What’s New in STIs: Testing, Treatment, and Prevention Updates
Webinar Transcript
July 23, 2026

00:00:05:16 - 00:00:18:20
Nicole Nguyen
Good afternoon. Thank you for joining us today for our webinar title, What's New in STIs: Testing, Treatment, and Prevention Updates. Let me share screen really quickly.

00:00:18:22 - 00:00:38:08
Nicole Nguyen
We hope you're all doing well and staying safe. My name is Nicole Nguyen. I am the program manager of the Family Planning, Access, Care, and Treatment Program, also known as Family PACT Program at the California Prevention Training Center. The CAPTC, under contract with the California Department of Health Care Services Office of Family Planning, is sponsoring today's event.

00:00:38:09 - 00:00:41:09
Nicole Nguyen
So welcome.

00:00:41:11 - 00:01:01:11
Nicole Nguyen
So before we get started, I like to go over some housekeeping slides. So if this is your first time using Go To Webinar platform with us. So the top right ribbon on your screen is the control panel. The question icons control where you can submit questions and comments. There's a paperclip icons where you can access any handouts. The settings icon controls your audio connection preference.

00:01:01:11 - 00:01:10:14
Nicole Nguyen
And then three dots is icon is where you can switch to full screen mode.

00:01:10:16 - 00:01:28:22
Nicole Nguyen
And then to check your audio, please click your settings icon. From there, you can select your desired setting to join, either through the computer or to call in through your phone if your internet connection is shaky. We highly recommend that you call in through your phone for the best possible sound.

00:01:29:01 - 00:01:52:10
Nicole Nguyen
And then please use the questions icon to submit questions and comments to our presenters throughout the webinar. Today's webinar will take about 90 minutes, will include times at the end for any questions, so please send them in and our speakers will address as many of them as possible. If there are any questions specifically about Medi-Cal or Family PACT coverage that doctor is unable to answer today, don't worry, we will collect them and we will send out the answers afterwards.

00:01:52:11 - 00:02:12:03
Nicole Nguyen
The webinar will be recorded and we will send out a follow up email with the recording and the slide deck. There is an evaluation at the end, so please fill it out. Your feedback is extremely important to us and help us develop our future content. And then I want to acknowledge that we are working with the University of Nevada, Reno School of Medicine to provide CMS for this event.

00:02:12:04 - 00:02:40:17
Nicole Nguyen
This webinar qualifies for 1.5 credits and is only available to those who watch the entire webinar live today. Those who watch the recording afterward will not be eligible for the CME credits. The link to access your certificate will be included in the follow up email, along with the recording, the slides, and the evaluation survey. And then for transparency, we want to state that all present our planners and anyone in a position to control the content of the CME activity have indicated that neither they nor their spouse are legally recognized.

00:02:40:17 - 00:03:10:18
Nicole Nguyen
Domestic partner has any financial relationships with commercial interests related to the content of this activity. All right. Now I get to introduce our wonderful presenters. I'm very excited because she is also a fellow centered team mate of mine, so I'm so glad I got to invite her to present for her audience today. This is Doctor Rosalyn. She is the program director of the UCSF Public Health and General Preventive Medicine Residency Program, and also directs the UCSF Virtual Approach to Gynecology Project.

00:03:10:18 - 00:03:41:02
Nicole Nguyen
Clinically, she provides patient care at the UCSF Anal Neoplasia Clinic Research and Education Anchor Center, where she performs high resolution and for annual cancer prevention. She is a former Aids Malignancy Consortium domestic scholar, coauthor of the International Anal Neoplasia Society Consensus Guidelines for Anal Cancer Screening, and currently serves as an external expert for the center for Disease Control and Prevention Sexually Transmitted Infection Treatment Guidelines section on human papillomavirus infections.

00:03:41:04 - 00:04:04:19
Nicole Nguyen
Passionate about sexual health equity from a young age, she completed an STI fellowship at UCSF and the California Department of Public Health, CDPH, where she now serves as a part time medical officer. She's also a clinical faculty member for the California Prevention Training Center, which delivers SDI education across the western United States. Thank you so much for joining us today and discussing all these new, important SDI updates.

00:04:04:19 - 00:04:19:15
Nicole Nguyen
And with that, I will hand the mic over to Doctor Plotzker. Thank you so much, Nicole. Okay. Could you allow me to share my slides, please?

00:04:19:17 - 00:04:22:14
Nicole Nguyen

See?

00:04:22:15 - 00:04:48:19
Rosalyn Plotzker
There you go. All right. And I'm just going to share my slides. Can you see them? Yes, we can see them. Hallelujah. Okay, great. So thank you so much for that introduction. Despite all of the stuff about anal cancer prevention that I do. We are not talking about that today, but we are talking about almost everything else. So I'm doing an STI update.

00:04:48:20 - 00:05:20:16
Rosalyn Plotzker
I kind of think of these as like STI tapas. You're going to get a little bit of everything except for anal cancer prevention. So I have nothing to disclose. And photo credits are iStock unless they're otherwise noted. And by the end of this lecture, there are a few different things that I'd like you to take away. One is that I'd like you to be able to understand how to use at least one of the new oral therapies for gonorrhea, which we'll talk about first.

00:05:20:17 - 00:05:54:10
Rosalyn Plotzker
Then we'll go over how to talk to patients and counsel them if they want to do at home testing for STIs and cervical cancer screening. So if they don't want to do it in the clinic that day, what are their options? And then finally we'll talk about preventing sexually transmitted shigella. So with that said, starting off new gonorrhea treatments, I wanted to put this in context by starting to just show the drugs that are available for HIV.

00:05:54:12 - 00:06:30:04
Rosalyn Plotzker
There are many, many, many antiretrovirals at our disposal. And this is only one side of this card for gonorrhea. It's not the case for gonorrhea. We have Ceftriaxone at this point. And one of the reasons, as we all know, is because of antimicrobial resistance that gonorrhea very easily develops resistance. But also it's related to advocacy. And I do want to give credit that one of the reasons we have so many antiretroviral drugs is because of the amazing HIV advocacy work that's been done in the past.

00:06:30:05 - 00:07:10:06
Rosalyn Plotzker
So for now, we have just Ceftriaxone. Until now, we now have two drugs that are first in class, which is very exciting. One is called Gepotidacin! I'll call it Gepo! One is called Zoliflodacin. I'll call it Zoli. And what these two do in common is they inhibit DNA gyrase within gonorrhea. They act on different subunits, so Gepo acts on the A subunit, Zoli acts on the B subunit and in addition Gepo acts on an additional enzyme which is topoisomerase four.

00:07:10:08 - 00:07:44:16
Rosalyn Plotzker
So forget that means that it prevents DNA replication. For Zoli that means it blocks DNA synthesis. So they have like slightly different mechanisms, both of which lead to gonorrhea cure. One of the things that's exciting about Gepo is that it actually has those two targets. And so that reduces the likelihood of resistance, because in order for a strain of gonorrhea to become resistant, you would need mutations to occur at both of those sites.

00:07:44:18 - 00:08:15:19
Rosalyn Plotzker
So both very exciting in terms of efficacy. There's a couple of things I wanted to highlight. One is that for urogenital efficacy when compared to Ceftriaxone based regimens, you can see that the microbiological efficacy/eradication or ME is 100% for Gepo and 96.8% for Zoli. So both very, very good for urogenital gonorrhea, which is what they're approved for.

00:08:15:21 - 00:08:55:21
Rosalyn Plotzker
They're also both pretty good for rectal gonorrhea, although they're not approved for that yet. And for pharyngeal gonorrhea they're not as good for there were two cases of bacterial persistence. And pharyngeal gonorrhea is typically very difficult to treat just because of a bioavailability of the drug. And that's true across drugs in terms of profile for side effects, Gepo did have common GI side effects, so GI side effects were typically mild diarrhea nausea, but it was common.

00:08:56:00 - 00:09:22:13
Rosalyn Plotzker
Two thirds of people did experience side effects. For Zoli, the side effects were comparable to the accident and as a third regimen. Okay, so one study I wanted to talk about is related to Zoli. This study was a very impressive international study. It was conducted by the Global Antibiotic Research and Development Partnership, or GARDP, which is run by the W.H.O..

00:09:22:14 - 00:09:58:07
Rosalyn Plotzker
And it included over 900 people. They could be symptomatic or asymptomatic, and they could be diagnosed by either culture or not or gram stain. The exciting thing about this is that it took place across 16 different sites, including four different continents. So it included Europe, Africa, Asia and the United States. And what it did was it compared the liaison as a single dose of 3g to 500mg IM plus azithromycin one gram.

00:09:58:09 - 00:10:28:14
Rosalyn Plotzker
If you might remember, in the United States, when we were doing dual therapy, we only used Ceftriaxone 250. So this was a much more rigorous comparison. And for the primary outcome of looking at urethral or cervical cultures that day. Six the result was that there really wasn't a difference. The difference in efficacy was 5.31%, which was considered within the margin of non inferior meaning, meaning as good as.

00:10:28:15 - 00:10:59:07
Rosalyn Plotzker
So Zoli was shown to be as good as this rigorous treatment of ceftriaxone plus azithromycin at the higher dose of ceftriaxone. All right. So here are the regimens for its approved for uncomplicated UTIs as well as uncomplicated urogenital GC for uncomplicated UTIs. You can use this for female adults as well as pediatric patients who are at least 12 years old and at least 40kg.

