**Sedatives and Anaesthetic Drugs– CALCULATIONS**

* ***Xylazine***

Dose = 0.025 mg/kg

Concentration = 20 mg/ml

***Calf 2***

Weight = 120 kg

Volume (ml) = (Dose (mg/kg) × Weight (kg)) / Concentration (mg/ml)

 = (0.025 mg/kg × 120 kg) / 20 mg/ml

 = 0.15 ml ≈ 0.2ml

(Xylazine was not used for calf 1 due to the fact that it was a smaller calf so less chemical restraint was needed.)

Duration Xylazine of sedative effect may be 45 minutes to one hour. All procedures were performed (began and finished) in less than one hour after the drug was administered.

* ***Lidocaine***

Toxic dose = 10 mg/kg

Concentration = 20 mg/ml

***Calf 1:***

Weight = 85 kg

Toxic volume (ml) = (Dose (mg/kg) × Weight (kg)) / concentration (mg/ml)

= (10 mg/kg × 85 kg) / 20 mg/ml

= 42.5 ml

A volume of **42.5 ml** of Lidocaine (2%) would be toxic to this calf.

A volume of 5ml Lidocaine was recommended for administration to each of the two sites of the block.

However, due to the fact that the auriculopalpebral reflex was still present in both eyes ten minutes after administration, 5 more millilitres (ml) of lidocaine were administered at both sites.

A total of **20 ml** of Lidocaine was administered to this calf. This is below the toxic volume of 42.5 ml which was calculated above.

***Calf 2:***

Weight = 120 kg

Toxic volume = (Dose (mg/kg) × weight (kg)) / concentration (mg/ml)

 = (10 mg/kg × 120 kg) / 20 (mg/ml)

 = 60 ml

A volume of **60 ml** Lidocaine(2%) would be toxic to this calf.

A volume of 5ml Lidocaine was recommended for administration to each of the two sites of the block.

A total of **10 ml** Lidocaine (2%) was administered to the calf. This is below the volume of 60 ml which was calculated to be the toxic volume for this calf.

Lidocaine duration of action may be up to one hour. All procedures were performed (began and finished) in less than one hour after the drug was administered.