Approaching Individuals.

It is essential to talk quietly, preferably with low frequency sounds, when approaching an animal. This avoids surprising it with the consequent risk of kicking out or running off. Regularly handled cattle should be approached in the way and from the side to which they are accustomed. Traditionally this is from the left but particular circumstances, like a milking system, may require another direction. Touch the shoulder area first and gently move up to the head. Fearful, flighty or aggressive animals are likely to move or kick sideways. The kick is usually semicircular slicing action, which can cause serious injury. Aggressive animals like dairy bulls and nymphomaniac cows are more likely to butt and squash a person. An escape route should be close by before approaching such animals. A direct approach is aggressive to cattle and aggression, i.e. charge forward and butt may meet this.

Restraining the Head.
The degree of restraint needed depends on the tameness of the animal and the disturbance caused by the manipulation. Some or all parts of the body may have to be restrained for the safety for both animal and handler. The head is the first and most important area to restrain as it can seriously injure the handler when it is violently tossed about. Having restrained the head, the animal is much more likely to be still. If the head is not restrained, many cattle continue struggling even though other parts of the body are closely restrained. It appears as though they think they can break free by struggling when the head is free. Heads of cattle may be restrained by:

- Putting into the usual milking area
- A self-locking neck clamp in the feeding passage
- Haltering
- Tying the neck to a fixture such as stanchion or neck chain
- Clamping the neck in a yoke or stanchion and either holding the head down with a nose bar, tying it up with a halter or putting pressure on the nasal septum

Nose.
Pressure on the nasal septum is very effective way of controlling head movement. A large animal can be gripped in that way for a few seconds using the thumb and forefingers. But for longer periods and greater security with large animals, a nose holder is needed. This device is available in variety of forms. The best nose holders have the following features:

1. Rounded smooth bulbous ends that go into the nose (so that the cartilage is not damaged or destroyed)
2. A gap of about 3 mm between the bulbous ends
3. A device for holding the handles in the closed position so that they do not have to be held.
Some devices have long handles to give mechanical advantage to the handler. Others have short handles and ropes so they can be wrapped once around a fixed structure. The ends of the rope should be held so it can be let go instantly. It should never be left unattended. If the beast goes down, the nasal septum and fleshy exterior part in the middle of the nose may be ripped. Stand beside the head and facing the same direction as the beast. Put your thumb and first finger into the nostrils to restrain the animal whilst the holders are inserted. A bulbous end is inserted on an angle into one nostril and the holder rotated to get the other end into the other nostril past the fleshy exterior. Control is best when the head is held high.

**Preventing Kicking.**
The only method of stopping kicking is to tie up the legs or chemically immobilize the animal. There are, however, several methods of reducing the chances of kicking.

**Flank Pressure**
Pressure on the flank also reduces the chances of kicking. This can be done by lifting the flank fold up by hand or by a C-shaped clamp placed in the flank area and over the opposite loin. A rope may be tied around the abdomen.
**Tail lift.**
A simple technique for preventing kicking is to lift up the tail. Where cattle cannot move forward or sideways this is a very efficient restraint. Great care must be taken not to damage the tail. Stand close to and directly beside the tail. Use one hand about 15 cm from the base to lift the tail straight up in line with the backbone. The other hand may be used for support. As with other restraint it should only be used as necessary and eased off when the animal stops kicking or moving about. Cattle will generally not kick when this is applied.

**Restraining legs:**
The hind legs can be tied together but the technique should only be used in emergency. The handler is in danger whilst putting them on a kicking animal. Cattle can become highly

Grasping and lifting flank by a fold

Tail lift. Note that the upper hand is positioned about 15 cm from the tail base.
agitated during or after application and so constant supervision is essential. The cow and the handler may be injured if she falls over. A number of other devices have been developed for preventing kicking at milking. Clamps and U-shaped devices can be put on the Achilles tendon just above the hocks.

**Chest twitch:**
A rope looped around the chest behind the forelegs and pulled tight may calm the cattle, which have not settled down when the head, limbs or tail have been held.

**Tying Tail:**
A tail lashing about is dangerous and it should be held or tied out of the way. If it is tied, it should be to the beast’s own body. Never tie it to a fixed object as the tail may break if the beast falls down. A sheet bend can be made with the end of the tail and a rope, which is looped and tied around the animal's neck.

**Common Manipulations.**

**Whole Animal**

**Weighing:**
Animals other than small calves are usually weighed by scales in a weigh pen positioned in or at the end of a race. The weigh pen should have good visibility through the exit gate so the beast enters readily. For accuracy it is essential to zero the scales at the start and frequently thereafter. The platform may rapidly accumulate mud and faeces, in which case cleaning and zeroing may have to be done for every animal. Some cattle will not stand still in the pen, which makes accurate reading impossible. Scratching their backs or placing a hand near the head often settles them down long enough for a reading.
Raising an animal that has gone down.

