STI testing in general practice:
Exploring the use of the Australian STI Management Guidelines

Wednesday 26 June 2019

Presented by: Dr Nick Medland

Sexual Health Physician

Melbourne Sexual Health Centre

RACGP

The Royal Australian College of General Practitioners

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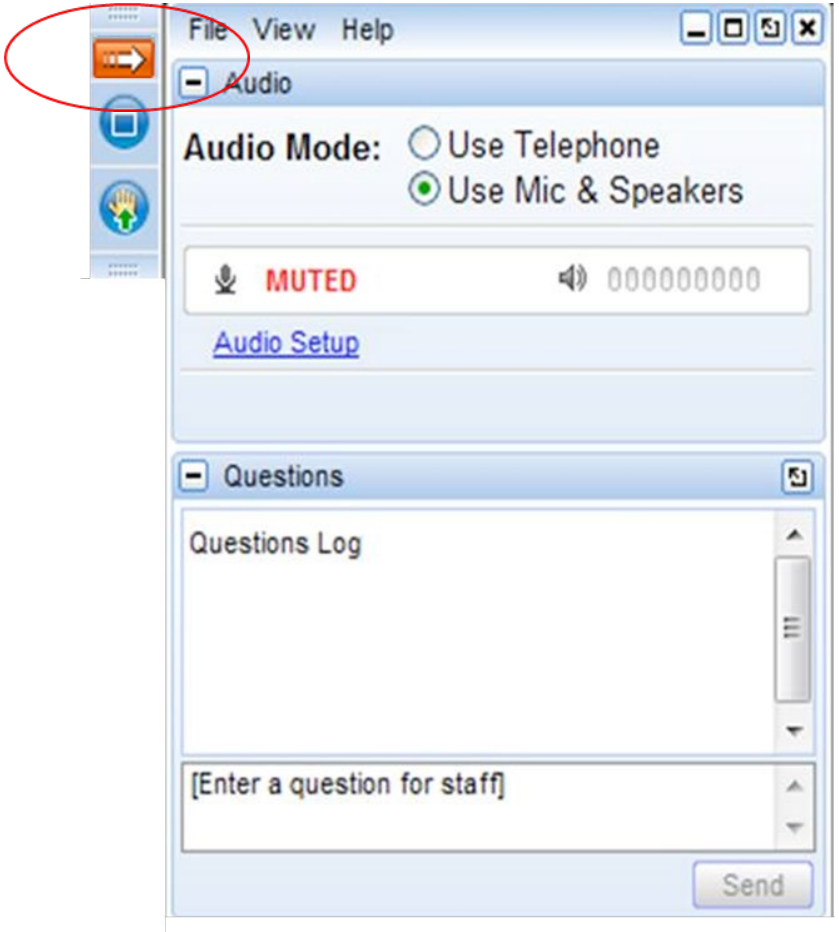
Acknowledgement of Country

I would like to acknowledge the Traditional Owners of the respective lands on which we are meeting today, and pay my respects to Elders past and present

I would also like to acknowledge any Aboriginal and Torres Strait Islander people present

Where is my control panel?



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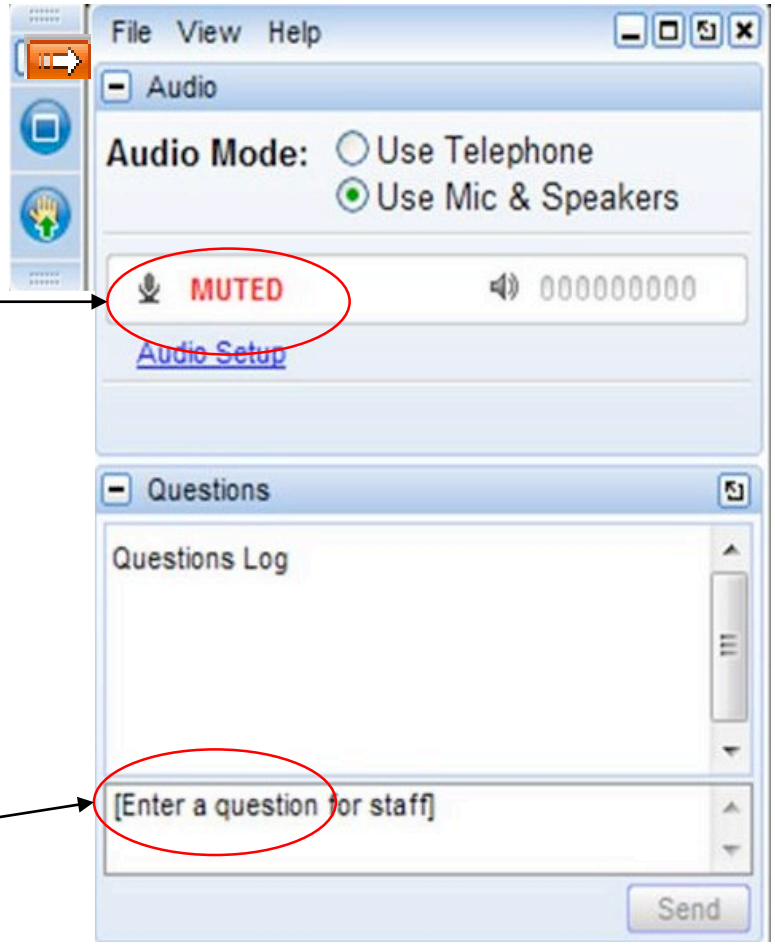
GoToWebinar tips & tricks

You have been placed on "mute" to optimise the learning experience for you and your peers

Use the question box function to talk to us.



Poll test

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Conflict of interest

The presenter is an investigator on research grants to Monash University and University of New South Wales which include funding from Gilead Sciences.

Learning Objectives

- Locate and confidently navigate the Australian STI Management Guidelines
- Describe which STI tests are required for a routine STI screen
- Apply updated knowledge to the treatment and management of Gonorrhoea and Mycoplasma Genitalium

Polling Question 1

Do you use the Australian STI Management Guidelines in your practice?

a. Yes

b. No

c. I don't know

Australian STI Management Guidelines for use in primary care

Check and follow guidelines as they change

http://www.sti.guidelines.org.au/

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Epidemiology

There have been important changes in the epidemiology of sexually transmitted infections in Australia that change the way we screen, test and manage these conditions.

