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Department of Health
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Ministère de la Santé

Syphilis in Nunavut

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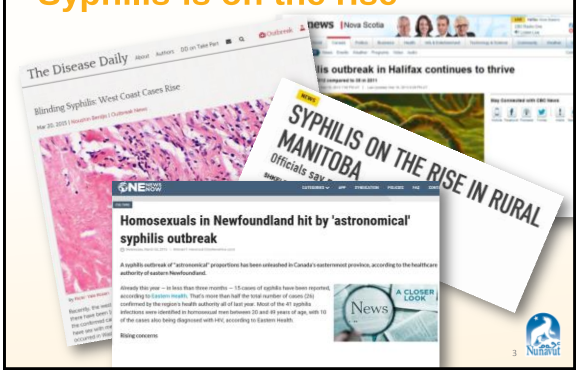
July 8, 2016

Objectives

1. Epidemiology (5 min)
2. Staging syphilis cases:
   a. Review of pathophysiology (10 min)
   b. Review interpretation of lab results (10 min)
3. Reporting, follow-up and contact tracing (10 min)
4. Review pre- and post-test counselling (15 min)
5. Discuss contact tracing best practices and share successes (20 min)
6. Review available resources (5 min)
7. Brainstorm other needs and respond to questions (15 min)

Syphilis is on the rise



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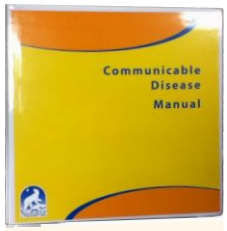
Introduction

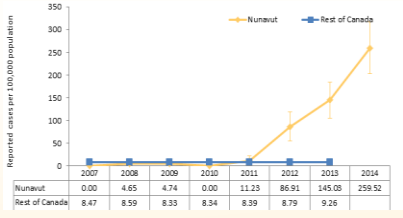
A syphilis outbreak began in May 2012 in Nunavut and is ongoing with cases now increasing in the Kivalliq and Kitikmeot Regions.

Information for health care providers in **Section 6.4** of the Nunavut Communicable Disease Manual



Epidemiology in Nunavut

Age-standardized incidence rates of syphilis in Nunavut and the rest of Canada, 2007 to 2014



	2007	2008	2009	2010	2011	2012	2013	2014
Nunavut	0.00	4.65	4.74	0.00	11.23	86.91	145.03	259.52
Rest of Canada	8.47	8.59	8.33	8.34	8.39	8.79	9.26	

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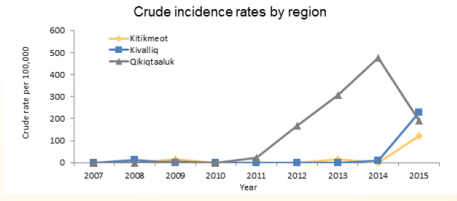
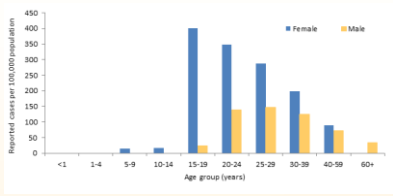
Crude incidence rates of syphilis by region



Demographics of Syphilis Cases

Average annual crude incidence rates of syphilis in Nunavut by age and sex, 2007 to 2014



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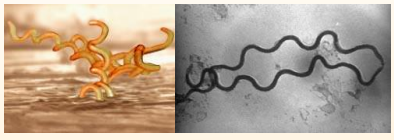
Syphilis

- Caused by bacterium *Treponema pallidum*
- Transmitted by unprotected oral, vaginal, or anal sex through contact with sores or rashes
  - Can be transmitted during pregnancy and birth
- The "great imitator": symptoms may not be noticed or may mimic those of other diseases



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Syphilis

- *T pallidum* rapidly penetrates intact mucous membranes or microscopic dermal abrasions
- It can enter the lymphatics and blood within a few hours, to produce systemic infection
- The central nervous system (CNS) is invaded early in the infection; during the secondary stage.
- In the first 5-10 years after infection (if untreated) the disease mainly involves the meninges and blood vessels.
- Later, the parenchyma of the brain and spinal cord are damaged