00:10:59:07 - 00:11:24:22
Rosalyn Plotzker
And the dose for this is 1500 milligrams or two tablets. Each tablet is 750, and you do that every 12 hours for five days. So in total it is ten tablets for for gonorrhea. You can use this for adults of both

genders, as well as pediatric patients who are at least 12. And for gonorrhea they have to be at least 45kg.

00:11:24:22 - 00:11:59:18
Rosalyn Plotzker
So slightly larger the dosage is three grams. So for tablets and you do this every 10 to 12 hours for two doses. So you only need to do eight tablets total given much closer together. You want to avoid this. If the glomerular filtration rate is 30 or less it's okay to do this with or without food. Food is not a factor here, and one important thing is that you cannot take with a CYP3A4 inhibitor or inducer.

00:11:59:18 - 00:12:28:09
Rosalyn Plotzker
So before you prescribe Gepo, you do need to check the medications that the patient's already on and make sure there are no there's no contraindication or drug interactions. For Zoli, it's not approved for UTIs. It is approved for uncomplicated urogenital GC. For patients who are over 12 years old and at least 35kg, there is a subtle difference in how you dose this based on weight.

00:12:28:09 - 00:12:57:10
Rosalyn Plotzker
So if you have a patient who is between 35kg but up to 50kg, so under under 50 but over 35, then you give them the three grams single dose. But you want to do that on an empty stomach. If you have a patient who is 50kg or more, then you give them the same dose three kilograms. Excuse me three grams, but you need to give it with food.

00:12:57:10 - 00:13:26:15
Rosalyn Plotzker
And the reason is because the food increases the half life and increases the drug levels that are available. For someone with a larger body habitus. There's a risk of fetal toxicity for this, as well as testicular toxicity. So you do want to be careful that you are not giving this to someone who's pregnant. And you also cannot use this with CYP3A4 inducers.

00:13:26:15 - 00:13:52:18
Rosalyn Plotzker
Inhibitors are okay, but inducers are not. So again, check your meds before you use Zoli. Okay, so the big question is it covered. This is all really good information. Can we use it. So for depot it is covered by Medi-Cal. But you do need prior authorization at this point. For Zoli it's not yet covered. But when it becomes commercially available which is expected any day now.

00:13:52:18 - 00:14:20:02
Rosalyn Plotzker
When they announced this, they predicted that they would become it would become commercially available in the second half of 2026. It is not commercially available yet, but we expect it soon. So when it is commercially available, then it would be added and you can use it with prior authorization. Right now, neither is currently covered by Family PACT. Okay, so moving on.

00:14:20:03 - 00:14:48:02
Rosalyn Plotzker
I'm going to talk about mycoplasma genitalia. A couple foundational things. First, I just want to discuss mycoplasma genitalia as a pathogen. So this is a bacteria. It can colonize mucous membranes. That includes the goo tract the oral pharynx the rectum. And it's very, very difficult to

culture. It doesn't have a cell wall. It's a small genome. And it infects epithelial cells and replicates inside the epithelial cells.

00:14:48:02 - 00:15:22:06
Rosalyn Plotzker
So all of this is to say that it takes months and months to culture. There's only two labs that do that worldwide. It's passed through vaginal and anal sex. We don't really know if it's transmitted through oral sex, although it can, as I mentioned, infect the oropharynx. Re-occurrence is possible and that's through antigenic variation. And you know, I kind of think of this as as kind of a sidekick or a copilot to other bacterial infections like gonorrhea and chlamydia.

00:15:22:08 - 00:15:58:20
Rosalyn Plotzker
It's also seen alongside Trichomonas or T vaginalis. So in males, patients can be symptomatic or asymptomatic among patients with urethra if they have non urethra or new, about 20% of the time are around 1 in 5 cases have an implicated. If that is treated and then recurs or it's treated. But the symptoms persist. In those cases, about 40% of them have men implicated.

00:15:58:21 - 00:16:30:11
Rosalyn Plotzker
It's not really clear if M. gen, as a bacteria, can ascend and cause epididymis or prostatitis or infertility. We don't know. And as I mentioned before, pharyngeal colonization is possible. But as far as we know, it doesn't cause any symptoms for females. Again, patients can be symptomatic or asymptomatic, and for cervicitis cases is implicated in somewhere between 10 and 30% of cases for vaginitis.

00:16:30:12 - 00:17:01:00
Rosalyn Plotzker
We see it in about 1 in 5 cases. And for PID, we detect M. gen about 10% of cases of PID. That said, among patients with M. gen, there is a 67% increased risk of PID developing. So I know that's a subtle nuance, but I just want to say it again. Among cases of PID, about 10% have mycoplasma genitalia.

00:17:01:00 - 00:17:11:05
Rosalyn Plotzker
But among patients who have mycoplasma genitalia, you have an increased risk of developing PID in the future.

00:17:11:07 - 00:17:43:11
Rosalyn Plotzker
Excuse me? M. gen is also associated, possibly with a few obstetrical outcomes spontaneous abortion, endometriosis, preterm delivery, and low birth weight, as well as infertility. Possible associations not well established yet, and in terms of asymptomatic colonization, the long term consequences aren't well known for either males or females. One thing I do want to highlight is that genitalia does significantly increase risk for HIV.

00:17:43:15 - 00:18:16:15
Rosalyn Plotzker
We know that bacterial STIs like chlamydia, gonorrhea, syphilis, as well as trichomonas can increase the risk for HIV among women and men with untreated M. gen infection, the risk is is highest. It's

three fold or 3.1, and you can see that's even higher than these other pathogens. So in terms of epidemiology, how common is M. genitalium in the general population.

00:18:16:15 - 00:18:50:06
Rosalyn Plotzker
This is data from 2017 to 18. It was published just after or around the pandemic in 2021. And what we see is in the general population, M. gen seems to be about as common as gonorrhea. It's not as common as Trichomonas. It's a little more common than gonorrhea when comparing males, but for females it's about as common. However, for certain populations, M. gen is extremely common.

00:18:50:06 - 00:19:19:05
Rosalyn Plotzker
So for men who have sex with men as well as sex workers, M. gen was found to affect about 20% of the population. So that's more than tenfold of what we see in M. gen in the general population. This is looking at the prevalence of genitalium in different clinics, in STI clinics across the United States. And here, two, you see that M. gen is particularly common in those clinical settings.

00:19:19:05 - 00:19:54:08
Rosalyn Plotzker
So in the Midwest we see like Indianapolis, Saint Louis, Missouri, and also in the South and Greensboro, North Carolina, M. gen surpassed 20% on the coasts in New York City and Seattle. In urban areas, M. gen was around 10%, give or take, and in Colorado it was 16.3%. So it can be very common in certain populations. So in terms of how to treat M. gen, you don't want to jump to testing for M. gen and and treating empirically.

00:19:54:08 - 00:20:15:19
Rosalyn Plotzker
If you have a patient who has service itis or new, the first thing you want to think about is gonorrhea and chlamydia, as well as BV and trichomonas in the setting of cervicitis. And so what you want to do is you do a NAAT test and then you can give this in 100mg Po bid for a week.

00:20:15:21 - 00:20:51:08
Rosalyn Plotzker
If the symptoms persist after the doxycycline is given, then you can test for M. gen. And if it's positive then you treat. If you're treating then the recommended regimen. If resistance testing is not available, which I'll get to in a minute. In most cases it's not. The treatment is to repeat that week of doxycycline 100mg twice a day for a week, and then you do a week of moxifloxacin, which is 400mg orally once a day for a week.

00:20:51:08 - 00:21:19:08
Rosalyn Plotzker
So doxy then moxi in terms of who to test for M. genitalium as as I mentioned in the last slide, you really do not want to test people who are not symptomatic, so you don't do screening. And that also applies to pregnant people. We don't have a lot of evidence to show that asymptomatic infections have sequelae. We just don't have the evidence to show that.

00:21:19:08 - 00:21:49:11
Rosalyn Plotzker
And we also don't have the evidence to show that treating asymptomatic infections prevents any of the negative sequelae that I've discussed for diagnostic testing, you do want to test for M. gen, but

like, isn't the first thing you test for? You test if it is persistent NGU/cervicitis and proctitis and it is not responding to treatment, you can consider testing for M.gen for PID.

00:21:49:12 - 00:22:19:07
Rosalyn Plotzker
So 10% of cases of PID can have M. gen implicated. And so you can consider testing at the initial presentation for that. But the rationale is basically that for some cases of genitalium they will clear with the doxycycline alone. So if that happens and the symptoms resolve then you don't have to repeat the doxycycline and the moxifloxacin.

00:22:19:07 - 00:22:51:21
Rosalyn Plotzker
And then that would slow the increase in moxifloxacin resistant strains because you're not using as much moxi. So that's a good thing. In terms of a test of cure, you only want to do a test of cure when moxifloxacin can't be used. So if you have a patient who's pregnant, which I'll talk about in more detail, or you have a patient who has a severe allergy, and then the patient remains symptomatic after treatment, then you want to do a test of cure.

00:22:51:22 - 00:23:15:16
Rosalyn Plotzker
And the reason we again, it's a lack of evidence, but we just don't have evidence that asymptomatic colonization causes a negative sequelae. So if you have a patient and then they become asymptomatic, we assume that they are adequately treated. We do not need to do a test of cure. Partner testing can be offered if patients are symptomatic and they have confirmed.

00:23:15:18 - 00:23:43:19
Rosalyn Plotzker
And the reason is because there is a high concordance of M. gen between partners. This is sexually transmitted. And so if you have a patient whose symptomatic and you treat their partner, then that could reduce a symptomatic reinfection in patients. I do want to give the caveat that we do not have studies that have evaluated this. All right. So I mentioned the Doxy Moxi regimen.