STI rates are increasing

Gonorrhoea

- **28 364** cases notified in 2017
- Notification rates increased 16% **from 2016**
- Increased gonorrhoea in heterosexuals.

Chlamydia

- **100 775** notifications in 2017
- **73 035** (72%) notifications in 15-29 yrs.

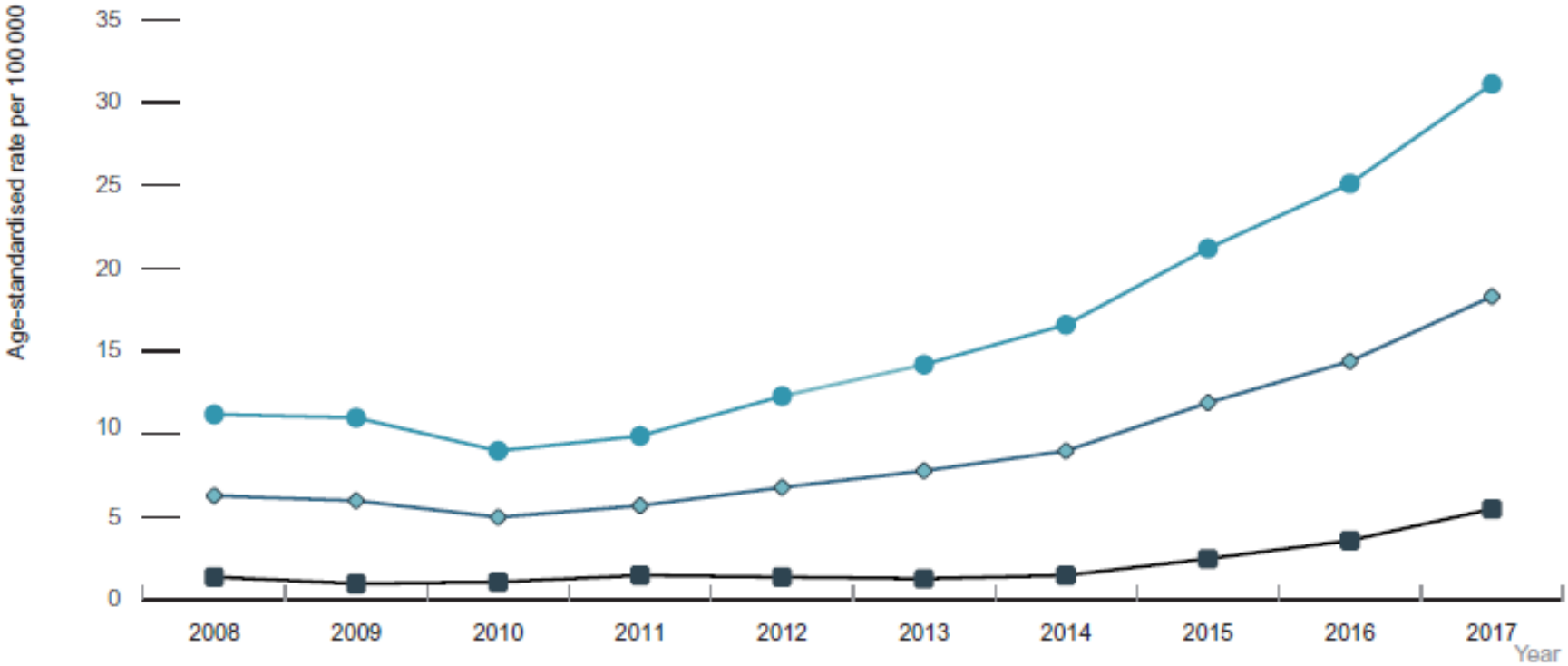
STI rates are increasing

Syphilis

- Syphilis rising rapidly and now no longer restricted to MSM, returned travellers and remote communities.
- Increased syphilis in heterosexuals.
- Congenital syphilis has re-emerged!

Rates of **chlamydia, syphilis** and **gonorrhoea** in Aboriginal and Torres Strait Islander people are higher and are increasing more rapidly

Infectious syphilis notification rate per 100 000, 2008-2017, by sex



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Male	11.2	11.0	9.0	9.9	12.3	14.2	16.6	21.2	25.1	31.1
Female	1.4	1.0	1.1	1.5	1.4	1.3	1.5	2.5	3.6	5.5
Total	6.3	6.0	5.0	5.7	6.8	7.8	9.0	11.9	14.4	18.3

