



DAY 1 SKILLS FOR THE VETERINARIANS

Pre-amble

Day 1 competencies and skills are the minimum standard required for the registration of a veterinary degree with the South African Veterinary Council. It is the starting point for the variety of roles that a veterinarian can have after graduation. Ongoing continuing professional development is needed along with post graduate training and further qualifications for new graduate to complete their set of skills and competencies in their chosen field.

A competence is a concept that integrates knowledge, skills and attitudes and the application of competence enables the veterinary professional to perform effectively and cope with contingencies, change and the unexpected. The definition of a competence is the ability to perform the roles and tasks required by working to an expected standard. The standard may vary with experience and responsibility and takes into account current knowledge. An example of a competence would be the ability to perform aseptic surgery. This includes a number of skills for example scrubbing technique, skin preparation, surgical technique, suturing, etc.

Non-Technical Skills

Communication

1. Communicate effectively with people:
 - a. Owners
 - b. Veterinary colleagues
 - c. Interprofessional colleagues
 - d. General public
2. Communicate in writing for different audiences:
 - a. Owners
 - b. Veterinary colleagues
 - c. Interprofessional colleagues
 - d. General public
3. Prepare and maintain clear and accurate records for different purposes:
 - a. Patient records and reports
 - b. Referral letters
 - c. Insurance reports
 - d. Legal submissions – with the assumption that this relates to (3a) above.
 - e. Academic and scientific articles
 - f. Accounts and bookkeeping
4. Adapt language forms and styles to the audience and the context.
5. Actively listen to people, taking account of non-verbal cues - this is a learned skill that is generally not assessed at university level.
6. Take account of any communication differences that people might have:
 - a. Disabilities
 - b. Sensory Impairment
 - c. English as a second language
 - d. Different Cultures
 - e. Different Religions
 - f. Different value systems
 - g. Different resources



7. Convey appropriate sympathy and empathy in verbal and non-verbal communications with people.
8. Contribute to the facilitation of clearer communication between people.
9. Have an understanding on how to handle conflict situations through negotiation.
10. Communicate Health and Safety risks to people, verbally and by displaying notices.
11. Record, store and retrieve information using appropriate information technology systems.
12. Provide information in a manner and at a pace that enables clients to make informed decisions.
13. Obtain written and verbal informed consent.
14. Be able to read and assess a patient's body language and work with them in a way that decreases their stress. Be able to communicate with a client regarding a patient's stress levels in order to work with a patient in a stress free and safe way.
15. Be able to communicate a cost estimate for treatment and customise the treatment protocol according to a client's financial capacity whilst still maintaining adequate welfare and providing the best care possible.
16. Understand the importance of effective communication skills and improve such skills, if necessary.

Legal, Professional, Ethical Practice

1. Ensure that your conduct is aligned with accepted professional, moral and ethical standards.
2. Comply with the legal requirements of practicing veterinary science in terms of the various acts and laws that govern:
 - a. Veterinary and para-veterinary professions Act (Act 19 of 1982)
 - b. Medicine and Related Substances Act (Act 101 of 1965 as amended)
 - c. Stock Remedies Act (Act 36 of 1947)
 - d. Animal Protection Act (Act 71 of 1962 as amended Act 84 of 1985)
 - e. Animal diseases Act (Act 35 of 1984)
 - f. Food Stuff, Cosmetics and Disinfectants Act (Act 54 of 1973 as amended Act 39 of 2007)
 - g. Pharmacy Act (Act 53 of 1974)
 - h. National Environmental Management: Biodiversity Act (10/2004)
 - i. National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)
3. Acknowledge one's limitations and Inform people, where necessary, that an action is outside your legitimate competence boundaries.
 - a. Be able to advise people on appropriate referral.
4. Have knowledge of the international trade framework that governs the trade in animals and animal products

Continued Professional Development

1. Demonstrate a commitment to maintaining your professional competence in response to the developing scientific field and professional demands.
 - a. Have the basic understanding of self-audit activities using peers and other people
 - b. Be able to identify your limitations in competence and take appropriate action, maintain and update knowledge and skills
 - c. Gather and maintain evidence of professional development as part of lifelong independent learning
 - d. Record continued professional development activities