00:23:43:21 - 00:24:07:07
Rosalyn Plotzker
I do want to talk about what what we can do if we do have a resistance testing available. So if you do have resistance testing available then you can see if this is sensitive to a macrolide. And if you do see that there is macrolide sensitivity then you can use doxycycline. And instead of using moxi you can follow it by azithromycin.

00:24:07:09 - 00:24:30:19
Rosalyn Plotzker
And that would be one gram orally at the first dose. And then you do 500mg orally for three days after that. And that's once a day. If the macro if the strain is macrolide resistant, then you have to use the Doxy and Moxi regimen. And of course if you don't have resistance testing available, then we are on the side of caution.

00:24:30:19 - 00:24:55:16
Rosalyn Plotzker
We assume that this could be macrolide resistant. And so we use Doxy and Moxi as a default. All right. What if we can't use Doxy and Moxi? First I'll talk about what to do in non-pregnant patients.

So if a patient is not pregnant then you can start off with just azithromycin monotherapy. It's possible it could be sensitive to macrolides.

00:24:55:16 - 00:25:29:06
Rosalyn Plotzker
So you do a gram of azithromycin one time. Then for the next three days you do 500mg orally once a day. And because this is an alternative treatment regimen, you do want to do that test of cure. And you should wait at least 3 to 4 weeks before you do the test of cure, because you need to let the infection be completely eradicated and let any genetic material clear from the site so that you're not getting a false positive.

00:25:29:08 - 00:25:55:04
Rosalyn Plotzker
If the test of cure shows that azithromycin treatment was not successful for non-pregnant patients, you can use minocycline. The dose for that is 100mg bid, and you use that for 14 days. And again, you want to do that test of cure at 3 to 4 weeks. This has been shown to work about two thirds of the time. And that was in a small study.

00:25:55:04 - 00:26:16:16
Rosalyn Plotzker
It was done in Australia. It had 123 patients. So the efficacy isn't great. But if it's if you can't use moxi, you can't use doxy and you have already used azithromycin this would be the next step if that second test of cure is still positive, meaning the minocycline for 14 days didn't work, there's a couple options.

00:26:16:22 - 00:26:32:14
Rosalyn Plotzker
You could extend the minocycline so you could use it for four weeks. You could combine it with tinidazole, and you could also look into using.

00:26:32:16 - 00:27:03:14
Rosalyn Plotzker
But you could try contacting the company Sanofi. And there are some programs if pristinamycin is really your only option. But I think when you get to this stage, at this point, you should really be working with an infectious disease doctor on on how to handle this and which regimen to try. For patients who are pregnant, the recommended regimens are contraindicated, so we can't use doxy in pregnancy.

00:27:03:14 - 00:27:28:14
Rosalyn Plotzker
Moxifloxacin is a category C drug also not recommended. So we start similarly with azithromycin monotherapy with our test of cure in 3 to 4 weeks. The difference is that if you are pregnant and if the test of cure shows that is an treatment was not successful, you can't use minocycline and tinidazole. All those are both indicated in pregnancy.

00:27:28:15 - 00:27:54:20
Rosalyn Plotzker
So at this point you have a few options. You could wait until after delivery and then adequately treat with Doxy and moxi. So this patient presumably is not allergic to doxycycline or moxifloxacin. So if

you wait it out you can use it. If your patient is very symptomatic and you really want to pursue further treatment, then the option would be pristinamycin.

00:27:54:22 - 00:28:24:18
Rosalyn Plotzker
Again, not available in the US. And you could try contacting the company given the circumstances. I also want to mention that M.gen was added to the CDC watch list for antimicrobial resistance in 2019. It very quickly develops antibiotic resistance, and one of the reasons we test it for macrolide resistance is because there's increasing prevalence of that, as well as for fluoroquinolone associated mutations.

00:28:24:20 - 00:28:53:10
Rosalyn Plotzker
All right. All that said is it covered. So for Medi-Cal minocycline and tinidazole are covered not available in the U.S. not covered by Medi-Cal. For Family PACT pristinamycin is not covered for M.gen tinidazole is covered for Trichomonas and BV but not for M.gen. Pristinamycin is not available in the US. Not covered by Family PACT.

00:28:53:12 - 00:29:27:10
Rosalyn Plotzker
All right, moving on to over-the-counter STI testing at home. I can do it myself. You're at patient asks or wants to do so. Learning objective to how do you counsel your patients. So there's a few tests that I just want to put on your radar if they're not already. Over ten years ago, in 2012, the FDA approved the first over-the-counter test for HIV, which many of you may remember it was Oraquick by OraSure technology.

00:29:27:10 - 00:29:58:21
Rosalyn Plotzker
So that's available. Much more recently, in 2023, the FDA approved an over-the-counter test for genital gonorrhea and chlamydia. It was called Simple 2, Let's get checked. This is a test that you have to mail into a lab so you don't get the results at home, but you can at least do the test at home. Then the following year, in August of 2024, the FDA approved an over-the-counter syphilis test, which is very exciting.

00:29:59:00 - 00:30:24:20
Rosalyn Plotzker
So that one is called First to Know by Now Diagnostics. The thing that you need to make sure you counsel your patients about is that this is a treponemal antibody only test. So it only tests for the antibodies which are positive for life. If you have ever had syphilis, they do not do the component of syphilis testing.

00:30:24:20 - 00:30:47:00
Rosalyn Plotzker
So if your patient has ever had syphilis in the past, this test will come up positive even if they've been treated and it isn't an option to test for reinfection. If your patient has never had syphilis and this comes up positive, then they would need to come in and they would need to get an answer as part of their care.

00:30:47:02 - 00:31:09:18
Rosalyn Plotzker

Okay. Last year, the FDA approved a completely at home test for gonorrhea, chlamydia and trichomonas for women. This is by Visby. The way it works is that you can collect at home, and then there's a device. You can see it at the bottom of the screen. It's being held in a hand. It says women's sexual health on it.

00:31:10:01 - 00:31:31:07
Rosalyn Plotzker
And basically after you collect the specimen, the device connects to your phone. And so in 30 minutes you can see the results that are transmitted onto your phone via an app. So and you have to plug it in its electronic.

00:31:31:09 - 00:32:03:11
Rosalyn Plotzker
More recently this summer, literally last month something came out called Colli-Pee. This is exciting. This is a mail in home collection kit for first void urine. This one tests for chlamydia, gonorrhea, trichomonas, and which I personally have kind of mixed feelings about considering what we just talked about, how you shouldn't be screening asymptomatic patients. You don't want to check for M.gen right away, but that is included.

00:32:03:13 - 00:32:30:22
Rosalyn Plotzker
So the reason that this works is because and the reason that this is like a new, exciting technology is because you can give a urine sample that can maintain stability for DNA and RNA. It has a proprietary chemistry so that when you have a urine sample collected, it can stay intact at ambient temperatures. So this is run on Roche's platform.

00:32:31:01 - 00:32:56:15
Rosalyn Plotzker
The Cobas 5800, 6800, 8800 molecular diagnostics systems. It does require a lab order, so you would have to put an order in, and then the patient would get the kit and then do the collection at home, and then mail it into the lab. So it would also require developing a mail in lab workflow if you wanted to implement it in your clinic.

00:32:56:17 - 00:33:22:06
Rosalyn Plotzker
This is just a quick diagram about how to use this. So it comes with a collection funnel, and it comes with a collection tube that has the stabilizing chemistry solution in it. And you basically just open the the collection tube and attach the funnel. You give the first void urine sample. And then you can toss the funnel and then click the collection tube and mail it in.

00:33:22:08 - 00:33:53:05
Rosalyn Plotzker
So pretty easy. All right. And finally this is a test that is not on the market yet but it's in review. It's pretty exciting. This is a chlamydia gonorrhea molecular self-test. And it is an over-the-counter point of care CLIA waived test by OraSure. It's a single use disposable device and there is no plug required. So unlike the Visby collection, which was electronic and tells results on your phone, this doesn't require any of that.

00:33:53:06 - 00:34:20:18
Rosalyn Plotzker

Another difference is that this isn't just for women. It can be self collected vaginal or penile samples, and you can use a swab for that. And then, like the Visby platform, you get results in 30 minutes right now OraSure is gathering customer input. So that's the stage that they're at. And they're also putting this in FDA review.

00:34:20:19 - 00:34:46:19
Rosalyn Plotzker
So they haven't released a product yet in terms of how to use it. It comes with a swab. And so you use the swab to collect the sample from, like I said, either the of the penis or the vagina. And then you stir it into a solution and then you drop this, you add 7 to 8 drops of the sample onto the well of the test, and then in 30 minutes, you'll see the result.

00:34:46:21 - 00:35:16:15
Rosalyn Plotzker
In terms of cervical cancer screening at home, you know, self collection is not new anymore. As of May 2024, the FDA approved self collection. This was very exciting. It was announced by the American that self collection was approved as a form of primary HPV testing. It's been studied for over 20 years. It's feasible, acceptable, and importantly comparable to clinician collected samples.

00:35:16:15 - 00:35:43:04
Rosalyn Plotzker
So this isn't at home, but it means that a patient can self collect their HPV sample the same way they would, you know, provide a urine sample at a clinic. It doesn't require a pelvic exam. So last year, the FDA authorized an at home HPV collection device. This device is the Teal Test Wand, and it looks kind of like a tampon applicator.

