

NR566 Midterm Study Guide

This study guide covers content for the question bank for this course. There are 100 questions on the exam and more content in the exam study bank than will be seen on any given exam. Therefore, you may note more than 100 topic items noted in this study guide. However, there may also be more than one question for a topic listed so you should know each one well. Some items listed are more specific than others. If the item listed seems vague, if it's a more general question and to be more specific would be to risk the integrity of the question itself.

Number of Questions on Exam:

100

Styles of Questions of Exam:

Multiple Choice Only

Knowledge Levels:

Various (remember, understand, apply)

Time Limit:

150 minutes

Number of Attempts:

1

Use of Support Materials:

Not Allowed

Platform Used for Exam:

ExamSoft/Examplify

Exam Expectations:

Review Exam Expectations in
Course Announcements

Tips on Using this Study Guide

1. Review the topics each week to take notes as you move through the course and focus your reading and content review in the course.
2. You can make notes directly on each tab for the respective week or print out and hand write your notes.
3. If you choose to print, you will want to adjust the size of columns so the table width will fit on a printed page.
4. Re-write your notes if you type them to connect the content to your memory more readily as the activity of writing and saying it again as you write it creates repetition that helps commit the content to memory.
5. Create your own practice questions that are clinical scenario based to move the content from a memorization (Remember) level of learning to an application type of learning. Much of your exam will be at the application level so it's not enough to memorize your notes.
6. Review your study guide and notes as often as you can. Read them out loud so you hear the words externally as well as internally. The more senses you can engage while studying, the more likely you are to remember it.

Week 1

Chapter 79

- Itraconazole Drug Interactions
- Therapeutic Uses of Caspofungin
- Griseofulvin Indications
- Oral terbinafine Indications
- Azole Use in Older Adults
- Pharmacokinetics of Amphotericin B
- Treatment Choice for Systemic Mycoses
- Drug Interaction with Itraconazole
- Adverse Effects of Caspofungin
- Tinea Pedis Treatment
- Amphotericin B: Minimizing Nephrotoxicity
- Griseofulvin Indications
- Azole Use in Older Adults

Chapter 80

- Oseltamivir (Tamiflu) MOA
- Oseltamivir (Tamiflu) Administration
- Oseltamivir (Tamiflu) Indications
- Acyclovir: Route of Administration Considerations
- Purpose of Annual Flu Vaccine
- Flu Vaccine: Contraindications
- Palivizumab Indications
- Acyclovir Indication
- Acyclovir MOA

Chapter 81

- Protease inhibitors (PIs): Adverse Effects
- Integrase Strand Transfer Inhibitors (INSTIs): MOA
- NRTIs Adverse Effects
- protease inhibitors (PIs): MOA
- NRTIs MOA
- Chemokine Receptor 5 Antagonists (CCR5 antagonists): MOA
- Integrase Strand Transfer Inhibitors (INSTIs): Adverse Effects
- protease inhibitors (PIs): Adverse Effects
- protease inhibitors (PIs): Prescribing considerations
- NRTIs MOA
- NRTIs Adverse Effects
- NRTIs MOA

Chapter 83

- Mebendazole MOA
- Enterobiasis Treatment Choices
- Albendazole MOA



Chapter 79

1. Itraconazole Drug Interactions

- **Mechanism:** Itraconazole inhibits the CYP3A4 enzyme, leading to potential interactions with many other drugs.
- **Examples of Common Medications and Interactions:**
 - **Statins (e.g., simvastatin):** Increased risk of myopathy and rhabdomyolysis. Consider avoiding or switching to a non-interacting statin like pravastatin.
 - **Calcium Channel Blockers (e.g., verapamil, diltiazem):** Risk of congestive heart failure due to additive negative inotropic effects.
 - **Warfarin:** Increases INR and bleeding risk. Requires close INR monitoring if used concurrently.
- **Clinical Recommendations:** Evaluate the need for itraconazole when patients are on interacting drugs. Consider alternative antifungals or adjust doses.

2. Therapeutic Uses of Caspofungin

- **Primary Indications:**
 - **Invasive Candidiasis:** Effective against most *Candida* species, especially useful for *C. glabrata* and *C. krusei*, which are resistant to azoles.
 - **Invasive Aspergillosis:** Second-line option for patients who cannot tolerate or do not respond to amphotericin B or voriconazole.
- **Example Medications:** Caspofungin (Cancidas).
- **Dosing and Duration:** 70 mg loading dose, then 50 mg daily; duration depends on infection severity and response to therapy.

