



# Farm Vet News

Endell Farm Vets Blog

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## Cattle Injection Sites

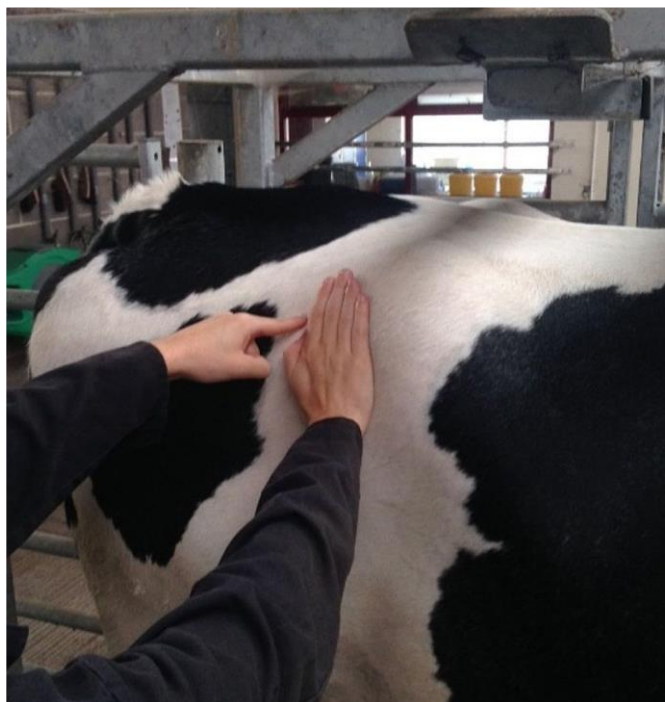


Image 1: Suggested site for intramuscular injection in the gluteal region (the rump).

Many of the veterinary medicines used in cattle are designed to be injected into the muscle with the most common intramuscular injection site used being the gluteal region (the rump). Many people are comfortable injecting here as it is easily accessible while the cow is restrained in most handling systems and it is what they are most familiar with.

However, a study published by Kirkwood, R. M. (2017) from the University of Nottingham has shown that there are considerable risks associated with how most people inject in this region, particularly in young or thin animals.

This blog post will discuss the risks of injection in the gluteal region, best practice for injecting into the muscle, and finally using the neck muscles as an alternative injection site.

***Common injection practices in the UK risk potentially damaging the sciatic nerve and valuable cuts of meat.***

***This is avoidable by using best practice whenever you inject your cattle.***

### RISKS ASSOCIATED WITH INJECTION INTO THE RUMP

The sciatic nerve is the largest nerve in the body and it runs through the gluteal muscle that composes most of the rump. As it innervates many of the muscles in the hind leg, damage to the sciatic nerve can cause pain, lameness, and in certain situations can cause paralysis of the associated leg, all of which are concerns for welfare and production.

Damage to the sciatic nerve can occur in two ways. Firstly it can be due to direct trauma, where the needle directly pierces the nerve, this most commonly occurs in animals with poor body condition. Alternatively, it may be caused indirectly by injection site lesions (ISLs) interfering with the nerve. ISLs are inflammatory reactions to the injection which may be caused by the product injected or by infection of the injection site.

In the study discussed, participants (vets, farmers, and vet students) were asked to choose an appropriate needle and place it in a cadaver where they would normally inject in a live animal. It found that 69% of the injections were in the high-risk area for damage to the sciatic nerve. In fact, of the 26% of participants that considered themselves to have “substantial experience” injecting cattle, 68% of their needle placements were in the high risk area!

### GUIDELINES FOR INJECTION INTO THE RUMP

If you chose to inject into the rump, the recommended site for injection is further cranial (towards the head) and lateral (away from the midline of the animal) than many of us generally use. This is demonstrated in *Image 1*, with the suggested site being the area pointed to, approximately a hand's breadth behind the hook bone.

For any injection it is important to always follow best practice guidelines, as outlines in the table below.

Best Practice For Injection:
<ul style="list-style-type: none"><li>• Always read and follow the instructions on the bottle, box, or datasheet of what you are injecting unless instructed otherwise by your vet.</li><li>• Change needles frequently and always when they become blunt or contaminated.</li><li>• Ensure cattle are adequately restrained for injection.</li><li>• Ensure the site where you are injecting is as clean as possible and change sites if it is dirty.</li><li>• Split large volumes between numerous injection sites, some drugs will recommend a maximum volume per injection site.</li><li>• Do not mix different drugs in the same syringe unless instructed otherwise.</li></ul>

Table 1. Suggested best practice for injection.

## Injection Into The Neck

Another option is to avoid the rump altogether! According to a study published by Creswell, E. et al in 2016, 4.1% of carcasses had injection site lesions (ISLs) when inspected at UK abattoirs. ISLs can consist of cysts, discolouration, nodules, abscesses, or scarring associated with the injection of veterinary medicines.

ISLs must be trimmed from carcasses, resulting in economic losses for the farmer, abattoir, and wider industry. These are generally seen as lower deadweight payments to the farmer.

It has been shown that ISLs tend to occur more frequently and severely in the gluteal region compared with the neck region. This is believed to be because there are numerous small muscles in the neck, rather than one big muscle, so it is more likely that injections will fall between the muscles and be absorbed rapidly.

For this reason it is advisable for beef producers to inject veterinary medicines into the neck muscles of their animals where possible. That way, ISLs are less likely to occur and if they do, they will only affect less commercially desirable and therefore less valuable cuts of meat.

Similarly to injecting into the rump, it is important to always use the best possible practice for every injection, in line with the recommendations above. This is to further minimise the chance of causing an ISL.

However, safety must always be the top priority. If it is deemed to be unsafe to inject in the neck for any reason (fractious animal; handling facilities unsuitable; etc.) then the rump, at the site demonstrated in *Image 1* should be used instead.

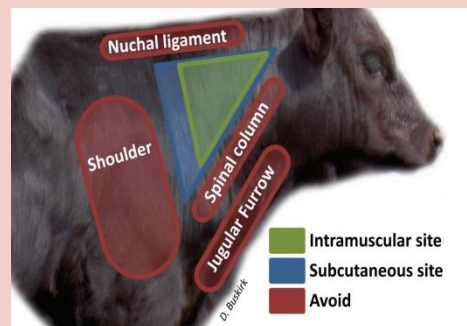


Image 2: Suggested site for injection in the neck.

Injecting into the neck is seen as undesirable by some who fear that if an ISL occurs it may cause a false positive reaction during TB testing. However, this should not be an issue as the TB tester will always check the injection sites for pre-existing lumps prior to injecting tuberculin.

It is important to note that animals should not be treated between day 1 and day 2 of your TB test, unless it is necessary for the welfare of the animal. In these cases the rump would be preferred.

## SUMMARY

Despite being the most common intramuscular injection site in cattle, it has been shown that there are significant risks associated with injecting cattle in the rump using what were previously thought to be safe techniques. Damage can be caused to the sciatic nerve either directly by the needle or indirectly by injection site lesions (ISLs). This can be avoided by using the injection site suggested above and using good injection technique. Injecting into the muscles of the neck is an alternative and is recommended provided it can be performed safely.

If you would like to discuss injection technique, or anything else relating to the health and productivity of your herd, please do not hesitate to contact one of our vets who will be more than happy to advise you further.