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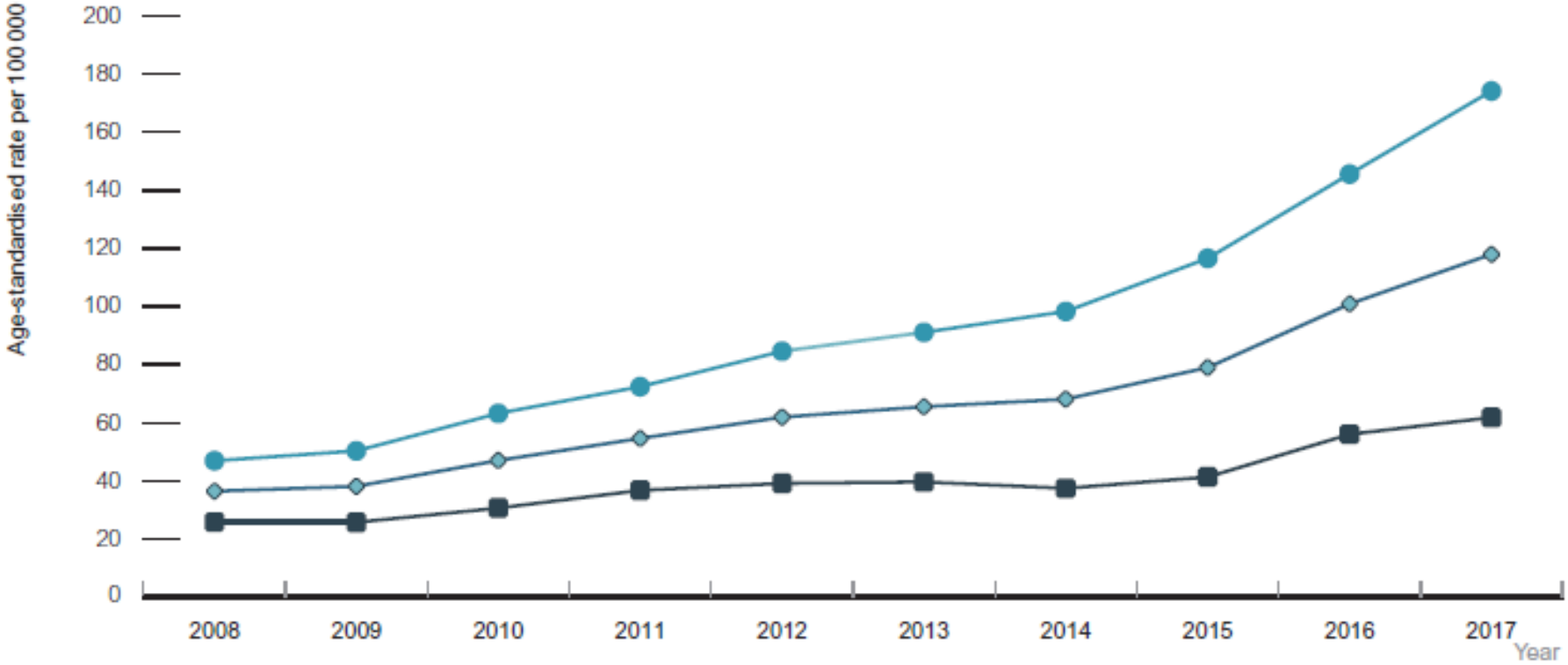
Gonorrhoea notification rate per 100 000 population, 2008–2017, by sex



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Men	46.9	50.3	63.2	72.4	84.6	91.1	98.3	116.6	145.6	174.2
Women	25.8	25.7	30.6	36.7	39.1	39.6	37.4	41.3	56.0	61.8
Total	36.4	38.1	47.0	54.6	61.9	65.5	68.1	79.0	100.9	118.0

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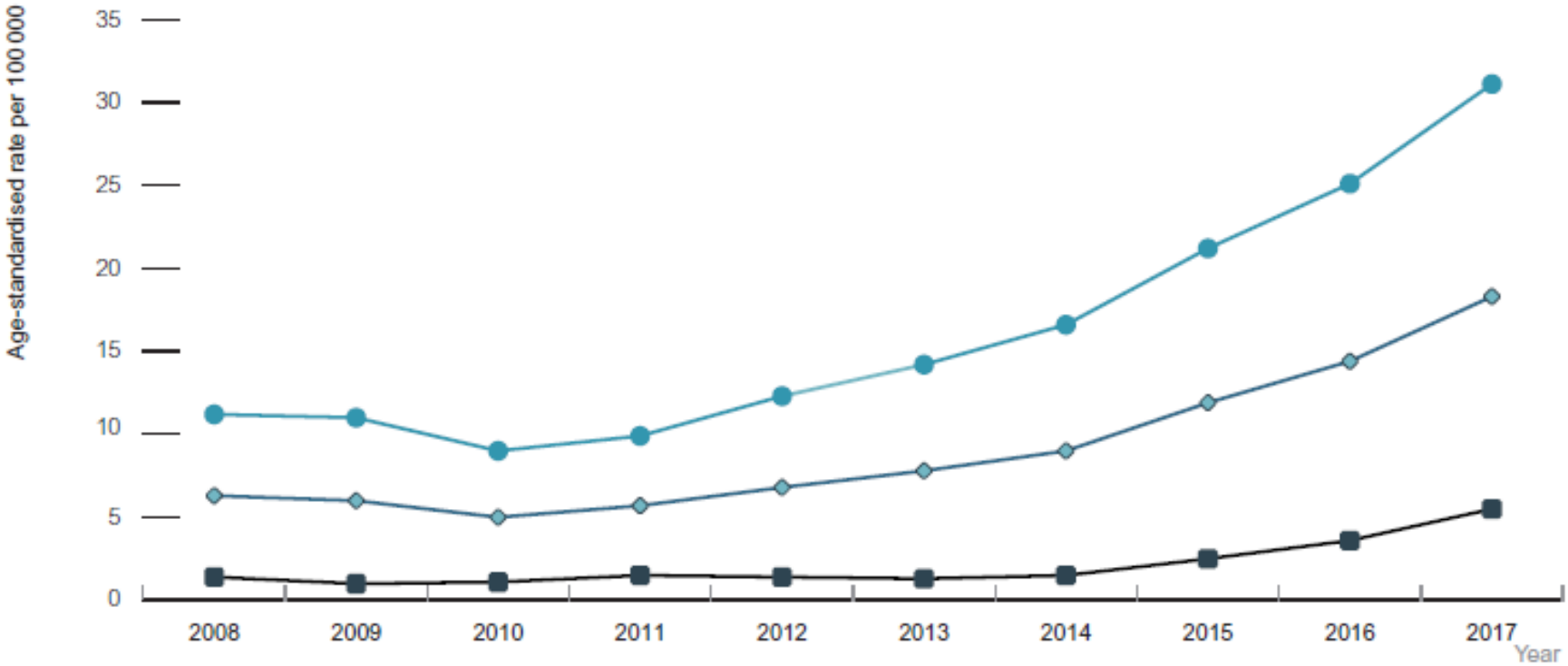
Infectious syphilis notification rate per 100 000, 2008-2017, by sex



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Total	6.3	6.0	5.0	5.7	6.8	7.8	9.0	11.9	14.4	18.3

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Polling Question 2

Do you find it uncomfortable talking about STI screening with your patients?

a. Yes

b. No

c. Sometimes

Starting a conversation about STI screening

Bring the subject up opportunistically

Use a “hook”

As part of a reproductive health consultation

Because the patient requests a “checkup” for STIs

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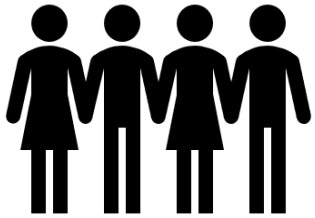
Key points to remember when talking about sexual health

- **Confidentiality**
- **No assumptions or judgments**
- **Remember language....**
  - 'Gay' vs 'have sex with other men'
  - 'prostitute' vs 'paid for sex'
  - 'Identity' vs 'sexual practice'

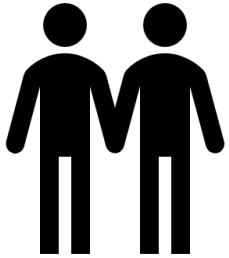
  Eg. I'm heterosexual....but have sex with other men/women
  - 'Are your partners usually male, female, both?'

