**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**in cattle. Xylazine 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 has an oxytocin-like effect on the uterus of pregnant cattle and sheep.

The degree of sedation or restraint produced by xylazine 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, **tolazoline**, atipamezole, and idazoxan.

**Tolazoline** is given at 0.5 - 2.0 mg/kg IV. There are anecdotal reports of death associated with tolazoline administration in cattle, usually following higher doses of the drug given to animals with compromised physical status. Tolazoline should be given at 0.5 - 1.0 mg/kg IV. If sufficient arousal does not occur, additional tolazoline could be given. Tolazoline 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