Disease staging

Stage	Incubation period	Clinical manifestations
Primary	3 weeks (3 to 90 days)	Chancre, regional lymphadenopathy
Secondary	2 to 12 weeks (2 weeks to 6 months)	Rash, fever, malaise, lymphadenopathy, mucus lesions, condyloma lata, patchy or diffuse alopecia, meningitis, headaches, uveitis, retinitis
Latent	Early: < 1 year Late: ≥ 1 year	Asymptomatic
Tertiary:		
Cardiovascular syphilis	10 to 30 years	Aortic aneurysm, aortic regurgitation, coronary artery ostial stenosis
Neurosyphilis	<2 years to 20 years	Ranges from asymptomatic to symptomatic with headaches, vertigo, personality changes, dementia, ataxia, presence of Argyll Robertson pupil
Gumma	1 - 46 years (most cases 15 years)	Tissue destruction of any organ; manifestations depend on site involved
Congenital:		
Early	Onset <2 years	2/3 may be asymptomatic; fulminant disseminated infection, mucocutaneous lesions, osteochondritis, anemia, hepatosplenomegaly, neurosyphilis
Late	Persistence >2 years after birth	Interstitial keratitis, lymphadenopathy, hepatosplenomegaly, bone involvement, anemia, Hutchinson's teeth, neurosyphilis

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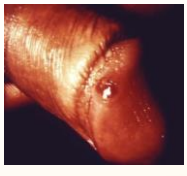
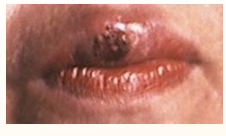
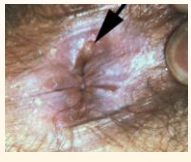
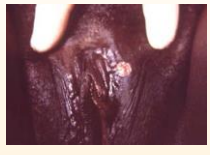
Primary Syphilis

- Time to development of 1° lesions averages 3 weeks, but can range from 10-90 days
- Symptoms of primary syphilis are:
  - Painless chancre on the genitals, mouth, skin, or rectum; often goes unnoticed unless some place obvious.
  - Only 25% will have multiple lesions
  - Enlarged (but painless)lymph nodes in the area of the sore (inguinal lymph nodes enlarge a few days after chancre appears).

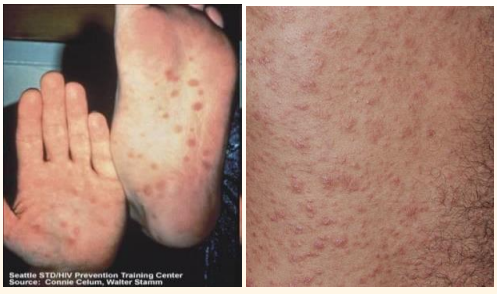
Primary Syphilis

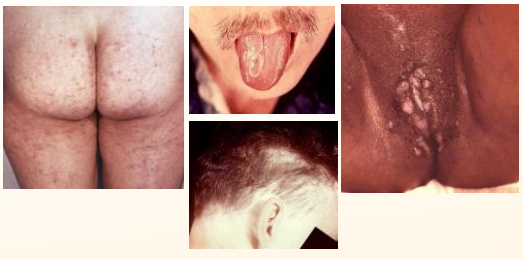
Secondary syphilis

- Develops about 4-10 weeks after the primary lesion.
- Generalized lymphadenopathy.
- Rash (75%-90% of patients)
- Malaise, fever (50-80%)
- Mucous patches on oral cavity and genital areas (5-30%)
- Moist, heaped, wart-like lesions—Condyloma lata—on genital, anal or oral areas (5-25%)
- Hair loss (10-15%)
- Neurosyphilis (<2%)

Secondary syphilis



Secondary syphilis



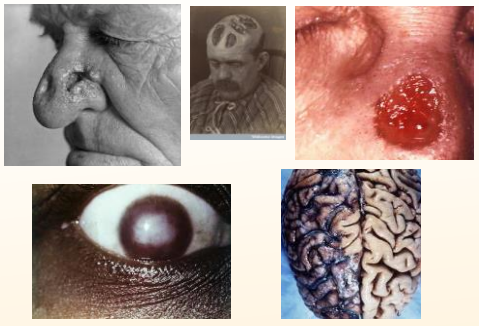
Latent syphilis

- > 1 year after initial infection.
- Asymptomatic.
- Without treatment, an infected person still has syphilis even though there are no signs or symptoms.
- It remains in the body, and it may begin to damage the internal organs, including the brain, nerves, eyes, heart, blood vessels, liver, bones, and joints…