00:35:43:04 - 00:36:10:02
Rosalyn Plotzker
So you can see the tip has an applicator that has a sponge that can be advanced. And there's a dial at the end that's on the left side. So basically you can insert the wand and then advance the sponge. And then the dial allows you to twirl the sponge so that you can get a sample, and also allows you to move the sponge up and down.

00:36:10:04 - 00:36:40:12
Rosalyn Plotzker
So, you know, it's a new collection device, which is exciting. It's about $100 with insurance or about $250 if you're self paying or using FSA. So are these things covered for home testing? The Colli-Pee device? It's a little it's a little nuanced. The device the test itself is covered by Medi-Cal and Family PACT. So the CPT codes for gonorrhea, chlamydia, trichomonas.

00:36:40:13 - 00:37:10:16
Rosalyn Plotzker
The tests are covered. However the device the test kit doesn't have any billing codes yet. Same thing for the wand. The HPV test, meaning the lab is covered by both Medi-Cal and Family PACT. However, there is not a billing code for the Teal Wand itself, so in short, the kits are not covered. But once you collect the sample, the lab is covered.

00:37:10:17 - 00:37:50:06
Rosalyn Plotzker

All right. And I just want to circle back to talk about a study that was done about self collection. This was specifically related to HPV. This was called the self-serve study. And this involved about 600 participants. It was 599 to be specific. And where participants with the cervix general population and they had had an abnormal HPV or abnormal pap smear in the past six months, there was positive agreement between the self collected and clinician collected samples for detection of HPV.

00:37:50:08 - 00:38:26:00
Rosalyn Plotzker
The agreement was 95.2%. So basically equivocal. And the sensitivity for the detection of high grade cervical dysplasia, which is precancerous, was equivalent to clinician collected. So that's fantastic. Importantly, in terms of patient acceptability, over 90% reported that the advice instructions were easy to follow or very easy to understand, and a similar majority would have chosen to do self-correction provided they knew that the results were comparable to clinician collected.

00:38:26:00 - 00:39:00:03
Rosalyn Plotzker
So this is really empowering for patients. And another final HPV shout out that I want to give is to everybody who was involved with the HPV vaccine. This is incredible. Incredible results. This is looking at cervical precancerous from 2008 until 2022. Among people who are in their early 20s. So people who would have been eligible for VAC for HPV vaccination.

00:39:00:05 - 00:39:30:07
Rosalyn Plotzker
And what we see is that there has been a phenomenal decrease in HPV related cervical precancerous, that it has dropped 80%. And I have never seen that dramatic of a drop about any sexually transmitted disease. So this is incredible work. And I just want to put this out there as a bright spot to all of us who work in sexual health.

00:39:30:09 - 00:40:06:11
Rosalyn Plotzker
All right. Learning objective three sexually transmitted Shigella. So Shigella is not something we usually think of as an STI. Shigella is something I think of as a nontraditional STI. It's a gastrointestinal infection. There are four different species. The one that I'll focus on today is flexneri. And just a quick review of symptoms and transmission. The symptoms of Shigella are primarily GI diarrhea, which can be bloody sometimes abdominal pain and cramping, nausea and vomiting.

00:40:06:16 - 00:40:36:00
Rosalyn Plotzker
You can also develop a fever. The incubation period is about a day or two. After exposure. The symptoms start and then it lasts for about a week and typically resolves on its own. It's self-limiting. Longer courses are possible, particularly for people who are immunocompromised. In terms of transmission, Shigella is passed via the oral fecal route, and that includes hands or fomites that come in contact with human feces.

00:40:36:00 - 00:41:06:01
Rosalyn Plotzker
That can also happen in contaminated food, contaminated water. And you really don't need a lot of matter present in order for transmission to happen. Infectious dose is very low. It can be between

10 and 100 organisms. So very, very minimal. And this can also occur during sex either direct or indirect sexual contact. So in terms of who's at risk for Shigella.

00:41:06:03 - 00:41:39:06
Rosalyn Plotzker
And this is just Shigella overall not necessarily sexually transmitted Shigella. We see this in young children who are in daycare settings among adults. We see this in travelers to endemic areas, GBMSM, people experiencing homelessness, as well as people who are immunocompromised. And that includes people living with HIV. There have been recent increases in antimicrobial resistance Shigella among all of the adult groups.

00:41:39:06 - 00:42:11:13
Rosalyn Plotzker
So that's very important that among the adults at risk for Shigella, we are seeing more antimicrobial resistance for diagnosis. This is, you know, usually diagnosed with a lab test. You can do that via culture or you can do a test that's culture independent, like a PCR test. Usually you don't need to use antibiotics because this is self-limited. So you know I mentioned it lasts about a week.

00:42:11:13 - 00:42:36:14
Rosalyn Plotzker
If you were to use antibiotics, it might shorten the course by about a day or two. So typically we don't use antibiotics to treat this. There is an exception which is that for patients who are either immunocompromised or those with very severe disease, you could consider using antibiotics. This can also happen for people who are living with HIV.

00:42:36:14 - 00:43:18:15
Rosalyn Plotzker
And if you do use antibiotics, then it's a good idea to tailor that to antimicrobial susceptibility results, especially considering the rise of antibiotic resistance that we're starting to see. So what are the risk factors for sexually transmitted Shigella specifically in men who have sex with men? This is a paper that was published three years ago by Siddiq. In terms of demographics, being in a city, so being in a capital city or another urban area was associated with sexually transmitted Shigella in terms of biological factors, living with HIV, particularly HIV, that is not well controlled.

00:43:18:15 - 00:43:57:18
Rosalyn Plotzker
So people who are not taking antiretroviral therapy is associated with sexually transmitted Shigella. We are seeing that antimicrobial resistance Shigella species are more common in this setting, and having another STI like chlamydia, syphilis, acute hepatitis C all are associated with this. And in terms of behavioral, the bottom line of this longer list is that if you have behaviors that increase the number of partners that you have and increase the to fecal matter.

00:43:57:18 - 00:44:11:07
Rosalyn Plotzker
So oral anal sex or condom less anal sex or fisting that that will increase the likelihood of sexually transmitted Shigella.

00:44:11:09 - 00:44:38:22
Rosalyn Plotzker

One thing that I do want to point out in terms of Shigella as it relates to other STIs, and why this might be important for our community of STI prevention, is that among males who were diagnosed with Shigella in the United States, 1 in 5 went on to acquire another STI within the year. So I'll say that again.

00:44:39:00 - 00:45:11:04
Rosalyn Plotzker
Among males who were diagnosed with Shigella, there was a 20% chance that within 12 months they would acquire either chlamydia, gonorrhea or syphilis. And so this might be something that's good to keep in the back of your mind. If you have a patient who has Shigella, that their likelihood of developing of acquiring a bacterial STI is higher. And you can counsel them on doxy pep and STI prevention.

00:45:11:06 - 00:45:43:21
Rosalyn Plotzker
This is even higher if you have the species of Shigella. And I mentioned earlier, Shigella flexneri, that if a patient has Shigella flexneri, it increases from 20% to almost 1 in 3 or 30% likelihood of developing an STI within 12 months. So there's a pretty strong association there. And also I want to touch on the antimicrobial resistance piece for Shigella.

00:45:44:00 - 00:46:18:10
Rosalyn Plotzker
This is a study that was just published this year in April. It was an reporting on the emergence of extensively drug resistant Shigella from 2011 to 2023. So here's the data. The bars are the number of of sequenced, the number of of strains that were sequenced. And so you can see that back in 2015 under 500 isolates were sequenced.

00:46:18:12 - 00:46:50:13
Rosalyn Plotzker
But by 2023 they were sequencing over 3000 close to 3500 isolates. So that's the bar. So they've they've sequenced many, many, many, many isolates. And what I want you to notice about this line is that the line is the percent of these isolates that were extensively drug resistant. And back in 2019 it was under 1%. And in 2020 it was about 1%.

00:46:50:13 - 00:47:22:12
Rosalyn Plotzker
But by 2023 we are over 8%. So we have seen a dramatic rise in antimicrobial resistance of Shigella. They do not report the sexual orientation of the patients who these isolates came from. What they do report is that the vast majority were adults, so 96.1% were over 18 or at least 18 years old. The median age was 41 and the vast majority were males.

00:47:22:12 - 00:48:08:11
Rosalyn Plotzker
So 86.2% were male cases and importantly, 37% were hospitalized. Luckily, there were no deaths. But these antimicrobial resistance cases can become quite severe and require admission to a hospital. So it's something that we do need to take seriously. The cases of XDR Shigella by region are here, and we can see that the West is leading the way, that we are seeing this more and more in the West, and the proportion of cases that are specifically Flexner, which we know is associated with increased risk of STI, is is getting close to about 50% of the cases.

00:48:08:12 - 00:48:35:14
Rosalyn Plotzker
It looks like it's about 40. So this is definitely something I want you to have on your radar. And so for learning objective three how do we prevent sexually transmitted Shigella? It really is bread and butter, old fashioned public health soap and water at this point. So the first thing is you can counsel your patients to avoid sex with individuals who've had diarrhea in the past two weeks.

00:48:35:14 - 00:49:02:19
Rosalyn Plotzker
This is not the sexiest conversation to have with a partner, but it is something that you can suggest if you know your partners had a GI thing. Wait two weeks. Barriers are an option. So condoms, dental dams during oral sex, latex gloves if you're doing digital anal sex, or you can put a condom, a penal, a penal condom over the hand, over the fingers if you don't have a glove available.

