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Australasian Chapter of
Sexual Health Medicine.

Australasian Chapter of Sexual Health Medicine (AChSHM)

Exit Assessment Sample Paper

Introduction

This Sample Paper has been developed as a preparation resource for those who are sitting the AChSHM Exit Assessment. This document was developed specifically as a Sample Paper resource and should be utilised for your preparation alongside your Advanced Training supervisor.

There are six topics and corresponding answer guides available in this sample paper separated across two panels. The handouts and examiner prompts are available in the first half of this document, the corresponding answer guides follow in the second half. The 'Candidate Instruction Sheet' and handouts for the first two topics are provided to candidates in reading time for each Examiner panel.

NB: *The Exit Assessment will contain eight topics across two panels (four per panel).*

Sample questions and marking guides are provided as a guide to the structure of the exam. Content may not always reflect current evidence and medical guidance. This resource was produced in May 2023.

Structure of the exam

The Exit Assessment assesses your understanding of the AChSHM Advanced Training Curriculum.

Refer to the AChSHM Exit Assessment examination webpage for all information pertaining to the exam format, what to expect on exam day, eligibility, results and more.

Acknowledgements

The RACP would like to sincerely acknowledge and thank Clinical Associate Professor Katherine Brown for producing this valuable resource for AChSHM trainees.

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Candidate Instruction Sheet – Panel 1

Four (4) topics are covered in this panel:

1. Genital itch
2. Syphilis
3. Hepatitis
4. HIV.

This document contains the case scenarios for all topics of this sample paper. During the examination, you will be asked questions associated with each of these cases. Subsequent questions will be asked verbally as each case unfolds. Additional information related to these cases as well as some test results may be given to you during the examination by the examiners.

You will have 5 minutes reading time to review the first two case scenarios and make notes.

Panel 1 – AChSHM Sample Paper – Candidate

PANEL 1 – TOPIC 1

[EXAMINER: HAND STEM TO CANDIDATE]

You are a staff specialist in an urban sexual health service. A 40-year-old man has been referred to your service by a GP with a letter stating that the patient is convinced he has a sexually transmitted infection despite multiple negative tests. The man reports he has an irritable sensation in his urethral meatus and he feels like something is crawling on the scrotum. This feeling is keeping him awake at night and he is scratching his genitals during the day.

The patient attends your clinic and initially appears very anxious. He reports that he had sex with a female sex worker 6 months ago and his symptoms began the same day. This was his first sexual encounter for over 10 years. He initially experienced a clear urethral discharge that resolved after 1 week, but the crawling sensation has persisted. The GP has included negative results for urine chlamydia and gonorrhoea on 3 separate occasions and tells you that the patient has no other relevant medical history.

What do you do now?

[EXAMINER: VERBAL]

On examination the urethra appears normal, but there are excoriations/scratch marks on his scrotum bilaterally. His testes and epididymis are bilaterally normal. There is no inguinal lymphadenopathy and no hernia is present. Skin testing for pain, touch and temperature sensation is normal. There is no evidence of any skin infestation in the genital area or elsewhere on the body. The patient is adamant that he has had no other sexual contact. He tells you he washes his genitals 3 times a day with antibacterial soap and that he has treated himself with permethrin for scabies 4 times without success.

Are any further investigations indicated?

[EXAMINER: VERBAL]

Please outline the differential diagnosis of genital itch.

[EXAMINER: VERBAL]

What advice do you give the patient now?

[EXAMINER: VERBAL]

The patient does not attend the appointment with the counsellor or your review. You call him to check how he is going, and he tells you that he has captured the parasite in a jar and will bring it in to show you. When he returns, he brings a urine jar with what appear to be scabs of skin to show you the parasites he has found on his scrotum. His scrotal symptoms are worse and he now has ulcerations from scratching.

In the absence of any other new diagnosis when you examine him, what is your diagnosis and management now?

PANEL 1 – TOPIC 2

[INVIGILATOR: HAND STEM TO THE CANDIDATE]

You are a sexual health physician in a regional town. A GP calls to ask advice about one of her patients, a 55-year-old Aboriginal man she has been managing for his type 2 diabetes. The patient has peripheral vascular disease with bilateral foot ulcers and oedema. He has been wearing a surgical boot on his right foot for stability and to protect from trauma. He is a gay man who recently had a sexual health screen that demonstrated the following serology:

Treponema pallidum antibody	Reactive
Treponema pallidum particle agglutination (TPPA) screen	Reactive, titre > 320
Treponema pallidum FTA antibody	Reactive
Rapid plasma reagin (RPR)	Reactive, titre 256

How do you interpret this serology?

[EXAMINER: VERBAL]

What other information do you need about the patient?

[EXAMINER: HAND TO CANDIDATE]

The GP tells you that the patient's medical record includes documentation that he had a penile chancre and was treated for syphilis 10 years ago with an RPR of 1:32.

- Repeat testing 2 years later demonstrated RPR 1:2.
- He has had no further serology in the last 8 years.
- His recent HIV and other blood-borne viruses and STI tests are negative.
- A right foot x-ray shows subluxation of the tarsometatarsal joints.
- His regular medications include once daily injection of long-acting insulin, atorvostatin, perindopril and metformin.
- He has smoked 20 cigarettes per day for 35 years and does not drink alcohol.
- He has no known allergies.
- The GP found three soft warty lesions on his scrotum that the GP thinks could be chancres, but no other skin lesions or rashes.
- He has a new systolic heart murmur heard loudest in the aortic area. He has no evidence of heart failure.
- He has no other new neurological symptoms or signs but has existing peripheral neuropathy affecting both feet.
- He does not have a regular partner and his most recent sexual contact was with a casual male partner 2 months ago.

[EXAMINER: VERBAL]

Although this presentation is consistent with infectious syphilis, could this man have tertiary syphilis? If so, please outline the features of his history and presentation that are concerning for tertiary syphilis.

[EXAMINER: VERBAL]

You think the patient needs further assessment. What advice will you give the GP about this?

