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1 BACKGROUND

1.1 About this document

Under the Policy Directive2020_024 an Accredited Registered Nurse (ARN) employed in a NSW publicly funded sexual health services may supply, and/or administer sexually transmissible infection therapies to eligible patients and sexual partners.

MEDICATION PROTOCOLS IN THIS DOCUMENT MUST EXCLUSIVELY BE USED WITH NSW Health Policy Directive RN Supply and Administration of STI Therapies in Publicly Funded Sexual Health Services BY AN ACCREDITED REGISTERED NURSE

1.2 Issue and approval of Medication Protocols

Issue date: 23 September 2020

Dr Christopher Bourne
Head, NSW STIPU Programs Unit

Signature:

Judith Mackson
NSW Ministry of Health, Chief Pharmacist

Signature:

Professor David Lewis
Chair of the NSW Health PFSHS Directors group

Signature:

MEDICATION PROTOCOLS IN THIS DOCUMENT MUST EXCLUSIVELY BE USED WITH NSW Health Policy Directive RN Supply and Administration of STI Therapies in Publicly Funded Sexual Health Services BY AN ACCREDITED REGISTERED NURSE

1.3 Key definitions

Accredited Registered Nurse (ARN)	A registered nurse who has successfully completed requisite education and training to supply and administer sexually transmissible infection therapies and accredited under the NSW Health Sexual Health Services Standard Operating Procedures Manual.
Administer	To 'administer' means the supervised administration of a medication in a health facility.
Amsel's criteria (modified)[1]	In the presence of thin white/grey homogenous discharge a diagnosis is made if 2 of following criteria are present: 1. Vaginal fluid raised pH (pH>4.5) using pH paper 2. Genital malodour or Amine test where available 3. Clue cells on high vaginal gram stain as reported by laboratory or visualised during onsite microscopy (most specific).
Contact tracing	The process of identifying relevant contacts of a person with an infectious disease for the purpose of partner notification.
Diagnostic criteria	An accepted set of standards to determine diagnosis at point of care.
Employed within Publicly Funded Sexual Health Service (PFSHS)	Currently employed within public sexual health service in NSW with appropriate supervision.
Genital site	Encompasses urethral, cervical or vaginal sites of infection.
Medical record	Patient's medical record within PFSHS. This can be paper based, electronic or a hybrid.
Must	Indicates a mandatory action requiring compliance.
Non-gonococcal urethritis (NGU)	A condition of the penile urethra. NGU is confirmed by examination of a Gram stained

1 Australian STI Management Guidelines For Use in Primary Care November 2017, Australasian Sexual Health Alliance (ASHA) accessed June 28th,2019 http://www.sti.guidelines.org.au/sexually-transmissible-infections/infections-associated-with-sex/bacterial-vaginosis

	smear of urethral discharge with greater than 4 polymorphonuclear cells per high power microscopic field (> 4 PMN/HPM) and no Gram-negative diplococci present.
Partner notification	When partners are informed of their possible exposure to an STI and provided information on how to access testing and treatment.
Presumptive treatment	Refers to the administration of antibiotics when the diagnosis is considered likely, but before the results of confirmatory tests are available. Also referred to as epidemiological treatment[2].
Publicly Funded Sexual Health Service (PFSHS)	Publicly funded sexual health services are available across NSW and provide a range of medical, counselling and health promotion services to those most at risk of HIV/AIDS and sexually transmissible infections on site or via community outreach services.
Retest	Undertaken to detect reinfection.
Should	Indicates obligation, duty or correctness of an action to be followed unless there are sound reasons for taking a different course of action.
Supply	In this document to ‘supply’ means the provision of a medication for take-home use.
Syndromic management	Identification of consistent groups of symptoms and easily recognised signs leading to the provision of treatment that will deal with the majority or most serious organisms responsible for producing the identified syndrome.
Syndromic management of penile urethritis	Approach to clinical care where no onsite microscopy is available and patient reports urethral discharge or dysuria. Note gonorrhoea is likely if copious and purulent urethral discharge is noted on examination or symptoms have rapidly escalated in severity over days.
Test of Cure	Assessing for treatment failure, i.e. persistence of infection despite treatment.
Uncomplicated	Status of condition; symptoms present for lessthan 7 days including:

2 Judson, FN & Maltz, AB. A rational basis for the epidemiologic treatment of gonorrhea in a clinic for sexually transmitted diseases. Sex Transm Dis. 1978 Jul-Sep;5(3):89-92. Accessed 5th of May, 2017

<table>
<tr>
<td></td>
<td>

urethral discharge,
vaginal discharge,
genital itch or
dysuria,

and no additional symptoms such as:

intermenstrual bleeding (IMB),
post-coital bleeding (PCB),
lower pelvic pain,
dyspareunia,
fever,
testicular pain,
breaks in skin or ulceration,
anal discharge or bleeding,
anal pain or
tenesmus.

