



Equipment and Materials Identification

© Partnership for Environmental Education and Rural Health at

College of Veterinary Medicine & Biomedical Sciences, Texas A&M University

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Surgical Instruments:

- ▶ The following instruments are used during surgery
- ▶ Many of these look very similar and may be hard to distinguish between!
- ▶ We will break these tools down into smaller sub-groups:
 - ▶ **Forceps:** used to pinch or tweeze tissue
 - ▶ **Scissors:** used to cut tissue
 - ▶ **Scalpel/Needle:** used to cut or pierce tissue
 - ▶ **Surgical miscellaneous**



Forceps

- ▶ Used to grasp and hold objects
- ▶ You should be able to identify the following forceps:
 - ▶ Alligator
 - ▶ Allis tissue
 - ▶ Babcock tissue
 - ▶ Crile
 - ▶ Kelly
 - ▶ Halstead mosquito hemoc
 - ▶ Brown-Adson thumb
 - ▶ Rat-tooth thumb



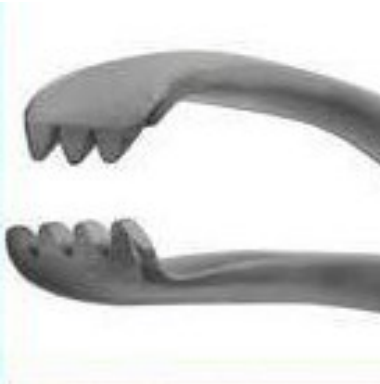
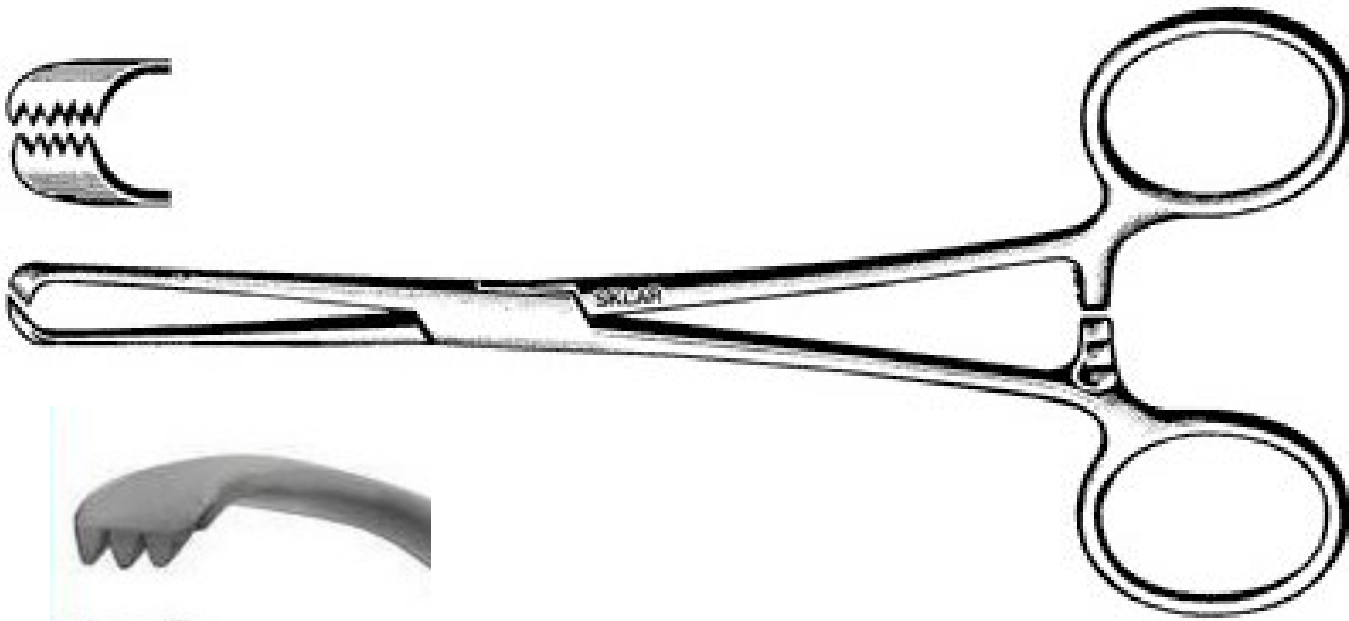
Alligator

- ▶ Used during surgery to remove foreign bodies
- ▶ There is a right angle and the top blade is the only part that actually moves



Allis tissue

- ▶ Used during surgery to grasp organs and slippery/dense tissue
- ▶ Less delicate than Babcock forceps due to the sharp teeth present at the tip of the blade



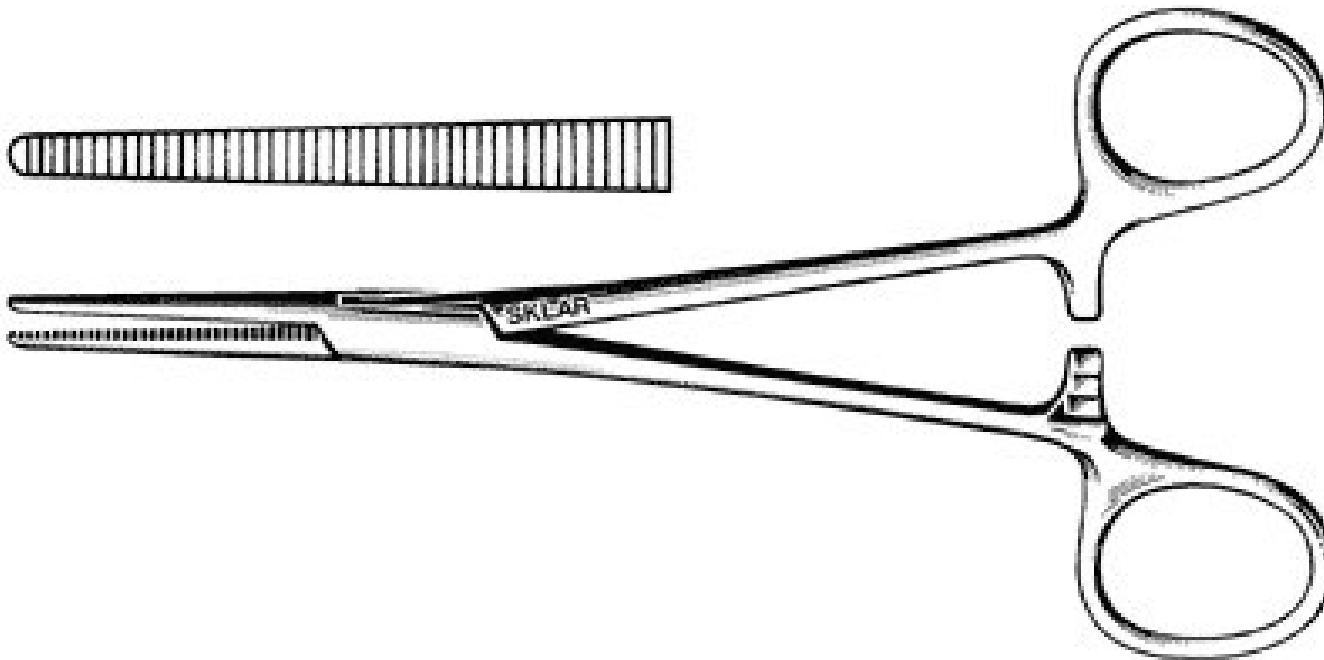
Babcock tissue

- ▶ Used during surgery to hold delicate tissue
- ▶ Similar to Allis Tissue forceps but the tips are smooth



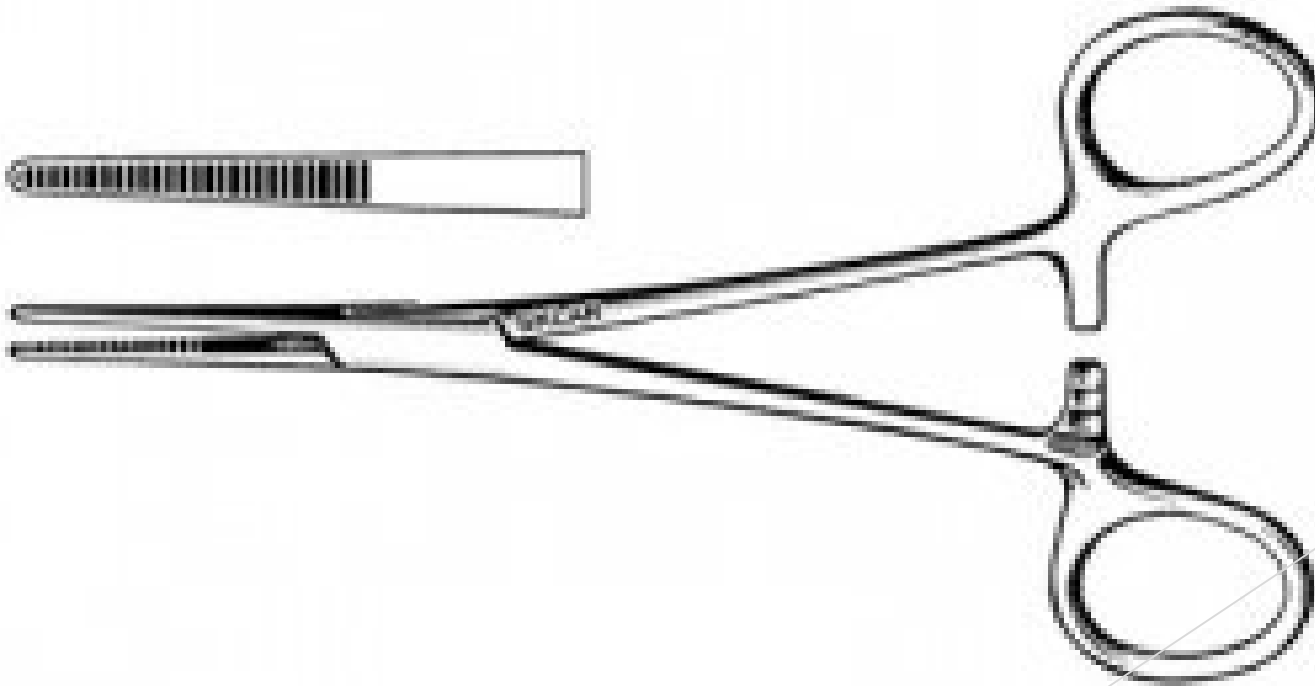
Crile

- ▶ Used to occlude bleeding before ligation (stops bleeding before closing off a blood vessel)
- ▶ Serrations run the full length of the jaws, can be curved or straight