00:49:02:22 - 00:49:28:20
Rosalyn Plotzker
So barriers are an option. But really washing, washing, washing, washing hands, genitals and the anus with soap and water before and after sex, washing hands, sex toys or other things that were involved like condoms or barriers, or ducking material and washing sex toys with soap and water after each use. So really, that is the best way to prevent Shigella transmission.

00:49:28:21 - 00:50:00:13
Rosalyn Plotzker
And it is free. We don't have to worry about Medi-Cal and FPACT for that one. Okay. STI prevention strategies. So I want to end with a case. This case is a 46 year old HIV uninfected cis man or cis man who's not living with HIV. Excuse me, who has sex with men. He has struggled with adherence while taking oral PrEP, so he was switched to injectable cabotegravir LA IM.

00:50:00:15 - 00:50:35:00
Rosalyn Plotzker
You see him and in the last three months he has had about 30 male partners. He has had condomless insertive and receptive anal sex. He uses methamphetamine several times a week. He uses that via inhaling and with IV, including during sex. And he also uses doxycycline Po 200mg as needed after condomless sex. So that brings me to doxy or excuse me, DoxyPEP.

00:50:35:01 - 00:51:06:01
Rosalyn Plotzker
So what is Doxy PEP? Doxy PEP has been in use for several years now, so this is probably review for a lot of you. But Doxy PEP stands for Doxycycline Post-Exposure Prophylaxis. It's a one time dose of 200mg of doxycycline. And you can take it immediately. Ideally you want to take it within 24 hours, but you can take it within 72 hours up to 72 hours after having condomless oral, anal or vaginal sex.

00:51:06:01 - 00:51:34:16
Rosalyn Plotzker
And that reduces infections with gonorrhea. Although gonorrhea it doesn't as effectively prevent. It is what our data is showing chlamydia and syphilis. I think it does work pretty well. Some people call it the plan B or morning after pill for bacterial STIs, and this is just an advertisement for Doxy PEP at the top the banner in October of 2022.

00:51:34:16 - 00:52:02:06

Rosalyn Plotzker
So now, almost four years ago, San Francisco was the first city to release Doxy PEP guidelines. And part of that is because a lot of the research around Doxy PEP was spearheaded in San Francisco. By 2023, there was a national HIV behavioral survey, and they had a subset of data that was from San Francisco. It was over 500 patients, excuse me, participants.

00:52:02:06 - 00:52:39:03
Rosalyn Plotzker
So 533 MSM with and without HIV. And by 2023, this is pretty amazing. Two thirds of MSM were aware of Doxy PEP by then, and almost 1 in 5 were actually using it. So that's pretty incredible that this new, this new prevention method had such a quick uptake for MSM who did not have HIV. The use was associated with having had an STI diagnosis recently and HIV PrEP use.

00:52:39:03 - 00:53:14:06
Rosalyn Plotzker
So if you're if the participant was already actively taking PrEP to prevent HIV, they could also add on Doxy PEP as part of that regimen. For MSM living with HIV use was associated with younger age. And I can just say anecdotally that now, three years later, Doxy PEP is very, very widespread in San Francisco. At my clinic, when I talk with my patients about it, it the vast majority are aware of it and using it.

00:53:14:06 - 00:53:47:12
Rosalyn Plotzker
So it's had a very good uptake in our city. This is data that was prevented in excuse me presented in 2024. And this is also really incredible what it shows this gray bar in the middle separates pre PEP and post doxy PEP. So for early syphilis you can see that there was a pretty stable trend of early syphilis cases.

00:53:47:14 - 00:54:23:10
Rosalyn Plotzker
That was and it was reporting around 90. And what they saw was after Doxy PEP was implemented early early syphilis cases pretty much plummeted. There was a 51% decrease. And that was just by November of 2023. So in one year, which is completely astounding, chlamydia has similar results. They're not shown here for the sake of time, but both chlamydia and syphilis really decreased in San Francisco after Doxy PEP was implemented.

00:54:23:10 - 00:54:46:21
Rosalyn Plotzker
And this is ecological data. So I don't have data for the individuals who are taking Doxy PEP or how frequently they took it. But as a city, this had a huge impact in the first year for gonorrhea, it didn't really show as good of an of an effect. Gonorrhea was actually kind of decreasing before Doxy PEP, and it looks like it's kind of stabilized out.

00:54:46:21 - 00:55:14:18
Rosalyn Plotzker
So it's actually a little higher than what would have we would have predicted. But it's basically been stable. So I would say gonorrhea, it isn't as effective. And so this brings me to talk about Doxy PEP for cis women. So right now the results are mixed for using Doxy PEP. Although I think that their overall pretty promising for this women.

00:55:14:19 - 00:55:42:07
Rosalyn Plotzker
There was one style study that was called the DPP trial, and it showed no difference in the incidence of STIs by Doxy PEP versus no Doxy PEP. But they did a post-hoc analysis that looked at hair samples from 50 randomly selected participants in the Doxy PEP arm, and when they looked at the hair samples, doxycycline was not detected that often.

00:55:42:07 - 00:56:13:01
Rosalyn Plotzker
It was detected in about 29% of the hair samples. So that kind of reflects that. There was kind of poor adherence. And so now they're doing a follow up pilot study or excuse me, they did a follow up pilot study that was looking at directly observed Doxy PEP that was taken on a weekly basis with a snack that included 60 participants, and they had follow ups every three months for six years, for six months.

00:56:13:01 - 00:56:45:09
Rosalyn Plotzker
And what that showed was that it actually did have an impact on gonorrhea. And combined as well as chlamydia alone, it went from 31.8 per 100,000 person years to 18.4. So there was a decrease, which is very good. And right now Janell Stewart, who is spearheading a lot of this work, is conducting a study called FoXXy Doxy, which is looking at people who are 14 to 29 years old, assigned female at birth.

00:56:45:12 - 00:57:13:20
Rosalyn Plotzker
It's happening in the United States, and it's looking at three groups on demand doxycycline versus taking it once a week, whether or not you have sex versus no doxy pep, which is now the standard of care. So those results are forthcoming. I am optimistic and is it covered so Doxy PEP for females. So Medi-Cal covers doxycycline without restriction.

00:57:13:22 - 00:57:37:15
Rosalyn Plotzker
Family PACT does not cover Doxy PEP for females. And in terms of the coverage, I know that that is a really, really big topic. So I've summarized everything here. I don't expect you to remember every detail from the past hour, but I know that this is an important piece. So just to go over it one more time for gonorrhea, alternative therapy is covered with prior authorization with Medi-Cal.

00:57:37:18 - 00:58:11:12
Rosalyn Plotzker
Zoli isn't covered yet. It's not a yet. It will be covered with prior authorization when it becomes available. Family PACT does not cover this for Mycoplasma genitalia. Alternative therapies. Minocycline and tinidazole all are covered by Medi-Cal. They are not covered by Family PACT but tinidazole is for trick and BV, and personalization is not covered by either because it's not available in the United States for home testing for both Medi-Cal and Family PACT, and for both STI and HIV.

00:58:11:18 - 00:58:34:18
Rosalyn Plotzker
HPV testing. The labs are covered, but the kits themselves are not covered, so the patient would have to pay for the kids and for Doxy PEP. As I just mentioned for females Medi-Cal. Yes, it covers it.

Family PACT it does not. All right, so a couple promotions. Thank you so much for paying attention and staying with me for this past hour.

00:58:34:18 - 00:59:09:03
Rosalyn Plotzker
I know that was a lot. And you don't have to memorize all of it because there is an app. The CDC treatment guidelines have an app and this is a QR code. So I use the the CDC treatment guidelines like many times a week. And you can use them from your phone. So there's the app, the STDCCN or Clinical Consultation Network is a clinical consultation network that NNPTC participates in.

00:59:09:06 - 00:59:36:09
Rosalyn Plotzker
So if you have specific patients that have really complex STI and you want to reach out to us and have a free clinical consult, you are welcome to do so. I would encourage it. I might answer your consult. I'm one of the clinicians for it. We respond in 1 to 5 days, depending on how urgent the consult is, and we can reply via email or phone call depending on what you prefer.

00:59:36:11 - 01:00:01:14
Rosalyn Plotzker
So check that out. And finally, there is a reproductive health hotline or ReproHH. It's for clinicians by clinicians. And it is run by Jen. It's free confidential and the hours are listed here. You can also connect to connect by this QR code if you want to scan it. And these slides will be available I believe. So if you don't get the QR code right now, it will be available later.

01:00:01:19 - 01:00:26:02
Rosalyn Plotzker
All right. Thank you so much for staying with me for all of this. And I also want to profusely thank my colleagues who are listed here Ina Park, Kelly Johnson Wyatt, Eric Tang, Sharon Adler, Nicole Nguyen, Cameron Sangan, Katherine Lambda, and, this Sarah Gilbert whose name I added but looks like it is not on this version of this slide.

01:00:26:02 - 01:00:41:18
Rosalyn Plotzker
But I also want to thank Sarah Gilbert for all of her help putting this together. All right. And with that, I will stop sharing my slides if I can figure out how.

01:00:41:20 - 01:00:49:07
Nicole Nguyen
Wait, don’t stop it yet. Just in case. We need to go back and. Don't do it. So yeah. So now we'll get to do the exciting Q&A questions. So we have a couple questions going.

01:00:49:09 - 01:01:17:21
Nicole Nguyen
Very excited. So first is you mentioned testicular toxicity. So does that mean Zoli is contraindicated in male patients.

It is so I don't think it is contraindicated in male patients. However I didn't actually find a lot of I didn't find a lot of information about the testicular toxicity. So I but it's not contraindicated in male patients. No.