Priority populations for STI screening

Aboriginal and Torres Strait Islander peoples



Young people 15-29 years of age



Men who have sex with men (MSM)

Sex workers

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What tests?

Blood: HIV, Syphilis serology, Hepatitis B (check status for vaccination)

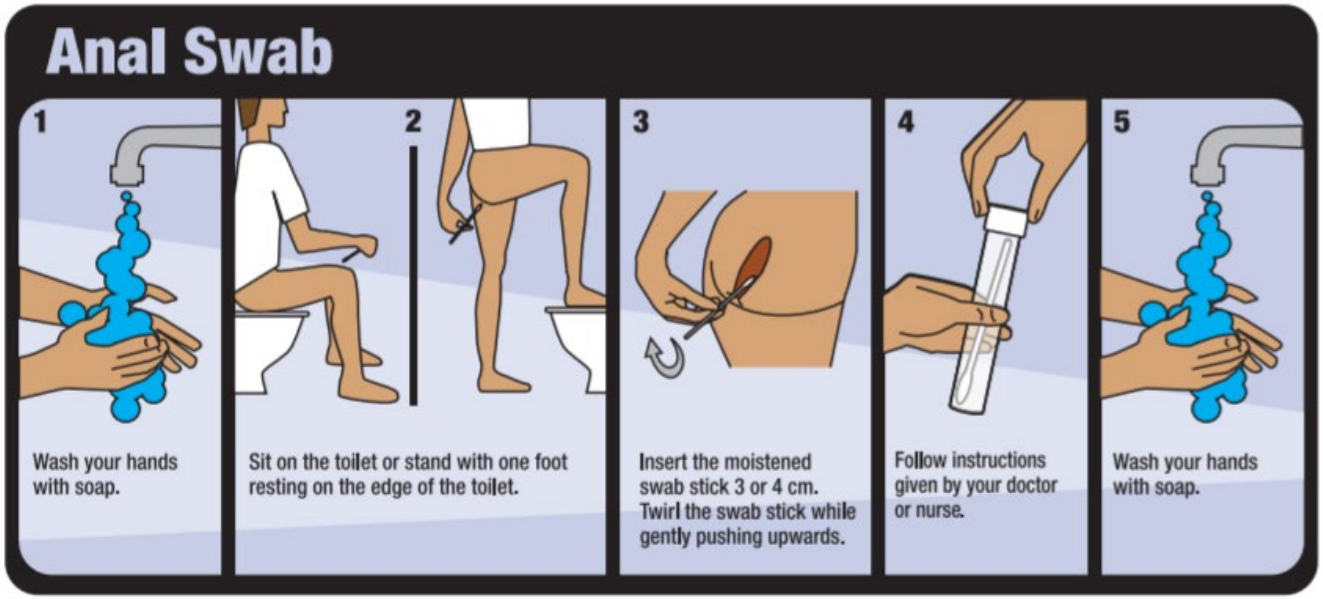
Gonorrhoea and chlamydia

- Women: vaginal* or cervical swab, first pass urine*
- Heterosexual men: first pass urine*
- Men who have sex with men (MSM): first pass urine*, **anal swab*,** throat swab

**can be self collected*

Self collected swabs

- Pharyngeal swab taken in clinic room
- First pass urine, vaginal and anal swab self collected in bathroom



NSW Health/STIPU self-testing cards available here
https://stipu.nsw.gov.au/wp-content/uploads/SELF_TESTING_CARD.pdf

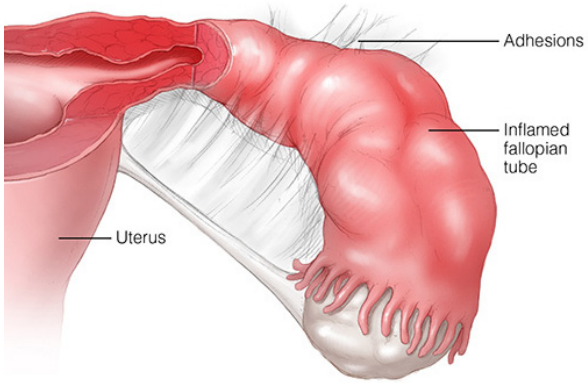
Polling Question 3
Chlamydia

If a patient presents as a contact of chlamydia what would your clinical management be?

a. Test and await results
b. Test and treat before results
c. Treat only
d. Nothing as patient doesn't have symptoms

Chlamydia: Overview

- A bacterial infection of mucosal membranes caused by *Chlamydia trachomatis*
- Usually sexually transmitted
- Asymptomatic pharyngeal, anorectal and cervical infection common
- Important cause of pelvic inflammatory disease, infertility, ectopic pregnancy



Chlamydia: Clinical presentation

- Asymptomatic infection common and persists for months without treatment
- Urethritis in men, may be mild, symptoms may be transient
- Vaginal discharge in women, may be mild, symptoms may be transient
- Pelvic inflammatory disease in women

Chlamydia: Diagnosis

NAAT/PCR testing (nested testing with gonorrhoea)

Sites: anus, throat, high vaginal swab, first pass urine

- Self swabbing (anal and vaginal) is available for screening asymptomatic patients
- Throat swab needs to be retropharyngeal
- 3 sites are critically important in MSM as the urine test is the least likely to be positive.