Tertiary syphilis

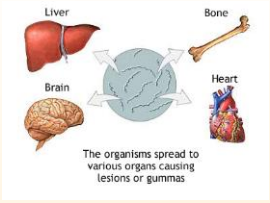
- 10 – 30 years after initial infection.
- Symptoms can include:
  - gummas
  - Interstitial keratitis
  - Aortic aneurysm, aortic regurgitation, coronary artery ostial stenosis
  - Neurosyphilis ranging from asymptomatic to symptomatic with headaches, vertigo, personality changes, dementia, ataxia, presence of Argyll Robertson pupil

Tertiary syphilis



Syphilis

- Infection alternates from periods of being active and latent
- If untreated, can cause health problems including heart disorders, mental disorders, blindness, and even death

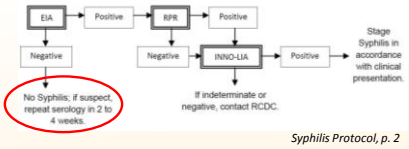


http://development1100.wikispaces.com/Teratogens-+Syphilis

Diagnosis

2-step serologic testing along with epidemiologic history, signs and symptoms

- Conduct genital exam for all suspected cases



Syphilis Protocol, p. 2

- If lesions present, swab for testing
- Test for STI panel: chlamydia, gonorrhea, hepatits B, HIV

Diagnosis

All pregnant women screened at:

- first trimester
- 28-32 weeks
- delivery

- More screening recommended for pregnant women at high risk of re-infection


Congenital syphilis: No longer just of historical interest

Lab Interpretation

EIA	RPR	Confirmatory Test	Comments
Neg	—	—	Negative or early primary (pre-seroconversion). If a clinical likelihood repeat in 2-4 weeks.
Pos	Neg	Pos	Usually treated syphilis OR early infection (early primary syphilis) OR late latent/tertiary syphilis
Ind	Neg	Pos	Early primary syphilis OR Late latent/tertiary syphilis OR Previously treated syphilis
Pos	Neg	Neg or Ind	Consider early seroconversion, and repeat serology in two weeks. If repeat testing unchanged probably BFP but confer with RCDC.
Pos	Reactive	Pos	Consistent with any stage of infection. Management is based on history and clinical features. If RPR titre is >32 dils, consider the possibility of neurological infection. More likely to be infectious if the RPR titre is ≥ 32.
RPR titre fails to drop by fourfold.			Some patients remain low RPR-positive. Also consider re-infection or neurosyphilis, particularly if titre rises 4 fold. Consultation with a specialist recommended.
RPR titre fluctuates.			A fourfold change in titer, equivalent to a change of two dilutions (e.g., from 1:16 to 1:4 or from 1:8 to 1:32), is considered necessary to demonstrate a clinically significant difference between two test results. Sequential serologic tests in individual patients should preferably be performed by the same laboratory.

Primary Syphilis: Lab

- In untreated primary syphilis, the seroreactivity usually reaches a titer of at least 1:4.
- Following treatment the reactivity may continue to rise for a few weeks but should revert to non reactivity within 6-12 months.
- RPR f/u at 1, 3, 6 and 12 months after treatment.
- Ninety-seven percent of treated patients will be nonreactive within two years.
- Adequate response to TX is considered to be a 4-fold drop at 6 months, 8-fold drop at 12 months, 16-fold drop at 24 months.

Secondary & early latent syphilis: Lab

- In **secondary** or **early latent syphilis**, the RPR tests are reactive, usually with a titer of ≥1:32
- The titer may rise immediately after treatment but should revert to non reactivity within 18 months after treatment.
- RPR f/u at 1, 3, 6 and 12 months after treatment .
- After 2 years, > 75% will be nonreactive.
- 25% stabilize at ≤ a four-fold decrease (most ≤ 1:4)
- Adequate TX response for ***2° syphilis*** is an 8-fold drop at 6 months and 16-fold drop at 12 months.
- Adequate TX response for ***early latent*** is a 4-fold drop at 12 months

Late Latent syphilis: Lab

- May have a nonreactive RPR test.
- EIA maybe indeterminate.
- Confirmatory test will be positive.
- F/U at 12 and 24 months after treatment unless RPR is non-reactive.
- Cerebrospinal fluid (CSF) studies are recommended to rule out neurosyphilis in these cases.
- Consult specialist for adequate response to treatment.

