of non-bleeding castration

Resources required for the indicative content

Equipment	Restraining material,PPE
Materials	Local anesthetics (Lidocaine),antiseptics, alcohol
Tools	Burdizzo, castratome elastrators, elastrator bands, Cotton, Gauze, Clips, Scissors, Needles, Syringes, surgical ,blades, scalpel handle, suture materials
Facilitation techniques	Demonstration and simulation, Individual and group work, Practical exercise, Individualized, Trainer guided, Group discussion, Observation different material, Audiovisual presentation, Group discussion, Audiovisual
Formative assessment methods	Written assessment, Oral presentation, Performance assessment

Learning outcome 4: perform dehorning

Learning hours: 10

Indicative content

- Selecting materials tools and equipment for dehorning and restraining
 - ✓ Materials tools and equipment
- Applying animal restraining techniques
 - ✓ Restraining techniques for different species
- Applying disbudding/ dehorning techniques
 - ✓ Dehorning purpose
 - ✓ Anatomy of the horn
 - ✓ Dehorning techniques and methods
 - ✓ Disbudding method
 - ✓ Saw method
 - ✓ Complication of dehorning
 - ✓ Disbudding procedures
- Conducting saw dehorning method
 - ✓ Dehorning by usingSaw method

Resources required for the indicative content	
Equipment	Board, Pen, Posters, Books, Flip chart
Materials	Antibiotics ,antiseptics ,anti-inflammatory,Tranquilizers ,Anaesthetics
Tools	Scissors Crush Ropes Nose lead Needles Syringes surgical blades scalpel handle,PPE ,Cotton, Gauze, adhesives ,tape, Wash bottles
Facilitation techniques	Demonstration and simulation, Individual and group work, Practical exercise, Group discussion
Formative assessment methods	Written assessment, Oral presentation, Performance assessment

Learning outcome 5: Aply hoof trimming techniques	Learning hours: 5
Indicative content	
<ul style="list-style-type: none"> • Selection of material tools and equipment for hoof and claw trimming and restraining <ul style="list-style-type: none"> ✓ Materials tools and equipment for hoof care • Application of animal restraining techniques <ul style="list-style-type: none"> ✓ Restraining techniques • Checking hoof and claw condition <ul style="list-style-type: none"> ✓ Hoof anatomy ✓ Hoof conditions ✓ Hoof examination procedures • Conducting hoof and claw trimming operation <ul style="list-style-type: none"> ✓ Hoof trimming procedures ✓ Hoof trimming complications ✓ Preventions of hoof trimming complications ✓ Postoperative care 	
Resources required for the indicative content	

Equipment	Animals ,Halters, Ropes, Wash bottles ,Veterinary clinic, Board, Flip chart, Books, Posters
Materials	Tranquilizers,Antibiotics, antiseptics,anti-inflammatory drug,Anesthetics
Tools	Nose lead, crush ,Hoof trimmers, hoof knives, scissors/pruners, scalpels, hoof picks, hoof brushes , Hoof nippers
Facilitation techniques	Demonstration and simulation, Individual and group work, Practical exercise, Individualized, Trainer guided, Group discussion
Formative assessment methods	Written assessment, Oral presentation, Performance assessment

Learning outcome 6: perform small ruminant caudectomy	Learning hours: 5
Indicative content	
<ul style="list-style-type: none"> • Selection of material tools and equipment for caudectomy and animal restraining <ul style="list-style-type: none"> ✓ Gross anatomy of the tail ✓ Types of caudectomy ✓ Materials tools and equipment for caudectomy • Application of animal restraining techniques <ul style="list-style-type: none"> ✓ Restraining techniques for small ruminants • Conducting of bleeding caudectomy operation <ul style="list-style-type: none"> ✓ Bleeding caudectomy procedure ✓ Haemostasis techniques • Conducting of non bleedingcaudectomy operation <ul style="list-style-type: none"> ✓ Bleeding caudectomy procedures 	
○ Resources required for the indicative content	
Equipment	PPE, suture materials Wash bottles,Audio-visual equipment,Board Flip chart, Books, Posters, Ropes

