PedsCases Podcast Scripts

This is a text version of a podcast from Pedscases.com on "**Sexually Transmitted Infections in Adolescents**." These podcasts are designed to give medical students an overview of key topics in pediatrics. The audio versions are accessible on iTunes or at www.pedcases.com/podcasts.

Sexually Transmitted Infections in Adolescents – CPS Podcast

This podcast was developed by Dr. Laura Betcherman, Dr. Talia Lenton-Brym and Dr. Ashley Vandermorris for PedsCases.com.
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Hello, my name is Talia, and my name is Laura, and we are first year pediatrics residents at The Hospital for Sick Children in Toronto. This podcast was developed under the guidance of Dr. Ashley Vandermorris, an Adolescent Medicine physician at The Hospital for Sick Children. Today, we will be discussing sexually transmitted infections, or STIs, in the adolescent population. This podcast is based primarily off of a position statement issued by the Canadian Pediatric Society, or CPS, in October 2014, which was reaffirmed in January of 2017, called "Sexually transmitted infections in adolescents: Maximizing opportunities for optimal care".

Imagine you're in clinic seeing a 15-year-old girl. She tells you that she has had unprotected vaginal intercourse with a male who has had multiple sexual partners. She wonders what to do next.

The **objectives** of this podcast are to:

1) Describe the epidemiology of the most common STIs in Canadian adolescents
2) Explore the risk factors for the development of STIs and discuss how to take a sexual health history
3) Review the screening guidelines, clinical presentation, diagnosis and treatment of the most common bacterial STIs: chlamydia and gonorrhea
4) Discuss counseling around STI recurrence and prevention

Epidemiology

Chlamydia trachomatis is the most commonly reported bacterial STI in Canada. It predominantly affects women in their late teens and early 20s, and men aged 20-29. Also, half of babies born by vaginal birth from mothers with untreated Chlamydia contract the infection. Beyond the neonatal period, it is important to assess for sexual abuse in a child who tests positive for Chlamydia.

Neisseria gonorrhea is most prevalent in men in their 20s, with increasing rates among men who have sex with men, or MSM. Interestingly, rates have been increasing faster among women, most significantly in teens. We probably underestimate the number of cases in women, since many are asymptomatic, unlike men. It is common to be co-infected with Chlamydia, but

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we'll come back to that later. An assessment for sexual abuse should also be conducted in cases of Gonorrhea in children beyond the neonatal period.

In addition to gonorrhea and chlamydia, the CPS statement on STIs in adolescents also discusses HIV and syphilis. These will not be discussed in this podcast, but we highly recommend reading about these infections, especially because many Canadian cities are now 'hot spots' for syphilis!

Risk factors and history taking

As healthcare providers, we have the opportunity to ask teens about sexual activity and assess their risk of getting an STI. The CPS emphasizes that because teens are infrequent users of the healthcare system, each visit should be viewed as an opportunity to do an STI assessment. Some of the most important risk factors for acquiring an STI are:

- Whether the teen is sexually active, or a survivor of sexual assault or abuse
- Whether they have had a previous STI
- If they have a new sexual partner
- If they have used intravenous or other drugs
- If they take part in anonymous sexual partnering
- If they work in the sex trade, including "survival sex"
- And if the youth is homeless, or has spent time in a detention facility

When interviewing an adolescent, it is important to start with a statement of confidentiality. This helps build rapport with the patient, and helps them to speak more freely. Remember to include the limits to confidentiality. One easy way to take an organized sexual history is called the "5 Ps" which includes asking about partners, practices, pregnancy, protection from STIs, and past medical history. When asking about partners, it is important to know the number of current and past partners, whether they are female, male, both or other, if there are any new partners, and if their partners have risk factors for STIs. For practices, make sure to ask about oral, anal, and vaginal sex, whether it is received and/or performed, and about sex toys and whether or not they are shared and cleaned. Ask about any past or current pregnancies and if the teen does not wish to become pregnant, what they are using for contraception, as well as adherence. Past medical history is pretty self-explanatory, but don't forget to ask about past STIs and whether they were treated.

