Ep #164: Alternative Antibiotics for NP Boards: Rapid-Fire Pharmacology Review

Full Episode Transcript

With Your Host

Anna Miller

Ep #164: Alternative Antibiotics for NP Boards: Rapid-Fire Pharmacology Review

Welcome to the *Real Deal Nurse Practitioner Club*, the podcast for nurses who are ready to pass their boards and thrive in their careers as real deal nurse practitioners. I'm Anna and I'm the Director of Nursing Content at Blueprint Test Prep. Whether you're deep in exam prep or stepping into practice, I've got you. It is time to become the confident, knowledgeable NP that you're meant to be. Let's dive in.

Anna: Hey, hey, everyone. Welcome back. I'm Anna, and I have Alex again with me. And a little while ago, you may remember that we did a little pharmacology lightning round on this podcast. And it was so popular and such a hit that we are doing this again, but this time with a little bit of a twist. This one is all about alternative antibiotics. So, essentially, what to choose when the first-line treatment isn't an option because of factors like an allergy, pregnancy, kidney issues, or drug interactions.

Alex: Yes, and just to set expectations, we are going to call out some key points for board prep, not a complete, every backup option for every diagnosis master list. Our full breakdown lives in our courses, so be sure to check those out.

Anna: Now, before we get started, let's talk about two key tips for success here. Rule number one: When you see penicillin allergy, you must ask yourself, is the allergy mild, or is it an IgE-mediated or severe delayed reaction?

Alex: 1,000%. So when you hear mild, think a rash that is not hives or something like, "I don't remember what my reaction was." An IgE-mediated, think hives, anaphylaxis, wheezing, angioedema. And then severe delayed reaction includes things like Stevens-Johnson syndrome or toxic epidermal necrolysis.

Anna: Exactly. Now, rule number two: On boards, if you narrow it down to two answers, there is usually one detail making one of those wrong. So go back and look at the age, pregnancy, look at kidney function, look at an

interaction, look at an allergy type, and so on. But let's warm up with some basic penicillin questions since we're talking about these allergies.

All right, Alex, question one for you. A patient has a mild penicillin allergy. Can they typically take a cephalosporin?

Alex: Most of the time, yes. Cephalosporins are commonly the go-to alternative for patients with mild penicillin reactions. Absolutely a key point for boards there.

Anna: All right, so that leads me to question two now. Let's say a patient took a penicillin and they tell you they developed hives. What does that mean?

Alex: So that is IgE-mediated. So now we're going to want to be a little more cautious. On exams, this often pushes you away from those cephalosporins and towards other classes depending on the scenario.

Anna: Absolutely. Now, let's do like a little HEENT speed round. Strep pharyngitis, right? First-line is penicillin or amoxicillin, but they have a mild penicillin allergy. What's your go-to?

Alex: Remember, this is going to be a cephalosporin, like cephalexin or Keflex.

Anna: Now, let's say we are treating strep pharyngitis in a patient with an IgE-mediated penicillin allergy.

Alex: So here, think of a macrolide like azithromycin or maybe even clindamycin, depending on the clinical scenario.

Anna: All right, now a classic board scenario. And for everyone listening, make sure you are answering the questions in your head as Alex is answering them. But let's say a patient has suspected mono, and they are already prescribed amoxicillin for strep throat. What happens?

Ep #164: Alternative Antibiotics for NP Boards: Rapid-Fire Pharmacology Review

Alex: They can develop that diffuse, itchy rash. Do you remember what that's called? A morbilliform rash. Keep in mind that this isn't actually an IgE-mediated allergy but more of an Epstein-Barr virus-associated drug reaction. So the patient is not necessarily penicillin-allergic for life.

Anna: Absolutely. All right. Next up, we're going to cover otitis media. So our patient is a kiddo who was treated, but they're not improving. What's the step-up logic the exam likes here?

Alex: So if you started with amoxicillin, you will typically step up to amoxicillin-clavulanate, and that is Augmentin.

Anna: Absolutely. All right. I told you all this would be rapid. Let's shift gears to community-acquired pneumonia, which is super important to know for boards. First up, our patient is outpatient. They're otherwise healthy. Give me the big three options to know for boards.

Alex: Yes, so for a patient that is outpatient and otherwise healthy, you're usually going to look to amoxicillin, doxycycline, or a macrolide like azithromycin, with the caveat that a macrolide use depends on local resistance patterns.

Anna: Absolutely. And when in doubt, again, amoxicillin and doxy and azithromycin. But what if we add comorbidities or recent antibiotic use to our patient's clinical picture? What is that step-up exam logic?

Alex: So in this scenario, we move on to our heavy hitters. So think a respiratory fluoroquinolone like levofloxacin or combo therapy with something like Augmentin plus a macrolide or doxycycline.

Anna: Yeah, and a little quick check here. Is ciprofloxacin a respiratory fluoroquinolone that we can use here?

Alex: No, levofloxacin is the one that you should be looking for.

Ep #164: Alternative Antibiotics for NP Boards: Rapid-Fire Pharmacology Review

Anna: All right, let's move on to GI because I want to cover a lot of different systems in this episode. H. pylori regimens, in particular, can be a little weird. So true or false, Alex, cephalosporins are the go-to backup when a patient can't take amoxicillin for an H. pylori infection.

