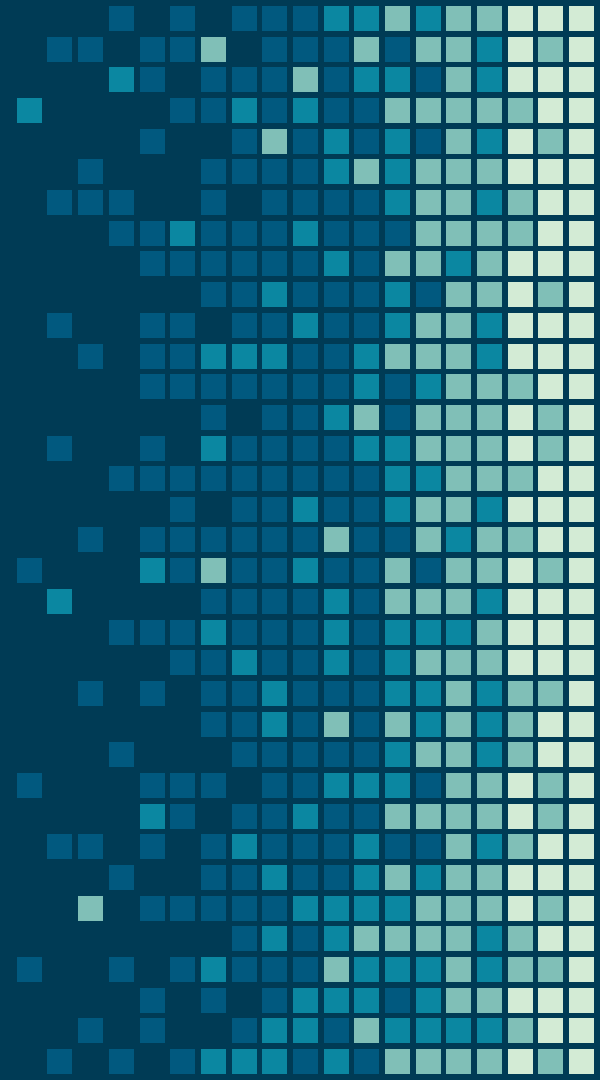


DISPENSING MEDICATIONS

Anne Arundel Veterinary Emergency Clinic

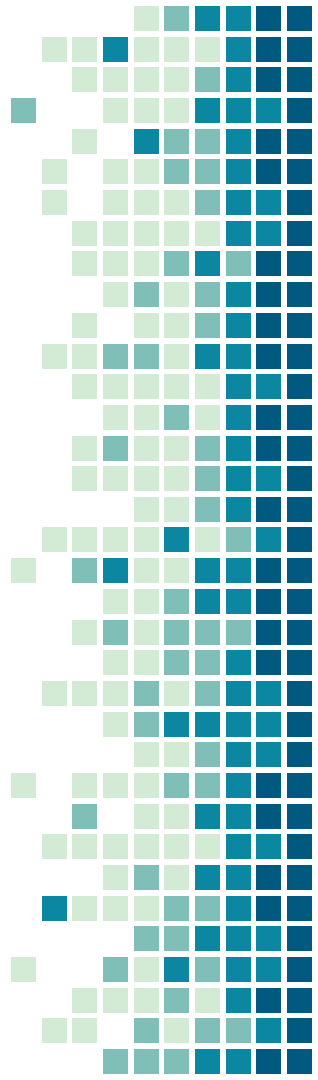


“ Medication errors are the leading cause of mortality in the United States. About 21% of all medication errors are dispensing errors.

Guidelines We Must Follow

Any medication that leaves this hospital in the hands of the owner must have a label that includes:

- Vet's Name, Hospital Address & Phone #, Patient Name, Drug Name, Dose, Instructions, Quantity, Dispensing Date, and the initials of the staff member who filled the medication.