Dr. Vandermorris, could you tell us a bit about how you can use open-ended questions to elicit a sexual history from adolescents?

I always want to ensure I am empowering the patient. I often start by asking if a doctor has ever talked to them about sexual health before. If they say yes, I ask them what they talked about and how the experience of talking about it was for them. If they haven't, I explain that it's something that I try to discuss with all of my patients. I ask them to share their thoughts on why it might be an important topic for doctors to bring up with patients, especially teenage patients. That usually opens the conversation up a bit and allows the teenager to feel a bit more comfortable. Then I move on to asking more specific questions: first, if they have questions or concerns about sexual health specifically for them or in general based on things that they've head, and then if they have ever had sexual contact with someone. I make sure to explain what I mean by that. I am careful to ask about "contact" instead of "relationship" or "activity" because I want to acknowledge that some patients may have had non-consensual sexual contact.

Screening guidelines

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The CPS recommends **annual screening** for chlamydia and gonorrhea for women less than 25 years of age who are sexually active, and for all males who have risk factors. In practice, this is a minimum requirement, and many youth will require more frequent screening. **All pregnant women** should be screened for **all STIs** (chlamydia, gonorrhea, syphilis, HIV, and Hepatitis B and C) prior to and in the first trimester of pregnancy. All sexually-active gay and bisexual men, and other MSM should receive, at a minimum, **annual screening** for chlamydia, gonorrhea and syphilis.

We will now discuss the presentation, diagnosis and treatment for chlamydia and gonorrhea.

Presentation
Up to 70% of females and 50% of males with chlamydia are asymptomatic from their infection. Other times they may experience acute symptoms such as mucopurulent discharge, dysuria, dyspareunia, lower abdominal pain or vaginal bleeding in females, and urethral discharge, urethral itch, dysuria, or testicular pain in males. These symptoms are similar for patients infected with gonorrhea. Gonorrhea can also cause rectal pain, discharge or pharyngitis in those who engage in anal or oral sex. Both chlamydia and gonorrhea can lead to pelvic inflammatory disease in females if left untreated.

Diagnosis
There are two main options for diagnosis. The first is the nucleic acid amplification test, also known as NAAT, which is the most sensitive and specific test for the detection of chlamydia and gonorrhea. NAAT can be performed on first-catch urine, or from urethral, vaginal or cervical swabs. Most clinicians will opt for a urine test in asymptomatic patients. Cervical or urethral swabs for NAAT, as well as cervical or urethral swabs for gonorrhea culture and sensitivity should be performed in any patient who is symptomatic, as well as in those who do not respond to treatment, or if there are concerns regarding antibiotic resistance. In addition to cervical or urethral NAATs, culture and sensitivity for gonorrhea and chlamydia should be done for rectal and pharyngeal testing and for medico-legal cases.

Dr. Vandermorris, how do you explain how to get a 'clean catch urine' from a teen and why are specific instructions important?

I start by warning the teen that I am going to be *super* specific about how to collect the urine, and it's not because I'm trying to be picky, but because if we don't do it the right way, the test isn't valid. I then hold up the urine cup and say, "Okay, you're going to be in the bathroom and are going to take the lid off the cup. Then you'll place the cup where the pee comes out and pee directly into the cup. I only want a tiny amount of pee; only 2 millilitres but it's okay if you give me up to 30 milliliters." I mark these levels on the cup. Then I say, "Don't be an overachiever with this! It's really hard to pee only that much. So pee a tiny bit into the cup and then move the cup away and finish peeing into the toilet. Don't fill the cup above this line (30 milliliters) at any point or the test won't work."

Treatment
Chlamydia should be treated with 1g of azithromycin taken orally, or 100mg of doxycycline taken twice per day for 7 days.