Making it stand. Before attempting to get an animal to stand, it is vital to examine it to check that it is humane for it to do so and that standing is possible. It may be down because of insufficient blood supply, paralysis, fracture, dislocation or muscle damage of the legs and an attempt to get it to stand is a diagnostic test to understand why it is lying.

To be able to stand, cattle need:

- Functional limbs; after lying for some time the limbs under the body may be stiff or numb, so the animal should be rolled on to the other side to relieve pressure on the underneath limbs.
- Limbs flexed underneath it, so put the legs in the natural position for rising.
- Non-slip footing to provide purchase for the feet.
- Sufficient room to rise

Various stimuli have been successful in getting cattle to stand. Examples are:

- Clapping and shouting close to an ear
- Slapping the neck and chest
- Close proximity of a barking dog
- Pouring cold water into an ear
- Pressure on the tail on a hard surface.

During handling in a confined space like a confining pen, cattle will sometimes go down. They may lie there for many minutes and refuse to get up despite the usual stimuli. A technique, which is frequently successful, is to block the flow of air through the nostrils. The palm is placed on one nostril and the fingers used to close off the other. The other arm is used to hold the head, which is likely to be tossed around as the beast tries to breathe. If it tries to breathe through the mouth, try holding the mouth shut.

Help should be given to steady the cow as she rises. Priority should be given to holding the tail near the base. It is the best manual support that can be given and the tail is less likely to be broken when held near the base. Other assistance can be directed to support lateral movement as she rises. The tail should not be used for lifting the cow up, as that is likely to cause damage.

Throwing or Casting.

It may be necessary at times to throw and tie a bull for certain minor operations. This can be done with a rope, preferably of cotton, which is softer and more pliable than hemp. The rope should be 40 to 50 feet long, depending upon the size of the animal. One end is looped around the neck and tied with a rigid knot that will not slip. A half hitch is then taken around the chest and one around the flank. The hitch must be well down on the side of the body. By pulling steadily on the free end of the rope, the animal falls to the ground, usually on the opposite side from the way the head is turned. The animal should always be cast (heavily pregnant animal should never be cast) on a large well strawed yard or grassed area. Have plenty of help at hand.
Lifting:
Hand, rope, lift bag, harness or hoist can lift recumbent cattle. The tail should not be used to lift, as there is a danger of causing paralysis or parts in the hind region. Once the animal is standing, the tail should be held to steady the beast. Help in standing can be given by lifting with a flank fold grip on both sides. Ropes under the chest and inguinal areas can be used to assist standing and steadying. Inflating a large airbag under the chest and abdomen is a good method. The cow can be lifted in a webbing harness and slung for up to one hour to allow sucking and leg movements. It can also be lifted by a clamp over the pin bones but this should only be used for a few minutes because of the possibility of suffocation, circulatory strain, and damage to the muscles and skin over that part of the hips. Lifting attempts should be used cautiously.
They will harm the beast when done repeatedly, unnecessarily or incorrectly.
Once standing, the animal may need assistance for some minutes until it is competent at walking again. Holding the base of the tail or lifting the flank can give help. It is essential to have a good ground surface so that the beast does not slip. The environment should be safe and comfortable for the first few days afterwards.

**Moving a “downer”**
Cattle can be rolled onto heavyweight mats or skids which then dragged along the ground. As long as the beast is comfortable during the process, the greatest danger is probably to people who injure themselves by dragging with a bent back. It may be better to use a vehicle to pull the structure.

**Drenching:**
Before doing any drenching, read the instructions. Some preparations should not be mixed and some have special precautions. It is worthwhile being patient and gentle when drenching, particularly when it is to be done frequently. Cattle can become very difficult to handle once they have developed an aversion and have learned how to avoid drenching. Drenching must be done with the animal standing so that it can swallow normally and not get liquid into its lungs. The head needs to be still.
Calves can be drenched in a race when packed tightly enough for a person to be able to restrain one but with enough room for the person to move. It is best to move back through the group and wear leggings as calves scrabble and kick with their hind legs.

