

## Drugs for Bruce

Drugs	Dose/ Concentration	Calculations	Volume per site	Withdrawal Time	Route & Comments
<b>Anaesthetic/ Sedative</b>		$\frac{\text{Weight} \times \text{Dose}}{\text{Concentration}}$			
<b>Lidocaine</b>	<p><b>Toxic dose: 2% of 10 mg/kg</b></p> <p><b>Recommended dose for cow: (half toxic dose) 2% of 5 mg/kg</b></p>	<p><b>Toxic Dose</b>  <math display="block">\frac{250 \times 10}{20} = 125 \text{ ml}</math></p> <p><b>Maximum Vol can be administered:</b>  <math display="block">\frac{250 \times 5}{20} = 62.5 \text{ ml}</math></p>	<p><b>5 ml per testicle.</b></p> <p><b>2ml in the spermatic cord and 3ml subcutaneous tissue</b></p>	<p><b>4 days for meat</b>  <b>3 days for milk</b></p>	<p><b>IM/SC</b></p> <p><b>Note:</b> it was decided to administer 5 ml per site, which equals 10 ml administered in total to create a safe margin to re-administer more Lidocaine, if it was deduced that the first administration was not successful</p>
<b>Xylazine</b>	<p><b>Recommended Initial dose 2% of 0.05 mg/kg</b></p> <p><b>Recommended Subsequent dose for cow: (half initial dose) 2% of 0.025 mg/kg</b></p>	<p><b>Initial Dose (for Burdizzo):</b> <math display="block">\frac{250 \times 0.05}{20} = 0.625 \text{ ml}</math></p> <p><b>Subsequent Dose (for Surgical castration):</b>  <math display="block">\frac{250 \times 0.025}{20} = 0.31 \text{ ml}</math></p>	<p><b>Initial Dose (for Burdizzo): 0.63 ml</b></p> <p><b>Subsequent Dose (for Surgical castration): 0.31 ml</b></p>	<p><b>4 days for meat</b>  <b>1 days for milk</b></p>	<p><b>IM</b></p>

<b>Ketamine</b>	<p><b>Recommended Initial dose 10% of 0.5 mg/kg</b></p> <p><b>Recommended Subsequent dose for cow: (half initial dose) 10% of 0.25 mg/kg</b></p>	<p><b>Initial Dose (for Burdizzo):</b> <math>\frac{250 \times 0.5}{100} = 1.25 \text{ ml}</math></p> <p><b>Subsequent Dose (for Surgical castration):</b> <math>\frac{250 \times 0.25}{100} = 0.63 \text{ ml}</math></p>	<p><b>Initial Dose (for Burdizzo): 1.3 ml</b></p> <p><b>Subsequent Dose (for Surgical castration): 0.63 ml</b></p>	<p><b>3 days for meat</b></p> <p><b>3 days for milk</b></p>	<b>IM</b>
<b>NSAID</b>					
<b>Flunixin</b>	<b>5% of 1.1 mg/kg</b>	$\frac{250 \times 1.1}{50} = 5.5 \text{ ml}$	<b>5.5 ml</b>	<b>4 days for meat</b> <b>1.5 days for milk</b>	<b>IV, must be given first due to its technicality.</b>
<b>Antibiotic</b>					
<b>Penicillin Streptomycin</b>	<b>200,000 IU/ml of 10,000 IU</b>	$\frac{250 \times 10,000}{200,000} = 12.5 \text{ ml}$	<b>12.5 ml</b>	<b>30 days for meat</b> <b>10 days for milk</b>	<b>IM</b>
<b>Anti-parasitic</b>					
<b>*Ivermectin</b>	<b>1% 0.2 mg/kg</b>	$\frac{250 \times 0.2}{10} = 5 \text{ ml}$	<b>5 ml</b>	<b>35 days for meat</b>	<p><b>IM</b></p> <p><b>*Note: This was recommended to reduce infection by internal parasites but was not administered due to a lack of availability</b></p>

## Reversal Drugs

Drugs	Dose/Concentration	Calculations	Volume	Route & Comments
Atropine	0.54 mg/ml of 0.04mg/kg	$\frac{0.04 \times 250}{0.54} = 18.5 \text{ ml}$	18.5 ml	IV/IM Used for Bradycardia
Epinephrine	1 % of 0.02 mg/kg	$\frac{0.02 \times 250}{1} = 5 \text{ ml}$	5 ml	IM Used for anaphylactic shock
Tolazoline	10 % of Recommended 2-4 times xylazine dose (0.05 mg/kg – 0.1 mg/kg)	<p>Lower Limit: <math>\frac{0.05 \times 250}{100} = 0.125 \text{ ml}</math></p> <p>Upper limit = <math>\frac{0.1 \times 250}{100} = 0.25 \text{ ml}</math></p>	<p>Lower Limit = 0.13 ml</p> <p>Upper limit = 0.25 ml</p>	<p>IV slowly Used to reverse xylazine.</p> <p>If signs of xylazine toxicity (bradycardia, hypotension) are seen administer the lower limit, 0.125ml.</p> <p>If signs continue after some time add 0.125 ml or less to reach the upper limit. BUT do not cross the upper limit.</p>