Chlamydia: Management

Principal Treatment Options		
Situation	Recommended	Alternative
Uncomplicated genital & ano-rectal infection	Doxycycline 100mg PO, BD 7 days OR Azithromycin 1g PO, stat	
Ano-rectal infection	Doxycycline 100mg PO, BD 7 days if asymptomatic, but 21 days if symptomatic	Azithromycin 1g PO, stat, and repeat in 1 week

Chlamydia: Follow up

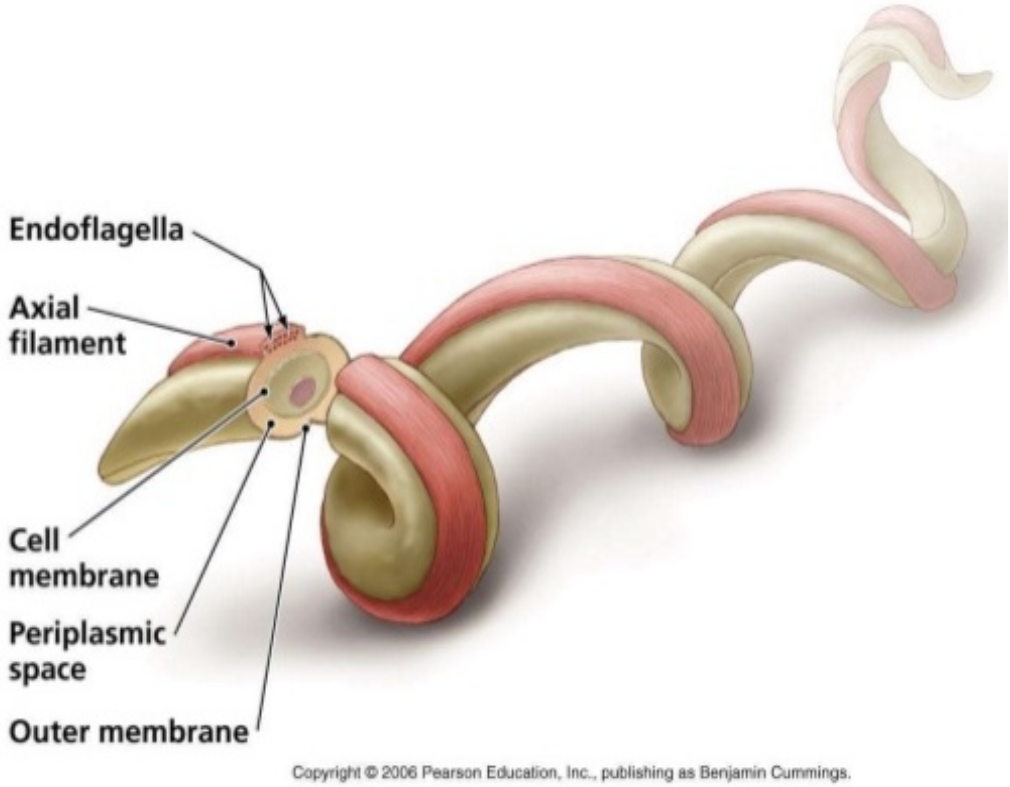
- No sex for 7 days
- Partner notification
  - Public health
  - Prevent re-infection
- Retest the patient after 1-3 months to detect reinfection
- Full STI screening
- Health department notification form

Polling Question 4
Syphilis

A patient presents with a solitary painless lesion on their penis. You decide to test for syphilis. Which test/s would you do?

a) Serology
b) A swab of the lesion (NAAT)
c) Serology and swab of the lesion
d) Darkfield microscopy

Syphilis: Treponema pallidum



- serious systemic bacterial infection
- sexual transmission with inoculation at genital sites or extragenital sites
- oral, anal, vaginal sex
- spirochete capable of evading immune control
- spirochete motility allows extravascular and tissue invasion

Syphilis: Clinical Presentation

Primary:

- Classically solitary painless lesion or ulcer painless but can be multiple and/or painful
- May occur on cervix, rectum, mouth, penis approx. 10-90 days (average 3 weeks) after contact
- Can go unnoticed

Primary Syphilis



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Syphilis: Clinical Presentation

Secondary:

- May present with symptoms including fever, headache, malaise, lymphadenopathy
- Rash, not itchy, usually generalised but may just affect palms and soles
- Incubation period 2-24 weeks (average 6 weeks)
- often mistaken for other common conditions
- 3% neurological/cranial nerve: vision, hearing, balance, severe headache, meningitis

Secondary Syphilis Rashes








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Image source MSHC STI Atlas http://stiatlas.org/

Secondary Syphilis Rashes

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Secondary Syphilis *- Condymalata lata*

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Secondary Syphilis - Mucous patch

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Image source MSHC STI Atlas http://stiatlas.org/

Secondary Syphilis *- Nodular rash and patchy alopecia*

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Image source MSHC STI Atlas http://stiatlas.org/

Latent Syphilis

Untreated syphilis with no signs or symptoms

Early Latent (<2 years)

- Recent infection, infectious
- Positive serology but asymptomatic

Late latent (>2 years)

- No longer infectious via sex, can still be transmitted vertically

If duration of infection unknown treat as late latent

Congenital syphilis

Transplacental transmission: with primary, secondary and early latent untreated syphilis in the mother

- stillbirth, foetal loss, preterm birth, neonatal death, low birthweight

Congenital syphilis: infection intrauterine or post-partum

- Infant may appear uninfected, rates neurological and other disabilities are very high

Syphilis serology is part of antenatal screening

- Repeat in early 3rd trimester if “high risk”
- In outbreak areas: test at first antenatal visit, 28, 36 weeks, at delivery and at 6 weeks

Urgently refer and treat

Prevention of congenital syphilis

= Preventing pregnant women being infected

Increase testing in sexually active women and heterosexual men

- Opportunistic testing in asymptomatic men and women
- Anyone with an STI or who has had an STI
- Anyone with any genital lesion
- Anyone with a rash

Syphilis: Diagnosis

Serological testing

Two types:

treponemal-specific antibody tests:

- Modern EIA/CLIA: highly sensitive, specific – main diagnostic test
- TPPA, FTA ABS, TPHA: historic – used to confirm

Non-treponemal tests (RPR, VDRL)

Most Australian labs use treponemal tests for screening

Treponemal-specific tests detect antibodies to antigens specific to *T pallidum.*

- Results reactive after infection
- Remain reactive indefinitely regardless of treatment in most people but not indicative of active infection
- Only minority will lose antibodies
- If screening with a past Hx of treated syphilis only request a rapid plasma reagin (RPR)

