

## LIST OF DIFFERENT TYPES OF VETERINARY PROCEDURES AS PER SAVC\*

PROCEDURE DESCRIPTION	Mammal (and frogs)	Reptile (except frogs)	Unauthorised (non-SAVC), but trained researcher or animal technician	Para-veterinary procedure under veterinary supervision and SAVC authorisation	Veterinary procedure
	Procedure code (UKZN)				
<b>1. Animal*</b>					
Animal handling	*H	*H	X		
<b>2. Anaesthesia</b>					
Inhalation (Scheduled drugs)	*AIH	SAIH		X	
Injection anaesthesia (Scheduled drugs)	*AIN	SAIN	X		
Immersion anaesthesia (tricaine methane sulfonate, clove oil or schedule drugs) (frogs, fish and crabs)	*AIM		X		
Hypothermia anaesthesia	*AHY		X		
Local anaesthesia (Schedule drugs)	*ALO	SALO		X	
Injecting or local analgesia/ pain killers (can include Schedule drugs)				X	
<b>3. Sampling of body fluids: Bleeding</b>					
Cardiac puncture under anaesthesia	*BCP			X	
From peripheral vessels (orbital sinus, tail clipping, toe clipping, tail bleeding) (mice, rats, hamsters, guinea-pigs) or dorsal aorta (fish)	*BPV, *HPV	SBTNC		X	
Surgical approaches e.g. catheter or jugular vein or femoral artery (rats, guinea-pigs, farm animals, pigs)	FBJV			X	
Terminal procedures: using anaesthetise animal- posterior vena cava, dorsal aorta or axillary vessels	*BTP			X	
<b>4. Sampling of body fluids: Other</b>					
Ascites fluid collection (IP injection of pristane followed by cells, abdominal swelling, tap ascites fluid from abdominal)	*AP			X	
Macrophage collection (mice, rats, hamsters)	*BMC, *MC			X	
Polymorphonuclear leukocyte collection	*PLC			X	
Bladder catheterisation (rats, guinea-pigs, rabbits)	*BC, *SCR, *BBC			X	
<b>5. Injections</b>					
Subcutaneous	*ISQ, *ISO	SISQ		X	
Intravenous: Caudal (tail), lateral marginal (inner thigh), dorsal metatarsal (leg), sublingual (tongue), penile (penis)	*IIV			X	
Intraperitoneal	*IIP	SIIP		X	
Intramuscular	*IIM			X	
Intradermal	*IID			X	
Intragastric (oral)	*IIG			X	
Footpad (elephant shrews, mice)	*IFP			X	
Dorsal lymph sac (frogs)	*IDL			X	
Superovulation (frogs)	*ISO			X	
Routine vaccinations of farm animals	FIIM, FIIV, FIMP, FISO		X		
<b>6. Surgical procedures</b>					
Abdominal surgery to harvest oocytes (frogs)	*SHO				X
Anterior neck- intratracheal injections, thyroidectomy (elephant shrews, mice, rats, hamsters)	*SAN				X
Anterior neck- intubation procedures and vein catheterisations (rodents and pigs)	*SAN			X^	X
Thymectomy (removal of thymus) (elephant shrews, mice)	*STH				X
Intrathymic injection (elephant shrew, mice)	*SIT				X
Abdominal surgery and organ biopsies (elephant shrews, mice, rabbits)	*SA, *SAS				X
Popliteal lymph node injection (incision in poplitea fossa behind knee joint to inject lymph node)	*SPL				X
Skin grafting (mice)	*SSG				X
Vasectomy (transgenic mice procedures, feral cats and dogs)	*STP				X
Transgenic mice: Reimplantation by injecting oviduct	*STP				X
Transgenic mice: Tail removal for DNA analyses	*STP				X
Cannulation of femoral vessels	*SFV				X
Catheterisation of vein (jugular) (guinea-pigs, farm animals, pigs)	FBCV				X
Castration (elephant shrews, mice, rats, hamsters)	*SCR				X
Rumen fistulation and digestive tract cannulation (farm animals)	FRC				X
<b>7. Surgical procedures exclusive to farm animals and reptiles</b>					
Tail docking of farm animals (lambs) using rubber rings	FHTD			X	
Disbudding (horns of cattle) after anaesthesia	FHD			X	
Dehorning and trimming horns	FHD			X	
Bloodless castration: Burdizzo (large pliers to crushing blood vessel inside scrotum), rubber rings (cattle, sheep)	FHCCR, FHSCR			X	
Surgical castration of cattle, sheep	FHSCS				X
Implants	FIMP	SIRT		X	
Electroejaculation (bulls and rams)	FLJC, FLJS			X	
Training ram for semen collection, by hormone injections of females	FLJT			X	