2. Recognise and work within personal limitations:
 - a. Seek advice, assistance and support when required
 - b. Have an understanding of the principle of balancing personal and professional life
 - c. Understand and use time management principles
 - d. Understand the effect of personal and emotional factors on your professional practice
 - e. Recognise and work within economic limitations

Professional Practice

1. Management of the Veterinary Environment
 - a. Familiarise yourself with and work within Health and Safety requirements and local risk factors
 - b. Contribute to the maintenance of workplace hygiene
2. Work collaboratively with others or with a multi-disciplinary team to promote a problem-solving approach to issues within the veterinary environment.
3. Undertake appropriate infection-control procedures.
4. Prepare, clean and maintain housing and kennelling that maximises the welfare of hospitalised animals.
5. Calculate and make up effective and appropriate dilutions of disinfectant solutions.
6. Dispose of hazardous and non-hazardous waste safely and correctly.
7. Have an understanding of occupational safety to the extent given by health and safety requirements of Department of Labour.
8. Understand how to deal with and work with people's disabilities and special requirements.
9. Use and maintain protective clothing and equipment.
10. Practitioners need to show the ability to manage and appropriately implement the following:
 - a. Financial management
 - b. Marketing
 - c. Operation management
 - d. Strategic planning
 - e. Financial planning
 - f. Leadership assessment and development
 - g. Negotiation skills
 - h. Career opportunities and diversity
 - i. Group skills and cultural diversity
 - j. Stress management
 - k. Conflict management
 - l. Manage medication within the practice as required by the Pharmacy Act and Medicines and Related Substances Act

Technical Skills

Anatomy, Physiology and Basic Science

1. Have an understanding of basic anatomical and physiological features of:
 - a. Canine
 - b. Feline
 - c. Equine
 - d. Bovine
 - e. Caprine
 - f. Swine
 - f. Avian
 - g. Poikilothermic aquatic organisms



Evaluation of Animals and their Care

1. Handling and Restraint

- a. Derive the signalment of a patient: Species, breed, gender and approximate age
- b. Assess animal behaviour and environmental factors when approaching and handling animals
- c. Ensure appropriate hygiene procedures are followed before and after handling animal(s)
 - a. Follow appropriate hand washing protocol
 - b. Shower in and shower out appropriate to situation
 - c. Use and dispose of protective clothing
 - d. Apply the principles of biosecurity required for:
 1. Production Animal Facilities (poultry, pigs, dairy, etc)
 2. In clinical practice to prevent the transmission of disease (parvo virus, strangles, etc)
- d. Restrain, move and lift animal(s) using approved manual handling and lifting techniques
- e. Select and wear protective clothing to protect yourself and others from injury
- f. Restrain animals for a range of situations balancing the safety of yourself and others with the welfare of the animal(s)
 - a. Clinical examination
 - b. Blood specimen collection: jugular, cephalic, tail vein (cows), ear vein (pigs), poultry venepuncture for serology
 - c. Basic diagnostic technique in aquaculture (dissection of fish, preparing and examining wet mount gill preparations, skin scrapes and organ squashes, ability to identify the most common ectoparasitic groups), blood collection from live anaesthetized fish and knowledge of available advanced diagnostic tests
 - d. Urinary catheterisation
 - e. Administration of medication (oral, topical, parenteral, ophthalmic, aural)
 - f. Carrying out appropriate procedures/treatments
- g. Apply dressings & bandages
- h. Instruct others in techniques for the safe handling and restraint of animals including wildlife.
- i. Lead and move animals - using a range of aids
 - a. Leads, head collar, halter, etc.
- j. Safely use a range of restraining devices
 - a. Muzzles, catchers, crush cages, cast cow, halter, tail, nose, udder cinch, kick bar, gloves, twitch
- k. Take account of species and environmental factors when handling neonates

2. Gathering Information

- a. Identify reason/s for the consultation
- b. Take summarise and record an appropriate history
- c. Establish rapport with client and animal taking particular communication needs into account
- d. Structure the consultation in a logical sequence
- e. Gather relevant information about animals
- f. Gather relevant information on husbandry practices



