

Toxic dose of lidocaine in cattle: 10mg/kg

$$\text{Volume calculation} = \frac{\text{dose} * \text{weight}}{\text{concentration}}$$

For a cow estimated to be 500 kg,

$$\text{Toxic volume of 2\% lidocaine} = \frac{10 * 500}{20} = 250 \text{ ml}$$

$$\text{Maximum volume for this cow} = \frac{1}{2} * \text{toxic volume} = 150 \text{ ml}$$

Procedure	Volume used/ml	Total volume/ml
Sedation	-	-
IV regional block	10	10
Epidural	6*	6
Distal paravertebral nerve block	10 per site	60
Auriculopalpebral & cornual nerve block	10 per site	20
		96

*Although the calculated volume for the epidural was 5ml, an additional ml was injected subcutaneously to desensitize the area of entry of the needle.