</td>
</tr>
</table>

1.4 Updating of Medication Protocols

Medication Protocols under NSW Health Policy Directive: RN Supply and Administration of STI Therapies in Publicly Funded Sexual Health Services align with the Australian STI management guidelines for use in primary care and/or eTG complete. Therapies authorised by the NSW Secretary of Health for Accredited Registered Nurses to supply and/or administer will require a biannual review and updates will be approved by the Head, NSW STI Programs Unit (STIPU), NSW Ministry of Health Chief Pharmacist and Chair of the NSW Health PFSHS Directors group.
https://stipu.nsw.gov.au/sop/medicationprotocols/

PFSHS will be notified immediately of changes to the protocol.

2. Medication Protocols summary table

Antimicrobial treatment	STI Diagnosis	Site or Stage	Use in Sexual Contacts	Protocol
Doxycycline 100 mg 12-hourly for 7 days orally	Chlamydia	Pharyngeal Genital, Rectal	√ (non-pregnant only)	4.4
Azithromycin 1 g as a single dose, orally		Pharyngeal Genital	√	4.1 4.2
Doxycycline 100 mg twice daily for 7 days, orally	NGU	Urethra	√	4.4
Azithromycin 1 g as a single dose, orally			√	4.1
Ceftriaxone 500 mg as a single dose, by intramuscular injection **plus** Azithromycin 2 g as a single dose, orally	Gonorrhoea	Pharyngeal	x	4.3
Ceftriaxone 500 mg as a single dose, by intramuscular injection **plus** Azithromycin 1 g as a single dose, orally		Genital, Rectal	√	4.3
Metronidazole 2 g as a single dose, orally	Trichomoniasis	Genital	√	4.5
Metronidazole 400 mg twice daily for 7 days, orally	Bacterial Vaginosis		N/A	4.6

3. Medication Protocols

3.1. Azithromycin supply and administration for treatment of uncomplicated genital or pharyngeal chlamydia and/or treatment of chlamydia in sexual contacts or treatment of non-gonococcal urethritis (NGU) in sexual contacts

Indications	1. Antibiotic treatment of laboratory confirmed pharyngeal or genital chlamydia 2. Presumptive antibiotic treatment of sexual contacts of genital, rectal or pharyngeal chlamydia of up to 6 months. 3. Presumptive antibiotic treatment of patients presenting as a sexual contact of a patient with penile NGU within past four weeks.
Drug	Azithromycin, anti-infective macrolide
Presentation	Tablets: 500 mg
Contraindications[3]	• Failure to meet all eligibility criteria per Medication Supply/Administration Checklist. • Hypersensitivity or allergy to azithromycin, erythromycin, any other macrolide antibiotic, or to any of the inactive ingredients in the product information (PI). • Concomitant medications known to prolong the QT interval (see Drug Interactions below).
Pregnancy Category	B1[4]; Recommended treatment in pregnancy[5]
Dose and frequency	Azithromycin 1 g as a single dose, orally
Supply and administration	• Oral • Besttaken with food • If taking antacids, take them at least one hour before or two hours after azithromycin

3 The drug information provided is to act as a guide only; further information reference should be made to the full product information available in MIMS or the Australian Medicines Handbook. If contraindications, precautions or interactions are present, refer to MO before supply and or administration.
4 Australian Pregnancy Category B1: Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human fetus having been observed.
Studies in animals have not shown evidence of an increased occurrence of fetal damage.
5 Australian STI Management Guidelines For Use in Primary Care November 2017, Australasian Sexual Health Alliance (ASHA) http://www.sti.guidelines.org.au/, accessed June 28th,2019.