- g. Gather relevant information on the environment in which animals live including toxic agents such as plants, minerals and chemicals
 - h. Use appropriate questions to focus history-taking and obtain full and accurate information
 - i. Be able to identify important toxic plants and substances/chemicals within the environment of animals/ patients
 - j. Use a range of sources of information to obtain a full and accurate case history
 - a. Records, colleagues, third parties, client advocates
 - k. Summarise the consultation ensuring that the client understands the conclusions you have reached and the next action to be taken
 - l. Summarise and record relevant case details and history for storage and retrieval by others
 - m. Obtain relevant data in order to investigate an outbreak of disease in an animal population.
3. General Examination / Evaluating Care of Animals
- a. Evaluate the emergency patient - triage and re-assess other current priorities accordingly
 - b. Recognise common breeds of animals
 - c. Determine sex of animal(s)
 - d. Assess approximate age by teeth in farm animals and horses
 - e. Examine and evaluate general behaviour
 - f. Use knowledge of normal and abnormal presentations to determine animal(s) health and development
 - a. Condition of animal(s)
 - b. Nature of presenting problem
 - c. Selection of further system specific examinations
 - d. Quality and appropriateness of husbandry practices
 - g. Recognise clinical signs associated with a range of conditions and take action if animal(s) appears to be at ongoing risk due to neglect
 - a. Dehydration
 - b. Poor nutrition
 - c. Welfare problems
 - h. Obtain and evaluate vital measurements: temperature, pulse and respiratory rate
 - i. Accurately score body condition using appropriate systems
 - j. Record a pain score appropriate for the species and circumstances
 - k. Recognise clinical signs associated with notifiable diseases and take appropriate action
 - a. An understanding of transboundary spread of aquatic animal diseases, the multifactorial aetiology of fish disease outbreaks and the OIE listed and notifiable diseases relevant to South Africa
4. System Specific Examinations
- a. Perform an examination of the lymphatic system
 - a. Palpate peripheral lymph nodes
 - b. Evaluate peripheral lymph nodes
 - b. Perform ophthalmic examination
 - a. Perform general ophthalmic examination
 - b. Perform indirect and direct ophthalmoscopy



- c. Perform Schirmer tear test when indicated
 - d. Measure intraocular pressure using tonometer
 - e. Perform fluorescein staining when indicated
 - f. Evaluate findings of ophthalmic examinations
- c. Perform an aural examination
 - a. Perform a general aural examination
 - b. Use an otoscope
 - c. Evaluate findings of aural examinations
- d. Perform examination of cardiovascular system
 - a. Auscultate heart
 - b. Palpate and percuss thoracic wall
 - c. Palpate arterial pulse
 - d. Assess colour of mucous membranes and capillary refill time (CRT)
 - e. Evaluate findings of cardiovascular examinations
- e. Perform examination of the musculoskeletal system
 - a. Analyse gait
 - b. Palpate bones muscles and tendons
 - c. Perform examination of joints
 - d. Evaluate findings of musculoskeletal system examinations
- f. Perform examination of the nervous system
 - a. Perform general examination of the nervous system
 - b. Perform cranial nerve examination
 - c. Perform spinal reflex examination
 - d. Evaluate findings of nervous system examinations
- g. Perform examination of respiratory system
 - a. Observe respiratory pattern
 - b. Palpate and percuss thoracic wall
 - c. Auscultate thoracic cavity and tract
 - d. Evaluate findings of respiratory examinations
- h. Perform examination of alimentary system
 - a. Perform examination of oral cavity and teeth
 - b. Palpate abdomen
 - c. Perform rectal examination to assess alimentary system
 - d. Auscultate gastro-intestinal system
 - e. Pass nasogastric tube in animals
 - f. Evaluate findings of alimentary system examinations
- i. Perform examination of urogenital system
 - a. Perform rectal examination to assess urinary system
 - b. Perform rectal examination to assess reproductive tract
 - c. Palpate and assess mammary glands/udder
 - d. Palpate and assess testicles and penis
 - e. Palpate and assess vagina and cervix
 - f. Assess parturition process
 - g. Evaluate findings of urogenital system examinations
- j. Perform examination of the equine hoof
 - a. Remove a shoe
 - b. Pare the sole and trim a hoof
 - c. Administer palmar digital and abaxial sesamoid nerve blocks
 - d. Apply hoof testers
 - e. Evaluate findings of foot examination
- k. Perform dermatological examination



- a. Perform general examination of skin
- b. Perform a Wood's lamp examination
- c. Evaluate findings of examination of skin