Syphilis: Diagnosis

NAAT

- Detection of *T.pallidum* by nucleic acid amplification test from clinical specimen eg CSF, tissue and chancre

Darkfield Microscopy

- Visualisation of live treponemes obtained from cutaneous or mucus membrane lesions

Syphilis: Serology

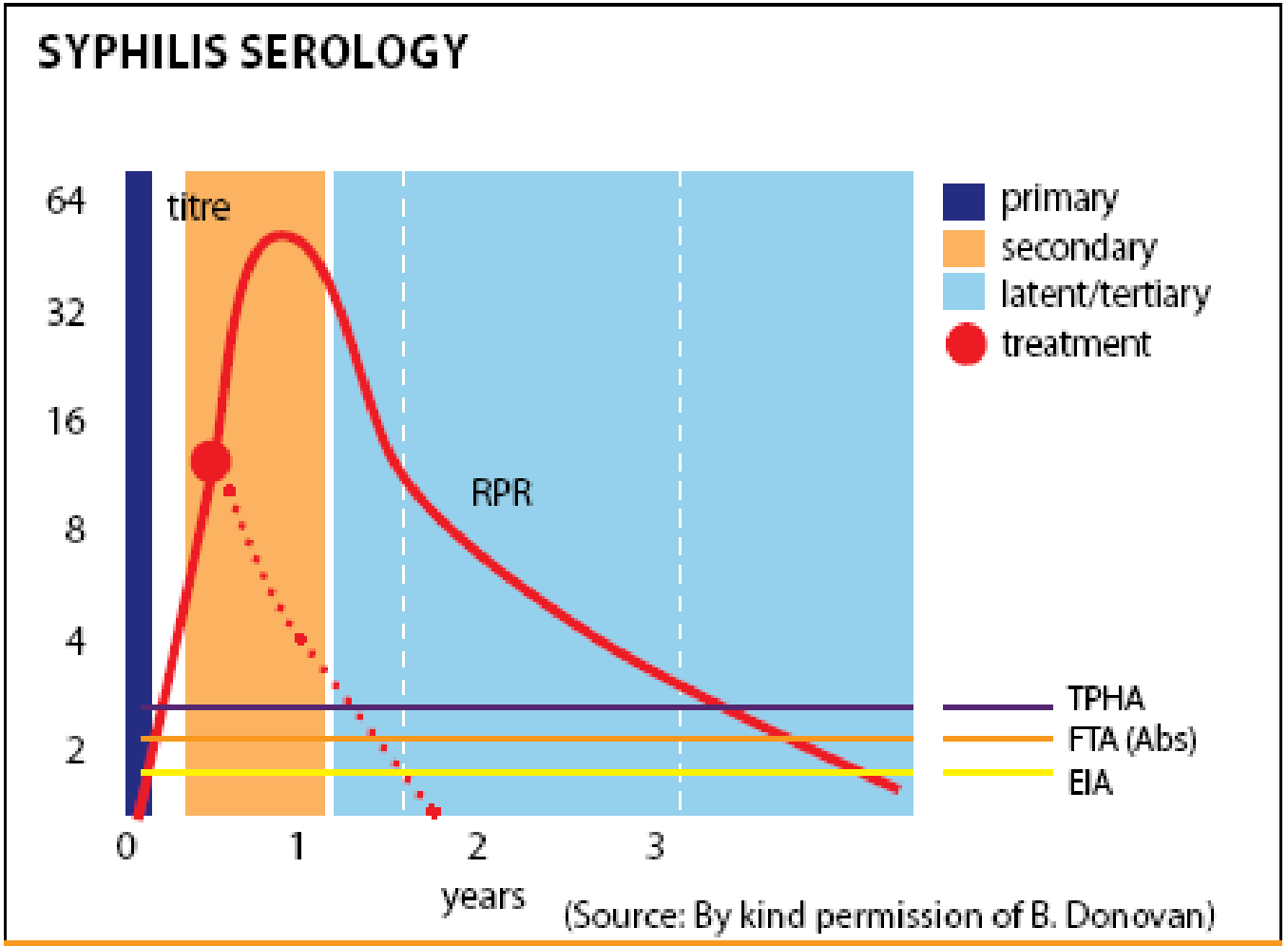

FIGURE 1.4

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Interpretation of syphilis serology: Positive antibody test (EIA, CLIA etc)

= Patient has or has had syphilis.

You next need to determine if:

1. The patient doesn't need treatment
2. The patient needs benzathine penicillin 1.8g x 1
3. The patient needs referral to hospital
4. The patient needs benzathine penicillin 1.8g weekly x 3

Interpretation of syphilis serology: Positive antibody test (EIA, CLIA etc)

= Patient has or has had syphilis.

Additional information to inform that decision

Previous test results

Documented or highly reliable history of treatment

RPR

Interpretation of syphilis serology: Positive antibody test (EIA, CLIA etc)

= Patient has or has had syphilis.

1. The patient doesn't need treatment or referral if:

- Documented or highly reliable prior treatment history,
- RPR is low (1:2 or NR) and/or
- No increase in RPR since last test

If you are not sure treat the patient again and document it

Interpretation of syphilis serology: Positive antibody test (EIA, CLIA etc)

= Patient has or has had syphilis.

2. The patient needs benzathine penicillin 1.8g x 1 if

- Documented negative test within last 2 years
- Documented treatment within last 2 years and RPR went down and went back up again (re-infection)
- Very strong clinical suspicion of early infection:
  - PCR positive skin or genital lesions
  - High and/or rising RPR
  - Obvious symptomatic illness

If you are not sure, treat the patient with 3 doses

Interpretation of syphilis serology: Positive antibody test (EIA, CLIA etc)

= Patient has or has had syphilis.

3. The patient needs referral to hospital if:

- CNS: Vision, hearing, imbalance, severe headache
- Pregnant
- Treatment failure (RPR does not go down)

Interpretation of syphilis serology: Positive antibody test (EIA, CLIA etc)

= Patient has or has had syphilis.