[EXAMINER: VERBAL]

What management do you recommend?

PANEL 1 – TOPIC 3

[EXAMINER: VERBAL]

A pregnant 24-year-old woman presents to your clinic with a complaint of anorexia, nausea and abdominal pain that has increased over the past 3 weeks. She states that she thinks her urine is darker than usual.

What further history do you need?

[EXAMINER: VERBAL]

She tells you that she and her husband have recently returned from a holiday in Vietnam where they got matching tattoos to celebrate 5 years together. She has had no other partners in the past 5 years. She has no relevant medical history and is taking no medication, prescribed, complementary or over-the-counter. She has not drunk any alcohol since the pregnancy was confirmed, but previously drank 2–3 glasses of wine once or twice a week. She has never used any illicit drugs.

This is her first pregnancy and she is 26 weeks gestation. She is experiencing normal fetal movements and has had no vaginal bleeding or discharge. She is not experiencing urinary frequency and has no dysuria. She has attended regular antenatal visits with no problems identified. The fetal growth and fundal height have been as expected.

When you examine her, you notice that she has a tinge of yellow in the sclerae of both eyes and her skin. She has right upper quadrant discomfort and you can feel the tip of the liver. There is no lower abdominal or pelvic pain. You think she may have acute hepatitis.

What additional history would be useful?

[EXAMINER: VERBAL]

The woman says that she is vaccinated against hepatitis B and works as a nurse in aged care. Her husband is not ill. She was careful with foods while travelling due to her pregnancy, but did eat cooked food at street stalls occasionally.

What tests do you advise?

[EXAMINER: HAND RESULTS TO CANDIDATE]

Test	Result	Reference range
Hepatitis A IgM	Negative	
Hepatitis A IgG	Negative	
Hepatitis B surface antigen	Negative	
Hepatitis B surface antibody	100 mIU/mL	
Hepatitis B core antibody	Negative	
Hepatitis C antibody	Negative	
Treponema pallidum antibody	Non-reactive	
HIV antigen/antibody	Negative	
Bilirubin (total)	35 µmol/l	3-18 µmol/L
Albumin	38 g/l	35–46 g/L
ALP	50 U/L	41–119 U/L
GGT	40 U/L	5–50 U/L
ALT	300 U/L	5-40 U/L
AST	987 U/L	< 36 U/L

What is your next investigation?

[EXAMINER: VERBAL]

The hepatitis E IgM is positive.

What are your next steps?

PANEL 1 – TOPIC 4

[EXAMINER: VERBAL]

Tom is a 32-year-old gay man who recently moved to your city. He is HIV positive and has been on treatment for 10 years. He comes in to discuss vaccinations as someone told him he should get vaccinated for human papilloma virus (HPV).

Discuss the pros and cons of HPV vaccination in men who have sex with men (MSM).

[EXAMINER: VERBAL]

What other vaccine-preventable infections should all MSM, whether HIV positive or negative, be offered and why?

[EXAMINER: VERBAL]

What other vaccines should Tom be offered as he is HIV positive?

[EXAMINER: VERBAL]

What vaccinations are contraindicated in HIV-positive people?

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EXIT ASSESSMENT

Candidate Sample Topics

PANEL 2

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Candidate Instruction Sheet – Panel 2

Two (2) topics* are covered in this panel:

1. Ethics
2. HIV

This document contains the case scenarios for all topics of this sample paper. During the examination, you will be asked questions associated with each of these cases. Subsequent questions will be asked verbally as each case unfolds. Additional information related to these cases as well as some test results may be given to you during the examination by the examiners.

You will have 5 minutes reading time to review the two case scenarios and make notes.

**Sample paper only. The AChSHM Exit Assessment has four topics per panel.*

Panel 2 – AChSHM Sample Paper – Candidate

PANEL 2 – TOPIC 1

[INVIGILATOR: HAND STEM TO THE CANDIDATE]

A 33-year-old male presents with a discharge and mild terminal dysuria that has been present for 1 week. He is married but had vaginal sex with a woman he met at an office party 4 weeks ago. They used a condom but it broke. He had sex with his wife several times before becoming symptomatic. He denies any other partners, male or female.

His wife is 5 months pregnant. They have 2 healthy children (aged 1 and 3) who were both born prematurely. He and his wife were treated for chlamydia early in their 4-year relationship.

On examination he has minimal clear discharge in the urethral meatus and no other findings.

What tests do you undertake?

[EXAMINER: VERBAL]

In addition to the usual NAAT tests for chlamydia and gonorrhoea you took a swab for a *Mg* polymerase chain reaction (PCR) and prepared a slide for microscopy on site.

His gram stain reveals 20 PMNL/HPF but no gonococci.

How do you manage this result?

[EXAMINER: VERBAL]

You sense that he is reluctant to tell his wife. He has no contact details for the casual partner even though he said they met at an office party.

At review one week later his results for gonorrhoea and chlamydia are negative. His *Mg* test is positive.

He has not informed his wife about his problem and refuses to do so for fear that it will ruin his marriage. He asks for pills that he can give to his wife surreptitiously.

What issues will you raise with him regarding his health and that of his partner/s?

[EXAMINER: VERBAL]

How would you deal with the impasse about partner notification?

[EXAMINER: VERBAL]

His wife was treated with azithromycin 2.5 g in total and he had doxycycline for 7 days followed by azithromycin 2.5 g in total as outlined above. He returns a month later with recurrent symptoms but says he has had no outside sexual contact.

What are the possible causes of the recurrent symptoms?

PANEL 2 – TOPIC 2

[INVIGILATOR: HAND STEM TO CANDIDATE]

Monica is a 45-year-old human immunodeficiency virus (HIV)-positive woman who attends your clinic for the first time as she has moved to your location from interstate. She tells you that she has been positive for 20 years, is taking Biktarvy and her viral load has been undetectable for the past 15 years. Her recent CD4 count was 700/μL.