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<b>8. Physiological measurements</b>					
Respirometry (rodents and birds, reptiles, crabs)	*PRT, *PR	SPRT	X		
Temperature: probe in rectum of animal (rodents and birds)	*PT	SPST	X		
Thermoregulation (egg shell)	*PT		X		
Food consumption- metabolic cages (mice, rats)	*PF, *MF	SPF	X		
Weight measurements			X		
Total body water by tritium dilution (frogs, elephant shrews, mice, rats, reptiles)	*PW, *MW	SPW	X		
Urine (indirectly) using collection containers (mice, rats)	*PU, *MU		X		
Non-shivering thermogenesis (SQ injection of norepinephrine) (mice, rats, rabbits, birds)	*PS, *MS, *PA			X	
Activity measurements (response to temp, photoperiod ect.) (mice, rats, crabs)	*PA, *MA	SPA	X		
Rate of water loss (reptiles)		SPWL	X		
X-Ray techniques (mice, rats)	*PX, *MX				X
<b>9. Euthanasia</b>					
Overdose of inhalant (Schedule drugs)	*EOD			X	
Injectable anaesthetic (including farm animals) Schedule drugs	*EIN, FECIN, FESIN	SEIN		X	
CO2 (mice and rats, small chicks)	*ECO			X	
Decapitation	*EDE			X	
Physical means by breaking the neck- anaesthetised and conscious	*EPM			X	
Brain fixation by intracardiac perfusion	*EBP			X	
Brain destruction (cattle)	FECB			X	
Electrical stunning (farm animals)	FEST			X	
Head-to-back electrical stunning (farm animals)	FESTB			X	
<i>In situ</i> freezing (reptiles, crabs)		SEF		X	
<b>10. Collecting and Capture wild animals</b>					
Captured, removed and processed (wild birds, feral cats)	*C		X		
<b>11. Identification of animals</b>					
Ringling (birds)	*R		X		
Freeze branding of cattle (cryobranding)	FCIDF		X		
Ear-tagging (cattle, sheep)	FCIDG, FSIDG		X		
Ear notching of cattle	FCIDN		X		
Ear tattoos of cattle	FCINT		X		
<b>12. General farm animal practices</b>					
Crutching, dagging and face-wool removal (sheep)	FHC		X		
Shearing (sheep)	FHW		X		
Dipping (sheep, cattle, goats)	FHDI		X		
Drenching (farm animals)	FHDR		X		
<b>13. Procedures not currently in the Approved Standard Protocols</b>					
Creating clinical models: diabetes, infectious, stress, alzheimer, seizure prone, hypertension and obesity animal models	Non-coded			X	
Inplants (transponders) (mice, tenrecs) with or without anaesthesia drugs	Non-coded		X	X^	
Vaginal smears (mice and rats)	Non-coded		X		
Use of pregnant animals (mice and rats)	Non-coded			X	
Use of pups (mice and rats)	Non-coded			X	
Ear clipping (mice, rats and feral cats)	Non-coded			X	
Stereotaxic surgery: anaesthetised animal is injected a chemical in the medial forebrain bundle in the dominant hemisphere followed by suture to close the wound (rats)	Non-coded			X^	X
Behavioural test: Single prolonged stress by restraining animal for a period of time (rats)	Non-coded		X		
Behavioural test: Forced swim stress (rats)	Non-coded		X		
Behavioural test: Contextual freezing measurement (Animal placed in conditioning chamber, given a foot shock (0.8mA, 4S) and removed, follow-up fear response is measured when returned to chamber relating to associated fear memory) (rats)	Non-coded		X		
Behavioural test: EPM test: Maze test to score animals memory if he has visited a particular arm or re-visit the same arms (rats)	Non-coded		X		
Behavioural test: Open field test, testing activity in novel environment	Non-coded		X		
Behavioural test: Forelimb akinesia (step) test: Step length test by handing animal by its torso measuring the step taken by each forelimb (rats)	Non-coded		X		
Behavioral test: Limb use asymmetry test: Cylinder test- rats use of limbs under free behavioural conditions	Non-coded		X		
Behavioral test: Following stereotaxic surgery the study assess the effectiveness of the submaximal dose of 6-OHDA used to lesion the hemisphere, contralateral to the preferred direction of rotation. Access impact and dose used for lesioning and determine the success of the surgical procedure (rats)	Non-coded		X		
Blood pressure measurement using tail cuff- animal place in warming chamber and blood pressure measure using tail cuff (rats).	Non-coded		X		
Exposure to varying sound frequencies and intensities	Non-coded			X	
Exposure to lab prepared airborne chemical scent or pathogenic compounds	Non-coded			X	

