

Utilizing ropes to good effect in practice settings

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Ropes are an essential tool in any bovine veterinary practice setting. And the knowledge as well as the ability to use them effectively can greatly contribute to both the safety and care of the practitioner, their assistants and their patients. Just like practice vehicles, we all have preferences for the brand and type(s) of ropes we use and carry.

For the minimalist, probably just a few rope halters and a lariat are all that might be needed and then there are a number of variations and accessories that many of us can find both useful and essential. In this now retired practitioner's experience, there are a few additional accessories that will greatly expand both the utility of these ropes as well as adding to the practitioner's personal safety. These accessories would include at least a couple of 2-meter (~6 foot) lengths of straight link chain that will accommodate 1 link fitting through the middle of another link so that it can form a closed loop that will serve as a means of a lift point or for affixing a gate (Figure 1) next to a patient (McMaster-Carr item # 3594T27 \$2.28 per foot). When used with a snap clip to close the loop, it will form a circle of chain that is close to the full breaking strength of the chain itself when that clip is placed in the end of the interlocking protruding link. This provides for a safe and secure fastening point.

Next would be 2 to 4 non-locking oval carabiners (REI, Black Diamond 3-pack ~\$40) and a length of nylon or polyester soft tubular strapping with an eye loop sewn on one end. The opening of the eye loop is based on the personal preferences of the practitioner. Most any rigging shop will carry this material in a variety of widths, lengths and stiffness. Making or having 3 links of 9.45mm (3/8") link chain reconfigured via welding (Figure 2) to make a lifting link that will have the nylon tubing integrated into it for being able to tighten the choker loop as close to the cow's leg as possible.

Use of a block and tackle apparatus will greatly ease the force necessary to lift the leg of a cow for examination, and there are many places where these can be obtained. For those with shopping patience, among those sources are Amazon and eBay. A perusal of eBay should also show an offering of a wide variety of vintage block and tackle combinations used in fence building and wire stretching. Most of these will require replacement of the ropes that they are configured with, but the advantage is that the old sisal ropes they are likely to be strung with can be replaced with good quality braided and much stronger synthetic rope that is less prone to wear, kinking or breakage. Additional sizes and strengths of blocks are to be found on Amazon or again at rigging stores. Many of the more classical style fence stretchers have a locking mechanism on the top pulley block, but I have found that they work much better with that mechanism removed so as to prevent jamming which of course only seems to occur in emergency situations where ease and rapidity of release is important if not critical. This assumes the free end of the rope has been tied off with a proper halter style tie for ready release.

Over the years, I found that the most effective lifting method in less-than-ideal field conditions was to use the aforementioned interlocking chain on a vertical post with several wraps to ensure enough friction so as not to allow downward slippage

Figure 1: Eight or more double snap end links to allow making a closed loop of the chain.



Figure 2: A welded 3-link clevis that allows for use of the nylon webbing as a lift wrap at the level of the gastrocnemius tendon.



when under load or placing it over a joist. The upper block was then affixed to one of the chain wraps and the cow's leg was secured with the soft 2"-wide nylon or polyester tube webbing going through the sewn choker loop at the hock level of the cow and then tucked in behind the web that has been fed through the welded chain buckle. This web material is then tightened as close as possible to the gastrocnemius tendon using that welded chain buckle. This will allow for sufficient raising of the cow's rear leg even in situations where the building ceiling may not be too high.

A very similar advantage can be accomplished using only a carabiner and lariat with a quick release honda where the carabiner acts as the upper "pulley" and the honda serves as the bottom pulley or sheave. The lariat is placed through the carabiner which has been attached to the chain or a multiple wrapped rope on the vertical post or joist, and the end with the honda is brought down to the level of the hock where it is passed around the front of the hock and back to the standing part of the rope where the honda end is passed over the standing part and then passed back in the direction that it just came from and around the leg to pass through the loop that has just been formed with a small length of the honda end protruding from under the newly formed loop. The remaining rope standing part that has been left through the carabiner is placed through the honda and back up and through the carabiner. The carabiner will now contain 2 loops of the lariat and the lower end will be through the honda which will act as the lower "pulley" or sheave. The free end of the rope that is through the carabiner can then be pulled and the choker loop that has been formed with the lariat will tighten and pull upward on the cow's leg. Often, the cow will kick a bit when she feels the traction and compression on her hock, thus easing the level of effort needed to raise the leg to a working height.