01:01:17:21 - 01:01:50:01
Nicole Nguyen
You can use it in adults. Okay. And then can you include or mention the generic names of medications for those of us that are less familiar with abbreviations or brand names?

Well, if there are any. So the generic the generic versions of the drug names. Yes. Okay. I think I mostly used the generic versions. Let me go back to my slide.

01:01:50:02 - 01:02:20:16
Rosalyn Plotzker
So let's see. Yeah, we do tend to use them as all. I think that pretty much all of the if whoever asked that question, if you can tell me like specifically which drug, which drug is not listed as a generic, I'm happy to clarify it. I think most of them are, though. Okay, I'm not sure which one this is referring to, but is asking is this mechanical listed?

01:02:20:19 - 01:02:52:22
Nicole Nguyen
Similar to the impact of concurrent HSV infection on HIV infection? CD4 recruitment say that one more time asking is this information mechanically similar to the impact of concurrent HSV infection on HIV infection? Oh, I think that's fair. You know, that's good agreement. That's a good question. I actually don't have the data for that, so I can't really answer it.

01:02:53:01 - 01:03:28:14
Nicole Nguyen
I can't really answer it accurately, unfortunately. Okay. No problem. So next one, is there an alternative guideline for men when testing is not feasible? The in quotation the test is over $100. Well, you know, I think that I think that in general with men, I think the question is do you treat empirically like can you treat for men without testing for it?

01:03:28:16 - 01:04:02:03
Rosalyn Plotzker
I mean, I you know, there isn't really guidance about empiric treatment for men. I think that if you have, for example, let's say you have a partner, who if you have a partner who's been diagnosed with M. gen, then you could, in theory treat for men empirically. But really, you know, M.gen is something that you would want to test for before treating for it.

01:04:02:04 - 01:04:27:12
Nicole Nguyen
And then it says, I understand that a test of cure is not needed if treated with moxie, but do you require a to secure to see if they have been reinfected the way we do with GC and CT? That's a good question. So you only only if it's a symptomatic situation. So you. So if you have a patient you really only worry about M.gen when someone has symptoms.

01:04:27:12 - 01:04:33:19
Rosalyn Plotzker
If someone is asymptomatic we do not worry about it.

01:04:33:21 - 01:05:01:00
Nicole Nguyen

Okay. So this question is we want to offer point of care STI screening in shelters for youth in Chicago. What tests should we use? We are already doing POC HIV and hep C or a quick testing in shelters. That's a really good question. So I mean, I think that a lot of and I have to admit, I don't I don't have as much experience doing STI testing in shelters.

01:05:01:00 - 01:05:29:10
Rosalyn Plotzker
So I think a lot of this is also important to consider, like your workflow for things. If you and you said they're already doing HIV and hep C testing. Yes. This is we're already doing POC HIV and oral quick testing in shelters. Okay. Well, you know, I think if so, there's a couple of things to think about for syphilis.

01:05:29:11 - 01:06:02:10
Rosalyn Plotzker
There is the there is the point of care syphilis test. But if you end up doing a syphilis test that is a only test, then you do need to be careful with that. Because if anybody has ever had syphilis in the past, it will come up as positive. And for syphilis point of care testing. You know, you can't really get an accurate, which is what you would need both an hour and a test.

01:06:02:10 - 01:06:35:11
Rosalyn Plotzker
So one thing that I've heard of people doing for syphilis, point of care testing, excuse me, is if somebody has a has a iPad or a laptop with them that can access public health department records and check to see if people have ever had syphilis in the past before they do point of care testing for syphilis and if a patient is not has never had syphilis in the past, then if you do the test, you do the point of care syphilis testing.

01:06:35:13 - 01:07:04:15
Rosalyn Plotzker
And if it comes up as positive, you also have the ability to have a phlebotomist there to get a blood sample to do an hour. That's one way to do a, you know, on site syphilis testing. But it comes with a lot of caveats. And you would really you would probably want to work with your public health department on that and see what's feasible for gonorrhea and chlamydia.

01:07:04:17 - 01:07:32:04
Rosalyn Plotzker
I mean, I think that it might be harder to do point of care testing for gonorrhea and chlamydia for HPV. You can certainly there are ways to collect HD self collection for HPV samples. So it's not exactly point of care because you aren't going to get the results yet. But you could figure out some way for patients to do at least sample collection for HPV.

01:07:32:05 - 01:07:57:22
Rosalyn Plotzker
If it's if it's a patient who needs cervical cancer screening. And I think that, you know, the the self collection for things like college because I think that that's something that would be also kind of difficult to do. And it wouldn't be a point of care test. It would be an at home collection. Right. So you could implement the collection.

01:07:58:01 - 01:08:27:05
Rosalyn Plotzker

But but I wouldn't consider that really point of care. So I hope that answers your question. I know it's kind of roundabout, but bottom line is syphilis point of care could be feasible, but you want to make sure that you're checking for prior syphilis, and you are making it possible to get a phlebotomist on site. Yeah. I think that that's probably the best that we have at this point.

01:08:27:07 - 01:08:46:17
Nicole Nguyen
All right. So the next is does being on Doxy PEP cause any issues such as false negative STI results, as well as not being able to determine proper syphilis titers? Not that I'm aware of.

01:08:46:19 - 01:09:06:16
Nicole Nguyen
So you said having Shigella increases the risk that you will get another STI within the next 12 months, where those studies based on patients in the USA or those which are globally USA.

01:09:06:18 - 01:09:33:20
Rosalyn Plotzker
Does the original studies on the two oral agents for GC include HIV positive individuals say that one more time. Does the did the original studies on the two oral agent for gonorrhea include HIV positive individuals? That is a really good question. And you know what? I don't have the I don't have the studies in front of me. I can look it up if if people don't mind.

01:09:33:21 - 01:09:48:21
Rosalyn Plotzker
I think that's an important question, just in terms of I know that HIV is not a contraindication at all, but let me look up because I can look that up very quickly.

01:09:49:00 - 01:10:13:11
Rosalyn Plotzker
And if anyone else wants to look it up, the study is called the Eagle One. And it's for for it's called Eagle one. And I don't let's see, let's see.

01:10:13:13 - 01:10:22:10
Rosalyn Plotzker
I appreciate everyone's patience while I look at this study in live time.

01:10:22:12 - 01:10:28:22
Rosalyn Plotzker
You know, I don't I don't think that.

01:10:29:01 - 01:10:37:18
Rosalyn Plotzker
HIV was an exclusion criteria, but I want to double check that.

01:10:37:20 - 01:10:48:05
Rosalyn Plotzker
So give me one second.

01:10:48:07 - 01:11:06:06
Rosalyn Plotzker

Yeah, I don't I don't think HIV was an exclusion criteria for. And.

01:11:06:08 - 01:11:16:00
Rosalyn Plotzker
Let me double check.

01:11:16:02 - 01:11:20:02
Rosalyn Plotzker
For.

01:11:20:04 - 01:11:56:00
Rosalyn Plotzker
And also anyone on this call, you can look these up the you can look up these studies and I would encourage you to the. Study was published in The Lancet in 2026. And the Eagle one study was published in 2025. Okay, okay. So let's see.

01:11:56:02 - 01:12:01:09
Rosalyn Plotzker
Yeah. And then.

01:12:01:11 - 01:12:23:18
Rosalyn Plotzker
Yeah it says in the in the article people with HIV were not excluded for the study. It says that in the methods. So yeah. So yeah people with HIV were included in both. Next question. Has Doxy PEP use affected gonorrhea resistant among users?

01:12:23:20 - 01:13:03:07
Rosalyn Plotzker
That is a good question. I do not know the answer. I don't have data on that one to to lean on. I wish I did. I know that that's a big concern. I don't have any data saying yes or no. I think it's possible. But the other thing I do want to highlight about Doxy PEP is that is that Doxy PEP, is is two pills of, you know, it's basically two pills of doxycycline compared to doxycycline that's used for lots of other things.

01:13:03:07 - 01:13:39:16
Rosalyn Plotzker
Like for chlamydia treatment, you would use 14 pills for non STIs. It's used routinely for lots of different infections. So I think that that for gonorrhea resistance because of a smaller like it's a smaller dose of doxycycline. I would be kind of surprised if that leads to an increase. But it's it's certainly possible. And then have they looked at any GI implications of Doxy PEP or weekly Doxy use for that?

01:13:39:16 - 01:14:02:02
Rosalyn Plotzker
I think it is something I think that that is something that they're looking at again, because of antimicrobial stewardship. I know that this is on people's radar. I haven't seen any publications about it yet. Okay. How do you think about Doxy PEP forces, women taking into account pregnancy risk? That's a really good question. I honestly, I think it's okay.

01:14:02:02 - 01:14:30:10

Rosalyn Plotzker
I think that people use doxycycline for lots of different things, and women use doxy cis women and people who, who can become pregnant use doxycycline routinely for lots of different things. And I think that using doxycycline for STI prevention is really no different. And if there's a concern about pregnancy, then, you know, you do a pregnancy test.

01:14:30:12 - 01:14:46:22
Rosalyn Plotzker
But the way that doxycycline is used for other diseases is applicable to this. And in other diseases. You don't give doxycycline to people who are known to be pregnant.

01:14:47:01 - 01:14:58:16
Rosalyn Plotzker
See? Oh. So this.

01:14:58:18 - 01:15:04:04
Rosalyn Plotzker
And this is the question was, is.

01:15:04:06 - 01:15:26:11
Rosalyn Plotzker
This. Oh, sorry. Wrong question. Are there any other questions? By the way? I don't know the answers to the questions. I don't have better answer. I wish I had more answers, but if I don't know the answer to a question, it means it's a really good question. So are there any age restrictions with Doxy PEP? Would you still recommend them for use in teens?