4. The patient needs benzathine penicillin 1.8g weekly x 3 if

- All other scenarios
- You aren't 100% sure that the patient has been adequately treated in the past
- You aren't 100% sure that the infection was acquired in the past 2 years

Syphilis: Management

Benzathine penicillin (A) 1.8 g IMI weekly especially if follow-up uncertain

> *Jarisch Herxheimer reaction– fevers, sweats, joint pain, headache, tachycardia*

If allergic to penicillin:

Infectious Syphilis: Doxycycline (D) 100 mg/po BD 14 days alternative if penicillin allergy and compliance reliable (do not use in pregnancy)

Non Infectious Syphilis: Doxycycline (D) 100 mg/bd po 28 days

Syphilis: Follow Up

Follow up provides an opportunity to:

- Confirm patient adherence with treatment
- Repeat serology to assess response to treatment
- Confirm contact tracing has been undertaken or offer more contact tracing support
- Discuss STI and BBV prevention strategies including PrEP

Test for HIV and other STIs, if not undertaken at first presentation

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(STI Management Guidelines, 2019)

Syphilis take home messages

1. Increase syphilis testing in your practices
2. Be aware of the rash
3. Request:
   Syphilis serology (antibody + RPR)
   Use RPR to monitor treatment, detect re-infection
   + PCR if there is anything to swab
4. If in doubt, treat

Polling Question 5
Gonorrhoea

Which of the following is the treatment for uncomplicated genital Gonorrhoea infection?

a) Ceftriaxone 500mg IMI, stat in 2mL 1% lignocaine
b) Ceftriaxone 500mg IMI, stat in 2mL 1% lignocaine PLUS Azithromycin 1g PO, stat
c) Ciprofloxacin 500mL stat
d) Doxycycline 100mg PO, BD 7 days

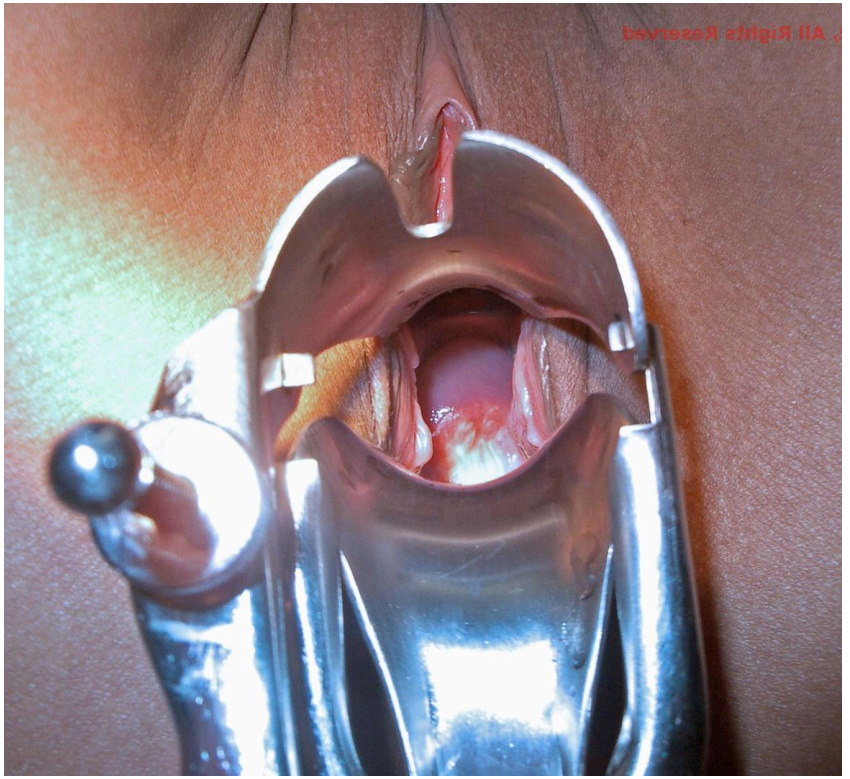
Gonorrhoea: overview

- Bacterial infection of mucous membranes caused by *Neisseria gonorrhoeae*
- Usually sexually transmitted
- Asymptomatic pharyngeal, anorectal and cervical infection common
- Urethral infection usually symptomatic
- Important cause of pelvic inflammatory disease
- Was restricted to MSM and travelers to SEA for many years but now moving beyond those groups
- Drug sensitivity/resistance is a serious issue

Gonorrhoea: Clinical presentation

- Pharyngeal: asymptomatic
- Urethral: profuse purulent discharge
- Cervical: asymptomatic or discharge or pelvic inflammatory disease
- Anorectal: asymptomatic or discharge

Gonorrhoea: Clinical presentation



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(STI Management Guidelines, 2019)

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Image source MSHC STI Atlas http://stiatlas.org/

Gonorrhoea: Diagnosis

Nucleic acid amplification test (NAAT) suitable for screening asymptomatic patients:

- easy to collect and transport, reliable results, allow testing for multiple pathogens
- anorectal and pharyngeal specimens essential in MSM

Bacterial culture (and sensitivity) is critical for surveillance of resistance

- Please do a gonorrhoea culture before you treat the patient
- Request “gonorrhoea culture” to allow lab to use correct culture technique and avoid reports of unrelated bacteria

Gonorrhoea: how to test

NAAT/PCR testing (nested testing with chlamydia)

Sites: anus, throat, high vaginal swab, first pass urine

- Self swabbing (anal and vaginal) is available for screening asymptomatic patients
- Throat swab needs to be retropharyngeal
- 3 sites are critically important in MSM as the urine test is the least likely to be positive.
- Bacterial culture (and sensitivity) is ideal if you plan to treat the patient for gonorrhoea (e.g. if presents with symptoms)

Gonorrhoea: Management

Principal Treatment Options		
Situation	Recommended	Alternative
Uncomplicated genital & ano-rectal infection	Ceftriaxone 500mg IMI stat in 2ml 1% lignocaine PLUS 1000mg azithromycin stat dose simultaneously	Alternative treatments are not recommended because of high levels of resistance, EXCEPT for some remote Australian locations and severe allergic reactions. Seek local specialist advice.
Uncomplicated pharyngeal infection	Ceftriaxone 500mg IMI, stat in 2mL 1% lignocaine PLUS Azithromycin 2g PO, stat	Alternative treatments are not recommended because of high levels of resistance, EXCEPT for some remote Australian locations and severe allergic reactions.

