

# Basic Medical for Beginners

Wildlife Rehabilitators of North Carolina  
2021

# Basic Medical for Beginners

Weights and Measures

How to Read a Syringe

Vet Speak

Dosages

# Basic Medical for Beginners

## Weights and measures

How to Read a Syringe

Vet Speak

Dosages

# Weight

- Weigh patients to determine
  - If underweight
  - How much to feed
  - How much medication to give



# Weight

- We use the metric system. Why?
- What is a metric unit of weight?

# Weight

- How much is a gram?
- What unit of measure is used for large animals (instead of pounds)?

# Weight

- Use a metric scale



# Weight



- 1000 milligrams (mg) = 1 gram
- 1000 grams (g) = 1 Kilogram (Kg)

# Weight

- 1000 milligrams (mg) = 1 gram
- 1000 grams (g) = 1 Kilogram (Kg)

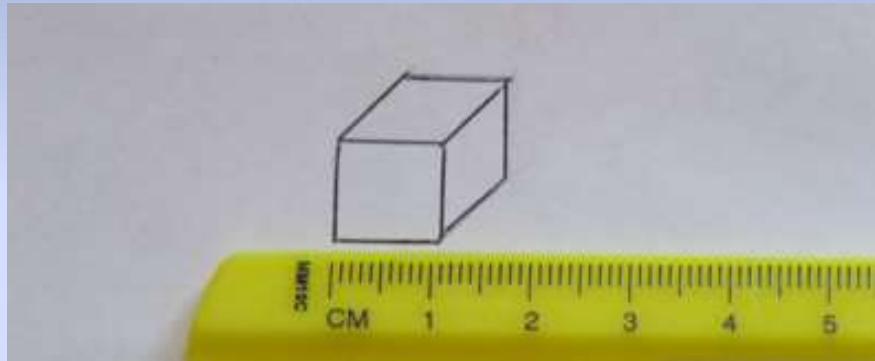


**454 grams (g) = 1 pound (lb)**

**2.2 pounds (lb) = 1 Kilogram (Kg)**

# Volume

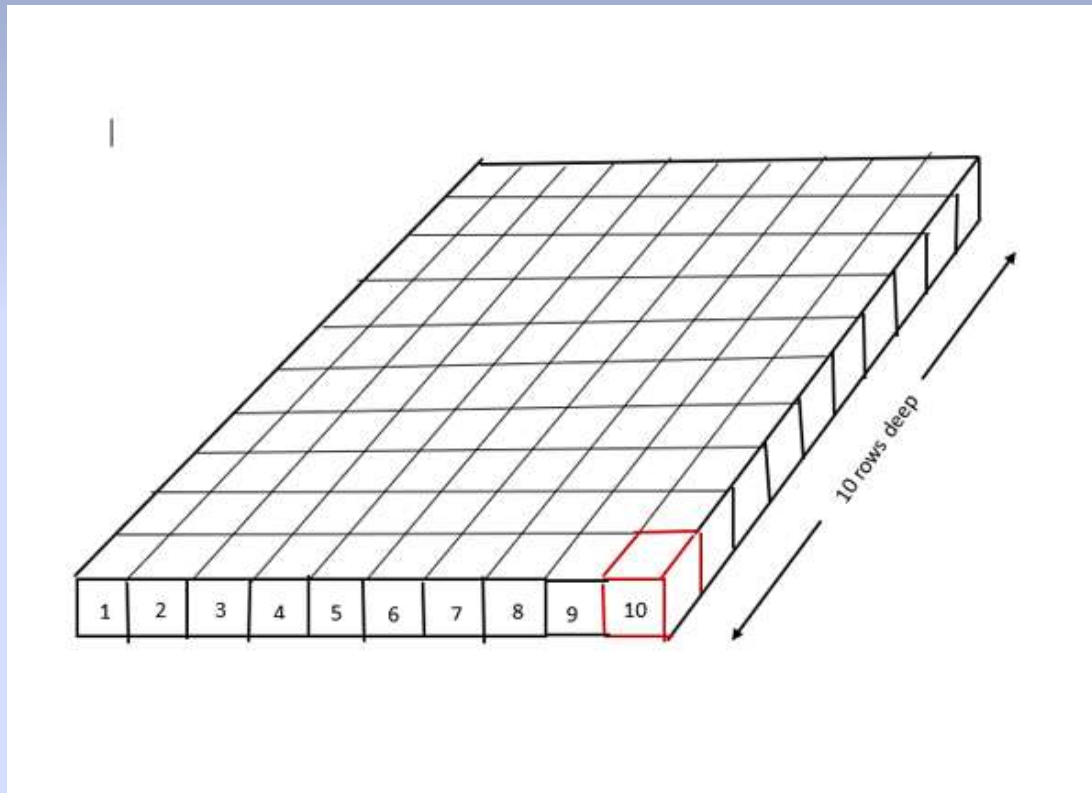
- Medication is administered by volume



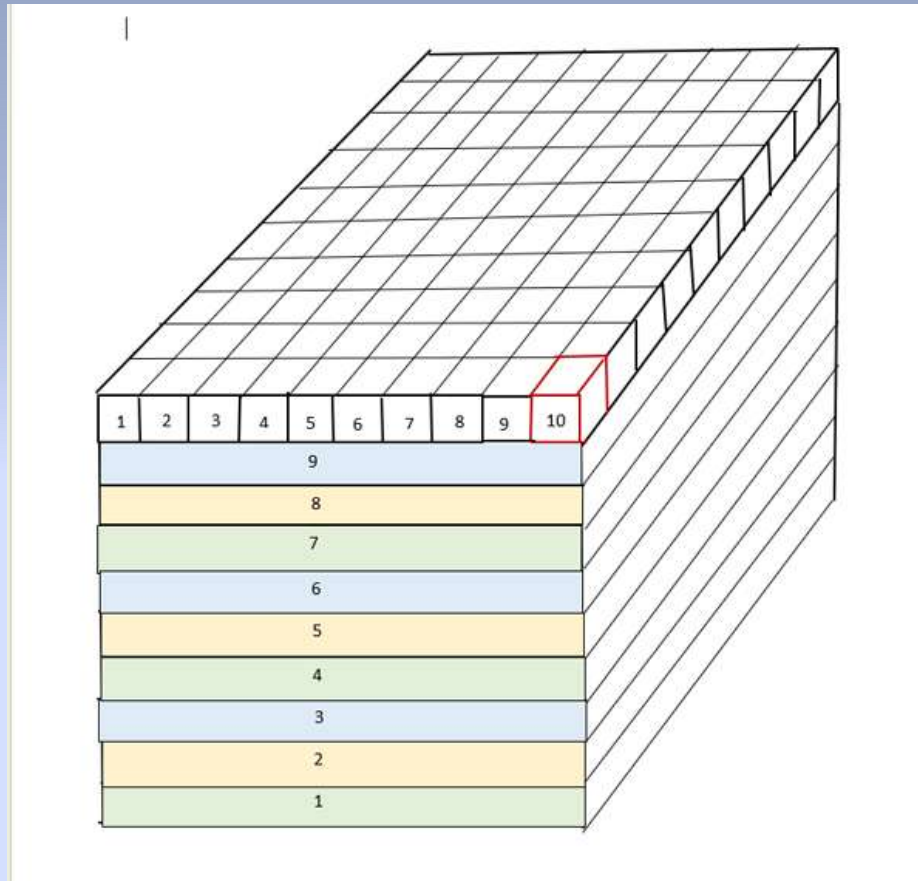
1 cubic centimeter (cc)