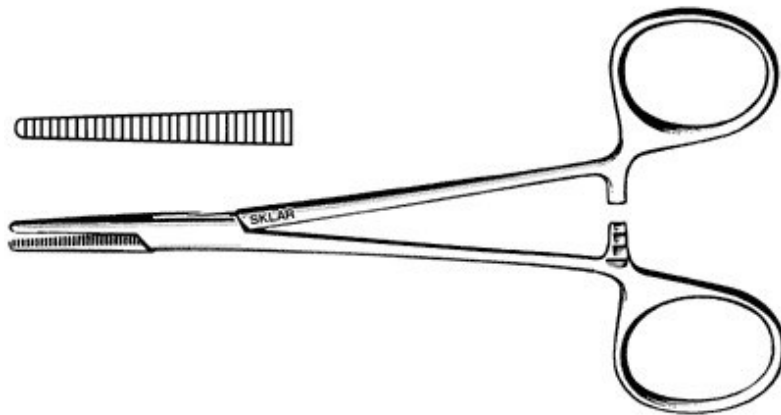
Kelly

- ▶ Used to occlude bleeding before ligation (stops bleeding before closing off a blood vessel)
- ▶ VERY similar to Crile forceps, but serrations only run about halfway up the distal length of the jaw, can be curved or straight



Halstead mosquito hemostatic

- ▶ Used to occlude bleeding before ligation (stops bleeding before closing off a blood vessel)
- ▶ **SMALLER** than the Crile or Kelly, serrations run the full length of the jaws, can be curved or straight



Brown-Adson thumb

- ▶ Used during surgery to grasp and hold tissue, muscle, or skin
- ▶ Fine serrations are present, there are no teeth at the tip



Rat-tooth thumb

- ▶ Used during surgery to grasp and hold tissue, muscle, or skin
- ▶ Difference between Brown-Adison and rat tooth is the rat tooth has teeth at the tip of the instrument

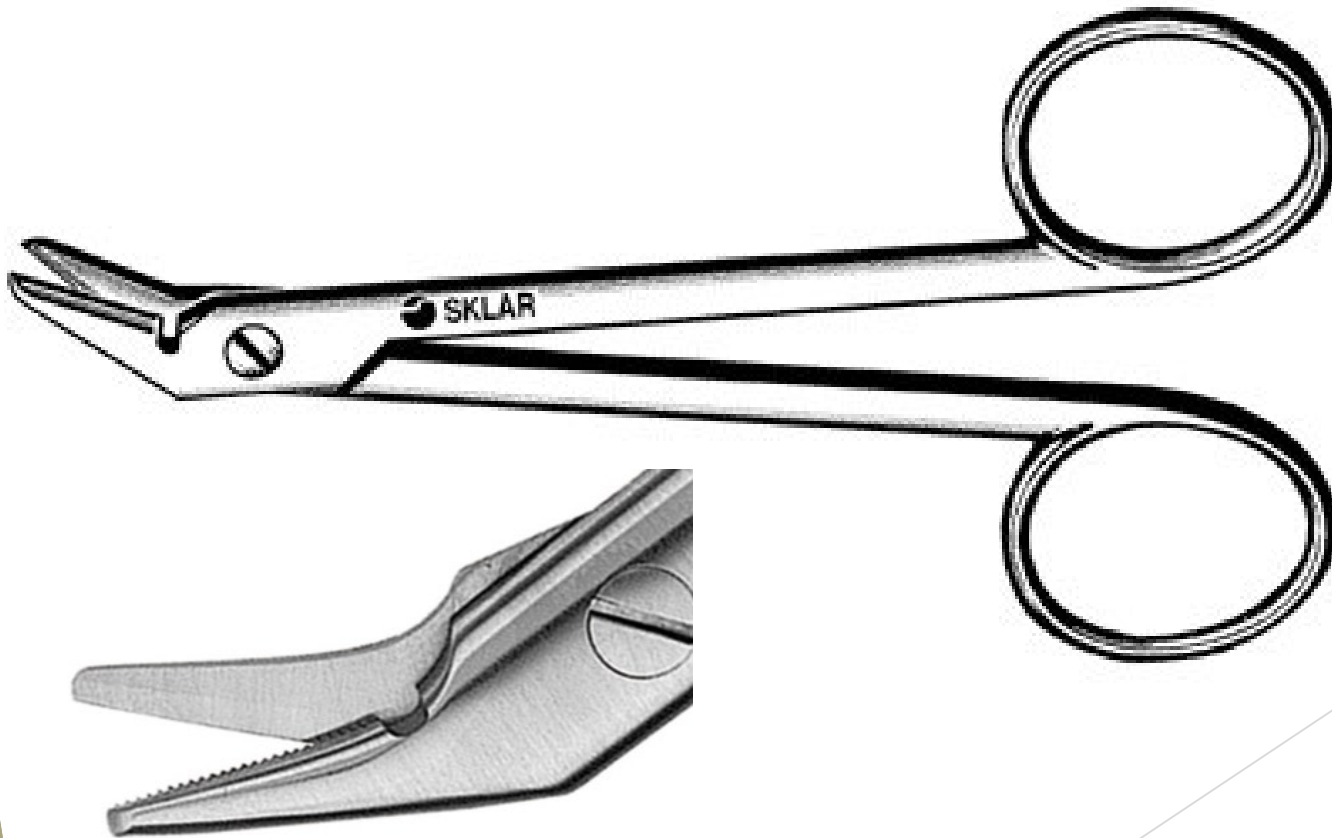


Scissors

- ▶ Surgical instruments used for cutting material and tissue
- ▶ You should be able to identify the following scissors:
 - ▶ Suture wire cutting
 - ▶ Bandage
 - ▶ Littauer suture removal
 - ▶ Mayo dissecting
 - ▶ Metzenbaum dissecting

Suture wire cutting

- ▶ Used to cut wire sutures
- ▶ The blades are serrated, can be curved or straight



Bandage

- ▶ Used to remove bandages
- ▶ There are many types of bandage scissors, but they will all have a longer bottom blade that has a blunt tip (helps to prevent cutting skin)



Littauer suture removal

- ▶ Used to cut all kinds of sutures (but wire)
- ▶ Has a hook-shaped bottom blade
- ▶ Can be curved or straight



Mayo dissecting

- ▶ Used during surgery to cut body tissues and sutures
- ▶ Have blunt ends with a shorter and broader shanks than Metzenbaum, can be curved or straight



Metzenbaum dissecting

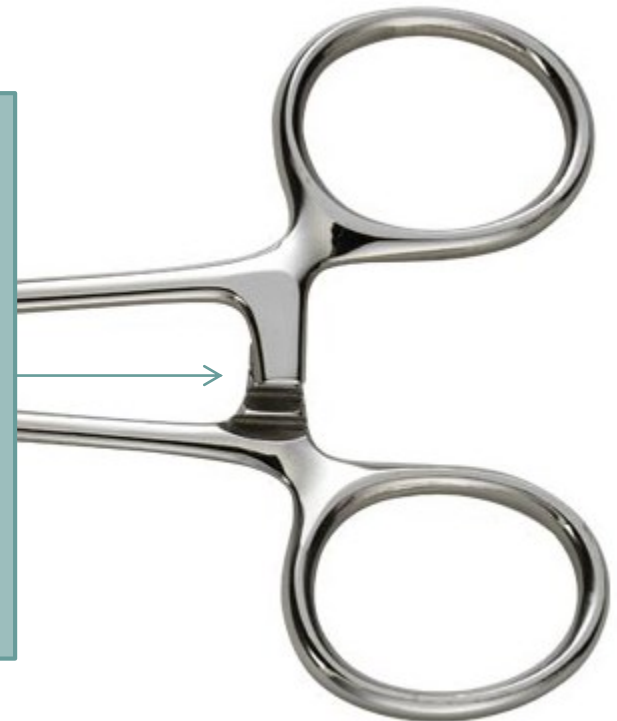
- ▶ Used during surgery to cut delicate tissue
- ▶ Longer and more narrow shanks than Mayo scissors
- ▶ Can have curved or straight blades



Scalpel/Needle Instruments

- ▶ You will need to identify the following scalpel/needle instruments:
 - ▶ **Scalpel blade**
 - ▶ **Scalpel handle**
 - ▶ **Suture needle**
 - ▶ Cutting
 - ▶ Taper
 - ▶ **Needle holder**
 - ▶ Mayo-Hegar
 - ▶ Olsen-Hegar

The needle holders are used during suturing of the patient, a ratchet is present near the finger rings, meaning that they lock in place when closed (this is to prevent the needle from slipping!)



Scalpel blade

- ▶ Used in surgery to cut through different tissues
- ▶ An extremely sharp blade that attaches to a scalpel handle



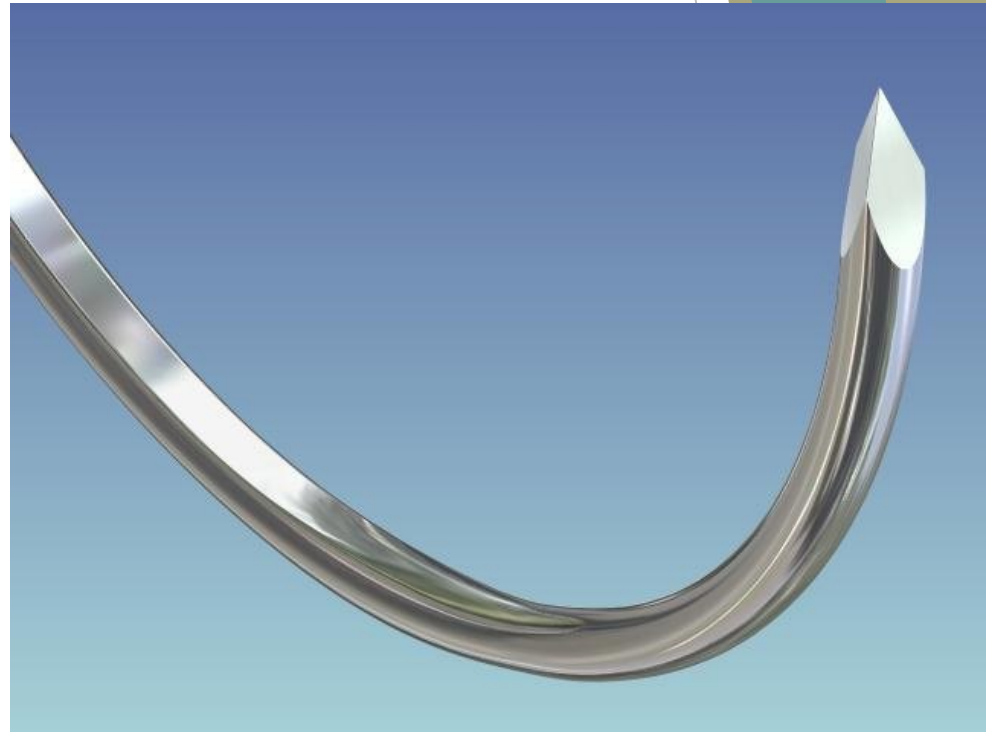
Scalpel handle

- ▶ Used during surgery to hold the scalpel blade, making it easier for the veterinarian to manipulate the blade