First-line treatment for uncomplicated anogenital gonorrhea is 250mg of Ceftriaxone intramuscularly in a single dose PLUS 1g of azithromycin by mouth in a single dose. Oral Cefixime in a single dose is also considered first-line, in place of Ceftriaxone, in some

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jurisdictions. The reason we use a cephalosporin AND a macrolide is because of increasing rates of antibiotic-resistant gonorrhea. A secondary reason is for high co-infection rates, but this is less of a concern now with more advanced testing.

It's important to treat all sexual partners, and encourage them to get tested for all STIs to help prevent reinfection. Also, remember to advise your patients to abstain from sex until 7 days after they and their partners have started treatment.

Test of cure
There are certain indications where a test of cure is required to ensure that the treatment provided was effective. A NAAT should be done 3-4 weeks after treatment for chlamydia:

- If compliance is uncertain
- If second-line or alternative treatment was used
- If previous treatment has failed
- If re-exposure risk is high
- In the pregnant adolescent
- In prepubertal children or
- If signs or symptoms persist after treatment

For gonorrhea, test for cure can be performed either by NAAT 3-4 weeks after treatment or with a culture 3-4 days after treatment. Reasons for performing a test of cure are identical to those recommended for chlamydia, with the addition of:

- A concern for antimicrobial resistance or
- In the case of a pharyngeal or rectal infection

Prevention and counseling
Teenagers should be counselled on STI prevention. Abstinence is the only 100% effective way to prevent STIs. Otherwise, barrier contraception is needed for STI prevention. Other forms of primary prevention for infections not discussed in this podcast include the HPV vaccine and the Hepatitis B vaccine. Sexually active teenagers should be offered annual screening for STIs, at a minimum. For those who have tested positive and been treated, testing at more regular intervals (up to every three months) should be offered.

It should be noted that chlamydia and gonorrhea are reportable diseases under Public Health guidelines. The patient should be counselled to notify their partners directly, or to provide names and contact information to their Public Health authority who can contact the partner or partners anonymously.

Dr. Vandermorris, how do you counsel adolescents about STI prevention?

I ask adolescents what they know about how to prevent STIs. Then I ask them what makes it difficult to follow through on those things and why it is important to follow through. I end by emphasizing that the only 100% effective way to prevent STIs is not to have sex at all, but that that's not always realistic. Instead, it's about being prepared by always having non-expired condoms available, making sure they know how to use them, and reminding them that the condom needs to go on before any contact between the penis and the other person's body and stay on until the end of that contact. I also remind them that once a condom has been taken off, it can't be reused and a new condom must be used for further contact.

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That concludes our PedsCases podcast on sexually transmitted infections in adolescents. **We will now review some of the key points discussed in this podcast:**

- The rates of STIs are increasing amongst adolescents in Canada
- Use every clinical encounter with an adolescent as an opportunity to discuss STI risk factors, screening, and protection
- When taking a history, make sure to consider the common risk factors and try using the 5 P approach, including asking about partners, practices, pregnancy, protection from STIs, and past medical history
- Screening for gonorrhea and chlamydia is most commonly done with a NAAT from a urine sample, but there are certain situations in which swabs and cultures are needed
- First line treatment for chlamydia is 1g of azithromycin taken orally, or 100mg of doxycycline taken twice per day for 7 days, while first-line treatment for uncomplicated anogenital gonorrhea is 250mg of Ceftriaxone intramuscularly in a single dose PLUS azithromycin 1g PO in a single dose. But, be sure to check local antibiotic resistance patterns for what antibiotics to use in your area

Coming back to our case, we would first want to find out if she has had any symptoms of an STI. If she has, we would do a vaginal exam to visualize the cervix, and obtain cervical swabs to send for NAAT. If not, we could opt for a urine test alone. This would also be a great opportunity to talk about STI prevention for future encounters. Finally, if she does have an STI, we would discuss partner disclosure and treatment as well as reporting to Public Health.

Thank you to Dr. Vandermorris for helping us with this podcast and providing useful clinical information. Stay tuned for more PedsCases podcasts!

Resources:

- STIs in adolescents: Maximizing opportunity for optical care (CPS statement)
- Canadian Guidelines on Sexuallty Transmitted Infections (https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines.html)

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