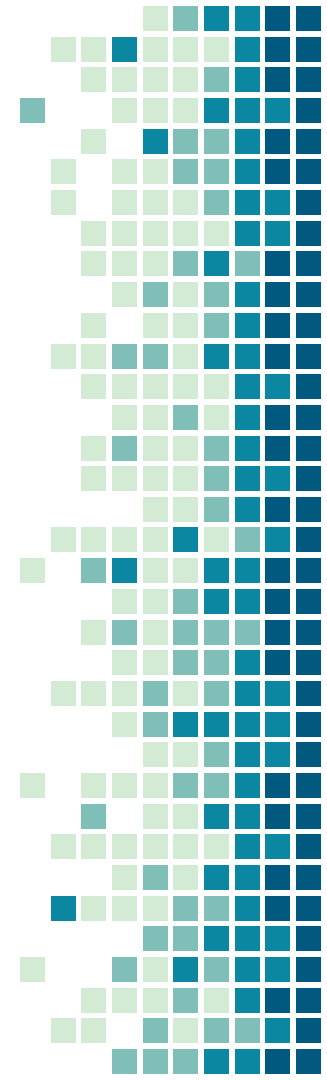
The Big Picture

Imagine an owner spends over \$6,000 dollars here on treatment only to go home with the wrong medications and overdose their dog. How would you feel?

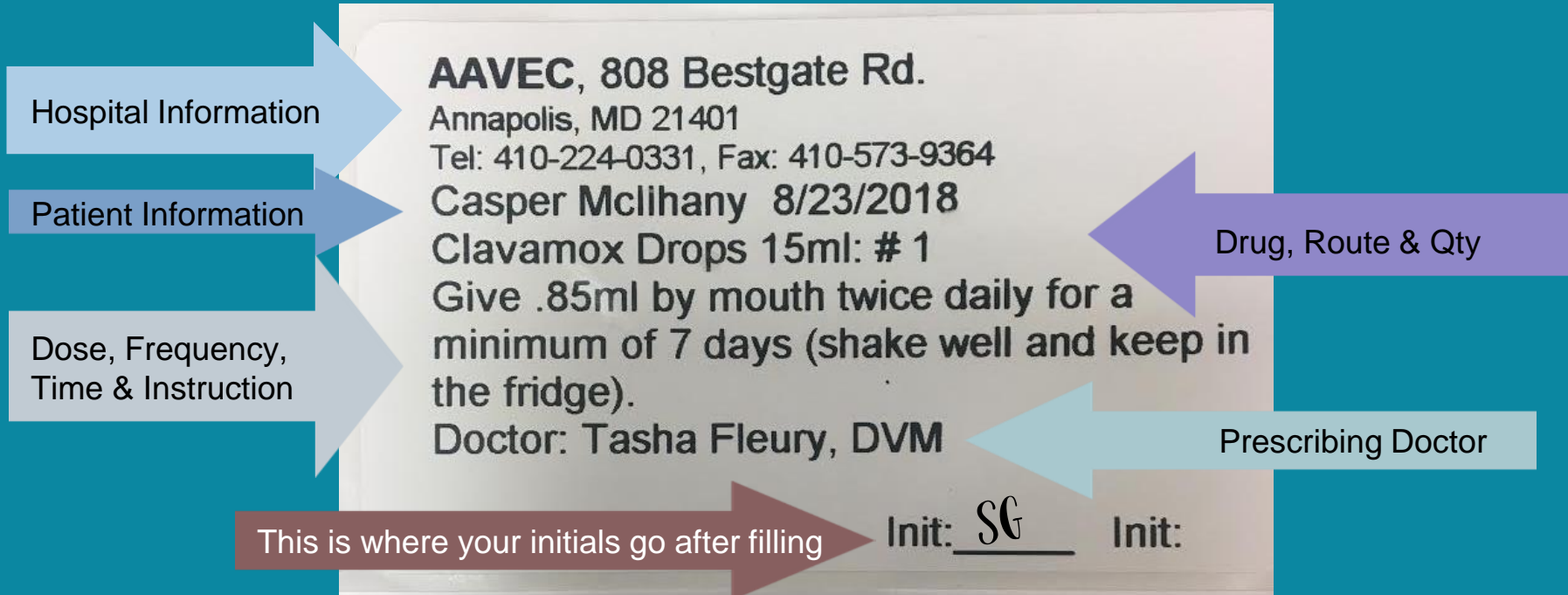
The Magnificent 7

These are the 7 things you should be double checking when dispensing drugs.