Monica has presented today because she is in a new relationship and has been experiencing some changes in her bleeding pattern. She uses condoms and has not disclosed her HIV status to her new partner of 6 weeks. Monica was not sexually active for several years prior to this.

She has a regular 28-day cycle and noticed that her menstruation is getting heavier and longer. Her period lasts 7 days and requires frequent pad changes with occasional leakage. Monica has also experienced some post-coital bleeding since this relationship started.

Please outline your initial approach to a person presenting with these symptoms and this background history.

[EXAMINER: VERBAL]

You conduct a full history and examination.

On examination Monica has cervical ectopy with contact bleeding. The uterus feels bulky and there is mild tenderness in the left fornix, but no palpable mass. There is no vaginal discharge.

Please outline your immediate investigation of her bleeding and the reasons for doing these investigations.

[EXAMINER: VERBAL]

What is the recommended cervical screening schedule for HIV-positive women?

[EXAMINER: VERBAL]

If the candidate did not state that the interval was shorter than five years, preface the question with the following sentence:

> 'The recommended interval is three years'.

Why is the recommended interval less than the current five-year screen in women without HIV?

[EXAMINER: VERBAL]

Are there any differences in the management of HPV detection in HIV-positive women compared with other women?

[EXAMINER: VERBAL]

Is menopause in HIV-positive women any different when compared with HIV-negative women?

[EXAMINER: VERBAL]

Please outline the general principles for prescribing HRT in perimenopausal women

AUSTRALASIAN CHAPTER OF SEXUAL HEALTH MEDICINE

EXIT ASSESSMENT

Sample Topics and Marking Guides

PANEL 1 & 2

PANEL 1 – TOPIC 1 Genital itch (delusional parasitosis)

[EXAMINER: HAND STEM TO CANDIDATE]

You are a staff specialist in an urban sexual health service. A 40-year-old man has been referred to your service by a GP with a letter stating that the patient is convinced he has a sexually transmitted infection despite multiple negative tests. The man reports he has an irritable sensation in his urethral meatus and he feels like something is crawling on the scrotum. This feeling is keeping him awake at night and he is scratching his genitals during the day.

The patient attends your clinic and initially appears very anxious. He reports that he had sex with a female sex worker 6 months ago and his symptoms began the same day. This was his first sexual encounter for over 10 years. He initially experienced a clear urethral discharge that resolved after 1 week, but the crawling sensation has persisted. The GP has included negative results for urine chlamydia and gonorrhoea on 3 separate occasions and tells you that the patient has no other relevant medical history.

What do you do now?

- *Take a full medical and sexual history including details of past sexual contact, unwanted sexual contact, past mental health history, medications, dermatological conditions, allergies and past sexually transmissible infections (STIs).*
- *Obtain the details of all previously performed STI tests, results and treatment.*
- *Undertake a genital examination with focus on genital skin and urethral abnormalities.*
    - *Examine the pubic hair for pubic lice with a magnifying glass/examine hair under microscope.*
    - *Examine the skin generally for any signs of a dermatosis and specifically for nodules and skin burrows typical of scabies on the scrotum and elsewhere, typically the volar aspect of the wrists, finger webs and areola of the breast.*
- *Ensure that testing for Mycoplasma genitalium, syphilis, HIV, viral hepatitis and a mid-stream urine has been completed.*

[EXAMINER: VERBAL]

On examination the urethra appears normal, but there are excoriations/scratch marks on his scrotum bilaterally. His testes and epididymis are bilaterally normal. There is no inguinal lymphadenopathy and no hernia is present. Skin testing for pain, touch and temperature sensation is normal. There is no evidence of any skin infestation in the genital area or elsewhere on the body. The patient is adamant that he has had no other sexual contact. He tells you he washes his genitals 3 times a day with antibacterial soap and that he has treated himself with permethrin for scabies 4 times without success.

Are any further investigations indicated?

No, if the candidate already outlined the tests as listed above

[EXAMINER: VERBAL]

Please outline the differential diagnosis of genital itch.

- *Eczema*
- *Psoriasis*
- *Lichen sclerosis*
- *Dryness related to excess use of soap*
- *Contact dermatitis related to topical products for personal hygiene or as a self-prescribed treatment*
- *Tinea cruris*
- *Irritation of the skin due to sweating and tight clothing.*

[EXAMINER: VERBAL]

The patient does not attend the appointment with the counsellor or your review. You call him to check how he is going, and he tells you that he has captured the parasite in a jar and will bring it in to show you. When he returns, he brings a urine jar with what appear to be scabs of skin to show you the parasites he has found on his scrotum. His scrotal symptoms are worse and he now has ulcerations from scratching.

What advice do you give the patient now?

- *Check that he also washed his bedlinen, towels and clothing at the time of first using the scabicide as it is possible, but unlikely, that he did have an infestation originally if he treated himself prior to seeing his GP.*
- *Advise that there is no evidence of a specific skin disease, including infection.*
- *Advise him to cease all soap products and other topical treatments.*
- *Advise twice daily use of sorbolene or petroleum jelly to moisturise the skin, which will be dry following the overwashing with antibacterial soap. This should improve the skin texture.*
- *Advise him to have a consultation with the counsellor to explore the source of his disproportionate anxiety further. This could include his attitude to sex; guilt or shame in relation to the sexual encounter; his sexual knowledge and identity; and his overall mental health.*
- *Offer an appointment in 1 month to review after he has addressed his skin hygiene and seen the counsellor.*

[EXAMINER: VERBAL]

The patient does not attend the appointment with the counsellor or your review. You call him to check how he is going, and he tells you that he has captured the parasite in a jar and will bring it in to show you. When he returns, he brings a urine jar with what appear to be scabs of skin to show you the parasites he has found on his scrotum. His scrotal symptoms are worse and he now has ulcerations from scratching.

In the absence of any other new diagnosis when you examine him, what is your diagnosis and management now?