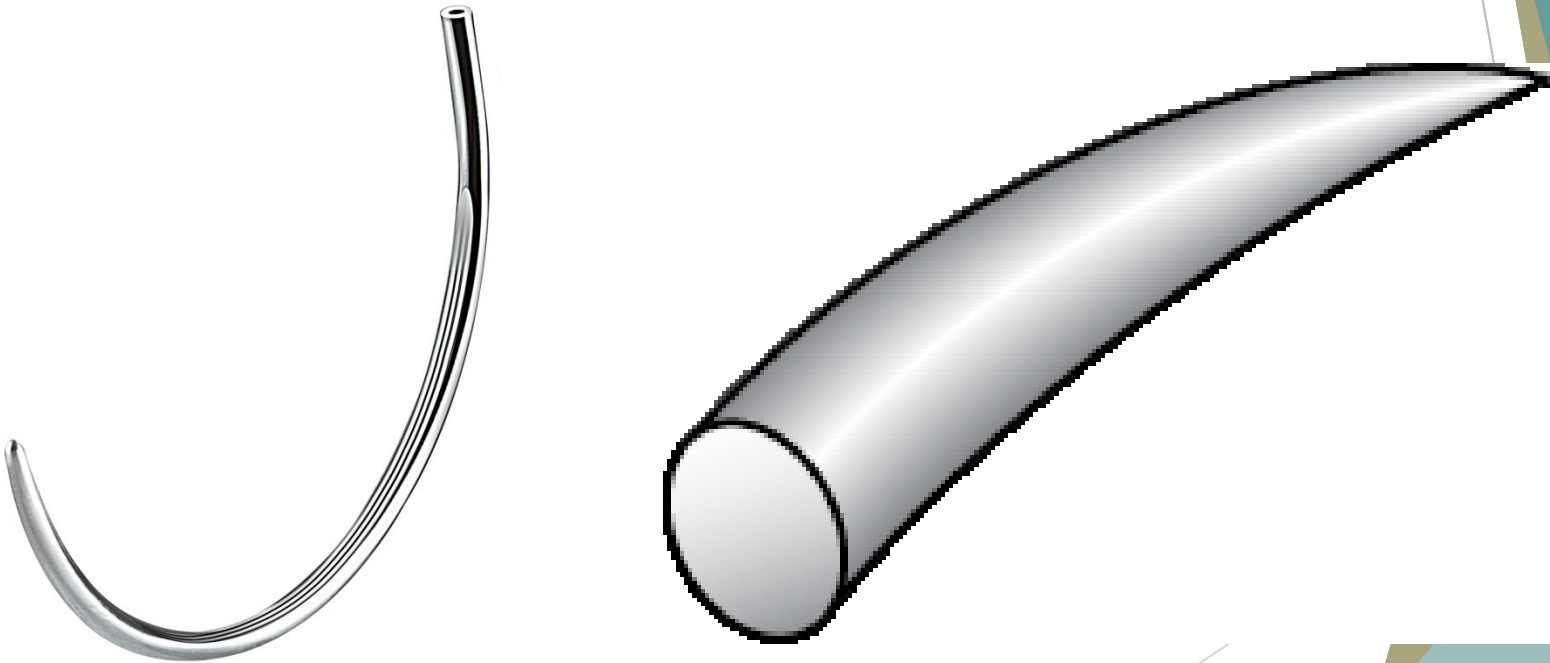
Suture needle - cutting

- ▶ Often used during surgery to close skin and subcutaneous tissue
- ▶ Needle point is triangular with a cutting edge



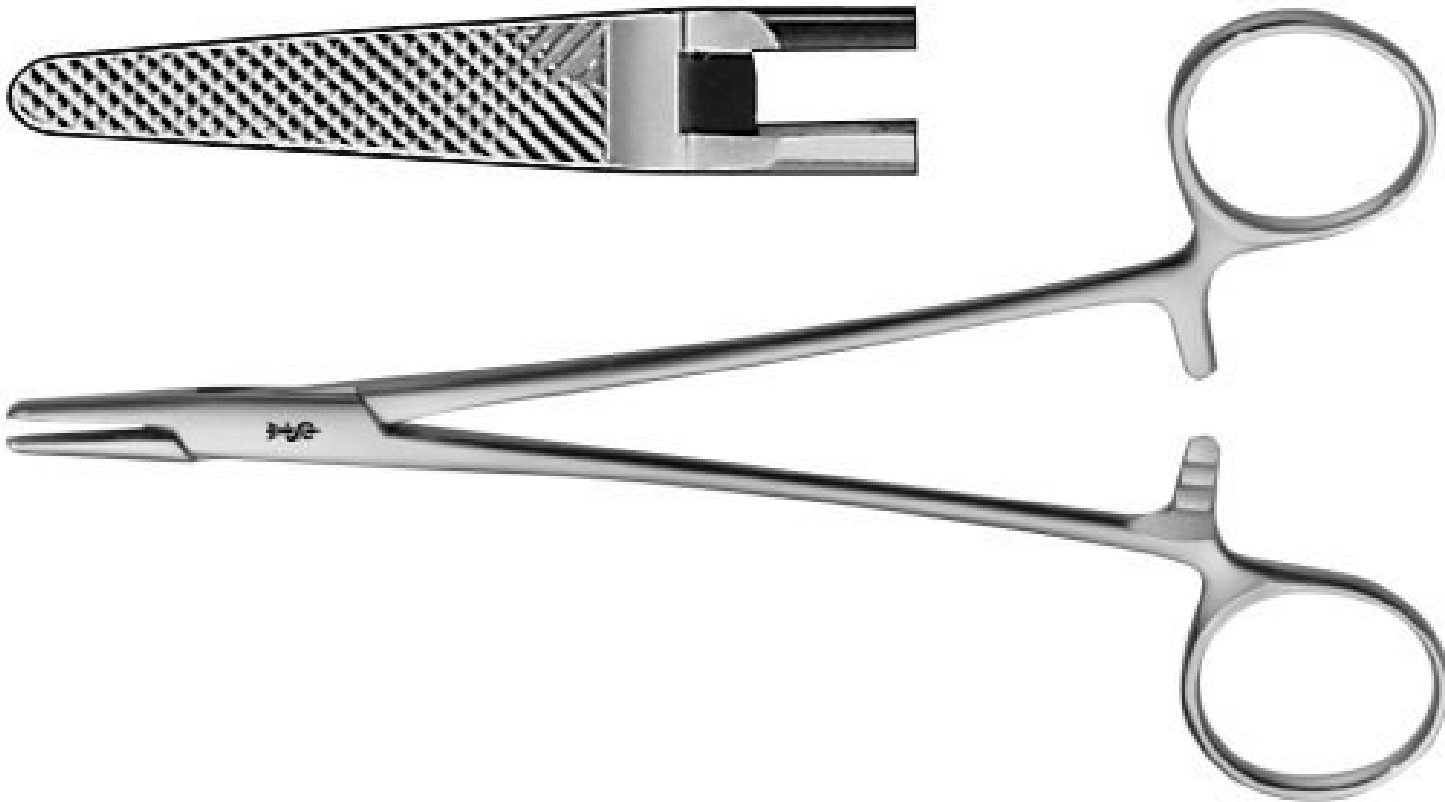
Suture needle - taper

- ▶ Often used in surgery to close soft tissue (ex. fascia, gastrointestinal tissue, vascular tissue)
- ▶ No cutting edge on the tip



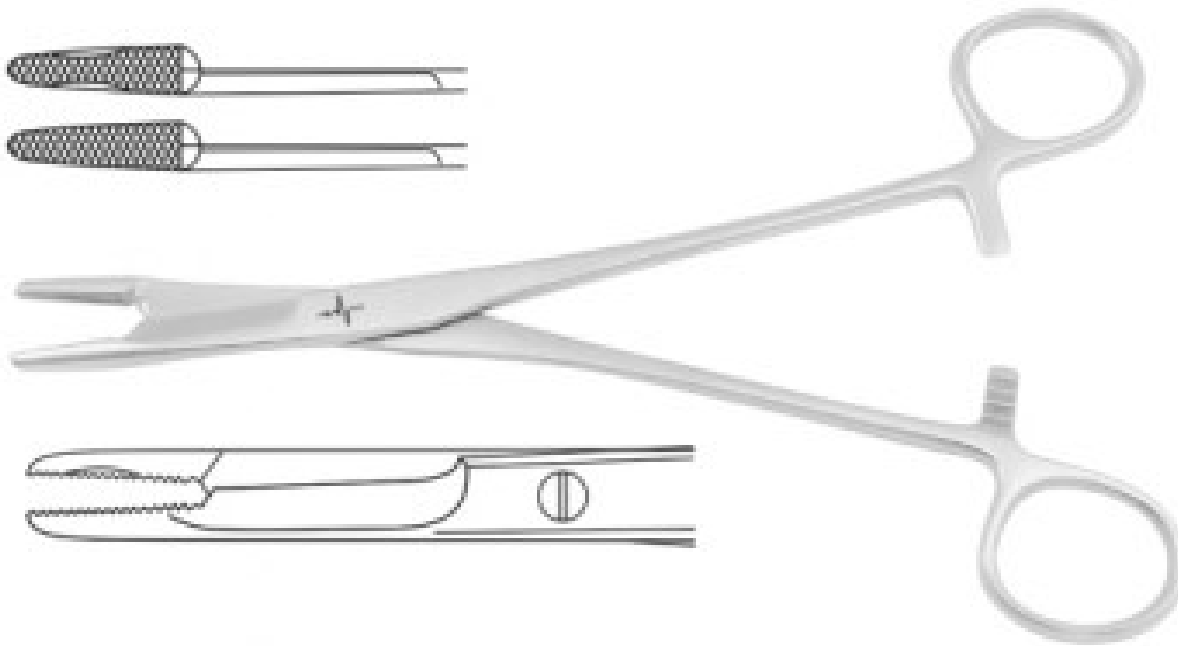
Needle holder (Mayo-Hegar)