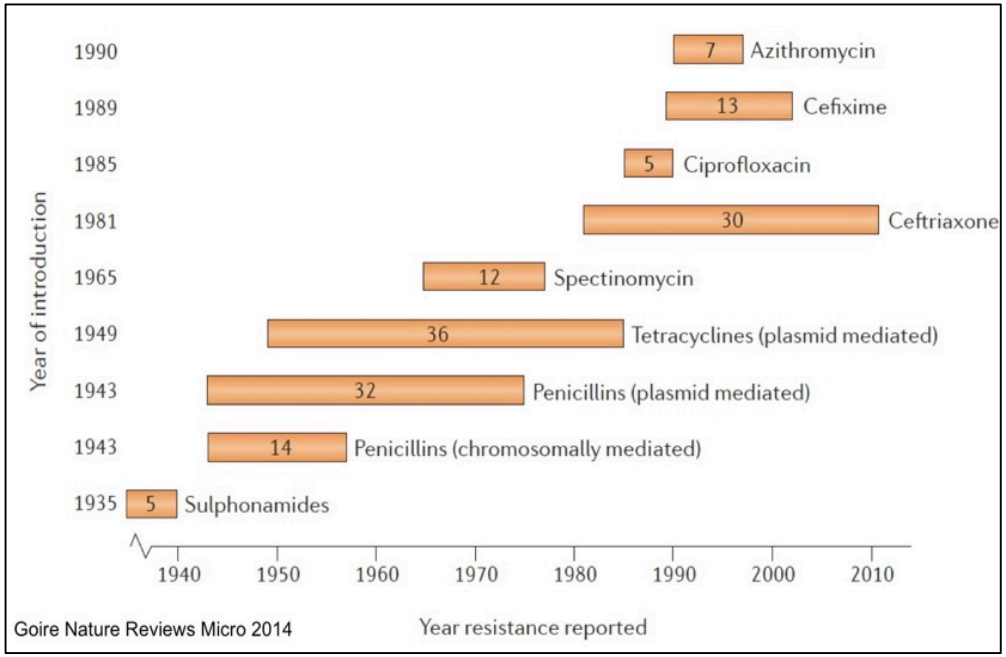
Gonorrhoea: Follow up

- No sex for 7 days.
- Longer abstinence if drug resistance suspected
- Proof of cure at 2- 4 weeks and retest at 3 months
- Full STI screening.
- Health department notification form

Drug-resistant Gonorrhoea

All gonorrhoea is drug-resistant

Specific drug resistance develops soon after gonococcus is exposed. Time between first development of resistance and high prevalence of resistant organisms in new infections varies according to how the drug is used.



Ceftriaxone resistant gonorrhoea already exists and only vigilant public health practice will prevent it being established

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Gonorrhoea: Key messages

1. **Check and follow guidelines as they can change**
2. Increase gonorrhoea testing at your practice
3. 3 site testing is important in MSM
4. Do a culture before treating the patient

Mycoplasma genitalium (M.Gen): overview

- Bacterial STI – evidence regarding management evolving
- Established cause of urethritis, cervicitis and PID and associated with preterm delivery and miscarriage
- Macrolide resistance is common, particularly in MSM
- Asymptomatic anorectal infection in MSM is common
    - Significance unknown
    - Asymptomatic screening not recommended

M.gen: Clinical presentation and testing

Similar clinical spectrum to chlamydia:

- Diagnosis by NAAT
- Testing
    - Males – FPU
    - Females – endocervical, vaginal, FPU

- No Screening of asymptomatic patients
- Test people diagnosed with cervicitis or PID and urethritis or proctitis
- Test contacts

M.Gen: Management

Principal Treatment Options		
Situation	Recommended	Alternative
M. genitalium infection known or suspected to be macrolide-susceptible	Doxycycline 100mg bd for 7 days followed by Azithromycin 1g stat then 500mg daily for three days (total 2.5g)*	Doxycycline 100mg bd for 7 days followed by Azithromycin 1g single dose*
M. genitalium infection known or suspected to be macrolide-resistant	Doxycycline 100mg bd for 7 days followed by Moxifloxacin 400mg daily for 7 days	
Pelvic inflammatory disease due to *M.genitalium*	Moxifloxacin 400mg daily for 14 days**	

M.Gen: Follow up

Test of Cure (TOC)

TOC by NAAT should be done at least 2 weeks after treatment is completed ie 4 weeks after commencing therapy

Contact tracing/ partner notification

- Public health and medicolegal responsibility to document
- Patient can contact partner directly
- Health department partner notification websites
- Automated, web-based SMS: letthemknow.org.au or thedramadownunder.info

Take home messages: role of the GP

1. Syphilis is rising rapidly and is a serious threat, particularly congenital syphilis.
2. Increasing rates of screening of asymptomatic individuals is the only way to control syphilis in the community.
3. Think of syphilis with:
   - Any genital, oral, anal skin lesion
   - Any rash
4. Consider increasing testing in women who might fall pregnant, male partners of women who might fall pregnant

5. Help early detection of multidrug resistance gonorrhoea by doing a culture before treating a patient

Recap: Learning Objectives

- Locate and confidently navigate the Australian STI Management Guidelines
- Describe which STI tests are required for a routine STI screen
- Apply updated knowledge to the treatment and management of Gonorrhoea and Mycoplasma Genitalium

QUESTIONS?

Resources for clinicians

Australasian STI Guidelines
http://www.sti.guidelines.org.au/

STI/HIV Testing Tool
https://stipu.nsw.gov.au/wp-content/uploads/STI-HIV-Testing-Tool-online.pdf

STIGMA Guidelines for asymptomatic men who have sex with men
http://stipu.nsw.gov.au/wp-content/uploads/STIGMA_Testing_Guidelines_Final_v5.pdf

Australasian Contact Tracing Manual
http://ctm.ashm.org.au

ASHM resources
https://www.ashm.org.au/resources/

MSHC STI Atlas
https://stiatlas.org/

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Resources for patients

Contact Tracing websites:

- Let Them Know website - http://www.letthemknow.org.au
- Drama Down Under website - http://www.thedramadownunder.info
- Better to Know website - http://www.bettertoknow.org.au

All Good

http://allgood.org.au/