PATIENT	DRUG	DOSE	ROUTE	TIME	FREQ	QTY
<p>Double check patient name.</p> <p>This is especially important when you are checking out two patients with the same name.</p>	<p>Double check that you have grabbed the correct drug.</p> <p>Sometimes the names can appear similar when they are side by side on the shelf</p>	<p>Double check that you have grabbed the right dose.</p> <p>If they said the 250mg of Cephalexin make sure you do not accidentally grab the 500mg Cephalexin</p>	<p>Some drugs can be given different routes.</p> <p>Oral drugs can come in tablets or suspension so double check that you grabbed the right one.</p>	<p>Check the time when reviewing these drugs with owners.</p> <p>Make sure to tell them when the last dose was given so they can stay on track.</p>	<p>How often a medication is given can help you determine how many syringes you will need of a drug.</p>	<p>Double count your quantities to make sure you are giving the correct amount.</p> <p>For liquids check that your premade syringes total the Qty.</p>



Medication Labels



Oral Syringes



A syringe is used to provide an accurate measure of a medication and make dispensing easier.

It consists of a plunger that sits inside of a barrel. By pulling and pushing the plunger you can input or expel a medication out the open end of the tube.

Once we have filled these with medications for dispensing we must put a cap on top of the opening.

Dram Containers and Bottles



60 Dram 80ml Bottle 20 Dram 8.5 Dram

Fun Fact: The reason these containers are called “Drams” is because a dram is a very old unit of mass used in Ancient Greece.

1 Dram = 3.7mls

We use the Dram containers for capsules, tablets, chewables, mini-melts and caplets.

We use the amber 80ml bottle for liquid medications.

We use vials for liquids less than 3mls. For example we put Buprenorphine in a vial with a cap to send home with owners.

Syringes vs. Bottle



Sometimes with suspensions or liquids you have a large quantity to send home. It is preferred to make syringes up for the owner, but **if you need to make more than 10 syringes you should consider putting the medication in a bottle.** Send home an oral syringe for the owner to draw up their own medication.

Be sure to put caps on all over your syringes or put a bottle stopper in the vial to draw up the medication easily.

If you have more than 5mls of liquid you should be putting that in a bottle.

Counting Oral Pills



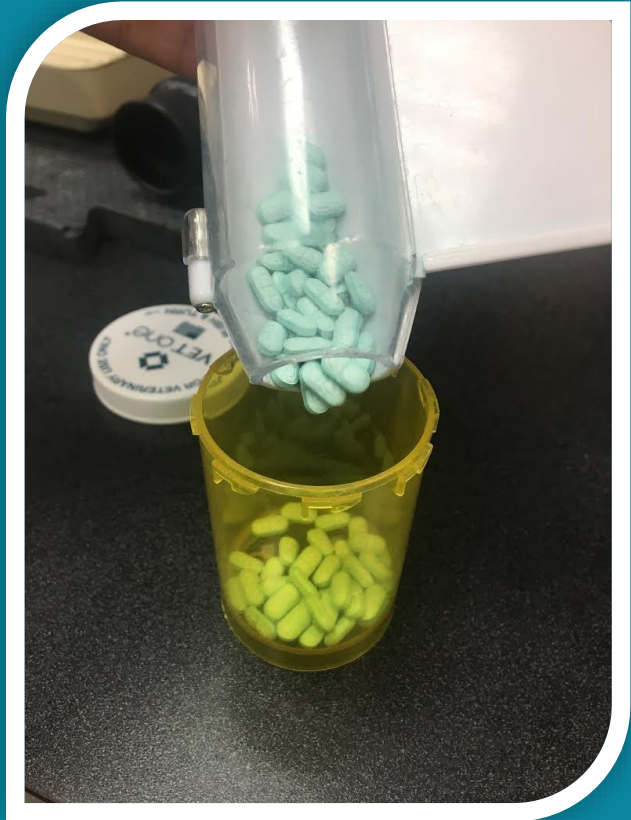
Using a counting tray for pills is an easy way to count and then transfer the pills into a container.

Some people find it easier to count by multiples of 5 or 10.

You open the barrel on the left and pour the contents of the desired medication in the center of the circle. Do not pour more than the size of the circle.

Use the separator to count and then push what is already counted to the left.

Counting Oral Pills



Once you have counted what you need. Close the barrel and pour what you don't need back in its original bottle.

Pour the pills you counted into your dram container. Securely lock in the lid and apply your label around the container.

Make sure your initials are on the label.