	• If vomiting occurs within 2 hours of administration, then retreatment is recommended. May be administered within a service or the medication may be supplied via pre-labelled stock for take home use outside the service
Drug Interactions	• Antacids - not to be taken concurrently (see Supply and administration above) • Cyclosporin • Warfarin • Digoxin • Medications known to prolong the QT interval e.g. some antiarrhythmics (amiodarone, disopyramide, sotalol), some antipsychotics (amisulpride, droperidol, haloperidol, ziprasidone), some antidepressants (citalopram, escitalopram, fluoxetine, tricyclics) and some anti-infectives and antineoplastics.
Adverse Effects relevant to STI treatment	Common: nausea, vomiting, diarrhoea, abdominal pain and cramps Rare: hypersensitivity (e.g. anaphylaxis, severe skin reaction)
Nursing Implications	Rule out symptoms indicating **pelvic inflammatory disease (PID)** (complaints of fever, chills, nausea and vomiting, bilateral lower pelvic pain, intermenstrual or post-coital bleeding). Rule out symptoms indicating **epididymitis** (complaints of scrotal pain or swelling).
Patient Education	Advise the patient to avoid sex (oral, vaginal or anal sex) for 7 days after both they and their current partner/s have been treated. Seek medical advice if signs of an allergic reaction (rare) such as rash, swelling, difficulty breathing. Advise patient that re-testing for genital chlamydia to detect re-infection is recommended at **3 months**. In pregnant women, test of cure is recommended 4 weeks post completion of the treatment. Consider providing patient with relevant Consumer Medicine Information and/or

	chlamydia factsheet https://stipu.nsw.gov.au/resources/patient-resources/.
Contact Tracing	Contact tracing is a high priority and should be performed in all patients with a confirmed chlamydial infection. Refer to ASHA guidelines
Related Documents	Medication Administration/Supply Checklist Consumer Medicine Information http://www.tga.gov.au/consumer-medicines-information-cmi

Local Nurse Protocol Authorisation:

Date approved by ____________LHD Drug and Therapeutics Committee:
Review Date:

3.2. Azithromycin supply for treatment of uncomplicated chlamydia in recent heterosexual contacts of pharyngeal or genital chlamydia supplied through patient delivered partner therapy

Indication	Presumptive antibiotic treatment of contacts in past 6 months of heterosexual patients with pharyngeal or genital chlamydia; to be supplied through patient delivered partner therapy.
Drug	Azithromycin; anti-infective macrolide
Presentation	Tablets: 500 mg
Contraindications[6]	Use of patient delivered partner therapy is not recommended in the following patients: • Those who identify as men who have sex with men (MSM). • Those who have been concurrently diagnosed with another STI. • Those who have experienced recent sexual assault. Patient delivered partner therapy is not recommended if the patient reports the following conditions in their partner/s: • Known hypersensitivity or allergy to azithromycin, erythromycin, any other macrolide or ketolide antibiotic, or to any of the inactive ingredients in the product. • Concomitant medications known to prolong the QT interval (see Drug Interactions below). • Partners with symptoms of PID or epididymo-orchitis. • Partners who may have rectal chlamydia infection.
Pregnancy Category	B1[7]; Recommended treatment in pregnancy[8]
Dose and frequency	Azithromycin 1 g as a single dose, orally

6 The drug information provided is to act as a guide only. Further information reference should be made to the full product information available in MIMS or the Australian Medicines Handbook. If contraindications, precautions or interactions are present, refer to MO before administration
7 Australian Pregnancy Category B1: Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human fetus having been observed.
Studies in animals have not shown evidence of an increased occurrence of fetal damage.
8 Australian STI Management Guidelines For Use in Primary Care November 2017, Australasian Sexual Health Alliance (ASHA) http://www.sti.guidelines.org.au/, accessed June 28th,2019.

Supply and administration	Administration: • Oral • May be taken with food • If taking antacids, take them at least one hour before or two hours after azithromycin • If vomiting occurs within 2 hours of administration, then retreatment is recommended. Supply: • Supply in pre-labelled Patient Delivered Therapy packs • Packs must include hard copy patient and partner information sheets. https://playsafe.health.nsw.gov.au/sti-treatment/chlamydia-treatment-partner/
Drug Interactions	• Antacids - not to be taken concurrently (see Supply and administration above) • Cyclosporin • Warfarin • Digoxin • Medications known to prolong the QT interval e.g. some antiarrhythmics (amiodarone, disopyramide, sotalol), some antipsychotics (amisulpride, droperidol, haloperidol, ziprasidone), some antidepressants (citalopram, escitalopram, fluoxetine, tricyclics) and some anti-infectives and antineoplastics.
Adverse Effects Relevant to STI Treatment	Common: nausea, vomiting, diarrhoea, abdominal pain and cramps Rare: hypersensitivity (e.g. anaphylaxis, severe skin reaction)
Nursing Implications	Purpose of PDPT is to eliminate chlamydia from recent sexual contacts who are unable or unlikely to seek clinical services in a timely manner to prevent re infection of the index case and reduce further transmission. Chlamydia is often asymptomatic including among sexual contacts. Refer to NSW Sexual Health Standard Operating Procedure - PDPT
Patient Education	Provide the patient with PDPT Patient Infosheet and the PDPT Partner Infosheet advising patient to pass it on to the partner with the medication.