Public Health Reporting


Syphilis Report Form

Page 1 of 2

Syphilis is reportable to the Chief Medical Officer of Health **as soon as suspected**, followed by written report within 24 hours

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Disease staging

BOX 1.4 – SIGNS & SYMPTOMS

Sign	Site (Specify)	Onset Date
☐ Lesion(s)		
☐ Lymphadenopathy		
☐ Rash		
☐ Fever		
☐ Cardiovascular symptoms		
☐ Neurological symptoms		
☐ Other		
☐ None		

Appendix B. Syphilis Report Form, p.1

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Treatment

- Treat as soon as possible
- Treat with Long-acting Benzathine penicillin G, **not** short-acting benzylpenicillin
- For penicillin allergic patients, offer desensitization if possible

SYPHILIS STAGE	DOSE
Non-Pregnant, HIV Negative Adult Cases Primary, Secondary, Early Latent	2.4 MU: 2 separate injections of 1.2 MU each. **One treatment only.**
Pregnant, HIV Negative Cases	Consult specialist (Infectious Disease, Pediatrician, Obstetrician) before treatment.
Sexual Contacts of primary, secondary and early latent cases	2.4 MU: 2 separate injections of 1.2 MU each. **One treatment only.**

Syphilis Protocol, p. 2-3

Follow-up Serology Testing

BOX 1.9 – POST-TREATMENT ASSESSMENT: Submit post-treatment RPR results and follow-up HIV results to the RCDC.

NOTE: Refer to the *Syphilis Public Health Protocol* in the Nunavut Communicable Disease Manual (February 2013 or later))

Stage	RPR results (titre)				
	1 month	3 months	6 months	12 months	24 months
Primary, Secondary, Early Latent	Repeat HIV test	Repeat HIV test			
Late Latent, Tertiary (Except Neurosyphilis)					
Neurosyphilis; HIV coinfection; Pregnancy; Congenital Syphilis	Refer to the *Nunavut Syphilis Public Health Protocol* (February 2013 or later) and consult with a specialist (Infectious Disease, Pediatrician and/or Obstetrician).				

Appendix B. Syphilis Report Form, p.2

Contact Management

- Trace-back period for sexual partner follow-up determined by stage of syphilis
- Contacts should be tested and treated in same visit without awaiting results

SYPHILIS STAGE	TRACE-BACK PERIOD
Primary	3 months
Secondary	6 months
Early latent	1 year
Stage undetermined	Consult with RCDC.
Congenital	Assess mother and her sexual partner(s).

Syphilis Protocol, p. 7

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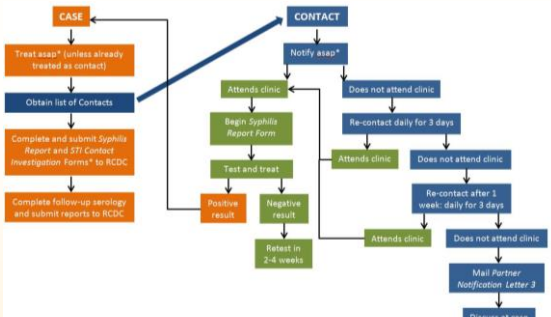
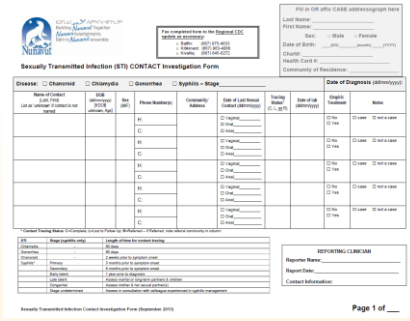
Contact Management



6.4.3 Syphilis Case and Contact follow-up algorithm

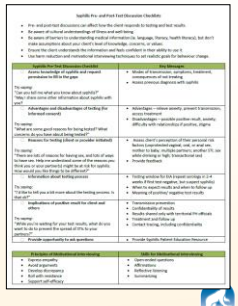
Contact Management


Sexually Transmitted Infection (STI) CONTACT Investigation Form

Page 1 of ___

Syphilis Pre- and Post-Test Discussion Checklist

- Pre- and post test discussions can affect how clients respond to testing and test results
- Informed by harm reduction principles
- Use motivational interviewing techniques
- Feedback welcome!