Cutting Pills



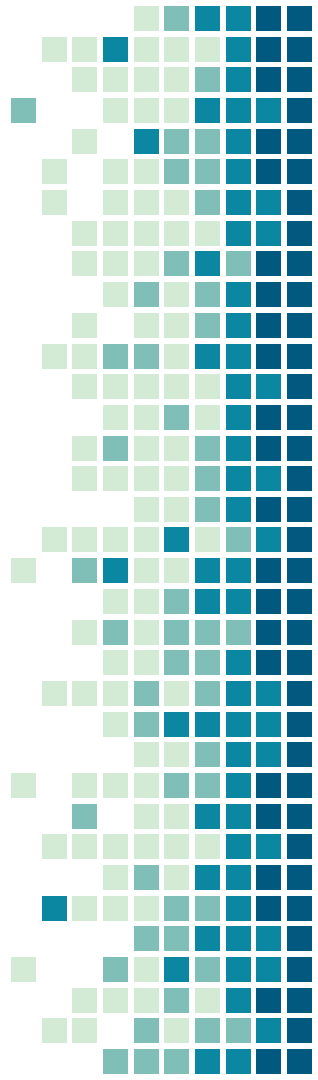
Sometimes we need to cut pills for owners. Do not automatically cut the pills though. Only pre-cut pills when asked by a CST or a Doctor.

Place the pill in the center of the triangle inside of the pill cutter. Firmly push down on the top so the blade cuts the pill.

Please wash the pill cutter in between medications.

Suspension vs. Solution

- A **suspension** (and some syrups) have particles larger than a micrometer which means it's visible to the naked eye and tends to settle to the bottom of the bottle, which is why it needs to be shaken well before dispensing. The particles don't completely dissolve.
- In a **liquid solution** the particles have completely dissolved.



Filling Suspensions

- The label reads as:
Enrofloxacin Suspension 20mg/ml :#5
Give 0.5ml by mouth every 12 hours
for 5 days.

1. Decide how many oral syringes you need. $0.5\text{ml} \times 2$ (Because it's being given twice a day) $\times 5$ (Because we are giving it for 5 days straight) = 10 Syringes.

$$0.5\text{ml} \times 2 \times 5 = 10 \text{ syringes}$$



Filling Suspensions

2. Grab 10 1cc oral syringes. You know to grab 1cc because the amount you are drawing up is less than 1 ml.
3. Grab the Enrofloxacin Suspension from the refrigerator and shake the bottle well.
4. Invert the bottle and insert your syringe in the open portion of the plug. Draw back on the plunger and remove 0.5mls (Watch out for air bubbles) Repeat 9 more times.



Filling Suspensions

5. Place a cap on all of the filled syringes.
6. Put all the syringes in a clear bag (they look similar to the antech bags but without a logo on it)
7. Place the label on the front of the bag with your initials on it.



Reconstituting Medications

1. Read on the box the instructions for reconstitution or mixing.
2. Let's use Clavamox Drops. The directions here say add 14ml of water (regular tap water) to the bottle and shake vigorously (well)
3. Unscrew the bottle full of powder and remove the protective covering.
4. Add the 14mls of H₂O and put the cap back on and shake.

Directions for Mixing: Add 14 mL of water to the bottle and shake vigorously. Each mL of suspension will contain 62.5 mg of amoxicillin/clavulanic acid activity. **Any unused portion of the reconstituted suspension must be discarded after 10 days.** Refrigeration is required.

Do Not Store Dry Powder at Temperatures Above 25°C (77°F)

Read Insert for Complete Directions

Code No. DRUGS/AP/57/2003

MADE IN INDIA



Reconstituting Medications

1. Then pull out the dropper from the package and replace it with a 1cc or a 3cc syringe.
2. Replace the bottle to the box.
3. Apply “Shake Well Before Using” and “Keep in Refrigerator” stickers to the box.
4. Apply the medication label to the back of the box.
5. Place in the refrigerator or hand to a CST if they are checking out an owner.



Entyce & Metacam

- ✓ Sometimes we do not send an entire box with the owner so we must make pre-made syringes.
- ✓ Must use the syringes that come with the package to remove the liquid medication
- ✓ Then transfer that into syringes if the owner is not going home with the entire box.
- ✓ Metacam does smell and is sticky so be careful when handling.