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Holding of captured animals	Non-coded				
Holding of crabs and aquacultured animals (fish, abalone and mussels)	Ho"				
Handling of crabs	Ha"				
Transportation of captured or laboratory animals (crabs, mice, guinea-pigs, rats)	T"		X	X	
Acclimitization of crabs and other aquacultured animals (fish, abalone and mussels)	Acc"		X		
Record keeping and documentation (crabs, but recommended for all species)	RKD"		X		
Euthanasia: Bubbling CO2 in water (crabs)	Non-coded			X	
Euthanasia: Aneesthesia by chemically injecting schedule drugs followed by immersion in boiling water (crabs)	Non-coded			X	
Euthanasia: Submersion overdose of anaesthetics (crabs)	AES"			X	
Euthanasia: Brain destruction by crushing, pithing or carapace crushing (crabs)	AECO"		X		
Release of captured animals (only permissible under appropriate DAFF licencing) (crabs)	RC"		X		
Disposal of dead animals (crabs, but recommended for all species)	DC"		X		
Semen training by massaging abdomen (roosters)	Non-coded			X	
Force feeding (roosters)	Non-coded			X	
Applying a wing band ID tag to chickens	Non-coded		X		
Collecting blood from chicken wing blood vessel	Non-coded			X	
Euthanasia: Hypothermia euthanasia (fish) (ice slurry)	Non-coded		X		
Handling of aquacultured animals (fish, abalone, mussels)	Non-coded		X		
Respirometry of aquacultured animals (fish, abalone, mussels)	Non-coded		X		

\*SAVC, South African Veterinary Council

"Unofficial coding from draft SOP

^ If SAVC authorised person has shown to be competent in this procedure.

^^ If schedule drugs is used then person has to be SAVC authorised and work under veterinary supervision as defined below.

Animal codes		
Frogs	A*	
Elephant shrews	E*	
Mice	M*	
Rats	R*	
Hamsters	H*	
Guinea-pigs	G*	
Rabbits	L*	
Wils Birds	BW*	
Domestic Birds	BD*	
Cattle, sheep, goats and other farm animals	F*	
Bats	C*	
Reptiles: chameleons, tortoises, snakes		S*

**Please also take note of the following:**

*Direction* means that the designated person gives the authorised person directions but is not necessarily present when the procedures are carried out;

*Supervision* means that the designated person is present and in a position to assist, yet is not necessarily at the authorised person's side or in the same room; and

*Direct and continuous supervision* means that the designated person is present and giving the authorised person and the animal (where applicable) his/her undivided attention.