- ▶ Used in surgery to hold the needle while suturing tissue
- ▶ No cutting blades



Needle holder (Olsen-Hegar)

- ▶ Used in surgery to hold the needle while suturing tissue and to cut suture material
- ▶ Similar to Mayo-Hegar but also has cutting blades on the proximal end of the blade



Surgical Miscellaneous

- ▶ You will need to identify the following:
 - ▶ Blackhaus towel clamps
 - ▶ Snook ovariohysterectomy hook
 - ▶ Staple remover
 - ▶ Anesthetic machines
 - ▶ Endotracheal tubes
 - ▶ Surgical drapes



Blackhaus towel clamps

- ▶ This instrument is used to secure drapes and towels during surgery
- ▶ Also has a ratchet, like needle holders



Snook ovariohysterectomy hook

- ▶ AKA “Snook hook”
- ▶ Used during a cat or dog spay (aka ovariohysterectomy) to locate and exteriorize the horn of the uterus



Staple remover

- ▶ Used to remove staples after surgery or another veterinary procedure



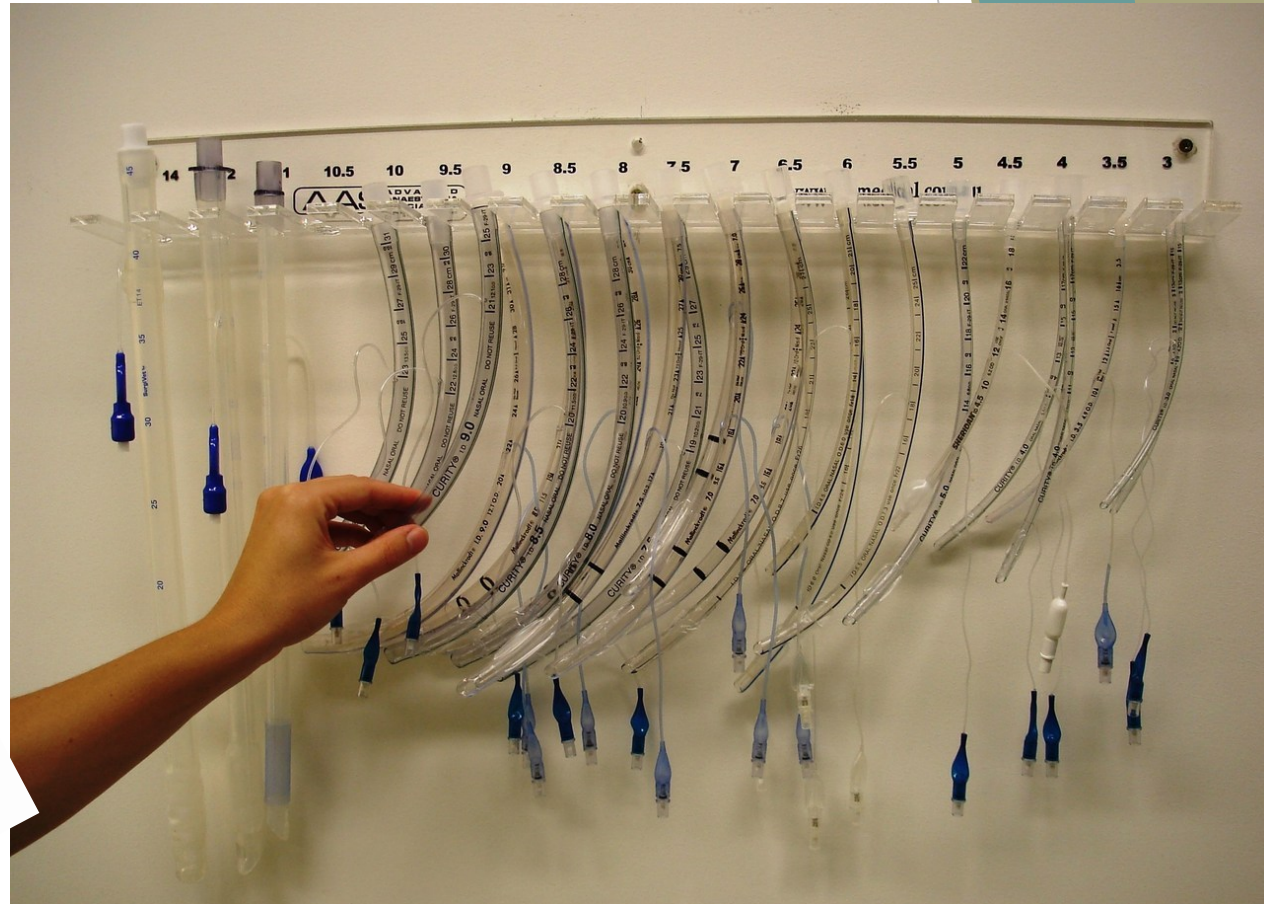
Anesthetic Machines

- ▶ This machine is used to help administer anesthesia to patients



Endotracheal tubes

- ▶ Used during surgery or any other procedure where the patient is given general anesthetic
- ▶ Inserted into the trachea of the patient (large or small animal)



Surgical drapes

- ▶ Used during surgery to prevent contamination of the surgical area



Sterilization Instruments

- ▶ The following machines and tools are used to sterilize veterinary instruments for surgery and other procedures
- ▶ You will need to identify the following tools:
 - ▶ Autoclave
 - ▶ Autoclave tape indicator
 - ▶ Chemical indicator strips
 - ▶ Cold sterile tray



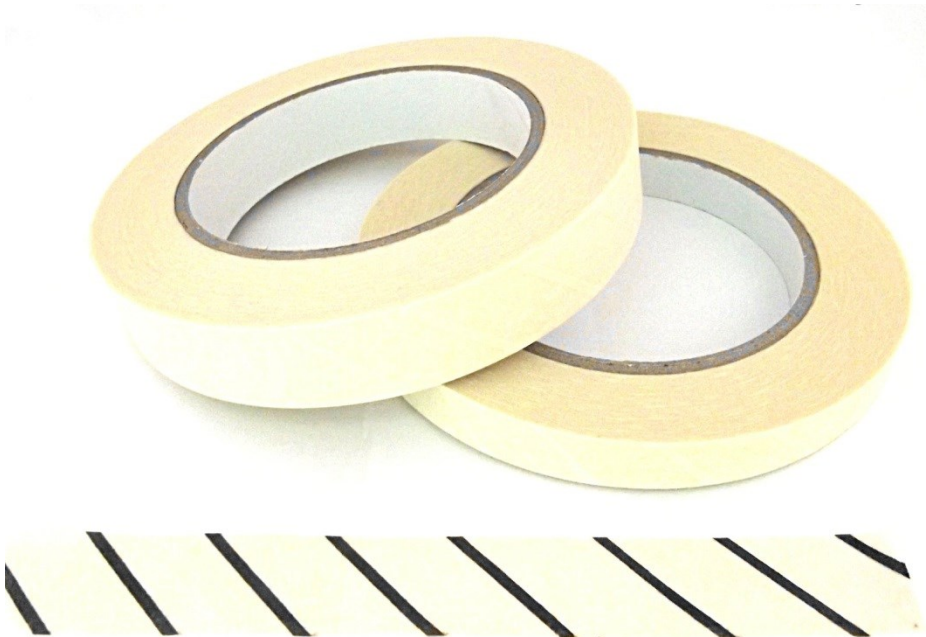
Autoclave

- ▶ This machine is used to sterilize veterinary instruments for surgery and other procedures
- ▶ It used high heat and pressure to sterilize



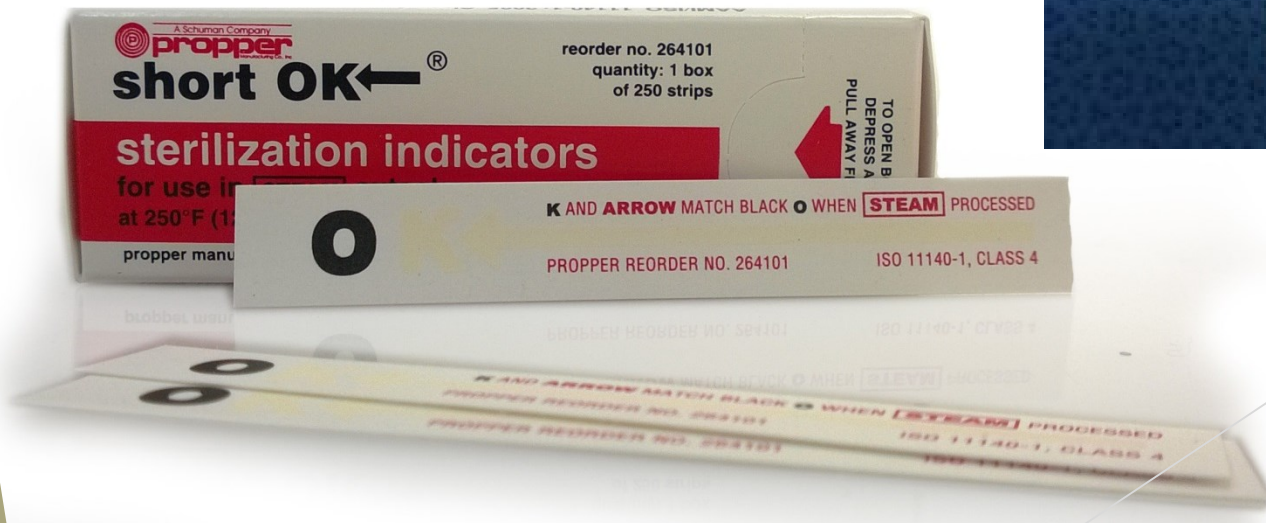
Autoclave tape indicator

- ▶ This tape is put on surgery packs before being autoclaved
- ▶ If the autoclave works properly, then stripes on the tape turn black (or another color), indicating that the contents of the pack have been properly sterilized



Chemical indicator strips

- ▶ Another way to identify sterilization in surgical packs
- ▶ Strip changes color after sterilization



Cold sterile tray

- ▶ Another way to sterilize instruments
- ▶ No heat is applied, instead chemicals are used



Examination/Diagnostic Tools

- ▶ These tools are used in the examination or diagnostic process at the veterinary clinic
- ▶ You will need to identify the following tools:
 - ▶ Centrifuge
 - ▶ Endoscope
 - ▶ Laparoscope
 - ▶ Laryngoscope
 - ▶ Ophthalmoscope
 - ▶ Otoscope
 - ▶ Stethoscope
 - ▶ Tonometer



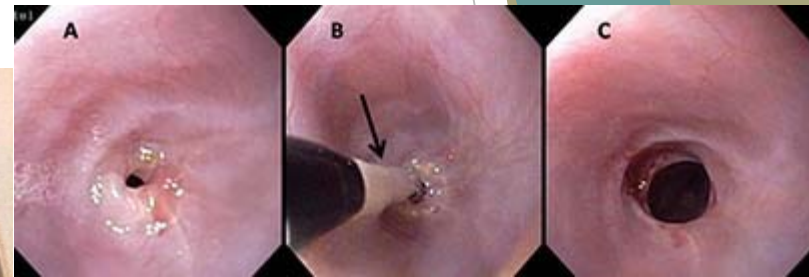
Centrifuge

- ▶ A machine that uses centrifugal forces to “spin down” body fluids
- ▶ Often used on blood and urine
- ▶ This machine spins very fast, so special care must be taken to ensure that it is balanced before running the machine!