,Materials	Animals,Antibiotics, antiseptics, anti-inflammatory, Tranquilizers,Local anesthetics,
Tools	clips, Scissors, Needles,Cotton, Gauze, clips, Scissors ,Needles,Syringes, surgical blades, scalpel handle ,suture materials, Wash bottles,Nose lead
Facilitation techniques	Demonstration and simulation, Individual and group work, Practical exercise, Individualized, Trainer guided, Group discussion
Formative assessment methods	Written assessment, Oral presentation, Performance assessment

Learning outcome7:perform trocarization	Learning hours: 5
Indicative content	
<ul style="list-style-type: none"> • Selection of material tools and equipment for rumen trocarization and restraining <ul style="list-style-type: none"> ✓ Selection of material for rumen trocarization and restraining ✓ Selection of tools for rumen trocarization and restraining • Application of animal restraining techniques <ul style="list-style-type: none"> ✓ Restraining techniques of ruminants • Application of rumen trocarization techniques <ul style="list-style-type: none"> ✓ Topographic anatomy of rumen ✓ Trocarization purpose ✓ Trocarization indications ✓ Trocarization techniques 	
Resources required for the indicative content	
Equipment	PPE,Flipchart, Board, Pen, Animals Audio-visual equipment, Ropes/crush, Board/pen. flip chart, posters, projector
Materials	Books internet,antiseptics,Computer
Tools	nose lead,Trocar and cannula,
Facilitation techniques	Demonstration and simulation, Individual and group work, Individualized, Trainer guided, Group discussion, Group discussion, Group discussions, Audiovisual presentation, Practical work

Formative assessment methods	Written assessment, Oral presentation, Performance assessment
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Integrated/Summative assessment (For specific module)

Integrated situation

KABUTARE TVET School has 10 bulls a with long horns. Theschool would like to dehorn the above stated animals in order to minimize fighting and an esthetic reason. As animal care technician, the school manager asks you to perform the following tasks:

- Trim its hooves
- Dehorn 5 calves
- Dress the wound of the dehorned
- Because you will use xylazine the animal might get bloat,trocariseit.
- Castrate the other 5 remaining calves within 3hours.

Resources

Tools	Syringes,Ropes, Nose lead, Crush,Surgical cotton Surgical gauze,Local anesthetics,
Equipment	Needle for injection,2 Bulls,Forceps,PPE,Hot iron for dehorning
Materials/ Consumables	Man power,Antiseptic, Antibiotics, Anti –inflammatory,

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
Learning outcome1 Perform Injections (15%)	1.1. Material tools and equipment for injections are properly selected.	Ind1:Intramuscular injection is selected			2
		Ind.2intravenous injections are selected			2
		Ind.3.subcutaneous injection are selected			2
	1.2. Injection sites	Ind.1intramuscular			2

	are properly identified	sites are identified			
		Ind.2 intravaginal sites are identified			2
		Ind.3 subcutaneous sites are identified			2
	1.3. Injections techniques are properly applied	Ind1 subcutaneous injection techniques are applied			1
		Ind2 intramuscular injection techniques are applied			1
		Ind3 intravenous techniques are applied			1
Learning outcome 2: perform wound healing and abscess treatment (9%)	2.1 Material tools and equipment for wound and abscess treatment are properly selected	Ind.1 selection of PPE are selected			1
		Ind.2; Selection of materials, tools and equipment for wound and abscess treatment are selected			1
		Ind.3 animal restraining materials ,tools and equipment are selected			1
	2.2 wound are cleaned and debrided.	Ind.1 Selection of PPE are selected			1
		materials, tools and equipment for wound and abscess treatment are selected.			1
		Ind.3 animal restraining materials ,tools and equipment			1
	2.3 wound suturing and dressing techniques are properly applied	Ind1.Wound are suturing and dressing techniques are applied.			1

