**Pre-operative considerations**

*Do a physical examination*: to determine any abnormalities. Auscultate for cardiac dysrhythmias and murmurs, or abnormal lung sounds.

*Estimation of body weight:* is essential for calculation of drug volume to be administered.

*The clinicians must ensure* the immediate availability of oxygen, other resuscitative drugs, cardiopulmonary equipment, and the personnel needed for proper management of toxic reactions and related emergencies that might arise from the block

*Pre-anaesthetic medication*:

A good preanesthetic sedation facilitates smooth induction and has anaesthetic sparing effect during maintenance. Sedative/opioid combination (neuroleptanalgesia) is most popular (e.g. **xylazine** and butorphanol; acepromazine and morphine) and provides better restraint and analgesia (the combination is synergistic, not merely additive) as preanesthetic medication.

High environmental ambient temperature will cause a pronounced and prolonged response to [**xylazine**](javascript:fileName='/products/product.asp?PN=xylazine';displayProd())in cattle. [Xylazine](javascript:fileName='/products/product.asp?PN=xylazine';displayProd()) also will cause hyperglycaemia and hypoinsulinemia in cattle and sheep. Additionally, it will cause hypoxemia and hypercarbia in cattle and can cause pulmonary oedema. Finally, [xylazine](javascript:fileName='/products/product.asp?PN=xylazine';displayProd()) has an oxytocin-like effect on the uterus of pregnant cattle and sheep.

The degree of sedation or restraint produced by [xylazine](javascript:fileName='/products/product.asp?PN=xylazine';displayProd()) depends on the route of injection, dosage given, and the animal's temperament. Low doses (0.015 - 0.025 mg/kg IV or IM) will provide sedation without recumbency in cattle.

Sedation following use of alpha-2 agonists can be reversed by alpha-2 adrenoceptor antagonists, [yohimbine](javascript:fileName='/products/product.asp?PN=yohimbine_hydrochloride';displayProd()), [**tolazoline**](javascript:fileName='/products/product.asp?PN=tolazoline';displayProd()), [atipamezole](javascript:fileName='/products/product.asp?PN=atipamezole_hydrochloride';displayProd()), and [idazoxan](javascript:fileName='/products/product.asp?PN=idazoxan';displayProd()).

[**Tolazoline**](javascript:fileName='/products/product.asp?PN=tolazoline';displayProd()) is given at 0.5 - 2.0 mg/kg IV. There are anecdotal reports of death associated with [tolazoline](javascript:fileName='/products/product.asp?PN=tolazoline';displayProd()) administration in cattle, usually following higher doses of the drug given to animals with compromised physical status. [Tolazoline](javascript:fileName='/products/product.asp?PN=tolazoline';displayProd()) should be given at 0.5 - 1.0 mg/kg IV. If sufficient arousal does not occur, additional tolazoline could be given. [Tolazoline](javascript:fileName='/products/product.asp?PN=tolazoline';displayProd()) given at 2.0 mg/kg IV will cause hyperesthesia in unsedated cattle.

**Inter-operative considerations**

*Monitoring*

The animal must be continuously monitored for signs of any abnormalities while performing the block.

In healthy anesthetized adult cattle, heart rate is usually 70 - 90 beats/minute.

The respiratory system is evaluated by monitoring respiratory rate and tidal volume. Spontaneous breathing rates are usually 20 - 30 breaths/minute in adult cattle and usually 20 - 40 breaths/minute in calves. Additional normal ranges with anaesthesia is described below:

*Normal ranges (with anaesthesia)*

* Temperature = >98°F (36.6 ˚C)
* Heart rate (beats/minute) = 80-120 (sheep, goats, calves); 70-100 (adult cattle) Respiratory rate (breaths/minute) = 30-40 (sheep, goats, calves); 20-40 (adult cattle)
* Blood pressure: >70 mm Hg (mean) and >100 mm Hg (systolic)
* Oxygen saturation = >95%
* end-tidal CO2 **(**EtCO2): 35-45
* Mucous membranes = pink, not pale, white, gray, or blue