01:15:26:13 - 01:15:45:07
Rosalyn Plotzker
Oh, that is a great question. You know, let me I don't want to misquote the California guidance. Let me pull up the Doxy PEP California guidance.

01:15:45:09 - 01:16:00:14
Rosalyn Plotzker
My understanding is that it's primarily for adults, but, I know that there are people who work in adolescent health.

01:16:00:15 - 01:16:21:21
Rosalyn Plotzker
Let's see, let's see, there are people who work in adolescent health who are interested in using Doxy Pep. And I think that could be appropriate. And I'm just double checking.

01:16:22:00 - 01:16:31:05
Rosalyn Plotzker
I so on CDC website, I do not see.

01:16:31:07 - 01:16:39:18
Rosalyn Plotzker
A specific age.

01:16:39:20 - 01:16:47:20

Rosalyn Plotzker
I know that this is primarily recommended for adults.

01:16:47:22 - 01:16:59:13
Rosalyn Plotzker
But I'm not seeing I'm not seeing anything that's referring to years old or anything like that.

01:16:59:15 - 01:17:26:11
Rosalyn Plotzker
So, you know, I think that that I think that the decision I think the decision personally, I think the decision to use Doxy Pep in adolescents is something that, you know, you would have to consider the risks and versus the the potential risks versus the potential benefits, and that the patient would really need to work closely with their pediatrician, and or their adolescent medicine doctor.

01:17:26:11 - 01:17:40:15
Rosalyn Plotzker
I think that that's what that comes down to for the California Department of Public Health. I don't see any specific age limits that are listed, but from what I understand about the research, the research is for people who are adults.

01:17:40:17 - 01:18:18:01
Rosalyn Plotzker
And then has CDC approved the new treatment for GC? So it's not you know, I haven't seen the I haven't seen the and the Zoli treatment in the STD treatment guidelines yet. So it hasn't been included in the STD treatment guidelines. That said, CDC like CDC, makes recommendations. But in terms of approval for use, it's approved for use by the FDA.

01:18:18:02 - 01:18:54:10
Rosalyn Plotzker
And so it's certainly something that can be used. I just don't think that I don't think that Zoli and have been incorporated into the STI guidance yet. Not that I've seen in the guidance last time I looked. Yeah. So this one says, do you have advice for presumptive treatment of men exposure via pharyngeal or rectal routes. So for for you don't usually treat for men unless somebody is symptomatic.

01:18:54:12 - 01:19:24:09
Rosalyn Plotzker
And so if someone has exposure to men for for pharyngeal we don't have we don't it potentially could colonize the pharynx. But it's not known to cause symptoms. So we don't really worry about pharyngeal. That isn't something that we treat. That isn't something that causes symptoms. And we actually don't have a lot of evidence about transmission. So I wouldn't worry about that for rectal men.

01:19:24:11 - 01:19:41:01
Rosalyn Plotzker
You know, if it's if it's causing symptoms and you find it, then I think you could consider treating it. But usually M.gen is something we think of for the urogenital tract, for the vagina and the urethra.

01:19:41:03 - 01:20:03:21
Nicole Nguyen

And then we have a lot of comments coming in where back to the question about long term doxycycline use. It says it's great for teens because it's been commonly used for acne. Yeah, I think so too. I think I think from a safety perspective, I think it's fine. I think that, but I think that, you know, from a like for preventing STIs like the preventing STIs.

01:20:03:21 - 01:20:32:00
Rosalyn Plotzker
And do we recommend this as a way to prevent STIs? I don't have pediatric recommendations to lean on and I'm not a pediatrician, so I agree. I think that like conceptually, I think it makes sense. Doxycycline has been used for other things. You know, all of these things I 100% agree with. And but that said, we don't have specific ages listed in our guidance in California.

01:20:32:00 - 01:20:52:15
Rosalyn Plotzker
And the research that we have doesn't have research about about people who are under 18. We just don't have research about it. Not to say that I don't think it's not a good idea. Okay. And then if this is for the test that our males in the lab, do you know if there is a fee or is it already included as part of the test kit?

01:20:52:17 - 01:21:19:12
Rosalyn Plotzker
That's a good question. I think it depends on what lab you mail it to. And I think that that's part of the whole, like developing a workflow. I think that a lot of I, you know, a lot of the work of being able to do home testing is figuring out how to collaborate with the labs to, like, mail something to a lab, make sure that it gets received, make sure it gets processed, who pays for the postage, that kind of thing.

01:21:19:14 - 01:21:40:15
Nicole Nguyen
Yes. So for this question, I had a I had a quest lab deny my order for men in a patient less than 15 years old quest data that the insurance will not cover it. In that case, do we test for GC and CT and then do presumptive treatment with doxy? And if symptom and if still symptomatic then treatment with moxi.

01:21:40:17 - 01:22:20:18
Rosalyn Plotzker
Okay. So in general, I think that it's a good idea to just follow. Like I think that it's for for testing for men. Before you test for men, you typically want to start by testing for gonorrhea, chlamydia. And then if it's service itis BV and Trichomonas. And then you treat with doxy for either new or service itis. If the doxy doesn't work and the chlamydia and the gonorrhea are negative and the B.V. and the onus are negative, then if it's still persisting with symptoms, then you test for M.gen.

01:22:20:18 - 01:22:42:14
Rosalyn Plotzker
So I think that's probably what you would want to do. I don't know if that answers the question, but that's, that's, you know, and I think that if you've exhausted all of the options with doxy and chlamydia and gonorrhea treatment, that you could certainly justify, hey, now we're doing an M.gen test. This is what's recommended by the CDC.

01:22:42:16 - 01:22:46:03

Rosalyn Plotzker
I think that's reasonable.

01:22:46:05 - 01:22:54:15
Nicole Nguyen
That's good. So let me see any questions.

01:22:54:17 - 01:23:22:13
Rosalyn Plotzker
Oh, M.gen urine culture test. Is this an acceptable way to test since n nat is more expensive? So so M.gen cultures are very, very difficult to do. And I only only two labs in the world do them and they take months and months. So culturing for M.gen isn't the best idea.

01:23:22:15 - 01:23:44:09
Rosalyn Plotzker
C is MGM reportable to public health? Not yet, because it's antimicrobial resistance. I do wonder sometimes if it ever will be, but at this point it's not a portable STI.

01:23:44:11 - 01:23:48:02
Nicole Nguyen
Let's see.

01:23:48:04 - 01:24:14:10
Rosalyn Plotzker
Do you know if there are any FDA approved tests for pharyngeal and rectal M.gen in the U.S.? I mean, you, I guess, like you could you could do swabs for that, but I don't know, because we generally don't test for M.gen. They're like, we generally don't test for M.gen for rectal and pharyngeal, at least not not to my knowledge.

01:24:14:10 - 01:24:26:09
Rosalyn Plotzker
If someone in the if someone in the audience does, then like please chime in, let me know. But I have not come across that personally. Okay.

01:24:26:11 - 01:24:32:01
Rosalyn Plotzker
The questions.

01:24:32:02 - 01:24:35:16
Rosalyn Plotzker
These are just.

01:24:35:18 - 01:25:10:08
Rosalyn Plotzker
I'm in the hot seat. This is the longest Q&A I've done in a while. Yes. Oh, it says I'm curious about which HPV tests are validated for self collection in the office. Would be nice to start offering this. I'm not sure what you mean by which self collections, but, you know, you can you basically would do a swab the same way that you would do if it's clinician collected.

01:25:10:09 - 01:25:31:04

Rosalyn Plotzker
And, you know, you would just have the patient do, do a collection instead of the clinician do it. But you would use the same I think you can use the same kind of swab. And then and then you run it on the same platform. Perfect. And then are you aware of any studies for self collected wet mount?

01:25:31:05 - 01:25:42:20
Rosalyn Plotzker
No. Good question, but I'm not aware of any studies.

01:25:42:22 - 01:25:50:16
Rosalyn Plotzker
And if anyone in the audience is aware of studies, please send them in because I'm curious now.

01:25:50:18 - 01:26:18:12
Nicole Nguyen
Yes, they all of people are doing really good comments about their testings. Oh good. Do you want to share any. Oh, so I'll share. One of the clinics says our clinic use a BINX by and a point of cure testing for GC and CT test that runs 30 minutes self collection urine for men and swab for women. Great.

01:26:18:14 - 01:26:53:04
Nicole Nguyen
And then Sara Gilbert is adding that CDF has added the GC alternative treatments to the June 2026 STI treatment guidelines. Yes, they have been added with CDF but not CDC yet. Yes. So yes. Thank you. Sarah, I'm going to pop this into our chat so we can share that with our audience. And then adding, you know, if orator is looking for preliminary point of care sites for their POC, GC or chlamydia test that I don't know.

01:26:53:06 - 01:27:04:12
Rosalyn Plotzker
Okay. And any other.

01:27:04:13 - 01:27:33:08
Nicole Nguyen
Okay. So I'm curious about why we do not screen for asymptomatic M.gen infection in high risk individuals. If there is a 60%, if there is a 60%, a 67% increase risk of PID for these individuals, presumptively these individuals were asymptomatic until they were not so. Good question. So so basically the the reason is because in asymptomatic individuals we have no evidence.

