Boston Reed
Pharmacy Technician Training Program
Week #14 Lab – EXTEMPORANEOUS COMPOUNDING

Compounding Directions (Ointments and Creams)

Before starting:
- Proper dose should be calculated
- Techniques to be employed should be planned
- Balance should be calibrated

Weighing Techniques
- Desired weight should be placed on the pan to right using forceps
- The desired material to be weighed is placed on the left using a spatula
- To measure accurately, the lid should be closed
- The balance is then unlocked to observe the pointer
- The balance is struck when the pointer moves an equal distance to the left and right of the middle - not when it rests in the middle

- If there is too much product on the left - lock the balance and remove some with the spatula
- Never attempt to remove product without the balance being locked
- The weight should be checked by a pharmacist
- Check weights 3 times - when selected, during measuring, and when returning to the box

Mortar and pestle
- Mortar is the "bowl"
- Pestle is the instrument that you grind with
- Types:
  - Glass: preferable for mixing liquids and semisoft dosage forms
  - Wedgewood and porcelain: preferred when grinding (or triturating) crystals and large particles into fine powders

When mixing ingredients:
- Most potent in first
- Add an equal amount of the next potent ingredient next and mix (geometric dilution)

Compounding Equipment
- Ointment slabs
- Glass plates or disposable parchment paper
- Used for mixing compounds on a flat surface
- Use the spatula to "shear force" the ingredients together

Compounding Principles – Ointments and Creams
- Ointments- oil based
- Creams- water based
- When incorporating solids into an ointment or cream may need to mix the solid with a liquid vehicle to disperse it first (this is called levigation)
  - Levigating agents for ointments - mineral oil
  - Levigating agents for creams - glycerin or water

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Compounding Directions (Liquids)

Measuring Equipment

- To accurately measure liquids use:
  - Conical graduates
    - Easiest to use and clean
    - As the diameter of the container increases towards the top the accuracy decreases
  - Cylindrical graduates:
    - Narrow diameter - more accurate
    - Harder to clean
  - Syringes

- Graduates range in size from 10 mL to 4000 mL
- Choose the appropriate equipment for the volume you are measuring

Measuring Techniques

- Meniscus
  - Liquids will have a "u" shape when the final volume is resting
  - Measure liquids at eye level
  - Always read the measurement at the bottom of the "u" or at the bottom of the meniscus

- To deliver (TD)
  - Some graduates will be marked TD which means they have been calibrated to compensate for the residual liquid that remains inside the graduate after emptying
  - Regardless, graduates are to be drained completely leaving no liquid in the graduate after emptying.

Compounding Principles

- Solids
  - When required in a solution, they need to be weighed
  - Particle size may need to be reduced (mortar)
  - May need a special solvent
  - May need to be heated or shaken to go into solution

- Suspensions
  - Finely divided drug particles suspended in a vehicle
  - Appear cloudy - must shake to resuspend
  - Suspending agent - gives the suspension structure
  - When mixing in solids - wet the powder first to remove air pockets