



Tasmanian Equine  
Veterinary Services

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### **Equine Sedation and Anaesthesia for Surgery Risks**

In order to safely perform surgical procedures on horses it is usually necessary to immobilize the horse. This is achieved by a combination of sedation and local anaesthesia or by general anaesthesia.

Sedatives and anaesthetics are powerful drugs which act on a wide range of organ systems including the brain, heart, blood vessels and lungs to achieve their effect. The interactions of sedative and anaesthetic drugs with these organs and the other tissues of the body are complex and occasionally unpredictable. As a consequence, treatment with these drugs requires an assessment of the clinical status of the horse and can lead to unexpected reactions in individual horses.

Before agreeing to sedation and anaesthesia of your horse, it is important that you understand that the use of all sedative and anaesthetic drugs may involve risk to the patient.

Horses are complex animals and while it is not possible to detail all the potential complications associated with sedation and anaesthesia; the following is an outline of the recognised areas of risk.

The risks and complications associated with equine sedation and anaesthesia are closely linked with the risks and complications involved in equine surgery.

This information on Sedation and Anaesthesia Risks should be read in conjunction with the information provided on Surgery Risks.

### **Risks and Complications Related to Sedation**

Sedation involves the administration of drugs, which alter the level of consciousness of the horse and its ability to perceive the effects of surgical and other procedures. Sedation may be necessary to ensure animal welfare, pain relief and safety.

All sedative procedures of horses have the following potential complications: anaphylactic ("allergic") reaction, collapse, excitement, iatrogenic injury.

The consequences of a horse suffering one or more of these conditions can range from minor to fatal, depending on the degree to which the horse is affected and the organ system involved.

Tasmanian Equine Veterinary Services veterinarians are aware of the risks and potential consequences of sedation and act to manage these risks as far as is practically possible.

Occasionally and in spite of all precautions, horses suffer one or more of these complications when they undergo sedation. This most commonly occurs when the horse is already suffering from disease or injury, is very young, is an older animal or has an "excitable" temperament; however it can also happen to horses which appear fit and healthy and show no signs of compromise prior to anaesthesia.

- **Allergic Reaction:** Horses can have an allergic reaction to any medication they receive. The extent of the reaction can range from mild skin wheals to collapse, inability to breathe and death (anaphylaxis).
- **Collapse:** Individual horses may be more sensitive than expected to the effects of sedative drugs and may stumble or fall when sedated. This can result in injury to the horse.
- **Excitement:** Sedative drugs can occasionally result in an excitement reaction in the horse. These reactions can range from mild muscle trembling to frenzied, uncontrollable activity and severe injury.
- **Iatrogenic Injury:** Any procedure involving horses, especially young, unhandled and fractious animals can result in accidental injury to the horse.

### **Risks and Complications Related to General Anaesthesia**

General anaesthesia is relatively high risk procedure in the horse with world-wide studies showing overall approximately 0.9 % peri-operative fatality rate in non colic horses undergoing anaesthesia. This rate is significantly increased for horses undergoing emergency surgery such as colic.

Due to the effects of the drugs and the size and temperament of the horse, all general anaesthesia procedures are accompanied by General Risks.

Certain procedures and classes of horses are associated with increased levels of anaesthetic risk and potential complications. This information should be read in conjunction with the information related to the risks associated with surgery.



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## General Anaesthesia Risks

All anaesthesia procedures have the following potential complications: cardiac arrest, tissue damage, bone fractures, iatrogenic injury. These complications can happen at induction of anaesthesia, during anaesthesia or during recovery from anaesthesia.

The consequences of a horse suffering one or more of these conditions can range from minor to fatal, depending on the degree to which the horse is affected and the organ system involved.

Tasmanian Equine Veterinary Services veterinarians are aware of the risks and potential consequences of anaesthesia and act to manage these risks as far as is practically possible.

Occasionally and in spite of all precautions, horses suffer one or more of these complications when they undergo anaesthesia. This most commonly occurs when the horse is already suffering from disease or injury, is very young, is an older animal or has an "excitable" temperament; however it can also happen to horses which appear fit and healthy and show no signs of compromise prior to anaesthesia.

- **Cardiac Arrest:** Anaesthetic drugs act by depressing the action of the heart and other organs, occasionally horses can be unexpectedly sensitive to the effects of the drugs and may suffer a cardiac arrest. Cardiac resuscitation is extremely difficult in the horse and arrest is usually fatal.

- **Tissue Damage:** tissues including skin, muscle, nerve and eyes can be injured during the anaesthetic procedure including during the induction and recovery phases.

- **Myopathy / Neuropathy:** these complications can occur usually in large heavy muscled horses and are thought to be associated with muscle or nerve damage associated with pressure and/or lack of blood flow. Areas that are dependant during anaesthesia are usually affected. The consequences of this complication will vary depending on the severity of damage. Rarely, the horse is unable to stand during recovery and this can be fatal. In most cases, these complications can be managed using appropriate positioning and padding of the patient during anaesthesia and ensuring blood pressure is supported.

- **Post anaesthetic colic:** may occur secondary to reduced gut motility associated with general anaesthetic drugs. This may be mild and transient but can reduce faecal output and can lead to caecal impaction and rupture that is fatal.

- **Bone Fractures:** Due to their size and temperament, horses can break bones during an anaesthetic procedure. This most commonly occurs during recovery when a horse attempts to stand while it is uncoordinated and still suffering from the effects of the anaesthetic drugs. Fracture of a long bone/s of the leg of the horse or other major bones usually results in euthanasia.

- **Iatrogenic Injury:** Any procedure involving horses, especially young, unhandled and fractious animals can result in accidental injury to the horse.

## Specific Anaesthesia Risks

While the general complications are a risk with any anaesthesia, they can be more likely and potentially more serious in certain classes of horses and when certain procedures are performed.

### Age

Newborn foals have immature physiological systems which mean they are more susceptible to the adverse effects of the anaesthetic drugs and any illness they may be suffering from.

Horses over the age of 14 years have an increased risk of complications associated with general anaesthesia and are more prone to the risk of long bone fracture in recovery.

### Length of Anaesthesia

Horses that are anaesthetised for periods greater than three hours have an increased risk of anaesthetic complications including muscle damage, long bone fracture and death.

### Sick Horses

Horses with underlying illness have less effective organ function and are more susceptible to the adverse effects of the anaesthetic drugs so have an increased risk of anaesthetic complications.