01:27:33:08 - 01:28:01:09
Rosalyn Plotzker
So you're right. Like the increases the risk of certain things, it increases the risk of PID. Although the likelihood of like you also have to think about the likelihood of PID. So for example, if PID, if 1% of people if the risk of PID is 1% and then it goes up to 1.67%, which is what a 67% increase would be there, versus if the risk of PID was 10%.

01:28:01:09 - 01:28:32:04
Rosalyn Plotzker
And then it goes from 10% to 16.7. Right. So you have to think about what a percent increase means clinically, but it does increase the risk for PID. It's associated with possible obstetrical outcomes. But the reason that we don't test asymptomatic individuals is because we don't have any evidence that

asymptomatic infections actually are associated, like these are all associated primarily with symptomatic infections.

01:28:32:10 - 01:29:06:14
Rosalyn Plotzker
And also, we have no evidence that treating people who are asymptomatic does prevent those negative sequelae. So if we had a group of people who had M.gen and it was asymptomatic and we treated all of them for M.gen, we don't know if they would be less likely to develop PID and would go back to what the normal population is or the the M.gen negative population is, or if it would still be a little bit higher.

01:29:06:15 - 01:29:33:11
Rosalyn Plotzker
Like, we don't have any evidence about the benefits of treating M.gen. That's asymptomatic. And another reason, you know, this is just my own thinking is that if we have asymptomatic infections, we don't know if they're really causing a lot of harm and then we're treating them anyway. We would also potentially be driving antibiotic resistance, and it can become resistant to things kind of easily like gonorrhea can.

01:29:33:11 - 01:29:54:11
Nicole Nguyen
So there are potential harms with over treating in a population that we also want to keep in mind. But I agree it's a really tricky question. Great. And then before I can see you, I just wanted to shout out, like if you are familiar with our webinars, Ross has agreed to stay on for an extra 15 minutes because we get so many great questions.

01:29:54:11 - 01:30:12:08
Nicole Nguyen
So if anyone has to leave at 1:30, please feel free to do so. You'll get your full 1.5 CME credits, but if you're able to stay on and keep them, any questions then Roz will stay on for an extra 15. Yes, please keep making me nervous. We're getting really good ones and I don't know that I don't know anything.

01:30:12:09 - 01:30:38:14
Nicole Nguyen
Yeah, this is really because we always get such a dynamic audience. Yeah. I'm learning what from these questions. So for the next one, how long does BV remain positive on a vagina panel after treatment? How long does BV remain positive or a BV oh, I'm not sure. I would guess like two weeks, but I would have to look it up.

01:30:38:14 - 01:31:07:15
Rosalyn Plotzker
I don't know the exact amount. Yes. And then this one is what is the explanation for a patient who test positive for asymptomatic M.gen and all other STIs are negative. I've had the questions of infidelity when found to be positive and found on the new swap. Plus that can't be explained. Got it. Well, you know, M.gen is. I mean, it's kind of a similar situation with HPV, actually.

01:31:07:17 - 01:31:48:17
Rosalyn Plotzker

M.gen can colonize the vagina. It can be sexually transmitted. It's a sexually transmitted bacteria. And so if there is M.gen present, it means that there was a partner in the past who had M.gen, and it colonized the area. But to say who or how or when? That's a much harder question to answer. Okay. So would you recommend testing for M.gen for patients with recurrent vaginitis and not just cervicitis

01:31:48:19 - 01:31:59:13
Rosalyn Plotzker
Yeah. You can test for M.gen for that. M.gen is is implicated in 1 in 5 cases.

01:31:59:15 - 01:32:23:07
Nicole Nguyen
Then okay for M.gen treatment. If Doxy has been started to treat cervicitis for a week and the result come back positive, can we start the moxi at the end of the seven days of Doxy? Yes.

01:32:23:09 - 01:32:31:16
Rosalyn Plotzker
Through.

01:32:31:18 - 01:32:56:22
Rosalyn Plotzker
Oh, do you know if the oral options are available on the CDC app yet? They don't. I actually don't know, but I don't think so because I don't think that Gepo and Zoli, I don't think Gepo have been added yet to the CDC app. I'm not 100% sure because I haven't checked, but I don't think so, especially because Zoli isn't commercially available yet.

01:32:57:01 - 01:33:20:07
Rosalyn Plotzker
Usually when things are added to the CDC guidance, there's like there's like a committee that comes together. They look at the evidence, they look at the, you know, nuances of the different studies. And they don't just say, here's the recommendation. They also write like a pretty in-depth description of the use of the drug and its efficacy, things like that.

01:33:20:07 - 01:33:45:05
Nicole Nguyen
So I think that that takes a little time for them to incorporate, but I'm not sure I haven't I haven't checked yet. Yes. Okay. And oh, well, this question is will be for Sarah. So you can type in the answer. But is the hepatitis C vaccine covered by Family PACT the hep C vaccine. Yes. Oh yes. Hep B.

01:33:45:06 - 01:34:04:11
Rosalyn Plotzker
Sorry I think they okay I was like C vaccine. Like why I heard about it. Yes. So no the the B vaccine is not covered by Family PACT. Family PACT only covers the HPV vaccine.

01:34:04:13 - 01:34:32:20
Rosalyn Plotzker
Okay, so there's one. Do you have any data for M.gen in youth who are sexually active rates among youth? I don't. That's a great question. Yeah. We I don't have any data about youth. Okay. I heard that we need to treat partners as well. Does this also apply for BV. Oh. So I actually do know the answer to that.

01:34:33:03 - 01:35:05:19
Rosalyn Plotzker
The for BV it is helpful to do partner treatment. So yes. And let me actually I want to I want to pull up the recommendations because and we can share them. But yes BV for partner treatment has been shown to be helpful. There are a couple caveats to that. Hold on one second. While I have the luxury of pulling this up.

01:35:05:19 - 01:35:11:22
Rosalyn Plotzker
Hold on one second.

01:35:12:01 - 01:35:15:09
Rosalyn Plotzker
So.

01:35:15:11 - 01:35:21:03
Rosalyn Plotzker
The research.

01:35:21:05 - 01:35:34:09
Rosalyn Plotzker
So the the research around it was really about recurrent BV. And so.

01:35:34:11 - 01:36:12:16
Rosalyn Plotzker
You can treat male partner. There was a basically a New England Journal study. And it showed that treating male partners to prevent the recurrence of BV worked. It decreased recurrence from 36 point or from 30 from 63% to 35%. So it basically, cut the the frequency of recurrence in half by treating male partners of, of females with BV.

01:36:12:18 - 01:37:02:02
Rosalyn Plotzker
But there were a couple of things. So in the study, the study included males who were most of them were not circumcised. And these were hetero, hetero monogamous couples. They were all Western European participants. And about a third of the females had an IUD, which may or may not have contributed to something. But you do want to take that into account when you're thinking about doing partner treatment for BV among the male partners who were given the treatment, only about 70% of the male partners took at least 70% of the medication and took it correctly.

01:37:02:04 - 01:37:33:05
Rosalyn Plotzker
Almost all the women took the metronidazole correctly, but only 70% of the male partners took it correctly. And so you if you do it, you want to really counsel your patients. But the treatment for a partner treatment is metronidazole. It's metronidazole. Metronidazole 400mg twice daily. And you want to use clindamycin cream which is 2% cream. And you apply that to the penile skin twice daily.

01:37:33:07 - 01:37:59:19
Rosalyn Plotzker

So that's that's what I know about BV partner treatment. But it is recommended it has been shown to help reduce recurrent BV. Okay. So the next one do you have any data about Native American communities. We are aware of the current STI epidemic in native communities. And I was wondering if there are any studies on Native American communities or any plans for that in the future.

01:37:59:20 - 01:38:29:07
Rosalyn Plotzker
Just in do they mean do you mean just in general, like or I mean, there are, you know, when they do any type of surveillance report from the health from the health department, it does include it does include that as a demographic factor. And there are studies. So if you go on to Google Scholar and you look there are studies that are smaller studies, I don't know of any thing specifically that's coming up.

01:38:29:12 - 01:39:12:00
Rosalyn Plotzker
And but again, I'm not really like, I don't I don't do a lot of population research. So I don't personally know of any upcoming studies. But there have been studies on lots of different groups. And so I think if you look up like what group you're interested in and what specific STI you're interested in, you know, it's likely I know that with congenital syphilis, there were there were several studies, I want to say like ten ish years ago that focused on that group.

01:39:12:02 - 01:39:36:15
Nicole Nguyen
Okay. So just last. Okay. All right. So I think we got through all the questions then. Are you sure? Yeah. I'm looking I don't see any new questions coming in. So if that's the case then I think that we can conclude our webinar. Okay. So thank you so much Roz for that amazing presentation and that kick ass Q&A session.

01:39:36:15 - 01:39:59:19
Rosalyn Plotzker
I know that my gosh, I hope I, I hope someone got an answer they wanted. Yes. So I just want to say thank you everyone for coming. So after we close, thank you everybody for taking a survey. So again we will send out the link to the CME certificate, the recording, the slides, and we'll collect some of the questions that are specific to coverage and costs and stuff.

01:39:59:19 - 01:40:16:19
Nicole Nguyen
And we'll try to get those answers and send them out along with all the webinar materials after today. So again, I want to thank you for being such an amazing speaker, and we hope you enjoyed and fill out the survey and we will catch you at the next webinar. Thank you. And it's such it's always such a privilege.

01:40:16:19 - 01:40:34:00
Rosalyn Plotzker
It's really like such an honor to be able to present to such an inquisitive audience. So thank you everybody so much. I really, really appreciate the opportunity. Thank you. Great. Have a great rest of your week, everyone. Take care. Everybody bye.