Endoscope

- ▶ This instrument is used to give veterinarians a view of the patients internal parts
- ▶ A camera is attached to the front of the endoscope, which allows the veterinarian to see



Laryngoscopes

- ▶ Used to view the vocal cords
- ▶ Often used to facilitate intubation



Ophthalmoscope

- ▶ Used to view and examine the patients eyes



Otoscope

- ▶ Used to view and examine the patients ears



Stethoscope

- ▶ Used to monitor and listen to heart beats, breath sounds, gastric sounds, etc.



Tonometer

- ▶ Used to test the pressure inside of the patients eyes



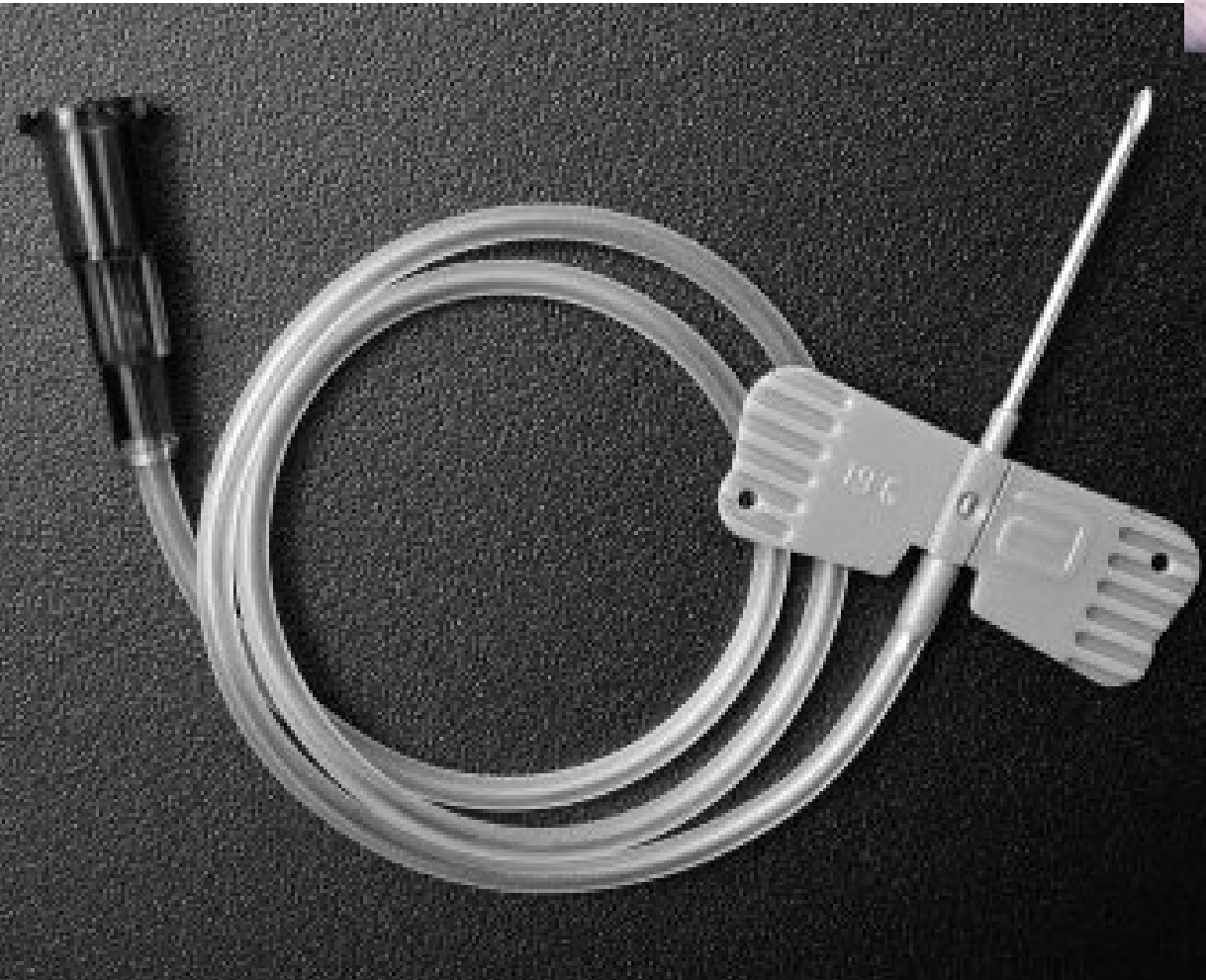
IV Instruments

- ▶ These instruments are used to collect blood samples or to administer medicine intravenously
- ▶ You will need to identify the following tools:
 - ▶ **Catheters**
 - ▶ Butterfly
 - ▶ IV
 - ▶ **IV administration set**



Catheter - butterfly

- ▶ Used to draw blood from patients



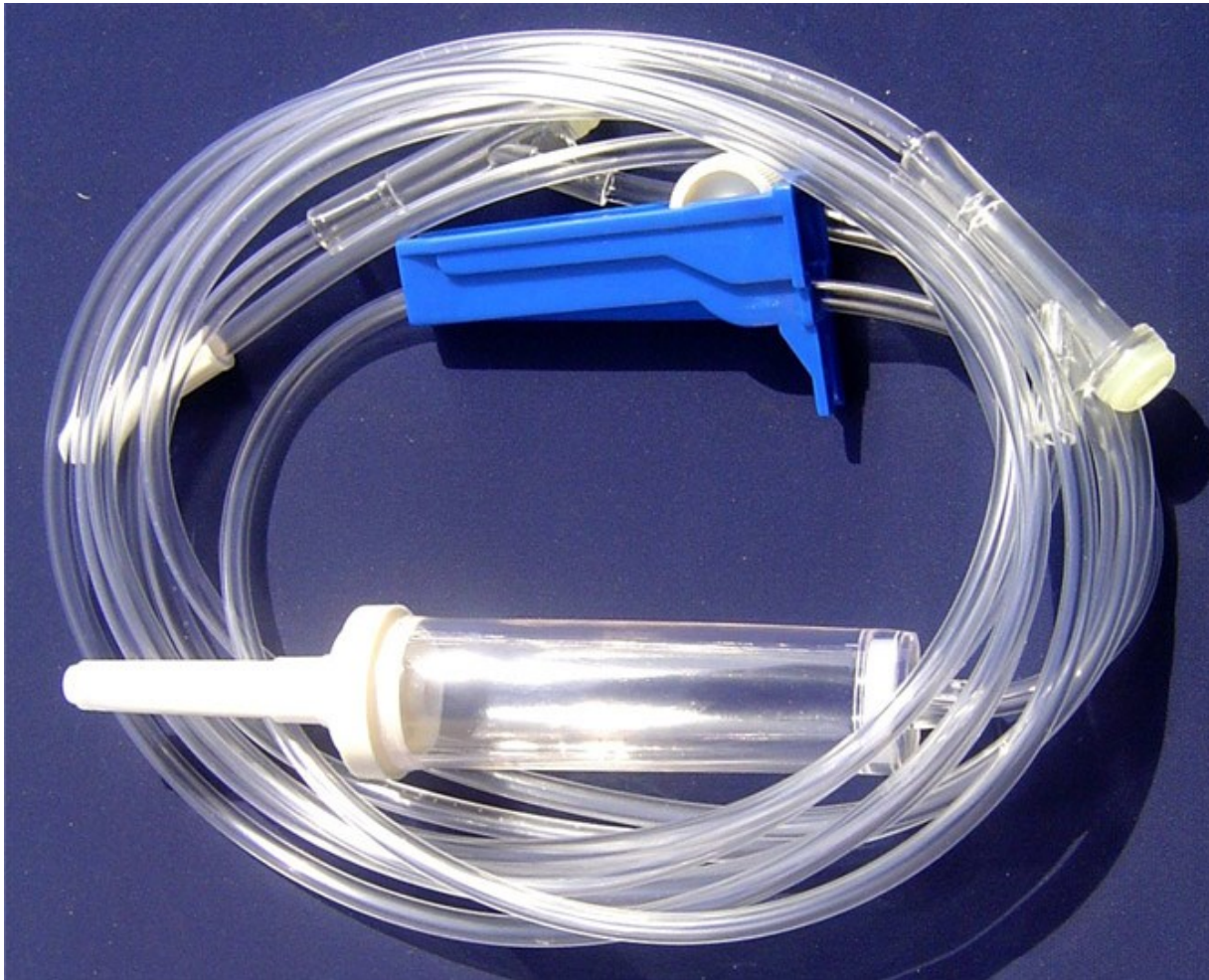
Catheter - IV

- ▶ Used to draw blood from patients



IV administration set

- ▶ Used along with an IV catheter to administer fluids or other medication to the patient



Dental Instruments

- ▶ These tools are used on dental examinations or procedures for various species
- ▶ You will need to identify the following tools:
 - ▶ **Balling gun**
 - ▶ **Dental floats**
 - ▶ **Dental scaler**
 - ▶ **Drench gun (small ruminant)**
 - ▶ **Pig tooth nippers**
 - ▶ **Oral speculums**
 - ▶ Large animal
 - ▶ Small animal



Balling gun

- ▶ This device is used to administer capsules and boluses to livestock animals (mainly cattle)