Once at a desired height, the lariat can be tied off to a suitable object and further restraint of the raised leg can be initiated with either a halter or leg rope. This method works every bit as well or better when used horizontally as it will in the vertical configuration. I have found it to be very useful in applying traction for dystocias without straining one's back and shoulders. The veterinarians and their assistants can then either sit or stand on the rope lariat so configured allowing for timely stretching and dilation of the vaginal and perineal tissues rather than tearing of these delicate tissues. If the animal has been standing, it allows for a more natural direction of the traction and the lariat can be released immediately if the cow should fall without nearly so much danger of injury to those assisting than if there was a calf jack being employed. If the fetus is properly aligned, it is faster, easier and with less cleanup that a calf jack requires in order to be used again. Not only that, but it also serves to prevent the loss of one's OB handles since they are enclosed in the lower end of the rope loop and cannot be lost without the entire rope lariat disappearing as well. I think that many of us know that one of the first items to be dropped in a dystocia after a successful delivery is the OB handles, right into the bedding! I used to carry an assortment of halters that were mostly manila/sisal but always had one extra heavy duty 19 mm (3/4") polypropylene halter as it could be used in wet, manure-soaked situations, and thus would not swell and be thus rendered almost unusable subsequently if a manila rope halter had been used. They could also be washed and sanitized if need be.

Finally, I can highly recommend that 3 leg ropes be part of a practice vehicle inventory for situations where the cow is to be cast and held in dorsal recumbency for procedures such as LDA repair either by toggling or laparotomy or ventral C-section. For these ropes, they should be longer than most halter ropes, generally, 5 meters (~15 foot) in length and made from good quality arborist or climbing rope hanks with a plastic thimble at one end to ensure a long and strong life of frequent use. Rope thimbles can be purchased from Bailey's Chainsaw Company along with any number of braided ropes and then sewn into one end of the rope for making a choker loop or if one is not inclined to making their own, most any rigging store/shop can custom make them for you. These ropes come in a wide variety of strand numbers and weaves as well as colors and thus are not as prone to getting lost in the bedding of a pen. Good ones however are often readily "borrowed" by clients for their strength and utility!

It is said that no equipment is better than the maintenance that it receives and this is true for the ropes we carry as well. Student preceptees quickly learned that there were 2 ways to take care of my ropes - my way and the wrong way! Halter ropes were always folded into 30 cm loops (12") for the majority of their length, and then the last half meter (18") was tightly coiled around the longer loops and the end tucked under the last tight loop. This kept the halters from opening in the form of a telephone cord and wanting to knot on their own. All of the ropes were stored in a cardboard box rather than a plastic box as any residual moisture left on them after use was able to dry out rather than be trapped in the container. Storing them in this fashion allowed one to pick out 1 or several halters at one grab without finding a Gordian knot of a tangled mess with each use. The key to keeping a block and tackle apparatus from becoming an unusable knotted and tangled mess is simply to always affix the top and bottom blocks together side-by-side with either a strong spring clamp or a piece of easily twisted heavy copper wire. When separated and hung up, any tangles in the ropes of the tackles easily comes apart and it is ready to use.

For those with an added interest in learning more about restraint techniques and tools, in addition to some of those found on YouTube and other web-based media sites, I can recommend the old book *Restraint of Animals* by John Leahy and Pat Barrow. It is old, and a paperback, but copies are still available from Amazon and other internet sites.

For many with experience, this presentation is mere child's play as they know these few suggestions and then some, however for the uninitiated, utilizing these few simple and relatively low-cost accoutrements can greatly contribute to speed and safety in bovine practice.