		Ind2. wound is cleaned			1
		Ind3.dressing of wound is applied			1
Learning outcome 3: Execute male castration (9%)	3.1Material tools and equipment are properly selected .	Ind.1.Materials tools are selected.			1
		Ind.2. Tools and equipment are selected.			1
		Ind.3.equipment are selected.			1
	3.2 Animal restraining techniques are appropriately applied	Ind.1.restraining techniques are applied.			1
		Ind.2.Wound suturing suture materials are applied.			1
		Ind.3.Wound cleansing technique are applied.			1
	3.3 Bleeding castration techniques are adequately applied.	Ind.1Bleeding castration procedures are applied.			1
		Ind2.Hemorrhage is controlled			1
		Ind3 infection is controlled			1
Learning outcome 4. Performdehorning's(11%)	4.1 selection of material tools and equipment for dehorning and restraining are selected	Ind1.Materials tools and equipment for disbudding method are selected.			1
		Ind2Materials tools and equipment for saw method are selected			1
		Ind3 restraining techniques are applied.			1
	4.2. Animal restraining	Ind1Restraining techniques for cattle			1

	techniques are properly applied. Disbudding method	are applied				
		Ind2. Restraining techniques for sheep are applied			1	
		Ind3. Restraining techniques for goats are applied			1	
	4.3 Disbudding/ dehorning techniques are adequately applied.	Ind1. Disbudding method are applied			1	
		Ind2. Saw method are applied.			1	
		Ind3. Complication of dehorning are managed			1	
	4.4 Saw dehorning method are properly conducted	Ind1. saw method are conducted			1	
		Ind2. Disbudding method is applied.			1	
	Learning outcome:5 Apply hoof trimming techniques (12%)	5.1 Material tools and equipment for hoof and claw trimming are properly selected.	Ind1. Hooves and claw are trimmed			1
			Ind2. Hoof picks are selected			1
Ind3. Hoof trimmer are selected					1	
5.2 Animal restraining techniques are properly selected.		Ind1. Cattle is restrained			1	
		Ind2. Sheep is restrained			1	
		Ind3. Goat is restrained			1	
5.3 Hoof and claw condition are carefully checked.		Ind1. Hooves and claws are examined			1	
		Ind2. Hoof is checked			1	
		Ind3. Claw is checked			1	
5.4 Hoof and claw trimming operation are properly conducted.		Ind1. Hooves and claws are trimmed			1	
		Ind2. Hoof are trimmed			1	

		Ind3. Claw are trimmed			1	
Learning outcome6:Perform small ruminant caudectomy (10%)	6.1Material tools and equipment for caudectomy and restraining are properly selected.	Ind1.PPE are well selected			1	
		Ind2.Materials tools and equipment for caudectomy are well selected			1	
		Ind3.Materials tools and equipment for animal restraining are well selected.			1	
	6.2.Animal restraining techniques properly applied.	Ind1Restraining techniques for is applied			1	
		Ind2Restraining techniques for goat is applied			1	
		Ind3Restraining techniques for sheep is applied			1	
	6.3. Bleeding caudectomy operation are properly conducted.	Ind1.Materials tools and equipment for caudectomy are well selected			1	
		Ind2.Bleeding caudectomy procedure are well respected			1	
		Ind3hHaemostasis techniques are well used			1	
	6.4. Non-bleeding caudectomy operation are properly conducted.	Ind1. Rope is well attached			1	
	Learning outcome7.perform trocarization(34%)	7.1 Material tools and equipment for rumen trocarization are properly selected.	Ind1.material tools and equipment a for rumen are selected.			7
			Ind2.disinfection method is applied			7
			Ind3 trocar and cannula are applied.			5

	7.2 Animal restraining techniques are properly applied.	Ind1 material for rumen trocarization and restraining are applied			5
		Ind2.physical technique is applied			5
		Ind3.chemical techniques is applied			5
	7.3 Rumen trocarization techniques are properly applied.	Ind1Restraining techniques for cattle is applied			1
		Ind2 restraining techniques for goat is applied			1
		Ind3 restraining technique for sheep is applied.			1
Total marks		100			
Percentage Weightage		100%			
Minimum Passing line % (Aggregate): 70%					

References:

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2. Elizabeth A. Hanie (2005). *Large Animal Clinical Procedures for Veterinary Technicians*, Mosby, 561 pp.
3. Jason Ndikuwera (2008). *A guide to common surgical techniques for practicing veterinarians*, Guide 7, Fountain Publishers, 122 pp.
4. Steven L. Stockham, Michael A. Scott (2008). *Fundamentals of Veterinary Clinical Pathology*, 2nd edition, Wiley-Blackwell, 908 pp.
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6. http://semmelweis.hu/mutettan/files/2016/03/SZGY_05_ENG.pdf
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