Diagnostics

1. Obtaining and Handling Specimens for Diagnosis
 - a. Design and implement an appropriate sampling strategy
 - i. Individual Animals
 - ii. Groups of Animals
 - b. Obtain venous blood sample from appropriate site
 - i. Jugular vein
 - ii. Cephalic vein
 - iii. Saphenous vein
 - iv. Marginal ear vein
 - v. Bleeding of birds for serological testing
 - vi. Venepuncture reptiles
 - c. Obtain urine sample using appropriate technique
 - i. Cystocentesis
 - ii. Urinary catheter
 - iii. Free-catch
 - iv. Manual bladder expression
 - d. Obtain skin specimens using appropriate technique
 - i. Skin scrape
 - ii. Wet paper test for flea droppings
 - iii. Tape strips
 - iv. Coat brushings
 - v. Impression smears
 - vi. Hair plucks
 - vii. Fungal Elements
 - viii. Excision and punch biopsies
 - ix. Ear Swabs
 - e. Obtain tissue and fluid specimens for diagnostic purposes using appropriate technique (including strict aseptic technique when necessary)
 - i. Fine Needle Aspirate Biopsy (FNAB) from small peripheral mass
 - ii. Vaginal swab
 - iii. Swabs for microbiological analysis
 - iv. Abdominocentesis
 - v. Collect faecal sample
 - vi. Collect milk sample – by normal or aseptic technique – individual cow quarter samples (composite or individual quarters); bulk milk tank samples
 - vii. Carcass specimen(s) from groups of animals
 - f. Handle and label collected specimens safely and correctly
 - g. Select specimen tubes and transport methods appropriate for purpose
 - i. Fluid & blood: EDTA, Heparin, Fl. Oxalate, Sodium citrate, plain tubes, blood culture bottles
 - ii. Urine: plain, boric acid
 - iii. Skin: liquid paraffin, potassium hydroxide, Mackenzie brush, ear swabs, hair plucks, microscope slides
 - iv. Microbiology - plain, culture swabs
 - v. Tissue: formal saline, on ice



2. Using Laboratory Equipment and Performing Standard Tests
 - a. Pack and send specimens securely
 - b. Set up and use a microscope correctly
 - c. Set up and use other laboratory equipment as required
 - d. Perform standard tests on blood
 - i. Prepare a blood smear
 - ii. Read a PCV
 - iii. Perform biochemistry tests (On in-house laboratory equipment)
 - e. Perform standard tests on urine
 - i. Urine specific gravity
 - ii. Reagent strips
 - iii. Sediment examination
 - f. Perform microscopic examination on skin specimens to identify range of pathogens
 - i. Ectoparasites
 - ii. Dermatophytes
 - iii. Bacteria
 - g. Prepare and stain bacterial smears for microscopic examination
 - h. Perform and interpret results from Enzyme - Linked Immunoabsorbent Assay (ELISA) tests (Snap Tests)
 - i. Perform California Mastitis Test (CMT) on milk sample
3. Using Diagnostic Imaging Equipment and Ancillary Diagnostic Tools
 - a. Position animal and area of interest to obtain diagnostic radiograph
 - i. Appendicular skeleton
 - ii. Axial skeleton
 - iii. Thorax
 - iv. Abdomen
 - v. Avian radiographic positioning
 - b. Prepare and use radiography imaging equipment
 - c. Observe safe practice of yourself and others during radiographic procedures, in particular high-risk groups
 - i. Understand and follow the principles of radiation safety
 - d. Administer and use appropriate contrast media and techniques
 - i. Barium studies
 - ii. Intravenous Urography
 - iii. Cystography
 - e. Identify image faults and take appropriate action to correct
 - f. Obtain a radiographic image
 - g. Set up ultrasound equipment
 - h. Prepare patient for ultrasound examination
 - i. Obtain diagnostic ultrasound images
 - j. Set up ECG machine and obtain reading
 - k. Set up equipment and obtain results for indirect blood pressure
4. Evaluating Findings from Diagnostic Tools
 - a. Evaluate findings from laboratory tests
 - i. Haematology
 - ii. Biochemistry
 - iii. Urinalysis
 - iv. Skin