Syphilis Pre- and Post-Test Discussion Checklist

Syphilis Post-Test Discussion Checklist	Key Messages
Negative Result	
☐ **Explain meaning of result and confirm client understanding**	• Window period for EIA if relevant (repeat serology in 2-4 weeks if first test negative, but suspect syphilis)
☐ **Assess their perception of their risk behaviours** *Try saying:* "What are the good things about [insert risky behaviour] and what are the less good things?"	• Help client identify their barriers to safer sex (examples include fear that it suggests promiscuity; inability to deal with resistance from a partner; perceptions of "normal" sexual behaviour) • Practice negotiating skills as needed
☐ **Provide opportunity to ask questions**	• Remind client when to come for re-testing if relevant

Harm Reduction Principles

- Abstinence or monogamy are not a realistic goal for everyone.
- Some ways of having sex are safer than others. We want to reduce the harm associated with certain behaviours.
- Non-judgmental, non-coercive provision of services and resources.
- Recognize that poverty, class, colonialism, racism, past trauma and other social inequalities affect people's vulnerability to and capacity to change sexual behaviours.

Motivational Interviewing (MI)

- A focused, goal directed, client-centred counselling technique
- Useful with clients who are not thinking about change or who have conflicting feelings about change

Role of the Nurse in Motivational Interviewing

- A meeting of experts
- Non-judgemental
- Client choice
- Communication skills and strategies depend on the client's readiness to change

Stages of Change

- Pre-contemplation *
- Contemplation *
- Preparation
- Action
- Maintenance

* Where MI works best

Pre-Contemplation

- Characteristics
  - Unaware or unwilling to change
  - Not thinking of changing in the next 6 months
- Goal
  - To help the client think seriously about making a change
- Techniques
  - Ask client about their feelings about a change, including pros and cons of change
  - Advise by offering information and assistance
  - Explain and personalize the risk
  - Validate lack of readiness and clarify decision is theirs

Contemplation

- Characteristics
  - Ambivalent about change, "sitting on the fence"
  - Thinking about making a change within 6 months
- Goal
  - Help the client move towards a decision to change behaviour
  - Help client feel more confident
- Techniques
  - Ask about concerns, preparations, and lessons learned from previous attempts to change
  - Encourage evaluation of pros and cons of behaviour change
  - Help identify barriers to change and solutions
  - Help identify an action plan (ie. role play)
  - Validate lack of readiness and clarify decision is theirs

Preparation

- Characteristics
  - Some experience with change and are trying to change (testing the waters)
  - Planning to act within one month
  - Have a set a date to start change
- Goal
  - Help client prepare for and anticipate positively a start date
- Techniques
  - Identify and assist in problem solving re: obstacles to change
  - Help client identify social support
  - Verify that client has underlying skills for behaviour change
  - Encourage small initial steps

Action

- Characteristics
  - Has changed within the last 6 months and is actively applying skills learned
- Goal
  - Help client continue change and recover from relapses
- Techniques
  - Ask how client is doing
  - Advise re: prevention
  - Assist by focusing on successes
  - Bolster confidence for dealing with obstacles
  - Combat feelings of loss and reiterate long term benefits

Maintenance

- Characteristics
  - Client has changed for >6 months
- Goal
  - Help client maintain change
- Techniques
  - Ask how the client is doing. Any issues with maintenance?
  - Assist by offering suggestions for difficult situations
  - Congratulate!

5 principles of MI

- Express empathy
- Avoid arguments
- Develop discrepancy
- Roll with resistance
- Support self efficacy

Express Empathy

- Understand the client's perspective
- Helps identify and understand resistance and reasons for unhealthy behaviours
- Sample:
  - "It would be difficult to start asking your boyfriend to wear a condom when you've never done that before."

Avoid Arguments

- Client is more likely to see the nurse as being on his/ her side
- MI can be confrontational, but is not argumentative or judgemental
- Sample:
  - "You've told me that you know you need to come in for re-testing, but I see that you didn't make it for your last appointment. Can you tell me what happened?"