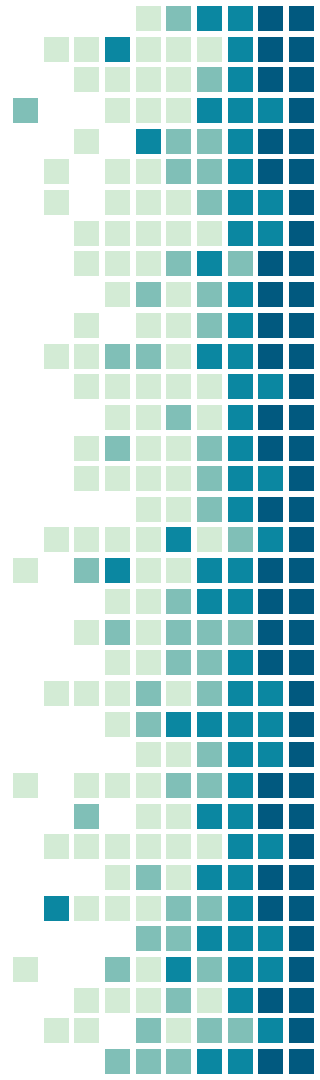




Controlled Substances

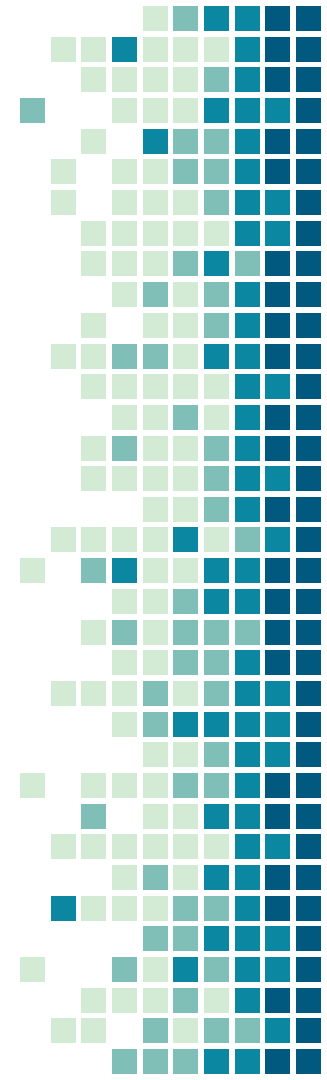
There are some medications that you may not have access to. These are controlled substances that are strictly regulated by the DEA to prevent substance abuse. All use of controlled drugs must be documented in the logbooks and the patient's record.

Ask a technician or doctor with access to fill those medications when needed.



List of Dispensed Controlled Drugs

- **Codeine:** Opiate that treats mild-moderate pain in dogs, can also be a cough suppressant or anti-diarrheal. **Side Effects:** Vomiting, Sleepiness, Constipation, Not Eating.
- **Diazepam (Valium):** Benzodiazepine used for various things, popular uses are for seizures and sedation. **Side Effects:** Drowsiness, Loss of Coordination, Slow Heart Rate, V/D.
- **Phenobarbital:** Barbiturate use to control and reduce seizures. **Side Effects:** Ataxia, Weight Gain, Excessive Urination, Thirst & Appetite.
- **Buprenorphine:** Opiate used for pain relief in dogs and cats. **Side Effects:** Drowsiness and sometimes in dogs it makes them pant.



List of Dispensed Controlled Drugs (Cont.)

- **Tramadol:** Synthetic opiate that treats moderate – severe pain in dogs, can also be a cough suppressant. **Side Effects:** Drowsiness and potentially an upset stomach
- **Fentanyl Patches:** Opiate that treats intense pain. **Side Effects:** Nausea, Sleepiness, Depression
- **Tussigon (Hydrocodone + Homatropine):** Opiate used for diarrhea pain, coughing, and for cardiovascular conditions. **Side Effects:** Drowsiness, Constipation, Dry Mouth, Vomiting

Fentanyl Patches

- Must be removed in 3 – 5 days
- Must stay away from heat sources like heating pads or heated blankets. Heat will increase the absorption and potentially overdose.
- They should be watching the pet often to be sure the patch has not been removed and ingested.
- Remove with gloves and fold it in half and flush down the toilet.



Medications: Give with Food

Sometimes medications need to be given with food to prevent stomach upset, vomiting or diarrhea.