- v. Microbiology
 - vi. Faeces
 - vii. Virology
 - viii. Miscellaneous body fluids
 - b. Evaluate radiographs and ultrasound images and interpret common disease processes
 - c. Evaluate ECG trace
 - d. Evaluate results from indirect blood pressure readings
5. Reaching Diagnosis and Formulating Treatment Plan
- a. Have a clear, logical and appropriate diagnostic and therapeutic approach to the common disease processes that occur in practice
 - b. Formulate a rational approach to further investigation taking into account animal health and welfare, account owner preferences and any financial constraints
 - c. Formulate a treatment plan that takes into account the animal health and welfare inter-relationship of animal specific, financial and any other significant factors
 - d. Make appropriate referrals supported by evidence
6. Conducting Post-Mortem Examination
- a. Perform a necropsy examination on all relevant species including dogs, cats, horses, cattle, sheep, goats, poultry and wildlife.
 - b. Recognise normal, post mortal changes and common abnormal changes in tissues & organs
 - c. Collect specimens and make arrangements for subsequent analysis (including for forensic purposes)
 - d. Prepare a report of the gross findings

Care and Treatment

1. Emergency Care and Treatment
- a. Provide first aid treatment including cardiopulmonary resuscitation
 - i. For animals in emergency situations
 - ii. For human beings in emergency situations
 - b. Recognise common life-threatening and serious conditions and initiate appropriate treatment
 - i. Unconsciousness
 - ii. Shock
 - iii. Respiratory emergencies
 - iv. Wounds
 - v. Haemorrhage
 - vi. Ophthalmic emergencies
 - vii. Obstetrical emergencies
 - viii. Vaginal/uterine prolapse
 - ix. Acute toxic mastitis
 - x. Colic in the horse
 - xi. Bloat in cattle and sheep
 - xii. Gastric dilatation in the dog
 - c. Undertake emergency procedures
 - i. Perform basic cardiopulmonary resuscitation
 - ii. Administer oxygen therapy



- iii. Perform a tracheostomy
- iv. Perform thoracocentesis in cats and dogs
- v. Administer fluid therapy - Parenteral routes
- vi. Pass orogastric tube in dog
- vii. Perform trocharization
- viii. Pass nasogastric tube in horse
- ix. Resuscitate neonate (following natural and caesarean birth)

2. Drug and Fluid Administration

- a. Have a thorough understanding of the mechanisms of the active ingredients of drugs and understand the importance of withdrawal times of medications used on food producing animals
- b. Administer medication by appropriate route
 - i. Oral
 - ii. Topical
 - iii. Subcutaneous
 - iv. Intramuscular
 - v. Intravenous
 - vi. Intraperitoneal
 - vii. Intra-vaginal
 - viii. Intramammary
- c. Select and prescribe drugs according to need of individual case (using data sources if necessary)
 - i. Apply the principles of rational pharmacology and responsible antimicrobial usage.
 - ii. Select appropriate dosage, timing, frequency and route
 - iii. Prescribe drugs in compliance with legislative requirements
 - iv. Write prescription in compliance with current legislative requirements
 - v. Obtain informed consent when prescribing off-label drugs
 - vi. Make up and draw up drug solutions and instruct others in these procedures
 - vii. Understand the basics of pharmacology as applied to wildlife immobilisation medications
 - viii. Understand the principles, concept and application of ethnoveterinary medicine
 - ix. Be aware of commonly used drugs approved for use in fish production (anaesthetics, hormones, antibiotics and antiparasitic drugs) with emphasis on drugs and chemicals that have been banned from use in edible fish
- d. Ensure safe and legal handling and management of drugs
 - i. Manage risk to yourself or others associated with particular substances
 - ii. Store drugs in accordance with legal requirements
 - iii. Calculate drug dosages - using technology as necessary
 - iv. Dispense medications in accordance with legal requirements
 - v. Dispose of drugs in line with legislative guidelines
- e. Administer fluid therapy
 - i. Select most appropriate route
 - ii. Select appropriate fluids
 - iii. Calculate amount and rate of fluid to administer
 - iv. Place catheters into appropriate veins according to species
 - 1. Intraosseous cannulation – avian, reptile, small mammals



- v. Prepare and set up administration equipment
- vi. Observe and monitor patient receiving fluids

3. Sedation

- a. Have knowledge of and be able to choose appropriate drugs and routes of administration for sedation to perform minor surgical procedures.