Heavier cattle need restraining by the neck— the method depends upon how used they are to drenching. Dairy cattle can be dosed in the milking area.
but beef cattle will probably need a confining pen with a neck clamp. The handler stands alongside the head, facing the same way and grasps the head with the inside arm cupping the jaw. It is risky and unnecessary to put your fingers in the beast's mouth. The other danger to the handler is sudden violent head movements. To reduce the movements the beast should be moved back as far as possible in the neck clamp. Putting your inside leg under the head, insert the drenching device into the mouth between the molars and incisor teeth, taking care not to knock the teeth. Put the end over the middle of the back of the tongue and deliver the drench slowly so it can be swallowed. If it goes too fast, it may go into the lungs causing coughing and pneumonia. Remove the device taking care not to knock the teeth. Pause a few seconds to check that all the drench has been swallowed.

If you are using a bottle, take particular care not to get the neck between the molars where the glass can be broken; it is safer to tape the neck of the bottle or fit a rubber tube to minimize damage or breakage.

Drenching with paste, bolusing and giving capsules are done in the same way. The item to be swallowed must be small enough and the delivery system gentle enough so the throat is undamaged. It is important to release the item slowly and gently into the back of the tongue so that there is no damage and the beast can swallow it. Watch to see the item is swallowed. If it has not been ejected in a few seconds, one can assume it has been swallowed. To open the mouth with a wide bore pipe for bolusing, it is necessary to put pressure on the gums in the dental space - the gap between the incisor and molar teeth - keeping the fingers and thumb well clear of the teeth.

**Examining Mouth and Pharynx**

A dental wedge is used for examining the mouth and pharynx. To insert the device the head should first be held between your body and arm. The arm is placed over the head and the lower jaw gripped so the head is pulled against your body. The wedge is placed between the molars on one side to keep the jaws apart to allow examination.

It is dangerous and unnecessary to put your fingers in a beast's mouth to open. The mouth can be opened by inserting the wedge between the gums where there are no teeth (dental space between the incisors and the molar).

**Stomach Tubing.**

Getting a tube into the stomach requires good head restraint. More than a halter is required. Up to about 90 Kg may be held by a person standing astride it pulling it back against a solid structure like a fence or wall. Heavier animals need to be dosed with the head fixed in a neck crush with head and neck bars, or an equivalent restraint.

The end of the tube should be rounded both on the internal and external edges. Sharp edges may damage the delicate lining of the pharynx, oesophagus and reticulo-rumen.

The mouth should be wedged open as described above. A tube is fed into the mouth along the top of the tongue and down the oesophagus. Its presence in the oesophagus can be felt through the skin of the neck. If it is in the trachea, it cannot be felt but air will be passing in and out.

To administer a fluid the head should be tilted slightly upwards. Liquid is poured down the tube as fast as it can go from the funnel.
Feet. Lifting:
There are several methods for lifting a foot off the ground. One reasonably strong person can lift and support a forefoot for a few minutes. If you give more than very light support, the beast may put its normal weight on the limb. A straw bale can be placed under the knee. Forefeet can be lifted with a rope over a beam or over the withers. A rope with an eye-splice at the end is preferable. A loop is made around the metacarpus. The free end of the rope is looped over a strong fixture, preferably directly above the leg, and the foot pulled up by tension on the rope. The free end should be held by a person so that it can be released instantly.
A hind foot is usually lifted by rope. A noose is formed around the metatarsus. The free end is looped once around a fixture, which should be above and behind the leg. By pulling on the free end, the leg is lifted. It is held in position by a helper who wraps the rope around the Achilles tendon and holds the free end. The rope can be let go quickly to reduce the risk of injury should a beast fall.
Two strong people with a stout pole may be able to lift and hold a hind leg satisfactorily. They should put the pole horizontally in front of the hock and lift the pole up and back. They should support the beast by leaning in towards it. A twitch can be tied around the Achilles tendon to reduce kicking with that hind foot. The foot pole can also be used on forelegs.
No matter which method of lifting is used in fore or hind legs, the foot should be lowered occasionally to give the animal a rest from balancing on three legs. Manual lifting of cattle feet is only suitable for quiet animals and handlers need to be reasonably strong.

Trimming.
Hoof-trimming requires the foot to be fixed. A hoof-trimming pen is a good investment with larger dairy herds where animals are trained to lead. Belts are used to give very slight support without lifting the beast off the ground. The boards at the sides should be rapidly removable with wing nuts and bolts so that a leg can be quickly released. A leg may be broken when caught between the floor and horizontal support.

Udder:

Early Handling
Handling of the udder is made much safer and easier if cattle are accustomed to it from an early age. Treating Mastitis. Mild mastitis can usually be treated with minimum restraint, usually just standing in the normal position for taking a milk sample. However, as the udder may be painful, kicking should be expected and additional restraint such as the tail hold, the flank fold grip or the anti-kicking clamp may be needed.
Raising a foreleg by hand

Raising a foreleg with the help of a rope over the withers

Raising a hind limb using a rope over a ring, hook or beam in the ceiling