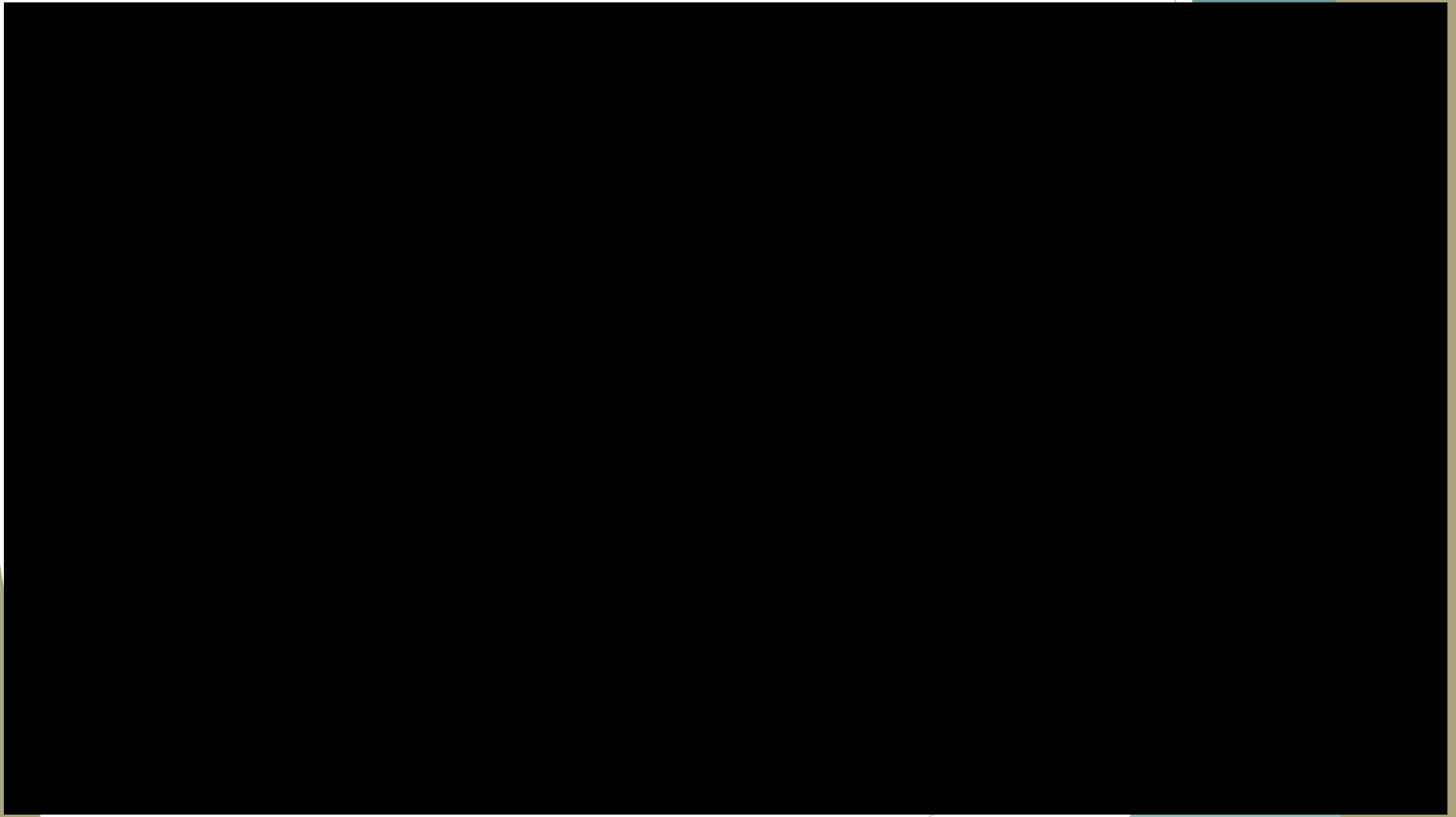


Dental floats

- ▶ This device is used on horses to float (or rasp down) points on their teeth



Horse floatation video



Dental scaler

- ▶ This instrument is used on small animals to remove plaque from their teeth



Drench gun (small ruminant)

- ▶ This device is used to administer oral medicine to small ruminant animals (goats and sheep)



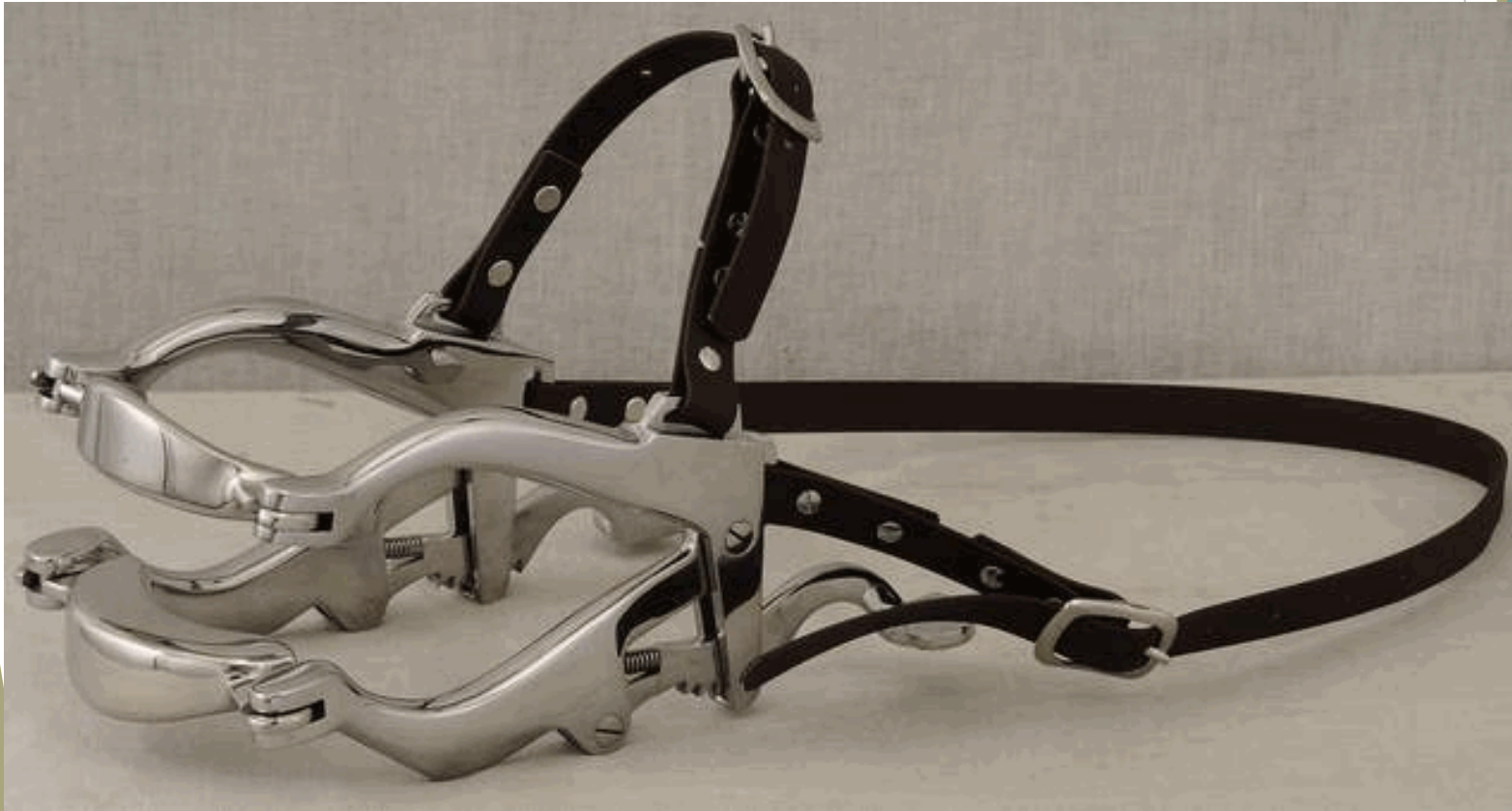
Pig tooth nippers

- ▶ Used on baby pigs to remove their needle teeth
- ▶ HINT: look a lot like pliers



Oral speculum - large animal

- ▶ Used to open the mouth of large animals
- ▶ Often used during horse dental floatation
- ▶ HINT: used in the horse floatation video!



Oral speculum - small animal

- ▶ Used in small animal species to open the mouth
- ▶ Often used during dental procedures



Bandaging Tools

- ▶ These tools are used to help bandage:
 - ▶ Elastikon
 - ▶ Roll gauze
 - ▶ Vet wrap