4. Anaesthesia

- a. Prepare for anaesthesia
 - i. Perform a pre-anaesthetic evaluation
 - ii. Prepare patient
 - iii. Select and prepare drugs
 - iv. Check and prepare anaesthetic machine
 - v. Select and prepare breathing system / circuit / pollution control
 - vi. Select and prepare monitoring equipment
- b. Perform anaesthesia
 - i. Administer premedication
 - ii. Administer induction agent
 - iii. Perform endotracheal intubation
 - iv. Administer inhalation agents
 - v. Calculate and administer fresh gas flow rates
 - vi. Perform manual intermittent positive pressure ventilation (IPPV)
- c. Maintain and monitor the patient during anaesthetic process
 - i. Measure temperature, check heart rate, central and peripheral pulse, respiratory rate and depth (including oesophageal stethoscope)
 - ii. Evaluate findings from pulse oximetry, ECG, respiratory monitors
 - iii. Assess depth of anaesthesia
 - iv. Complete anaesthetic monitoring records
 - v. Ensure general health and well-being of the anaesthetised and recovering patient
 - vi. Understand how to use advanced monitoring equipment (pulse oximetry, non-invasive blood pressure, capnography, invasive blood pressure)
- d. Perform local anaesthesia
 - i. Local infiltration
 - ii. Topical application
 - iii. Nerve blocks for dehorning and castration in farm animals
 - iv. Nerve blocks for local surgery in horses
- e. Recognise and manage pain during the anaesthetic process
- f. Respond to complications and emergencies during the anaesthetic process
- g. Sedation, anaesthesia of ectothermic aquatic animals

5. Surgery

- a. Prepare for aseptic surgery
 - i. Prepare and sterilise surgical instruments and equipment
 - ii. Scrub hands/arms
 - iii. Gown and glove using open and closed methods
 - iv. Prepare surgical site
 - v. Position and drape the patient
 - vi. Open surgical packs and layout surgical kits
- b. Undertake surgical techniques
 - i. Ensure principles of handling surgical instruments are applied



- ii. Debride a wound
 - iii. Drain an abscess
 - iv. Make a skin incision
 - v. Place a surgical drain
 - vi. Remove a simple skin mass
 - vii. Carry out haemostasis in the event of superficial haemorrhage
 - c. Suture and ligate tissues
 - i. Select and use suture materials appropriately
 - ii. Perform simple interrupted skin sutures
 - iii. Perform simple continuous sutures
 - iv. Perform horizontal and vertical mattress sutures
 - v. Perform intestinal suturing (Cushing and Lembert)
 - vi. Perform instrument and hand knot-tying
 - d. Undertake surgical procedures
 - i. Obtain incisional / excisional biopsy from superficial tissues (not involving internal organs)
 - ii. Perform ovariohysterectomy in dog and cat
 - iii. Perform castration in horse, farm animal, dog, cat, rabbit
 - iv. Apply external splints and casts in appropriate situations
 - v. Assist with orthopaedic procedures
 - vi. Perform disbudding
 - vii. Perform laparotomy in dog and cat
 - viii. Treat vaginal prolapse in farm animals
 - ix. Repair umbilical hernia in dog, cat, farm animal
 - x. Retrieve aural foreign body
 - e. Undertake dental care and treatment
 - i. Prepare and operate dental machinery
 - ii. Prepare and set up patient for dental treatment
 - iii. Scale and polish teeth
 - iv. Rasp equine teeth
 - f. Advise clients with regard to surgical after-care
 - i. Healing processes
 - ii. Feeding and nutrition
 - iii. Exercise and rehabilitation
 - iv. Physical and environmental conditions
6. Euthanasia
- a. Assess clinical factors to determine appropriateness of euthanasia
 - b. Ensure ethical and welfare factors are taken into account
 - c. Convey appropriate sympathy and empathy in verbal and non-verbal communications
 - d. Maintain and adapt professional approach to the circumstances
 - e. Handle animals and equipment safely for euthanasia
 - f. Administer intravenous euthanasia drugs
 - g. Have knowledge of appropriate methods of euthanasia for different species
 - i. Dogs, cats
 - ii. Horses, cattle, pigs
 - iii. Poultry and other avian species
 - iv. Exotic animals, reptiles
 - v. Ectothermic aquatic animals
 - h. Dispose of cadavers appropriately