	Review with patient all relevant information related to medication administration and common medication adverse effects to pass on to partner. Encourage the partner to seek medical assistance directly (either by making a recommendation to the patient present, or attempting to contact the partner by telephone). Advise the patient to avoid sex (oral, vaginal or anal sex) for 7 days after both they and their current partner/s have been treated for chlamydia. Advise the patient that partners who have been provided PDPT for treatment of presumptive chlamydia should seek testing for other STIs.
Contact Tracing	Partners who are supplied treatment for chlamydia by patient delivered partner therapy should inform any additional sexual contacts to seek testing for chlamydia and other STIs.
Documentation	The registered nurse must also document the following: • A notation that the medication was given to the patient to give to the partner/s (include number of partners that medication was provided for) • The name and dose of medication • Quantity of PDPT medication packs supplied • Date of supply • First and last name of each partner the medication is intended for • Partner/s address or mobile number or email address. This information can be located in the medication section of the patient's medical record or a separate log detailing contacts for which medication was provided and linked through the patient's medical record number.
Related Documents	https://playsafe.health.nsw.gov.au/treatment/pdpt PDPT Patient Infosheet PDPT Partner Infosheet Consumer Medicine Information http://www.tga.gov.au/consumer-medicines-information-cmi

Local Nurse Protocol Authorisation:

Date approved by ____________LHD Drug and Therapeutics Committee:

Review Date:

3.3. Ceftriaxone administration and azithromycin supply and administration for treatment of uncomplicated gonorrhoea, syndromic management of uncomplicated penile urethritis where gonorrhoea likely and/or treatment of gonorrhoea in recent sexual contacts

Indications	1. Antibiotic treatment of a patient with uncomplicated pharyngeal, genital or rectal gonococcal infection. 2. Antibiotic treatment of a patient as syndromic management of uncomplicated urethritis where gonorrhoea is likely and onsite microscopy is not available[9] 3. Presumptive antibiotic treatment of a patient presenting as a sexual contact of a person with a gonococcal infection in the past 8 weeks.	
Drugs	Ceftriaxone, a broad spectrum cephalosporin antibiotic PLUS Azithromycin, an anti-infective macrolide	
Presentation	**Ceftriaxone**	Powder for injection: 500 mg, 1 g per vial
	Azithromycin	Tablets: 500 mg
Contraindications[10]	**Ceftriaxone**	• Failure to meet all eligibility criteria per Medication Supply/Administration Checklist. • Known allergy to the cephalosporin class of antibiotics or a major allergy to penicillin (anaphylaxis, angioneurotic oedema, urticaria). • History of antibiotic-associated pseudomembranous colitis. • History of gastrointestinal disease (particularly colitis) or severe renal impairment (e.g. dialysis). • Lignocaine should not be used as a

9 Both Australian STI Management Guidelines For Use in Primary Care November 2017 and Therapeutic Guidelines (eTG), June 2019 recommends adding Ceftriaxone 500mg IM plus Azithromycin 1 gram as a single dose where gonorrhoea likely. http://www.sti.guidelines.org.au/
https://tgldcdp.tg.org.au.acs.hcn.com.au/viewTopic?topicfile=urethritis#toc_d1e109
10 The drug information provided is to act as a guide only, for further information reference should be made to the full product info available on MIMS or the Australian Medicines Handbook If contraindications, precautions or interactions are present refer to MO before administration.

		diluent for intramuscular injection in patients who are hypersensitive to lignocaine.
	Azithromycin	• Failure to meet all eligibility criteria per Medication Supply/Administration Checklist. • Hypersensitivity or allergy to azithromycin, erythromycin, any other macrolide antibiotic, or to any of the inactive ingredients in the product information (PI). • Concomitant medications known to prolong the QT interval (see Drug Interactions below).
Pregnancy Category	**Ceftriaxone**	B1[11]; Recommended treatment in pregnancy[12]
	Azithromycin	B1[11]; Recommended treatment in pregnancy[13]
Dose and frequency Genital or rectal	**Ceftriaxone**	Ceftriaxone 500 mg as a single dose, by intramuscular injection **plus**
	Azithromycin	Azithromycin 1 g as a single dose, orally
Dose and frequency Pharyngeal	**Ceftriaxone**	Ceftriaxone 500 mg as a single dose, by intramuscular injection **plus**
	Azithromycin	Azithromycin 2 g as a single dose, orally
Supply and administration and	**Ceftriaxone**	Deep intramuscular injection in lignocaine solution 1% to reduce pain at the injection site. Dissolve the contents of 500 mg vial in 2 mL of lignocaine 1% solution, administered by deep injection into gluteal muscle. If using a 1 gram vial of ceftriaxone for IM injection, add 3.5 mL of 1% lignocaine and administer 2 mL of the reconstituted solution.[14]