- *Bringing a sample as described above is known as the 'matchbox sign'.*
- *The patient has a fixed, false belief that they are infested with parasites. This is known as delusional parasitosis.*
- *The patient needs referral to a psychiatrist for assessment. The condition is usually managed with anti-psychotic medication and psychotherapy.*

TOPIC 2 – Syphilis

[EXAMINER: HAND STEM TO CANDIDATE]

You are a sexual health physician in a regional town. A GP calls to ask advice about one of her patients, a 55-year-old Aboriginal man she has been managing for his type 2 diabetes. The patient has peripheral vascular disease with bilateral foot ulcers and oedema. He has been wearing a surgical boot on his right foot for stability and to protect from trauma. He is a gay man who recently had a sexual health screen that demonstrated the following serology:

Treponema pallidum antibody	Reactive
Treponema pallidum particle agglutination (TPPA) screen	Reactive, titre > 320
Treponema pallidum FTA antibody	Reactive
Rapid plasma reagin (RPR)	Reactive, titre 256

How do you interpret this serology?

- *The patient has positive syphilis serology.*
- *The result is consistent with new infectious syphilis.*
- *It is important to identify any past serology results to determine when his last negative syphilis test was and any past RPR results, particularly the most recent.*

[EXAMINER: VERBAL]

What other information do you need about the patient?

- *Sexual history including number of partners, recent sexual contact, use of PrEP/PEP*
- *Past testing including syphilis, HIV and other sexually transmissible infections (STIs)*
- *Past general medical history including diabetes management and control*
- *Any recent imaging of the affected footSymptoms or signs of syphilis including anogenital lesions, skin rashes, heart murmur, neurological signs including change in vision or hearing, cranial nerve palsies, weakness.*

[EXAMINER: HAND TO CANDIDATE]

The GP tells you that the patient's medical record includes documentation that he had a penile chancre and was treated for syphilis 10 years ago with an RPR of 1:32.

- Repeat testing 2 years later demonstrated RPR 1:2.
- He has had no further serology in the last 8 years.
- His recent HIV and other blood-borne viruses and STI tests are negative.
- A right foot x-ray shows subluxation of the tarsometatarsal joints.
- His regular medications include once daily injection of long-acting insulin, atorvostatin, perindopril and metformin.
- He has smoked 20 cigarettes per day for 35 years and does not drink alcohol.
- He has no known allergies.
- The GP found three soft warty lesions on his scrotum that the GP thinks could be chancres, but no other skin lesions or rashes.
- He has a new systolic heart murmur heard loudest in the aortic area. He has no evidence of heart failure.
- He has no other new neurological symptoms or signs but has existing peripheral neuropathy affecting both feet.
- He does not have a regular partner and his most recent sexual contact was with a casual male partner 2 months ago.

[EXAMINER: VERBAL]

Although this presentation is consistent with infectious syphilis, could this man have tertiary syphilis? If so, please outline the features of his history and presentation that are concerning for tertiary syphilis.

- *The new cardiac murmur could be a feature of cardiovascular syphilis which usually presents with ascending aortitis and aortic regurgitation rather than aortic stenosis, but has a range of cardiac presentations.*
- *He appears to have a Charcot joint, which could be a feature of longer-standing tabes dorsalis/neurosyphilis as well as the diabetes.*

[EXAMINER: VERBAL]

You think the patient needs further assessment.

What advice will you give the GP about this?

- *The GP should collect PCR swabs from the scrotal lesions to test for Treponema pallidum as they may be condylomata lata.*
- *This man needs assessment and management for possible cardiovascular syphilis.*
- *He needs review by a cardiologist and likely pre-treatment with steroids to prevent worsening of his cardiovascular disease due to a Jarisch–Herxheimer reaction when his current active syphilis is treated.*
- *Charcot foot is a rare neurological complication of tertiary syphilis associated with tabes dorsalis, but is also caused by diabetic neuropathy, so both are possible contributing factors.*
- *He should be referred to a foot and ankle specialist for review and further management of the Charcot joint.*
- *If the onset of the joint problem is recent it is imperative to stop weight bearing initially and protect with a cast.*
- *He needs a thorough neurological examination including central and peripheral nervous system and assessment of his gait, bladder function and cognitive function.*
- *Lumbar puncture may be indicated to assess for potential neurosyphilis.*
- *He is likely to need IV penicillin and monitoring in hospital so he should be referred for inpatient management.*

[EXAMINER: VERBAL]

What management do you recommend?

- *Cardiovascular syphilis: 3 days pre-treatment with oral steroids then benzathine penicillin 1.8 g IM weekly for 3 weeks*
- *As neurosyphilis cannot be excluded, IV benzyl penicillin 2.4 MIU 4 hourly for 15 days would be preferred treatment.*

TOPIC 3 – Hepatitis E

[EXAMINER: VERBAL]

A pregnant 24-year-old woman presents to your clinic with a complaint of anorexia, nausea and abdominal pain that has increased over the past 3 weeks. She states that she thinks her urine is darker than usual.

What further history do you need?

- *General medical history including drug allergies*
- *Medications including over-the-counter or complementary medicines*
- *Sexual history, regular partner, casual partners, last sexual contact*
- *Alcohol and other drug history, especially injecting drug use*
- *Travel history*
- *Tattoo history*
- *Obstetric history including last menstrual period, expected date of confinement and any complications in previous pregnancies; for example, pre-eclampsia*

[EXAMINER: VERBAL]

- She tells you that she and her husband have recently returned from a holiday in Vietnam where they got matching tattoos to celebrate 5 years together. She has had no other partners in the past 5 years. She has no relevant medical history and is taking no medication, prescribed, complementary or over-the-counter. She has not drunk any alcohol since the pregnancy was confirmed, but previously drank 2–3 glasses of wine once or twice a week. She has never used any illicit drugs.

- This is her first pregnancy and she is 26 weeks gestation. She is experiencing normal fetal movements and has had no vaginal bleeding or discharge. She is not experiencing urinary frequency and has no dysuria. She has attended regular antenatal visits with no problems identified. The fetal growth and fundal height have been as expected.