7. Husbandry and Welfare

- a. Develop collaborative relationships with clients to encourage good husbandry practice
- b. Collaborate with clients to identify and resolve husbandry issues
- c. Ensure clients are aware of the principles of animal welfare and good husbandry practice
 - i. Advise on appropriate environmental and housing conditions
 - ii. Advise on behavioural needs of animals
 - iii. Advise on prevention of disease and promotion of well-being
 - iv. Advise on feeding and nutritional needs of animals, rabbits and avian
 - v. Advise on management of common parasite infestation and control
 - vi. Advise on cost effectiveness and management of disease prevention and well-being procedures
 - vii. Advise on productivity of animals
 - viii. Evaluate the housing of food animals e.g. poultry and pigs
 - ix. Wing clipping in birds
- d. Ensure animal(s) have freedom from distress and pain
- e. Ensure clients are aware of relevant legislative frameworks
- f. Examine herd-health records for evaluation of health and welfare of animals
- g. Support good husbandry practice
- h. Calculate energy needs and food quantities from basic principles
- i. Advise on selection of specialist dietary requirements
 - i. For nutritional deficiencies
 - ii. During particular life-stages
 - iii. For specific conditions
- j. Provide veterinary certificates and signatures within legislative requirements
 - i. For Vaccination Certificates
 - ii. For movement permits
 - iii. For horse passports
 - iv. For emergency slaughter
 - v. general health certificate
 - vi. certificate for forensic purposes
 - vii. Export of companion animals
- k. Comply with reporting procedures for
 - i. Notifiable diseases
 - ii. Reportable diseases
 - iii. Zoonotic disease
- l. Advise clients with regard to medical after-care of animal(s)
 - i. Safe and effective administration of medications by others
 - ii. Potential side effects of medications
 - iii. Health and safety risks associated with medications
 - iv. Withholding times for meat and milk
 - v. Safe storage and handling requirements for medications
- m. Perform basic husbandry techniques
 - i. Put on stable rug, horse boots
 - ii. Use a milking machine
 - iii. Tail dock - lambs
 - iv. Assemble and fit Elizabethan collar
 - v. Implant microchip and check function



- n. Have a basic concept of types of current aquaculture systems in various regions of the world (tropical aquaculture versus cold-water aquaculture; freshwater aquaculture versus mariculture; finfish culture versus invertebrate culture, ornamental fish versus food fish)
 - i. Have a concept of aquaculture systems in Africa, particularly sub-Saharan Africa
 - ii. Have an understanding of water quality relative to fish health and the concept of recirculation aquaculture systems (RAS) and principals of biological filtration

8. Nursing

- a. Apply and manage bandages
 - i. Forelimb, hind limb, Robert-Jones, ear, splint, stable, exercise
- b. Advise clients on re-application of bandages
- c. Apply and manage dressings and drains
 - i. Select materials for post-surgical wounds
 - ii. Select materials for non first-intention healing wounds
 - iii. Manage a surgical drain
- d. Undertake grooming appropriate to species
 - i. Clean ears
 - ii. Clean out hooves with hoof pick or hoof knife
 - iii. Trim claws and nails
 - iv. Use basic grooming kit
 - v. Trim beak (e.g. budgerigars & canaries)
 - vi. Remove hair mats
 - vii. De-maggoting rabbits and sheep
- e. Manage assisted feeding
 - i. Identify the need for and provide assisted feeding
 - ii. Manage and maintain assisted feeding tubes in all species
 - iii. Place naso-oesophageal feeding tube in dogs and cats
 - iv. Place orogastric feeding tube in neonates, reptiles, chelonia
 - v. Calculate energy needs and food quantities from basic principles
 - vi. Crop Feeding in Birds
 - vii. Management of gastric stasis in rabbits
- f. Perform basic physiotherapy
 - i. Effleurage, petrissage, passive movement, range of motion, neurological rehabilitation.