# Volume

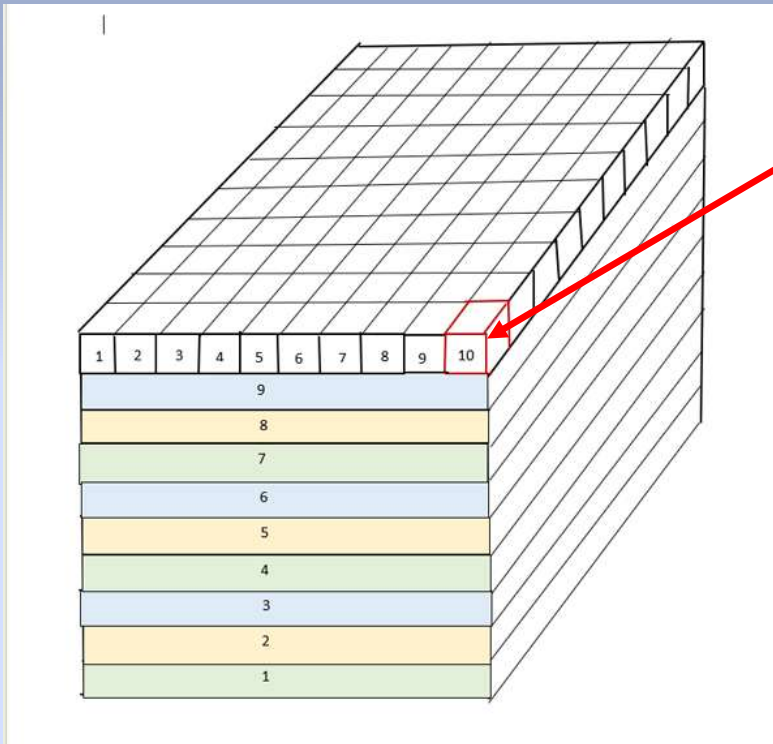
- Medication is administered by volume



# Volume



# Volume



What is this called?

# Volume

- 1000 milliliter (ml) = 1 liter
- 1000 cubic centimeters (cc) = 1 liter
- 1 ml = 1 cc



# Basic Medical for Beginners

Weights and measures

How to read a syringe

Vet speak

Dosages

# How to Read a Syringe



- 1cc syringe

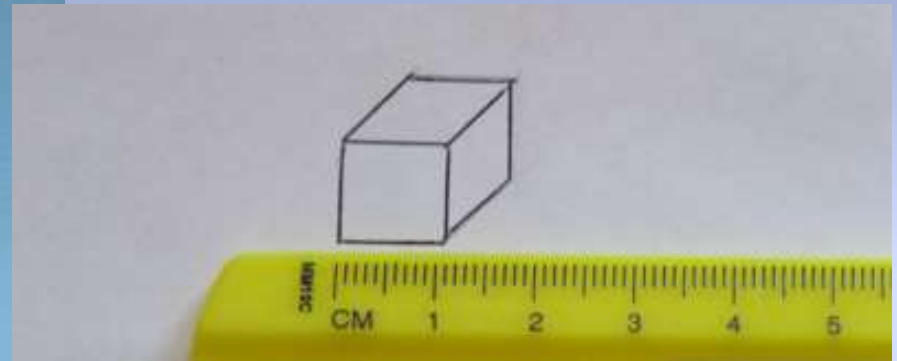


Needle

# How to Read a Syringe

- Is 1cc a weight or volume measure?

# How to Read a Syringe



How much is actually in a 1cc syringe?

# How to Read a Syringe



3 cc syringe

# How to Read a Syringe



How much is 3 cc of fluid?