Alex: So this is false. This is one of those weird, don't autopilot situations. There are other strategies depending on the regimen.

Anna: All right. Now let's talk about C. diff. What's commonly treated first-line now in many, many resources?

Alex: So oral vancomycin is the classic, first-line board answer in many exam resources. But keep in mind that fidaxomicin, or Dificid, keep that one on your radar because this one is actually also first-line.

Anna: You got it. And again, we are not reciting full clinical practice guidelines. We are not getting into all the little nitty-gritties. We just want to call out some key points to remember.

All right, let's talk about tick-borne illnesses here. Rocky Mountain spotted fever, what is your treatment?

Alex: All right, do y'all remember this one? This is doxycycline, even in kiddos, even in pregnancy on boards, because the mortality risk is high, and the benefits to taking doxycycline significantly outweigh the risks.

Anna: Yeah, and along those same lines, Lyme disease is also typically treated with doxycycline, but what if the patient is pregnant? This is the exception with Lyme disease.

Alex: So in this scenario for Lyme disease, if a patient is pregnant, the common alternative used is amoxicillin.

Anna: And let's see here. Let's say someone truly cannot take doxycycline, that one that we give everybody for Rocky Mountain spotted fever. What if

they can't take doxycycline in a severe Rocky Mountain spotted fever type scenario?

Alex: Yeah, this is where boards sometimes want you to recognize that a referral or escalation is necessary, and that would be for desensitization. And this is not a pick-a-random-substitute scenario. Like we really need to consult the experts here.

Anna: Yeah, there's only a few small cases where that happens, but this is one of those. All right, now let's run through just some need-to-know points about drug interactions. So first, let's talk about warfarin and UTI antibiotics. Which one of those antibiotics significantly raises INR and bleeding risk?

Alex: So while all sorts of antibiotics interact with warfarin, in terms of UTIs and board prep, make sure you know that trimethoprim-sulfamethoxazole, or Bactrim, significantly interacts with warfarin.

Anna: And then we know that methotrexate is a DMARD medication often used for RA or rheumatoid arthritis, and certain antibiotics can increase toxicity risk here. So name one of these antibiotics to definitely know for the exams.

Alex: To no one's surprise, Bactrim again.

Anna: Absolutely. All right. Now, oral contraceptives. I feel like this is a big one that I hear all the time. Do most antibiotics actually reduce the effectiveness of oral contraceptives?

Alex: Actually, most do not. But boards like exceptions, so think of things like rifampin or rifabutin. In this scenario, the patient definitely needs backup contraception because those antibiotics that start with "R"s, think that they reduce effectiveness of those oral contraceptives.

Anna: Yeah, I feel like there's that one of those like really common misconceptions out there that every single antibiotic is going to reduce effectiveness. And we always would rather be safe than sorry, but that is

what evidence is telling us. All right, let's do a quick case scenario. And while you all are listening, pick the diagnosis and then what you would prescribe in your head before we give the answer.

All right, a patient who is two weeks postpartum is breastfeeding. They present with breast redness, warmth, tenderness. So what is the likely diagnosis here?

All right, this is classic mastitis, and it is awful if you have ever experienced it. I never wish to experience it again. And now this same patient reports a penicillin allergy that caused hives. What treatment are you going to pick? Alex, do you want to walk us through the reasoning and the answer here?

Alex: For sure. So we have a diagnosis of mastitis. The patient reports a penicillin allergy of hives. Is this mild or is this IgE-mediated? This is IgE-mediated. So in this scenario, we'd of course avoid penicillins as well as cephalosporins to be safe. So we look for a safe alternative compatible with breastfeeding, and one common exam-friendly option here is clindamycin.

Anna: Absolutely. Now, the reason that this type of exam question really is good for critical thinking is because it asks you to combine the diagnosis, right? You have to get that from the symptoms. Then you have to add in the allergy type, and you have to add in those postpartum and breastfeeding considerations. So it is multi-layered here, and the exams love to do this, especially on that AANP exam.

Alex: Absolutely. And if you liked this format and you want a deeper dive into alternative antibiotics and other hot topics for your exams, definitely check out our courses. We cover it in there.

Anna: Yeah, we have a whole antibiotic section, including a video on alternative antibiotics in our courses. And if you are close to exam day and you just want some personalized help, I'm just going to throw out there that we offer those one-on-one readiness sessions where we ask questions

similar to this lightning round on all topics. We're going to cover all topics, all body systems. We're going to look at the strengths and the weaker areas and help you build a realistic plan to pass your exam.

Because knowing the content is one thing, but knowing how the exam tests it is really that secret sauce. But thanks for hanging out with us. Again, we're going to cover some big topics in May on this podcast, like COPD and diabetes. And as always, follow our social media like our Instagram, @SMNPReviewsOfficial, where we put tips and content all the time. But that's it for this week.

Thanks for listening to another episode of the *Real Deal Nurse Practitioner Club*. If you want more information about the different types of support that we offer to students and new nurse practitioners, you can visit npreviews, with an S, dot com. We'll see you next week.