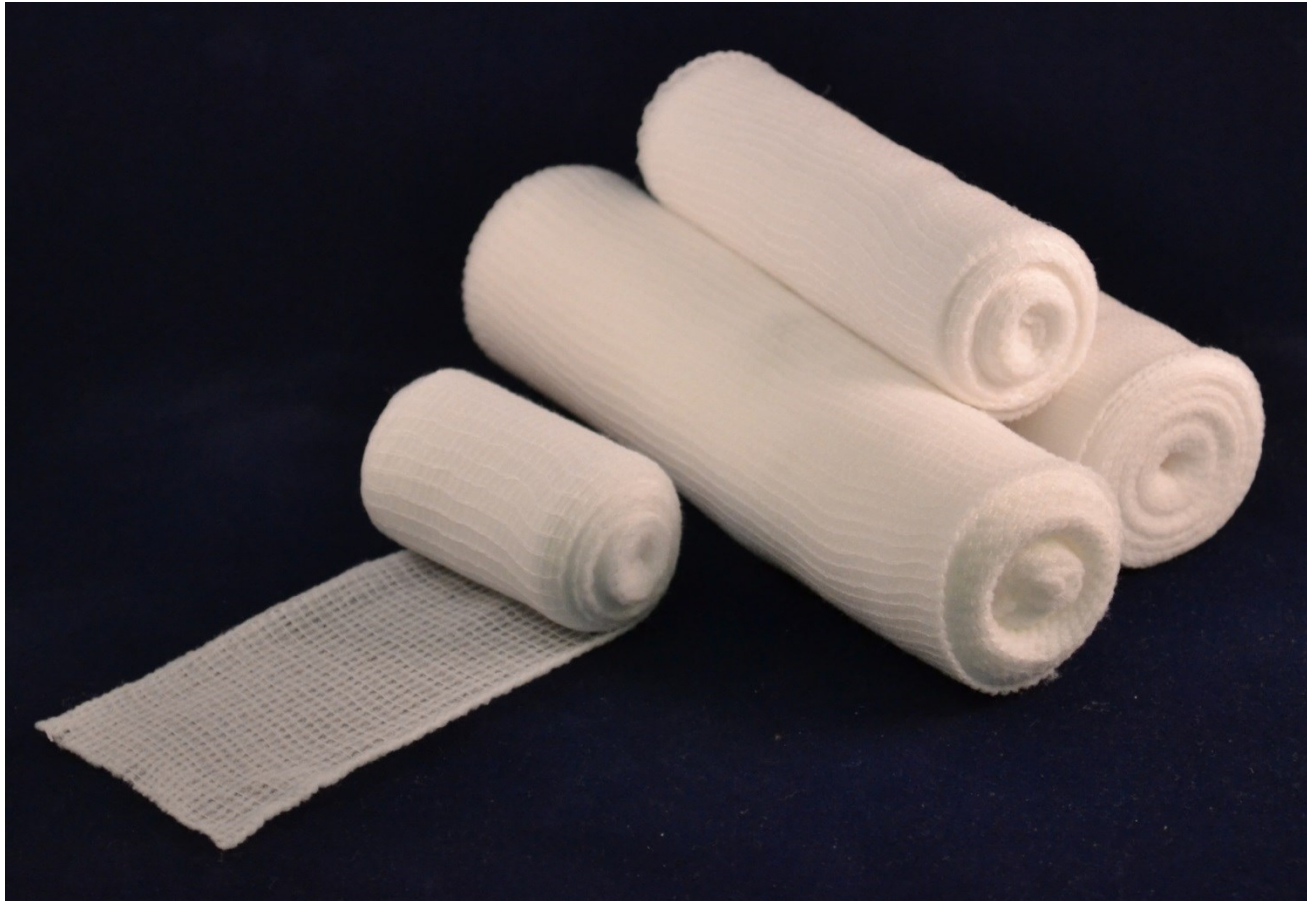
Elasticon

- ▶ Used in bandaging to provide elasticity in pressure dressings
- ▶ Has an adhesive side



Roll gauze

- ▶ Used in bandaging for moderate compression
- ▶ There is not adhesive size, but provides absorbency and breathability



Vet wrap

- ▶ Used in bandaging, self adherent
- ▶ Often used to hold gauze in place



Restraint tools:

- ▶ The following tools are used to restrain various animal species during veterinary procedures
- ▶ There are the tools that you will need to identify:
 - ▶ Cat bag
 - ▶ Catch pole (dog snare)
 - ▶ Basket muzzle
 - ▶ Nylon muzzle
 - ▶ Chain twitch
 - ▶ Humane twitch
 - ▶ Head gate
 - ▶ Squeeze chute
 - ▶ Hog snare



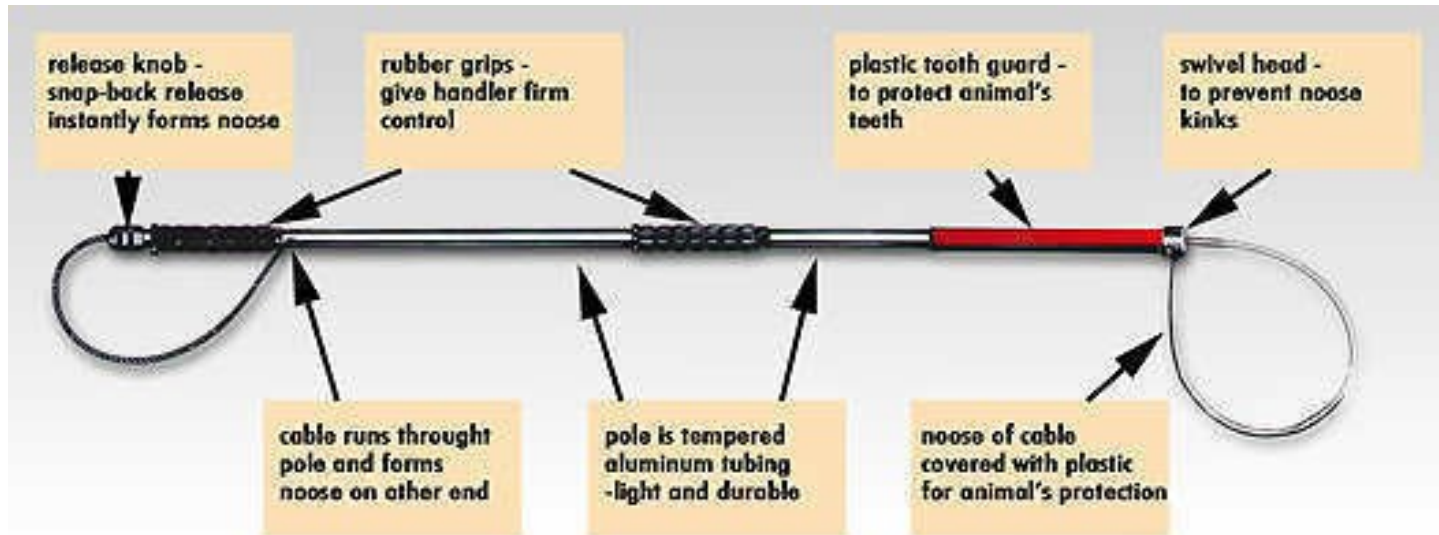
Cat bag

- ▶ Device used to help veterinary staff restrain cats
- ▶ Zippers are present around the limbs and anus to aid in blood draws and other examination procedures



Catch pole (dog snare)

- ▶ Used to help veterinary staff catch and transport aggressive or infectious dogs



Basket muzzle

- ▶ Used to restrain aggressive dogs
- ▶ Protects the staff and animal



Nylon muzzle

- ▶ Used to restrain aggressive dogs
- ▶ Protects the staff and animal



Chain twitch

- ▶ A device used to restrain horses, placed around the top lip, thought to release endorphins and calm the horse
- ▶ Made of wood and a metal chain loop that is twisted



Humane twitch

- ▶ A device used to restrain horses, placed around the top lip, thought to release endorphins and calm the horse
- ▶ Made of a metal clasp that has a rope at the end to maintain pressure



Head gate

- ▶ Used to restrain cattle for various procedures



Squeeze chute

- ▶ Machine used to restrain cattle



Hog snare

- ▶ Used to catch and transport hogs



Reproductive Tract Instruments

- ▶ The following tools are used to castrate livestock, aid in parturition, or evaluate the reproductive tract
- ▶ You will need to identify the following tools:
 - ▶ Castration and docking bands (docking is not a reproductive procedure)
 - ▶ Elastrator
 - ▶ Emasculator
 - ▶ Fetal extractor - calf
 - ▶ Obstetrical chain and handle
 - ▶ Vaginal speculum



Bands (castration and docking)

- ▶ Rubber rings used to castrate and dock livestock animals



Elastrator

- ▶ Used to castrate and dock livestock animals
- ▶ A band is placed on the device, which stretches the band and helps place the band around the testes or tail



Emasculators

- ▶ Used to castrate livestock animals
- ▶ Crushes and cuts the spermatic cord



Fetal extractor - calf

- ▶ Used during parturition to facilitate extraction of the calf



Obstetrical chain and handle

- ▶ Used during parturition in cattle to help deliver the calf



Vaginal speculum

- ▶ Used to open and examine the vagina and cervix



Small Animal Specific MISC Instruments

- ▶ These are miscellaneous instruments used in the veterinary practice that are specific to small animal species
- ▶ You should be able to identify the following tools:
 - ▶ Elizabethan collar
 - ▶ Fecal loop
 - ▶ Fecalyzers
 - ▶ Feeding tube
 - ▶ Silver nitrate
 - ▶ Small animal
 - ▶ Tomcat urine
 - ▶ Tourniquet



Elizabethan collar

- ▶ Used with small animals to promote healing by preventing licking and biting of sutures or other sensitive areas



Fecal loop

- ▶ Used to collect feces from dogs and cats



Fecalyzers

- ▶ Used to identify parasites in small animal feces



Feeding tube for small animals

- ▶ Used to force feed small animals



Silver nitrate sticks

- ▶ Used to help chemically cauterize blood vessels



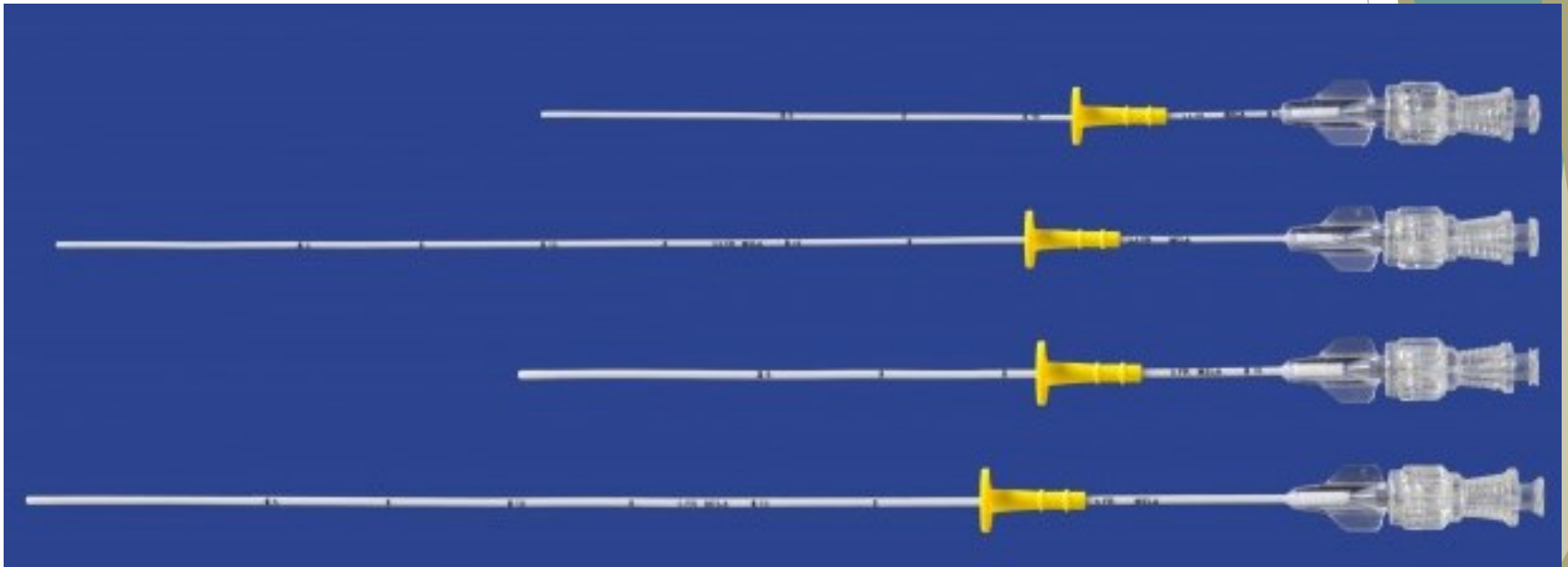
Small animal oxygen cage

- ▶ Used to help provide a higher percentage oxygen to a patient



Catheter - Tomcat urinary

- ▶ Used to unblock and/or collect urine from male cats
- ▶ Passed through the penis into the urinary bladder



