

Table summarising equine dental and oral surgical procedures

PROCEDURE	RESTRICTED TO WHOM	OUTLINE OF KNOWLEDGE REQUIRED	Skills required	RISKS OF PROCEDURE	ROLE OF Veterinary surgeon
Examination of the oral cavity with the use of an oral speculum and recording of findings. Development of treatment plan	Equine dental technicians (EDTs) or veterinary surgeons (VS)	Training in anatomy and physiology of equine oral cavity, mechanisms of dental disease, animal handling, use of speculum required.	Horse handling skills and application of appropriate instrumentation,. Examination of practical pathological material	Trauma to tongue, incisor teeth and gums if placed inappropriately. Inadequately restrained animals may move quickly resulting in danger to handlers and bystanders	Supervision of plan and compatibility with overall welfare of the animal
Advice to owner on equine dental health care programmes	EDTs or VS	Training in nutrition, welfare physiology and dental diseases	Communications skills, professional ethics and responsibility.	Disinformation resulting in inappropriate animal care	
Reduction of focal dental overgrowths with manually operated instruments of sharp focal dental overgrowths on cheek teeth, singulae and focal small overgrowths	EDTs or VS	Knowledge of dental wear patterns, pathological abnormalities, malocclusions, dysmastication, and recognition of pathology, mechanisms of disease, appropriate treatments, avenues for further investigation	Training in the use of appropriate instrumentation, animal handling skills, dental pathology	Trauma to cheeks, hard palate, soft palate, tongue and facial architecture. Injuries to external structures. Injury to operator from instruments or animal	
Removal of focal dental overgrowths with electrically, battery or pneumatically powered instruments (which should be in horses sedated appropriately)	EDTs or VS	Knowledge of action of instruments on biological tissue including iatrogenic damage. Awareness of potential damage to dental soft-tissue, oral soft-tissues, bone. Health and safety considerations to avoid electrical/mechanical damage to personnel. Understanding of requirement for appropriate restraint.	Formulation of appropriate treatment plan. Training in principles and application of appropriate instrumentation	Inappropriate treatment, iatrogenic permanent damage to soft-tissue and dental structures and permanent incapacity. Serious disablement to animals and personnel.	
Reduction of overgrown incisors using manual or motorised instruments	EDTs or VS	Knowledge of action of instruments on biological tissue including iatrogenic damage. Awareness of potential damage to dental soft-tissue, oral soft-tissues, bone. Health and safety considerations to avoid electrical/mechanical damage to personnel. Understanding of requirement for appropriate restraint.	Formulation of appropriate treatment plan. Training in principles and application of appropriate instrumentation	Inappropriate treatment, iatrogenic permanent damage to soft-tissue and dental structures and permanent incapacity. Serious disablement to animals and personnel.	

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Removal of non-displaced erupted wolf teeth on the upper or lower jaw (1,2,3,405)	EDTs and VS	Knowledge of normal eruption patterns, pathological abnormalities, and recognition of pathology, mechanisms of tissue healing and surgical principles,	Training in appropriate instrumentation and technique	Iatrogenic palatine arterial rupture , fatal haemorrhage and dental damage.	
Removal of non-erupted, displaced or molarised wolf teeth	VS only	Knowledge of pathological abnormalities, and recognition of pathology, mechanisms of tissue healing and surgical principles	Training in appropriate instrumentation and surgical technique	Iatrogenic palatine arterial rupture , fatal haemorrhage and dental damage. Damage to incisive or mandibular bones	Invasive procedure involving penetration of vital tissues.
Removal of deciduous dental caps without gingival elevation	EDTs or VS	Understanding of equine developmental dental anatomy. Recognition of dental eruption patterns		Damage to oral soft-tissues	
Incision or elevation of gingiva, mucosa or any viable animal tissue	VS	Knowledge of principles of tissue injury, healing and surgical practice	Training in veterinary surgical principles and techniques	Damage to oral soft-tissues, haemorrhage, infection, pain.	Invasive procedure involving penetration of vital tissues
Separation of vital periodontal membrane	VS	Knowledge of principles of dental anatomy and hypodont physiology, tissue injury and healing	Training in appropriate treatment selection and technique	Damage to oral soft-tissues, haemorrhage, infection, pain., iatrogenic damage to teeth, alveolar bone damage, fractures	Invasive procedure involving penetration of vital tissues
Extraction of all incisors, canines, premolars and molars which have vital periodontal attachments	VS	Knowledge of principles of dental anatomy and hypodont physiology, tissue injury and healing	Training in appropriate treatment selection and technique	Dental or jaw fracture, haemorrhage irreversible nerve damage, infection pain.	Invasive procedure involving penetration of vital tissues. High risk of complications.
Extraction of digitally loose teeth or fracture fragments per os without vital periodontal attachments (which does not necessitate periodontal separation)	EDTs or VS	Knowledge of principles of dental pathology and recognition of disrupted periodontal membrane	Training in recognition of non-viable teeth and identification of periodontal separation	Damage to adjacent structures, infection	
All surgical procedures in the oral cavity for removal of teeth , dental fragments or sequestra disruption of vascular tissue, including skin, mucosa, bone and periodontium	VS	Understanding of mechanisms of tissue response to trauma, clotting mechanisms, inflammation, tissue healing, infection, benefits, risks, techniques and prognosis of any procedures	Training in principles of physiology, wound healing surgical techniques and complications	Serious iatrogenic to non-regenerative tissues, fractures, osteomyelitis, cellulites, fistula formation, infection, haemorrhage	Invasive procedure involving penetration of vital tissues. High risk of complications