3. Griseofulvin Indications

- **Common Uses:** Dermatophyte infections, especially when caused by *Microsporum* and *Trichophyton* species.
- **Indications:**
 - **Tinea Capitis:** Often used in children as it is effective against scalp infections.
 - **Tinea Corporis and Tinea Cruris:** Alternative option when topical treatments are ineffective.
- **Example Medications:** Griseofulvin (Grifulvin V, Gris-PEG).
- **Clinical Considerations:** Requires several weeks to months of therapy depending on the location and severity of the infection.

4. Oral Terbinafine Indications

- **Primary Indications:**
 - **Onychomycosis:** Effective for fungal nail infections due to dermatophytes.
 - **Tinea Capitis:** Also used for scalp ringworm, especially in children.
- **Example Medications:** Terbinafine (Lamisil).
- **Dosing:** For onychomycosis, typically 250 mg daily for 6 weeks (fingernails) to 12 weeks (toenails).
- **Advantages:** Fungicidal activity against dermatophytes with high success rates in nail infections.

5. Azole Use in Older Adults

- **Commonly Used Azoles:** Fluconazole (Diflucan), Itraconazole (Sporanox), Voriconazole (Vfend), and Posaconazole (Noxafil).
- **Age-Specific Considerations:**
 - **Fluconazole:** Relatively safe but may require renal dose adjustment.
 - **Itraconazole:** Monitor for heart failure, especially in those with pre-existing cardiac conditions.
 - **Voriconazole:** Associated with visual disturbances; use cautiously in patients with ocular issues.
- **Clinical Recommendations:** Use the lowest effective dose, monitor liver function tests, and avoid polypharmacy where possible to reduce adverse effects and interactions.

6. Pharmacokinetics of Amphotericin B

- **Administration:** Typically administered via IV infusion due to poor oral bioavailability.
- **Distribution:** Binds extensively to tissues; penetrates poorly into the cerebrospinal fluid.
- **Example Medications:**
 - **Conventional Amphotericin B (Fungizone):** Higher nephrotoxicity risk.
 - **Liposomal Amphotericin B (AmBisome):** Better tolerated and preferred in patients at risk for kidney injury.
- **Half-Life:** Ranges from 15 days to several weeks due to slow tissue release.
- **Clinical Implications:** Monitor renal function and electrolytes closely, especially potassium and magnesium levels.

7. Treatment Choice for Systemic Mycoses

- **Options Based on Infection Type:**
 - **Histoplasmosis, Blastomycosis, and Coccidioidomycosis:** Often treated with itraconazole or amphotericin B for severe cases.

- **Aspergillosis:** Voriconazole is the preferred first-line agent; caspofungin as an alternative.
- **Cryptococcosis:** Amphotericin B with flucytosine for initial treatment, followed by fluconazole for maintenance.
- **Examples:**
 - **Amphotericin B** for life-threatening systemic infections.
 - **Fluconazole** for less severe infections or for step-down oral therapy after initial amphotericin B treatment.
- **Considerations:** Therapy duration varies widely, from weeks to several months, based on infection and patient immune status.

8. Drug Interaction with Itraconazole

- **Reiteration of Important Interactions:**
 - **Benzodiazepines (e.g., midazolam):** Prolonged sedation; avoid combination or reduce dose.
 - **Antiarrhythmic Drugs (e.g., quinidine):** Risk of QT prolongation and arrhythmias.
- **Patient Counseling:** Educate patients on potential side effects, such as dizziness or increased bleeding risk, if taking anticoagulants.

9. Adverse Effects of Caspofungin

- **Most Common Adverse Effects:** Fever, chills, headache, and gastrointestinal disturbances.
- **Serious Adverse Effects:**
 - **Hepatotoxicity:** Monitor liver enzymes in patients on prolonged therapy.
 - **Infusion Reactions:** Can include rash, pruritus, and histamine-mediated symptoms; slow infusion or premedicate if necessary.
- **Monitoring:** Regular liver function tests are recommended during treatment.

10. Tinea Pedis Treatment

- **Topical Options:**
 - **Terbinafine (Lamisil):** Applied daily for 1-2 weeks.
 - **Clotrimazole (Lotrimin):** Used twice daily for 2-4 weeks.
- **Oral Options (for refractory cases):**
 - **Oral Terbinafine:** 250 mg daily for 2-4 weeks.
 - **Oral Fluconazole:** 150 mg weekly for up to 6 weeks.