# How to Read a Syringe



5cc syringe

# How to Read a Syringe



0.1 cc

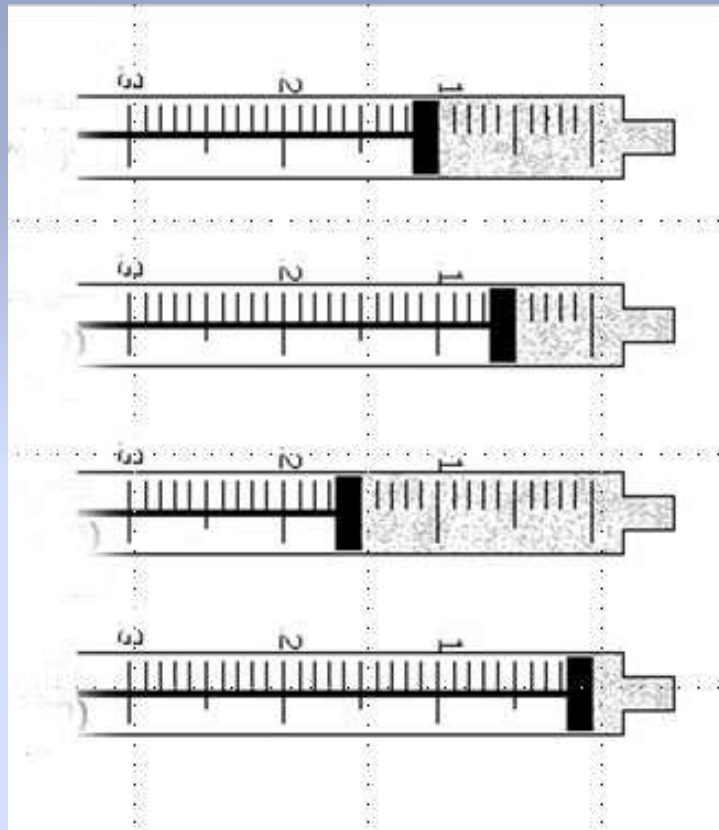
# How to Read a Syringe



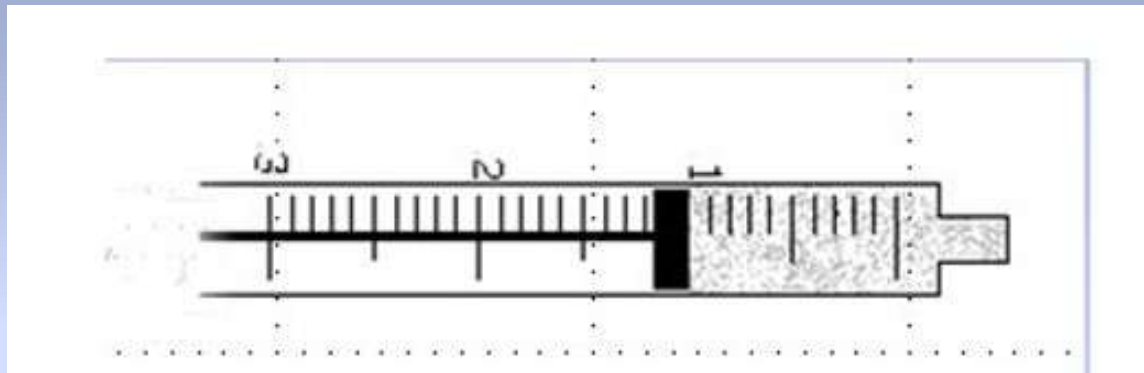
0.1 cc

Which is more .10 cc or .1 cc or 0.1 cc?