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All procedures involving the maxillary sinuses and those covered by current VSA	VS	Understanding of respiratory physiology, respiratory medicine, surgical approaches, mechanisms of tissue response to trauma, clotting mechanisms, inflammation, tissue healing, benefits, risks, techniques and prognosis of any	Training in specific surgical techniques. Respiratory medical diagnostic techniques and therapeutics	Chronic sinusitis, fistulas, facial deformity, neurological injuries behavioural changes, self trauma	Invasive procedure involving penetration of vital tissues. High risk of complications
Any procedure involving penetrative treatments to occlusal surface (ie including pulp restoration or infundibula fillings)	VS	Understanding of dental pathophysiology, dental pathology, and evidence based techniques. Knowledge of application and limitation of techniques	Training with materials instrumentation and techniques	Permanent damage to non-regenerative vital dental tissues, pain	Invasive procedure involving penetration of vital tissues. Insufficient evidence base of efficacy for unrestricted application
All endodontic procedures (ie involving penetration of dental pulp)	VS	Understanding of tissue response to disease, dental pathophysiology, dental pathology, and evidence based techniques	Understanding of dental pathophysiology	Damage to vital dental tissues, soft-tissues structures, fractures, osteomyelitis, oral pain	Invasive procedure involving penetration of vital tissues. Insufficient evidence base of efficacy for unrestricted application
Treatment of deep periodontal disease (ie deep to alveolar crest) using ultrasonic, abrasion or surgical debridement methods.	VS	Understanding of periodontal pathophysiology, dental pathology, and evidence based techniques, treatment plan strategy	Training inappropriate selection of techniques	Severe chronic oral pain, gingivitis periodontal infection, osteomyelitis, jaw fracture, cellulitis, pain.	
Any diastema widening involving removal of interproximal dental tissue using mechanically or electrically powered instruments	VS	Understanding of dental pathophysiology, dental pathology, and evidence based techniques. Knowledge of application and limitation of techniques	Training in application and selection of techniques	Permanent irreversible damage to viable dental and non-dental tissues. Palatine arterial or hard palate penetration, haemorrhage, death, personnel injury.	
All orthodontic procedures involving penetration of soft-tissue, including mucosa or skin and bone.	VS	Understanding of dental pathophysiology, dental pathology, skeletal development, bone growth and repair mechanisms, tissue healing and evidence based techniques. Knowledge of application and limitation of techniques	Training inappropriate surgical and orthopaedic techniques		

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Purchase, supply, prescription VS or administration of any substances restricted as POM-V by the Medicines Act		Knowledge of legislation to medicines, such as antimicrobials, analgesics, sedatives, opioid analgesia, pharmacological principals, therapeutics and administration.	Veterinary Degree registrable with the RCVS	Adverse pharmacological reactions, side effects, death of the horse, litigation.	
Collection* Interpretation of diagnostic images of equine dental and periodontal structures	VN* and VS	Radiation safety, principals of diagnostic imaging including ultrasonography , radiography, CT and MR	Radiography course	Radiation exposure	
Professional ethics and responsibility	EDTs and VS	Understanding about limitations of practice, professional communications, client communications, liability, ethical referral, professional misconduct.	Knowledge of and adherence to appropriate guide to professional conduct	Litigation, professional misconduct.	
Administration of local anaesthetic for equine dental procedures	VS	Use of POM(V)	Training in veterinary anatomy, physiology, pharmacology	Adverse drug reactions, haematoma, Horner's syndrome, infraorbital neuropraxia, pharyngeal collapse, self-trauma	

This table represents the situation in 2008, since previous assessments are clearly obsolete.

As science and technology develops any new practices will require scrutiny to assess their relative technical and scientific requirements and potential risks to the animals.

*VN Veterinary Nurse