Preventive Medicine

- 1. Have a thorough knowledge and understanding of the principles of epidemiology with special reference to it's inter-relationship with:
 - a. The natural history of disease
 - b. The multifactorial cause of disease and interaction between host, agent and host factors
 - c. Prevention and control strategies in animal populations
 - d. The practical use of Quantitative Epidemiological measurements and the various methods used to measure the occurrence and distribution of disease in animal populations such as disease frequency (incidence and prevalence) and measurements of association such risk ratio etc



2. Understand the concept of Primary Animal Health Care (PAHC) and the strategy and cost-effectiveness of preventing disease before it can develop
3. Advise on the importance of animal welfare considerations relative to intensive food animal operations
4. Have the ability to make appropriate cost-effective and practical modifications to the more sophisticated animal disease prevention/control methods so as to meet the needs of animals belonging to people in the more vulnerable communities in "distant" urban/rural areas
5. Be able to use veterinary extension methodology to:
 - a. Develop a training session for farmers/public on appropriate strategies for disease prevention
 - i. Understanding of the principles of Primary Animal Health Care
 - ii. Understanding of the roles and responsibilities within a disease prevention/control programme
 - iii. Being able to choose relevant topics for training which will include
 1. Early disease identification and treatment by the farmers
 2. On-going disease management,
 3. Production and marketing aspects
 - iv. Being able to assess change in behaviour of the trained farmers
 - b. Conduct a training session for farmers/public on disease prevention/control
 - c. Where applicable, work closely with animal health technicians
 - d. Develop a continuous programme to interact with trained farmers
6. Give practical advice for common conditions in the following species
 - a. Cattle, sheep, goats, pigs, poultry
 - b. Horses, dogs, cats
7. Formulate a vaccination, deworming and ecto-parasite control program for
 - a. Cattle, sheep, goats, pigs, poultry
 - b. Horses, dogs, cats
8. Advise on the nutrition and housing of:
 - a. Cattle, sheep, goats, pigs, poultry
 - b. Horses, dogs, cats
9. Be able to perform breeding soundness examinations on food producing animals and advise on appropriate action to improve fertility rates within a production system
10. Be able to apply basic epidemiological principles to control an outbreak of disease in a group of animals or geographical area
11. Be able to apply basic epidemiological principles to control an outbreak of disease in a group of animals or geographical area
12. Understand the concept of "farm to fork" in food animal production and the importance of the practices and processes necessary to provide safe human food of animal origin
13. Understand and be able to apply the principles required in the field of:
 - a. Meat Hygiene and Meat Inspection
 - b. Milk Hygiene
14. Understand and apply the principles of sanitation required for the production of safe and healthy food in the human food chain.
15. Know the various zoonotic diseases and be able to give practical advice on their prevention and control
16. Understand the role of the veterinarian and laboratory animal technician in the care and use of laboratory animals in research for the improvement of human and animal health and well-being



17. Know the basic principles of occupational health with special reference to the veterinary profession and the One Health concept
18. Have a thorough knowledge and understanding of the importance of controlled and notifiable diseases at local, national and international levels
19. Understand the critical role played by the State in the prevention and control of controlled/notifiable diseases
20. Be able to identify controlled/notifiable animal diseases and institute the correct procedures in respect of these in accordance with the relative legislation and regulations.
21. In the case of controlled/notifiable animal diseases, emerging diseases and zoonotic diseases:
 - a. Be able to explain the disease or condition
 - b. Describe the clinical course of the disease
 - c. Understand the method of transmission or spread of the disease
 - d. Know which diagnostic tests and which specimens are needed to confirm the diagnosis
 - e. Where applicable, know the regulatory requirements for notification and control of the disease
 - f. Describe the control of these diseases
 - g. Where applicable know the risk the disease has for human health
 - h. Understand the disease control legislation as it pertains to Buffalo.
22. Understand the basic principles relative to the veterinary control of the import and export of live animals and food of animal origin
23. Undertake the inspection of animals for export and signing relevant certificates

One Health

1. Understand the veterinarian's role in the concept of One Health
2. Identify and prevent on farm problems that increase the risk of foodborne diseases.
3. Understand the use of risk analysis to ensure that animal and human health is adequately protected.
4. Be able to interact with public health professionals on joint intervention programmes related to zoonotic diseases:
 - Disaster management approaches
 - Awareness programmes
 - Continuous development programmes
 - Joint research projects
2. Understand the role veterinarians can play in times of natural disasters and other emergencies to support the health and well-being of humans and animals

Research, Industry and Science

1. Understand the necessity of structured research and correct research methodology
2. Understand the process involved in setting up a trial.
3. Be able to formulate a concept of humane treatment of research animals.
4. Be able to read and understand a journal article, and formulate questions after doing so.

**[Council approved: 20 July 2022]
[VC/EDUC/DAY 1 SKILLS/VETS_v1]**