- When you examine her, you notice that she has a tinge of yellow in the sclerae of both eyes and her skin. She has right upper quadrant discomfort and you can feel

the tip of the liver. There is no lower abdominal or pelvic pain. You think she may have acute hepatitis.

What additional history would be useful?

- *Vaccination history for hepatitis A and B*
- *Other potential exposures while travelling; for example, food (especially high-risk food such as seafood and uncooked food), drinking water and ice, and swimming*
- *Illness in household; for example, is her husband ill?*
- *Information about household contacts for possible contact tracing*
- *Occupation for possible contact tracing.*

[EXAMINER: VERBAL]

The woman says that she is vaccinated against hepatitis B and works as a nurse in aged care. Her husband is not ill. She was careful with foods while travelling due to her pregnancy, but she did eat cooked food at street stalls occasionally.

What tests do you advise?

- *Hepatitis A IgM and IgG total*
- *Hepatitis B core Ab, hepatitis B surface Ag and hepatitis B surface Ab*
- *Hepatitis C Ab*
- *Liver function tests*
- *Syphilis serology*
- *HIV Ab/Ag.*

[EXAMINER: HAND RESULTS TO CANDIDATE]

Test	Result	Reference range
Hepatitis A IgM	Negative	
Hepatitis A IgG	Negative	
Hepatitis B surface antigen	Negative	
Hepatitis B surface antibody	100 mIU/mL	
Hepatitis B core antibody	Negative	
Hepatitis C antibody	Negative	
Treponema pallidum antibody	Non-reactive	
HIV antigen/antibody	Negative	
Bilirubin (total)	35 µmol/l	3-18 µmol/L
Albumin	38 g/l	35–46 g/L
ALP	50 U/L	41–119 U/L
GGT	40 U/L	5–50 U/L
ALT	300 U/L	5-40 U/L
AST	987 U/L	< 36 U/L

What is your next investigation?

- *Hepatitis E IgM*
- *Hepatitis E RNA*

[EXAMINER: VERBAL]

What are your next steps?

- *Urgent referral to a gastroenterologist. There is no specific treatment for hepatitis E. Pregnant women are at risk of developing fulminant hepatitis. Hospitalisation is usually not required but may be advisable for a symptomatic pregnant woman, especially in the third trimester.*
- *If not hospitalised advise the patient to avoid food preparation and wash hands thoroughly and frequently. She must avoid sharing eating and drinking utensils, as well as sharing linen and towels, having sex, donating blood, swimming or using hot tubs.*
- *The patient may need up to 6 weeks off work as she works in health care (minimum 2 weeks after start of symptoms). The aged care facility should be alert for any signs or symptoms of hepatitis.*
- *Her husband should monitor for symptoms and be tested for hepatitis E if he develops any symptoms. There is no specific prophylaxis.*
- *Medications such as paracetamol and anti-emetics should be minimised or avoided.*
- *Notify public health unit by telephone.*

TOPIC 4 – HIV (Vaccinations)

[EXAMINER: VERBAL]

Tom is a 32-year-old gay man who recently moved to your city. He is HIV positive and has been on treatment for 10 years. He comes in to discuss vaccinations as someone told him he should get vaccinated for human papilloma virus (HPV).

Discuss the pros and cons of HPV vaccination in men who have sex with men (MSM).

- *HPV is an oncogenic (cancer causing) virus.*
- *There are more than 100 serotypes of HPV.*
  - *HPV types 6 and 11 are associated with anogenital and oropharyngeal warts.*
  - *HPV types 16 and 18 are associated with 60% of HPV-associated cancers.*
- *MSM have an increased risk of anal cancers.*
- *HIV-positive MSM have high rates of HPV 16.*
- *Low CD4 count is associated with an increased risk of acquiring HPV and developing cancer.*
- *The current nonovalent HPV vaccine contains L1 proteins of HPV types 6, 11, 16 and 18 found in the original vaccine, as well as five other oncogenic types – 31, 33, 45, 52 and 58 – which account for another 10% of malignancies.*
- *The vaccine is safe and induces an immune response in HIV-positive people.*
- *Serum levels of antibodies to HPV proteins post vaccination are higher than levels found in natural immunity.*
- *Serum levels are higher with high CD4 and low viral load.*
- *This patient would not have received vaccination at school as this program started for Australian boys in year 7 in 2013.*
- *Current licensing is for women up to 45 years and men to the age of 26, based on cost-effectiveness studies in HIV-negative populations.*
- *MSM are likely to have acquired some HPV serotypes by the age of 32, but may not have acquired any or all of them.*
- *Cost may be prohibitive as the vaccinations are not subsidised, apart from the school vaccines and up to the age of 19 in Australia.*
- *Evidence for vaccinating men who already have HPV is currently limited, but this is an active area of research.*

[EXAMINER: VERBAL]

What other vaccine-preventable infections should all MSM, whether HIV positive or negative, be offered and why?

- *Covid-19 – advised for all citizens*
- *Hepatitis A –*
  - *higher population prevalence in MSM*
  - *occasionally fulminant disease*
  - *immunogenicity is associated with CD4 T-cell count*
  - *higher titres with three doses*
- *Hepatitis B –*
  - *highly infectious (transmissibility is approximately 100 × the rate of HIV transmission)*
  - *associated with cirrhosis and hepatocellular cancer, increased risk if co-infected with HIV*
  - *immune response lower in people who are HIV positive so it is preferable to vaccinate before HIV acquisition where possible*
  - *HIV-positive people have a better response using a 40mcg dose at 0, 1, 2 and 6 months (total of 4 double doses) compared with 3 doses of 20 mcg.*
- *Influenza – highly infectious respiratory virus of variable severity that has increased likelihood of severity in HIV-positive people*
- *Tetanus, diphtheria and pertussis – boosted every 10 years*
- *MPox – Jynneos is recommended for HIV-positive people as well as HIV-negative MSM.*

[EXAMINER: VERBAL]

What other vaccines should Tom be offered as he is HIV positive?