Develop Discrepancy

- Help the client explore the difference between how they want their lives to be and how they currently are.
- Helps client identify positive aspects of change and their own strengths.
- Sample:
  - "On a scale of 1-10, how important is this change to you right now?"
  - "On a scale of 1-10, how confident are you about making this change?"
  - "Why did you say _, and not lower?"
  - "What would it take to get you to a higher number?"

Roll with Resistance

- Ignore antagonizing comments in order to focus on the important underlying issues
- Accept a person's reluctance to change as natural.

Support Self-efficacy

- Clients may need encouragement based on their abilities, resources, and strengths
- Examine past successes (or failures) and offer genuine support for the successes
- Also notice contemplated changes
- Sample:
  - "What worked before?"
  - "What do you think helped you be successful last time?"

Skills for Motivational Interviewing

- Open-ended questions
- Affirmations
- Reflective listening
- Summarizing

Open-ended Questions

- What concerns you about…
- What do you like about…
- What reasons might you have for…
- Tell me about the difficulties you have…
- What can you tell me about…
- What bothers you most about…
- How can I help you with…
- Help me understand…
- How would you like things to be different?
- What do you think you will lose if you give up…
- What are the good things about ___ and what are the less good things about it?
- What do you want to do next?

Affirmations

- Frequent support for what the client is saying.
- Praise, compliment and explore past successes to help build a therapeutic relationship.
- Samples:
  - I appreciate that you're willing to meet with me today.
  - You're clearly a very resourceful person.
  - You handled yourself really well in that situation.
  - That's a good suggestion.
  - I enjoyed talking with you today.

Reflective Listening

- Helps the client know that you've heard what he or she is saying
- Acknowledges the client's thoughts, feelings, and positions in a neutral manner
- Encourage the client to explore their feelings
- Can be: repeating, rephrasing, paraphrasing, reflection of feeling
- Sample:
  - So you feel…
  - It sounds like you…
  - You're wondering if…

Summarizing

- Pulls information together so the client can reflect on it
- Highlights ambivalence and encourages client to address ambivalence

Sample Summary Script

- Indicate you are summarizing
  - Let me see if I understand so far…
  - Here is what I've heard. Tell me if I'm missing anything.
- Give special attention to change statements
  - Problem recognition ("My use has gotten a little out of hand at times")
  - Concern ("If I don't stop, something bad is going to happen")
  - Intent to change ("I'm going to do something, I just don't know what yet")
  - Optimism ("I know I can do this")
- If the person expresses ambivalence, it's useful to include both sides in the summary
  - On the one hand…on the other hand…
- Can be useful to include information from other sources (your own clinical knowledge, research, family, etc)
- End with an invitation
  - Did I miss anything?
  - Anything you want to add or correct?
- Depending on your client's response to the summary statement, it may lead naturally to planning for change

Motivational Interviewing Supports

- MI Reminder Card
  - Checklist for nurses – am I doing this right?
  - https://www.centerforebp.case.edu/client-files/pdf/miremindercard.pdf
- MI readiness ruler
  - Visual for clients, asking them to rate "How important is this change to you right now?" and "How confident are you about making this change?"
  - https://www.centerforebp.case.edu/resources/tools/readiness-ruler

Negotiating safer sex

- Why don't people negotiate safer sex?
  - Lack of knowledge about STIs or condoms
  - Embarrassment or discomfort with sexuality
  - Fear that it suggests distrust, promiscuity, or infidelity
  - Fear that it might "kill the mood" or scare away a sexual partner
  - Fear of (or inability to deal with) resistance from a partner
  - Cultural, religious, or gender-based expectations
  - What is "normal" in their community and amongst their peers

Tips for Empowering your Clients to Negotiate Safer Sex

- Assess their concerns and barriers
- Help the client identify solutions
- Encourage them to select an appropriate time, give a clear message, make condom use fun, and act on their decision
- Use motivational interviewing skills!

Available Resources

Safer Sex Resource

Available in communities, or at www.irespectmyself.ca

Consent Resource (coming soon!)

Resource for Health Care Providers

Available here:
http://www.irespectmyself.ca/%3Cfront%3E

Patient Education Resource

Available here:
http://www.irespectmyself.ca/%3Cfront%3E

Posters

Powerpoints for Health Centre Waiting Rooms

- …coming soon

References

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Questions?

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