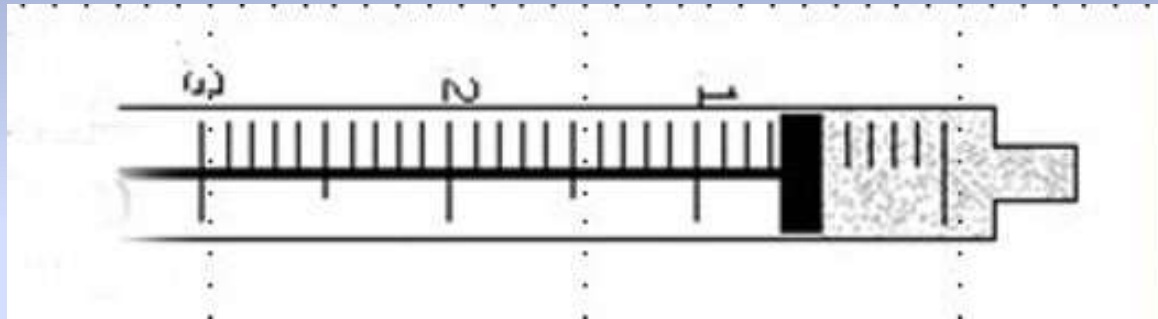
# How to Read a Syringe



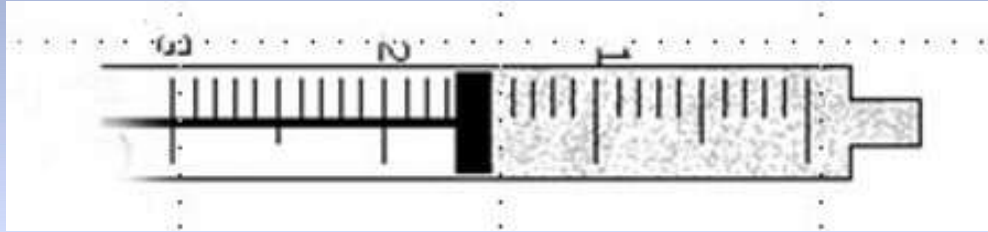
# How to Read a Syringe



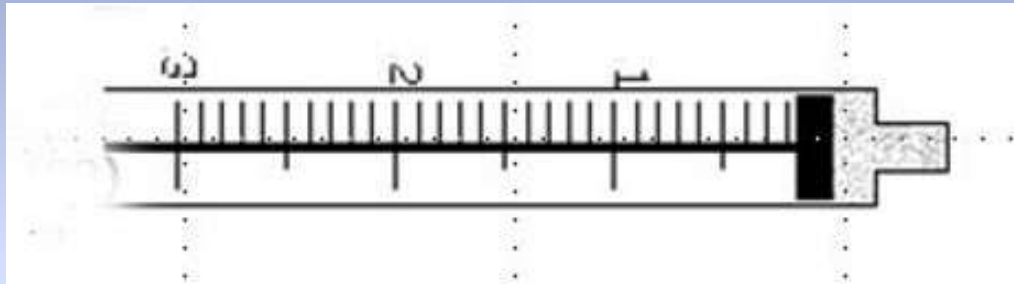
# How to Read a Syringe



# How to Read a Syringe



# How to Read a Syringe



# How to Read a Syringe



Leur lock

Slip lock

# How to Read a Syringe



Needle gauge

# Basic Medical for Beginners

Weights and measures

How to read a syringe

**Vet speak**

Dosages

- **Rehabber:** I'm here to pick up the injured adult possum you called about. How is he?
- **Vet:** Well, he's badly injured. We had some problems with hypothermia when he came in but we got that under control.
- **Rehabber:** Uhhh....good?

- **Vet:** He has a nondisplaced hairline fracture of the lower jaw but the uninjured side is stabilizing it so feeding soft foods for a few weeks should take care of that.
- **Rehabber:** Soft foods, OK.

- Rehabber: I'm here to pick up the injured adult possum you called about. How is he?
- Vet: Well, he's badly injured. We had some problems with hypothermia (**too cold**) when he came in but we got that under control.
- Vet: He has a nondisplaced hairline (**cracked but still aligned**) fracture (**break**) of the lower jaw but the uninjured side is stabilizing (**holding it in place**) it so feeding soft foods for a few weeks should take care of that.

- **Vet:** The biggest problem is a compound fracture of the distal humerus. There were some contusions over the proximal area. We repaired it surgically and sutured the wound, but there's always the danger of sepsis.
- **Rehabber:** Sepsis?

- Vet: The biggest problem is a compound fracture (bone sticking through skin) of the distal (far/distant portion of) humerus (bone of upper arm). There were some contusions (bruises) over the proximal (near) area. We repaired it surgically and sutured (stitched) the wound, but there's always the danger of sepsis (severe reaction to infection).

- **Vet:** Yes. I'm sending home an antibiotic. The dosage is 15 mg per kilogram. The possum weighs 1 kg. I've drawn it up for you. Here are six syringes. Each one has 15 mg in 0.2 ml. Give it IM once a day times six.

**Rehabber : IM?**

- Vet: Yes. I'm sending home an antibiotic. The dosage (amount given at one time) is 15 mg (milligrams) per kilogram. The possum weighs 1 kg (kilogram). I've drawn it up for you. Here are six syringes. Each one has 15 mg in 0.2 ml (milliliter). Give it IM (intramuscular) once a day times six.

- Vet: Yes IM, not subq (**subcutaneous, under the skin**). Although if he becomes dehydrated you can give some saline subq. Try to give lots of PO (**orally, by mouth**) fluids, though, to prevent it.

- **Vet:** Dress it b.i.d. and apply Neosporin to the sutures so they don't stick to the dressing. You will need to palpate around the suture line to check for swelling or drainage. There was a pretty large hematoma in there. The radiograph showed a tiny chip fracture on the dorsal side of a vertebrae on the distal portion of the tail, but the ventral side is undamaged. That area shouldn't require any treatment.
- **Rehabber:** Thank goodness!