- *Measles, mumps and rubella*
  - *Measles is associated with higher mortality in HIV-positive people.*
  - *Measles is associated with atypical presentations in HIV.*
  - *Vaccination is highly efficacious in immune-competent people.*
  - *People who are HIV positive and measles nonimmune should receive 2 doses of MMR, with at least 1 month between doses.*
  - *Immune reconstitution is associated with increased levels of measles IgG seropositivity.*
- *Vaccination against Neisseria meningitidis with two different vaccines*
  - *HIV infection is associated with a 5–24-fold risk of meningitis or bacteraemia following N meningitidis infection and higher mortality.*
  - *There is no data suggesting an increased risk of infection for HIV-positive people. However, the rates of infection fluctuate across Australia over time and it is preventable.*
  - *Low CD4 T-cell count and high viral load are associated with a poorer response to vaccination with meningococcal vaccines - MenC and MenACWY.*
  - *Two doses at least 8 weeks apart of quadrivalent conjugate MenACWY are recommended.*
  - *Two doses of recombinant MenB at least 8 weeks apart are recommended as there may be a suboptimal response to a single dose in HIV-positive people compared with HIV-negative people.*
  - *No data is available about the immune response to MenB vaccine in comparison with HIV-negative populations. Advice is related to the known men C response.*
- *Vaccination against Streptococcus pneumoniae with two different vaccines*
  - *S. pneumoniae causes pneumonia and other invasive diseases.*
  - *The rate of invasive disease is 45 times higher in HIV-infected patients compared to HIV-negative people.*
  - *Mortality rates are also much higher, especially if the patient is not on effective antiretroviral therapy.*
  - *Risk factors for severe disease include low CD4 count, having African ancestry, injecting drug use, smoking, chronic disease and alcoholism.*

- *13 valent protein-conjugated pneumococcal polysaccharide vaccine (PCV13):*
  - *One dose of this vaccine is recommended for all HIV-positive patients, regardless of CD4 count. It is given 12 months after PPV23 if that has already been administered.*
  - *Protein-conjugated vaccines are designed to elicit a T-cell–dependent B-cell response, resulting in superior antibody and B-cell memory responses.*
  - *Vaccine efficacy is 74% against invasive pneumococcal disease.*
- *23 valent pneumococcal polysaccharide vaccine (PPV23): PPV23 is recommended 12 months after PCV13 with a second dose 5 years later.*
- *Vaccine efficacy against invasive pneumococcal disease is lower in HIV-positive people, especially in people with low CD4 counts, with reported rates varying between 20 and 70%.*
- *Clinical failure is associated with low CD4 T cell count (< 200/μL), having African American ancestry and HIV viral load > 100,000 copies per mL*

- *Vaccination against varicella-zoster virus (VZV)*
  - *Varicella-zoster is a herpes virus that causes a primary infection (chicken pox) and a reactivation disease (shingles) after establishing latency in neurons.*
  - *HIV-positive people who are seronegative to VZV are more likely to experience severe disease.*
  - *The incidence of shingles in HIV-positive people is 3–5 times that of HIV-negative populations.*
  - *Shingles is associated with low CD4 and high viral loads.*
  - *HIV-positive people have higher rates of cutaneous, neurological and viral complications.*
  - *Chickenpox vaccine is a live attenuated vaccine using the Oka strain of VZV.*
  - *Chickenpox vaccine is recommended for patients with a CD4 T-cell count > 200/μL*
  - *Non-immune (VZV IgG antibody negative) HIV-positive patients should be given 2 doses of chickenpox vaccine 3 months apart.*
  - *Combination MMRV is not recommended.*
  - *Shingles vaccine is a more potent high-titre live attenuate vaccine designed to boost natural immunity and reduce the incidence of shingles and postherpetic neuralgia in people over 50 years of age.*
  - *Patients with CD4 T cell counts of 200–350/μL and serological confirmation of VZV infection should be offered a dose of the shingles vaccine.*

[EXAMINER: VERBAL]

What vaccinations are contraindicated in HIV-positive people?

- *Any vaccination where the person has previously experienced a severe reaction – hypersensitivity or anaphylaxis.*
- *MMR should not be administered to people with CD4 T cell count < 200/μL.*
- *Varicella should not be given to pregnant people.*
- *HIV-positive people should not be given BCG vaccine, which is an attenuated live vaccine, due to the risk of disseminated infection.*
- *HIV-positive people should not receive the attenuated live Japanese encephalitis vaccine, but can be given an inactivated vaccine.*
- *HIV-positive people should not receive oral attenuated live typhoid vaccine, but can be given parenteral Vi polysaccharide vaccine.*
- *Adults with CD4 > 200/μL can be given yellow fever vaccine if they are at risk of infection (travelling to specific countries in South America or Africa).*

PANEL 2 Topic 1 – Mycoplasma genitalium and ethics

[EXAMINER: HAND STEM TO THE CANDIDATE]

A 33-year-old male presents with a discharge and mild terminal dysuria that has been present for 1 week. He is married but had vaginal sex with a woman he met at an office party 4 weeks ago. They used a condom but it broke. He had sex with his wife several times before becoming symptomatic. He denies any other partners, male or female.

His wife is 5 months pregnant. They have 2 healthy children (aged 1 and 3) who were both born prematurely. He and his wife were treated for chlamydia early in their 4-year relationship.

On examination he has minimal clear discharge in the urethral meatus and no other findings.

What tests do you undertake?

- *First-pass urine for chlamydia and gonorrhoea nucleic acid amplification test (NAAT).*
- *Urethral swab for microscopy, culture and sensitivity because he has a discharge and, if he has gonorrhoea, to test the antibiotic sensitivity and resistance.*
- *Urine for Mycoplasma genitalium (Mg) NAAT with macrolide antibiotic resistance biomarkers.*
- *Offer serology for syphilis, HIV and hepatitis B.*

[EXAMINER: VERBAL]

In addition to the usual NAAT tests for chlamydia and gonorrhoea you took a swab for a *Mg* polymerase chain reaction (PCR) and prepared a slide for microscopy on site.

