CHARLESTON VETERINARY REFERRAL CENTER

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Considering Compounding?

Our Clinical Pharmacist offers the following tips to help you decide whether to prescribe compounded medications for your patients.

What are the drug's physiochemical properties?

- Consider its pH, size of molecule, solubility, hygroscopicity, etc.

What is the appropriate route for this medication?

- For example, corticosteroids are known to cause cartilage atrophy when used on the pinna of the ear resulting in "floppy ear."
- Fluoxetine has been known to cause skin irritation/burns when applied topically.
- Certain pro-drugs rely on first-pass metabolism to become active; this is bypassed when a drug is given via the transdermal route. Therefore, drugs like benazepril shouldn't be compounded for transdermal use.

Is there proven stability for this solution?

- Has the compounder done any stability studies on their product? What evidence can they provide to prove stability?
- How did they determine a formulation's BUD or beyond-use-date? Or are they using a USP-default?
    - Potency testing is not the same as stability testing.
- Theophylline, for example, tends to have stability issues when the concentration exceeds more than ~5 mg/mL.
- Compounded doxycycline has also been evaluated. One study investigated 33.3 and 166.7 mg/mL when stored for 28 days. Despite refrigeration, the study found stability issues when stored beyond 7 days.

Is this formulation viable?

- Is there published literature to support this compounded formulation? What evidence does the compounder have for their specific formulation?
- For example, pimobendan is notoriously difficult to compound and has specific requirements to ensure both bioavailability and stability.

Have you considered how a compounded drug may affect a patient's response (or lack thereof) to therapy?

- Assess whether a patient truly failed a certain drug therapy or whether there was an issue with the compound that resulted in the 'failed' treatment..

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