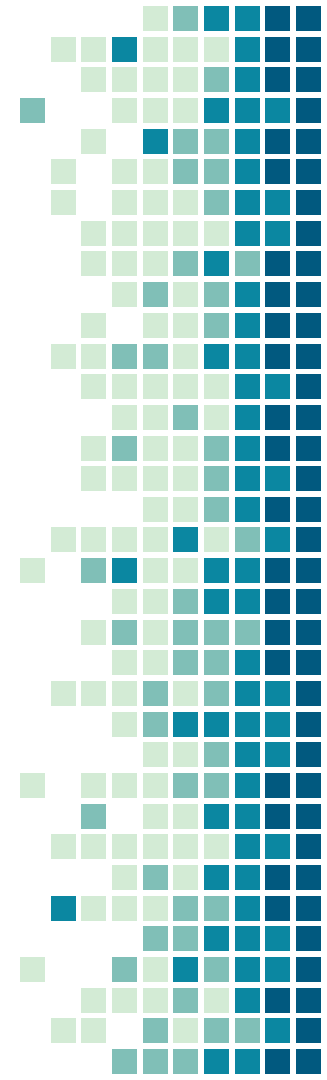
- Amlodipine
- AmoxiTabs
- Carprofen (Rimadyl)
- Cefpodoxime (Simplicef)
- Cephalexin (Keflex)
- Cyproheptadine
- Diphenhydramine
- Doxycycline
- Enrofloxacin
- Hydroxyzine
- Meclizine
- Metronidazole
- Onsior
- RenaKare
- Prazosin
- Prednisolone
- Trazadone
- Vitamin K1



Medications: Wash Hands / Wear Gloves

Pregnant women should wear gloves and the rest of the staff should wash their hands after handling these drugs.

- Azathioprine (Imuran)
- Chloramphenicol
- Enalapril
- Levothyroxine
- Lysine
- Methimazole
- Metronidazole
- Misoprostol (Cytotec)
- Sufasalazine
- Trilostane



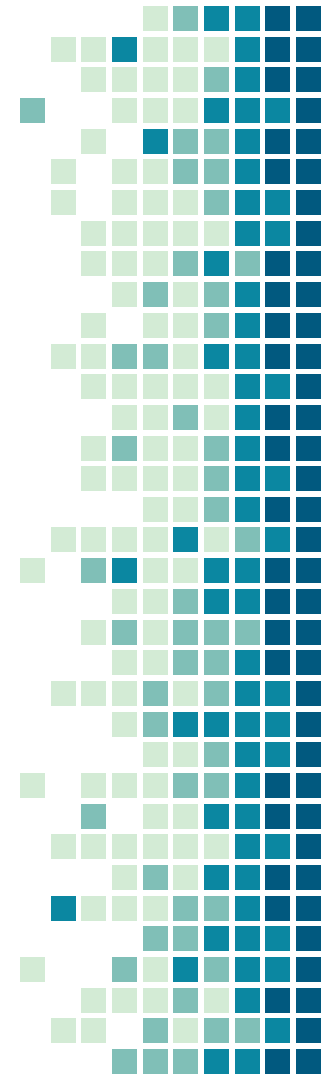
What to Do & What not to Do

DO

- Double check labels against the medication bottles
- Initial every medication label you fill
- Put non-reconstituted meds **in the white basket on the counter**
- Put reconstituted meds in the fridge

DON'T

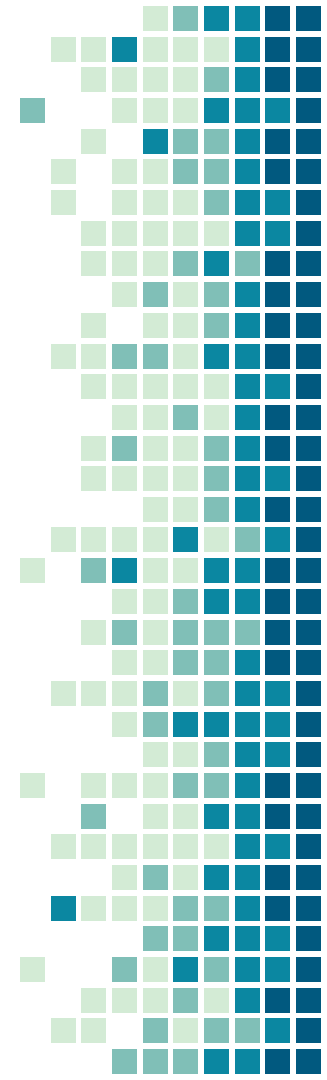
- Don't open any pills that are kept inside pre-packaged foil. They belong in their sleeves and are sent home with owners inside of their wrappers.
- Don't ever send home medications from the "Donated Medication" cabinet unless instructed by a doctor.



The Consequences of Your Errors

What people fail to realize is this is extremely serious business we are doing here. Dispensing medications is incredibly important and there is little to no room for error.

If you incorrectly dispense medications the first thing you will be asked to do is **write a 1 page essay on the consequences of your errors**. If it happens again your supervisors may have to take further disciplinary action.



THANKS!

Any questions?

You can email me at
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