His gram stain reveals 20 PMNL/HPF but no gonococci.

How do you manage this result?

- *Doxycycline 100 mg bd for 7 days because he probably has non-gonococcal urethritis (NGU).*
- *Advise him not to have sex until the result comes back and you have discussed it with him. At a minimum this will be 7 days abstinence.*

- *Advise him that he will need to inform his wife, but if he does not have sex he can wait until the actual diagnosis is confirmed to have a more informed conversation.*
- *Advise him that he will need to notify his casual partner and any other partners in the past 3–6 months when he has the results of his tests.*
- *Provide a fact sheet about NGU.*
- *Make an appointment to discuss his results.*

[EXAMINER: VERBAL]

You sense that he is reluctant to tell his wife. He has no contact details for the casual partner even though he said they met at an office party.

At review one week later his results for gonorrhoea and chlamydia are negative. His *Mg* test is positive.

He has not informed his wife about his problem and refuses to do so for fear that it will ruin his marriage. He asks for pills that he can give to his wife surreptitiously.

What issues will you raise with him regarding his health and that of his partner/s?

Urge treatment for himself and disclosure to his partners for tests and treatment for the following reasons:

- *Mg may be associated with persistent urethritis, balanitis and posthitis.*
- *Mg may cause sexually acquired reactive arthritis.*
- *Mg is a probable cause of cervicitis.*
- *The evidence supports Mg as a factor in pelvic inflammatory disease (PID).*
- *Mg may be associated with tubal factor infertility.*
- *Mg can be found in asymptomatic women.*
- *Mg is associated with adverse pregnancy outcomes – preterm birth and spontaneous abortion*
- *His wife is pregnant. She needs treatment with an antibiotic regimen that is suitable for a pregnant woman and follow up testing. Her obstetric team need to be made aware of the diagnosis so that the neonate can be followed up for any signs of infection.*
- *After ensuring that the Mg test used indicates that the Mg is sensitive to azithromycin, provide or prescribe azithromycin 1 g stat followed by 3 doses of*

azithromycin at 500 mg per day as he has had 7 days of doxycycline to reduce the bacterial load.

- *Advise a test of cure 14 days after completing treatment.*
- *Book an appointment to see him to undertake the follow up test.*

[EXAMINER: VERBAL]

How would you deal with the impasse about partner notification?

- *Develop trust and give adequate time. Advise no sexual contact until the result is available so that his wife is not at continuing risk, if not already infected.*
- *Balance duty to warn, duty of care and confidentiality with any medical necessity.*
- *Educate about medical consequences. Contextualise and weigh up the risks – involve the patient in this – and discuss possible outcomes of not treating partner/s.*
- *Discuss the legal framework, including vicarious duty of care to the mother and unborn child.*
- *Offer counselling and other support; for example, role play the disclosure.*
- *Support the couple before, during and after disclosure by the patient.*
- *Offer to discuss with the maternity care giver when disclosure has been made.*

[EXAMINER: VERBAL]

His wife was treated with azithromycin 2.5 g in total and he had doxycycline for 7 days followed by azithromycin 2.5 g in total as outlined above. He returns a month later with recurrent symptoms but says he has had no outside sexual contact.

What are the possible causes of the recurrent symptoms?

- *Treatment failure: did he complete the course of each antibiotic; that is, doxycycline 100 mg bd for 7/7 followed by azithromycin 1 g for 1 day and 500 mg daily for 3 days = 2.5 g (expected cure rate 85–95%)?*
- *Reinfection: needs repeat testing for Mg. Ensure testing for macrolide antimicrobial resistance as approximately 50% of Mg infections are macrolide resistant.*
- *If the patient has Mg with macrolide resistance he will need treatment with doxycycline 100 mg bd for 7/7 followed by moxifloxacin 400 mg daily for 7 days (cure rate 70%).*

- *His wife should be retested and if she has Mg with resistance she will need treatment with pristinamycin 1 g qid (cure rate 90%) as moxifloxacin is contraindicated in pregnancy.*
- *There may be a new infection with a different organism. Perform a NAAT test for chlamydia, gonorrhoea, trichomonas vaginalis, herpes simplex virus and adenovirus.*

Mg can be resistant to treatment. He could be given pristinamycin 1 g tds (if available) combined with doxycycline 100 mg bd for 10 days, or sitafloxcin 100 mg bd combined with doxycycline 100 mg bd for 7 days. These drugs require approval from the Therapeutic Goods Administration (TGA). Test of cure 2–3 weeks after completing treatment is recommended.

PANEL 2 – Topic 2 HIV and reproductive health

[EXAMINER: HAND STEM TO CANDIDATE]

Monica is a 45-year-old human immunodeficiency virus (HIV)-positive woman who attends your clinic for the first time as she has moved to your location from interstate. She tells you that she has been positive for 20 years, is taking Biktarvy and her viral load has been undetectable for the past 15 years. Her recent CD4 count was 700/μL.

Monica has presented today because she is in a new relationship and has been experiencing some changes in her bleeding pattern. She uses condoms and has not disclosed her HIV status to her new partner of 6 weeks. Monica was not sexually active for several years prior to this.

She has a regular 28-day cycle and noticed that her menstruation is getting heavier and longer. Her period lasts 7 days and requires frequent pad changes with occasional leakage. Monica has also experienced some post-coital bleeding since this relationship started.

Please outline your initial approach to a person presenting with these symptoms and this background history.

History

- *General medical and surgical history, including medications and allergies*
- *Detailed history of her HIV diagnosis and management*
- *Gynaecological and obstetric history*
- *Contraceptive history, including any current use in addition to condoms*
- *Menstrual history, including details of the current changes*
- *Date of her last menstrual period*
- *Cervical screening history*
- *Vaccination history*
- *Any testing for sexually transmissible infections before or after commencing this relationship*
- *Alcohol and other drug use.*

Examination

- *General examination, including height and weight*

- *Visual inspection of external genitalia and anal/perianal area for any external cause of bleeding*
- *Speculum examination*
- *Per vaginum (PV) examination.*

[EXAMINER: VERBAL]

You conduct a full history and examination.