Tourniquet

- ▶ Used to temporarily constrict arterial blood flow of a limb
- ▶ Often used during blood draws



Large Animal Specific MISC Instruments

- ▶ These are miscellaneous instruments used in the veterinary practice that are specific to large animal species
- ▶ You should be able to identify the following tools:
 - ▶ Automatic multi-dose syringe
 - ▶ Dehorner
 - ▶ Barnes
 - ▶ Electric
 - ▶ Ear notcher
 - ▶ Hoof knife
 - ▶ Hoof rasp
 - ▶ Rectal prolapse ring (swine)
 - ▶ Rumen magnet
 - ▶ Tattooing instruments (small and large)
 - ▶ Trocar and cannula



Automatic multi-dose syringe

- ▶ Often used for administering vaccinations to livestock animals



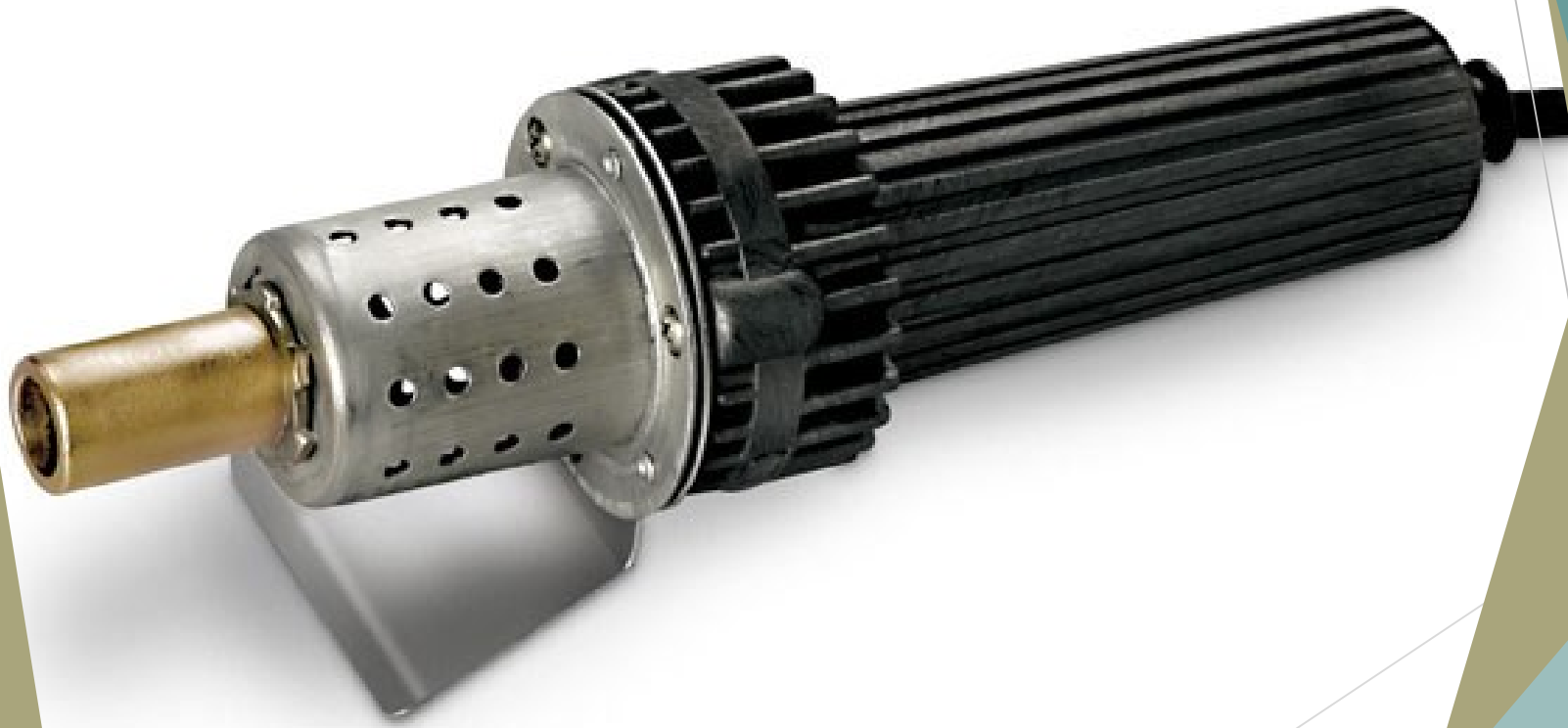
Dehorner - Barnes

- ▶ This device is used to dehorn livestock



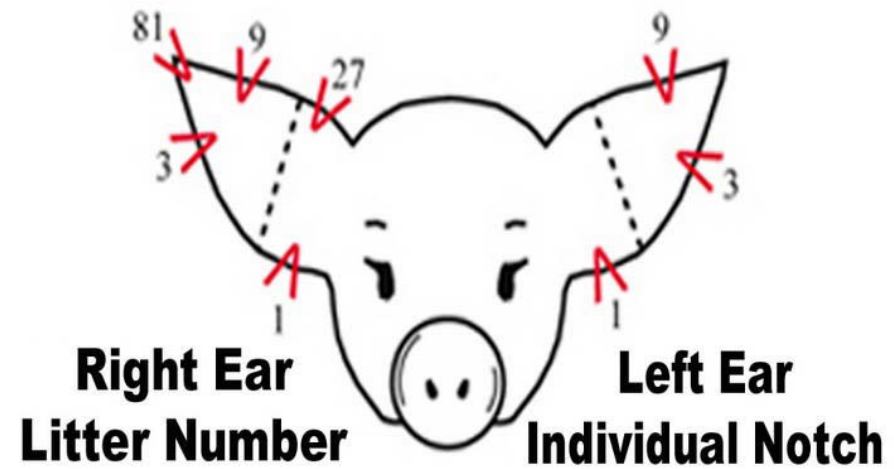
Dehorner - Electric

- ▶ This device is used to dehorn livestock



Ear notcher

- ▶ This device is used on swine to identify different pigs
- ▶ The litter number and pig number are both identified this way



Hoof knife

- ▶ Used to trim the hooves of livestock animals



Hoof rasp

- ▶ Used to trim the hooves of livestock animals (mainly horses)



Rectal prolapse ring - swine

- ▶ Used to correct and prevent further rectal prolapse in swine



Rumen magnet

- ▶ Given orally to cattle to prevent hardware disease (aka bovine traumatic reticuloperitonitis)
- ▶ The magnet settles in the reticulum and attracts any metal that is ingested during grazing
- ▶ Prevents metal from penetrating or irritating the lining of the reticulum



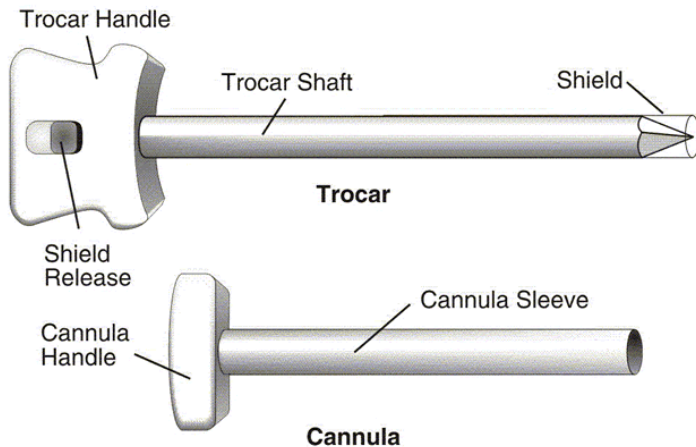
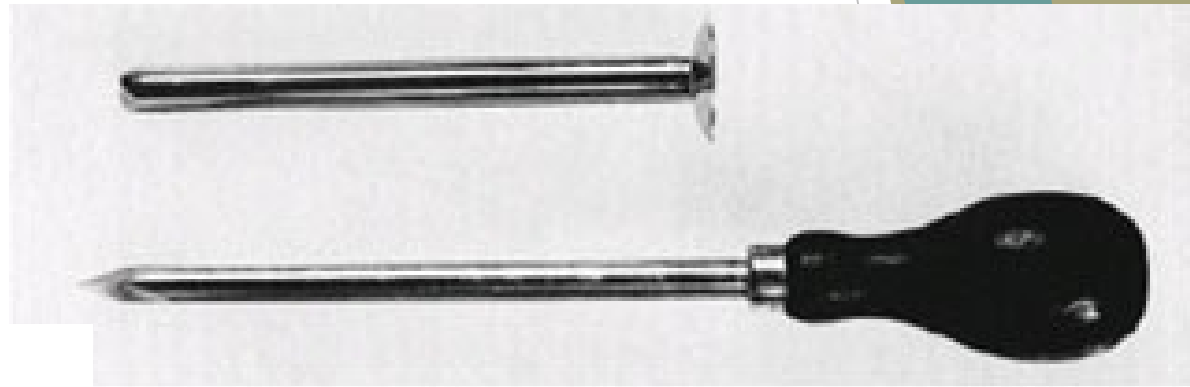
Tattooing instruments - small and large

- ▶ Often used in livestock species to help identify different individuals



Trocar and cannula

- ▶ Used in cattle to reduce bloat
- ▶ Bloat occurs when there is a blockage in the digestive tract and gas produced during the rumination process is not released from the rumen



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Veterinary Practice MISC Tools

- ▶ These are tools that you will find in the veterinary practice that are not associated with any other category that we have discussed so far
- ▶ You should be able to identify the following tools:
 - ▶ Ambubag
 - ▶ Gravity feeder/J tube
 - ▶ Radiology personal protective equipment



Ambubag

- ▶ This is a hand-held device that is used to provide ventilation and oxygen to patients who are not breathing or not breathing adequately



Gravity feeder / J tube

- ▶ Uses gravity to move food down the feeder and fill the fed tray
- ▶ Used in many species



Radiology personal protective equipment

- ▶ Lead items that are worn during radiographs to protect the staff member from radiological exposure