- Vet: Dress it b.i.d. (every 12 hours) and apply Neosporin to the sutures so they don't stick to the dressing. You will need to palpate (examine by touch) around the suture line to check for swelling or drainage. There was a pretty large hematoma (collection of blood) in there.
- The radiograph (x-ray) showed a tiny chip fracture on the dorsal (top/back) side of a vertebrae on the distal portion of the tail, but the ventral (under/belly) side is undamaged. That area shouldn't require any treatment.

- Vet: bring him back in a week so I can do a recheck OK?
- Rehabber: Right. (takes the box and shuffles off mumbling) Oh man.... I've REALLY got to take a class!

Rehabber: I'm here to pick up the injured adult possum you called about. How is he?

Vet: Well, he's badly injured. We had some problems with hypothermia (**too cold**) when he came in but we got that under control.

Rehabber: Uhhh....good?

Vet: He has a nondisplaced hairline (**cracked but still aligned**) fracture (**break**) of the lower jaw but the uninjured side is stabilizing (**holding it in place**) it so feeding soft foods for a few weeks should take care of that.

Rehabber: Soft foods, OK.

Vet: The biggest problem is a compound (**bone sticking through skin**) fracture of the distal (**far/distant portion of**) humerus (**bone of upper arm**). There were some contusions (**bruises**) over the proximal (**near**) area. We repaired it surgically and sutured (**stitched**) the wound, but there's always the danger of sepsis (**severe reaction to infection**).

Rehabber: Sepsis?

Vet: Yes. I'm sending home an antibiotic. The dosage (**amount given at one time**) is 15 mg (**milligrams**) per kilogram. The possum weighs 1 kg (**kilogram**). I've drawn it up for you. Here are six syringes. Each one has 15 mg in 0.2 ml (**milliliter**). Give it IM (**intramuscular**) once a day times six.

Rehabber : IM?

Vet: Yes IM, not subq (**subcutaneous, under the skin**). Although if he becomes dehydrated you can give some saline subq. Try to give lots of PO (**orally, by mouth**) fluids, though, to prevent it.

Rehabber: What about the wound?

Vet: Dress it b.i.d. (**every 12 hours**) and apply Neosporin to the sutures so they don't stick to the dressing. You will need to palpate (**examine by touch**) around the suture line to check for swelling or drainage. There was a pretty large hematoma (**collection of blood**) in there. The radiograph (**x-ray**) showed a tiny chip fracture on the dorsal (**top/back**) side of a vertebrae on the distal portion of the tail, but the ventral (**under/belly**) side is undamaged. That area shouldn't require any treatment.

Rehabber: Thank goodness!

Vet: bring him back in a week so I can do a recheck OK?

Rehabber: Right. (takes the box and shuffles off mumbling) Oh man.... I've REALLY got to take a class!

# Administration Frequency

- SID – once daily (every 24 hours)
- BID – twice daily (every 12 hours)
- TID – three times daily (every 8 hours)
- QID – four times daily (every 6 hours)

# Basic Medical for Beginners

Weights and measures

How to read a syringe

Vet speak

**Dosage**

# Basic Medical for Beginners

## Dose vs Dosage

Dose is the specific quantity of medication given at one time

# Basic Medical for Beginners

## Dosage

The regimen for administering medicine:  
amount, frequency and duration

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## Dosage

The amount of medicine given depends on the weight of the animal

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## Dosage

- Amount of medication to administer for each unit of weight of the animal
- Stated in milligrams per kilogram of body weight (mg/kg)

Example: 15 mg/kg

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## Dosage Example

We are giving a medication  
whose dosage is  $.2\text{mg}/\text{kg}$

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Dosage

Weigh the animal

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## Dosage

### Calculate the dose

**First Problem:**

The bunny's weight is in grams

The dosage is per kg

# Basic Medical for Beginners

## Dosage

### Calculate the dose

1 kg = ? Grams?

$$145/1000 = .145$$

# Basic Medical for Beginners

## Dosage

Calculate the dose

$$.145 \times .2 = .029$$

# Basic Medical for Beginners

## Dosage



# Basic Medical for Beginners

## Dosage

Oral suspension  
1.5mg/ml