On examination Monica has cervical ectopy with contact bleeding. The uterus feels bulky and there is mild tenderness in the left fornix, but no palpable mass. There is no vaginal discharge.

Please outline your immediate investigation of her bleeding and the reasons for doing these investigations.

[EXAMINER: VERBAL]

Please outline your immediate investigation of her bleeding and the reasons for doing these investigations.

- *Cervical screen – human papillomavirus (HPV) and cytology*
- *Cervical swab – nucleic acid amplification test (NAAT) for chlamydia, gonorrhoea and Mycoplasma genitalium (Mg)*
- *Vaginal swab – microscopy, culture and sensitivity for gonorrhoea and other organisms*
- *Urine and serum beta human chorionic gonadotrophin (beta HCG) pregnancy test – possibility of early pregnancy loss and/or ectopic*
- *Pelvic ultrasound – vaginal for uterine size, endometrium, any abnormality such as fibroids, ovaries.*

[EXAMINER: VERBAL]

What is the recommended cervical screening schedule for HIV-positive women?

- *HPV testing every three years is recommended.*
- *Co-testing is not recommended unless HPV is detected.*

[EXAMINER: VERBAL]

If the candidate did not state that the interval was shorter than five years, preface the question with the following sentence:

> 'The recommended interval is three years'.

Why is the recommended interval less than the current five-year screen in women without HIV?

- *The cervical prevalence of oncogenic HPV in HIV-positive women is higher than HIV-negative women.*
- *HPV 16 is the most common HPV, but there is a higher prevalence of other HPV and mixed infection.*
- *HIV infection has consistently been associated with cervical cancer since HIV was first recognised and cervical cancer has been listed as an AIDS-defining illness since the 1980s.*
- *Effective antiretroviral therapy has not reduced the incidence of cervical cancer in HIV-positive women.*

EXAMINER: VERBAL]

Are there any differences in the management of HPV detection in HIV-positive women compared with other women?

- *HIV-positive women with any HPV detected should be referred for immediate colposcopy if the screen was undertaken by a health professional. If self-collected, a liquid-based cytology specimen should be taken at colposcopy.*
- *HIV-negative women who have HPV (not 16/18) and negative or low-grade squamous intraepithelial lesions (LSIL) on cytology are advised to have a repeat HPV test and cytology in 12 months. They do not have to have a colposcopy at 12 months if HPV (not 16/18) is detected but cytology is negative or LSIL.*
- *All women with possible high-grade cytology (HSIL) must be referred for colposcopy irrespective of HIV status.*
- *Colposcopy assessment should include the whole lower genital tract – vulva, vagina, anal and perianal skin, as well as the cervix.*
- *Treatment should be by excision rather than ablation to definitively grade the lesion for future management.*

- *Histologically confirmed abnormalities are treated the same as for HIV-negative women.*
- *Follow up for HSIL (CIN2/3) is by co-test annually until there are two consecutive negative HPV tests, after which testing can return to a 3-year screening interval.*

[EXAMINER: VERBAL]

Is menopause in HIV-positive women any different when compared with HIV-negative women?

- *The average age of menopause in Australia is 51 years, but symptoms can start in the early to mid-forties.*
- *Menopause before the age of 40 is defined as premature menopause.*
- *The evidence for earlier menopause in HIV-positive women is conflicting, but it appears that women with low CD4 counts may experience earlier menopause.*
- *Symptoms such as hot flushes, night sweats, dry vagina, mood swings and a lack of interest in sex may predate the actual menopause by several years (perimenopause).*
- *Care must be taken not to mistake symptoms such as night sweats as purely menopause-related in women who are significantly immune suppressed (CD4 < 100/μL) as they may have menopause and another condition such as a malignancy or a mycobacterial infection.*
- *Menstruation may cease suddenly or become irregular, heavier or lighter.*
- *Women over 35 with low haemoglobin should be asked about the frequency and volume of menstruation loss*
- *Rates of osteoporosis related to low bone density are higher in HIV-positive people*
- *There is an increased rate of fracture in HIV-positive women over 40 years of age.*
- *Rates of osteoporosis are higher in HIV/HCV (hepatitis C) coinfected people.*
- *Accelerated osteoporosis appears to be related to HIV infection because of the following factors:*
    - *HIV infection affects bone formation*
    - *there are higher rates of alcohol and tobacco usage in people with HIV*
    - *systemic inflammation affects the level of cytokines and tumour necrosis factor*
    - *some antiretroviral therapies, notably tenofovir disoproxil fumarate, are associated with proximal renal tubule toxicity, phosphate wasting and increased bone turnover.*

- *Generally, hormone replacement therapy (HRT) is the same in HIV-negative and HIV-positive women, but the prescriber does need to check for drug interactions.*

[EXAMINER: VERBAL]

Please outline the general principles for prescribing HRT in perimenopausal women.

- *Use the lowest dose for the shortest period of time.*
- *Treat only if symptomatic unless there is some other reason; for example, premature ovarian failure requiring bone protection.*
- *Treat holistically. Include information on lifestyle changes such as diet, exercise and stress management.*
- *Use topical oestrogen if only treating genitourinary symptoms.*
- *Consider a range of options, such as HRT, selective estrogen receptor modulators (SERMs) and antidepressants. Use Australasian Menopause Society prescribing guides to assist with formulations, risks and benefits.*
- *Use cyclical HRT if the person is still having periods and continuous HRT if they are 12 months post-cessation of periods.*
- *Ensure adequate endometrial protection with progesterone in the form of a patch, oral tablet for 2 weeks of the cycle, or Mirena IUD.*
- *Validate symptoms and treat effectively.*