11 Australian Pregnancy Category B1: Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human fetus having been observed.
Studies in animals have not shown evidence of an increased occurrence of fetal damage.
12 Australian STI Management Guidelines For Use in Primary Care November, 2017, Australasian Sexual Health Alliance (ASHA). Accessed June 28, 2019 http://www.sti.guidelines.org.au/
13 Australian STI Management Guidelines For Use in Primary Care November, 2017, Australasian Sexual Health Alliance (ASHA). Accessed June 28, 2019 http://www.sti.guidelines.org.au/

		Product is for single use in one patient only. Discard any residue. Local policy should include the requirement for a second person to check the preparation and administration of injectable medication wherever practicable.
	Azithromycin	Oral; may be taken with food; ; If taking antacids, take them at least one hour before or two hours after azithromycin May be administered within a service or the medication may be supplied via pre-labelled stock for take home use outside the service.
Drug Interactions	**Ceftriaxone**	No drug interactions of particular concern
	Azithromycin	• Antacids - not to be taken concurrently (see Supply and administration above) • Cyclosporin • Warfarin • Digoxin • Medications known to prolong the QT interval e.g. some antiarrhythmics (amiodarone, disopyramide, sotalol), some antipsychotics (amisulpride, droperidol, haloperidol, ziprasidone), some antidepressants (citalopram, escitalopram, fluoxetine, tricyclics) and some anti-infectives and antineoplastics.
Adverse Effects relevant to STI treatment	**Ceftriaxone**	Common or infrequent: diarrhoea, nausea, vomiting, pain and inflammation at injection site, rash, hypersensitivity/allergy Rare: Pseudomembranous colitis
	Azithromycin	Common: nausea, vomiting, diarrhoea, abdominal pain and cramps Rare: hypersensitivity (e.g. anaphylaxis, severe skin reaction)

14 eTG Antibiotic Urethritis/Cervicitis, Gonococcal Infection 2019. Accessed June 28, 2019 http://www.ciap.health.nsw.gov.au/

<table>
<tr><td>Nursing Implications</td><td>Rule out symptoms indicating PID (complaints of fever, chills, nausea, and vomiting, bilateral lower pelvic pain, intermenstrual or post-coital bleeding).
Rule out symptoms indicating epididymo-orchitis (complaints of scrotal pain or swelling).
Rule out symptoms indicating proctitis if rectal infection (complaints of frequent urge to defecate, rectal pain, tenesmus, itching, rectal discharge or bleeding).

A culture must be taken from all patients with NAAT positive Neisseria gonorrhoeae results prior to treatment. If culture plate not available collect black charcoal swab or if this is not available Amies agar gel transport medium swab for N. gonorrhoeae culture from the infected site prior to treatment.

Procedure outlined in the NSW Sexual Health Services Standards Operating Procedures – Clinical Management Individual Infections
For syndromic management, undertake STI testing per standard of practice as outlined in the NSW Sexual Health Standards Operating Procedures – Syndromes.</td></tr>
<tr><td>Patient Education</td><td>Advise the patient to avoid sex (oral, vaginal or anal sex) for 7 days after both they and their current partner/s have been treated for gonorrhoea.

Seek medical advice if signs of an allergic reaction (rare) such as rash, swelling, difficulty breathing.

Symptoms, if present, should resolve within 3-5 days[15]. Follow up is advised if symptoms do no not resolve within 1 week.

Advise patient to undertake retesting or Test of Cure (TOC) for gonorrhoea as required.

<table>
<tr><th>Site</th><th>Test of Cure (TOC)</th></tr>
<tr><td>Pharyngeal</td><td>2-4 weeks post treatment</td></tr>
<tr><td>Rectal</td><td>2-4 weeks post treatment</td></tr>
<tr><td>Endocervical or vulvovaginal</td><td>2-4 weeks post treatment</td></tr>
<tr><td>Penile urethral</td><td>Not recommended</td></tr>
<tr><td colspan="2">Retest 3 months after exposure to gonorrhoea</td></tr>
</table>
</td></tr>
</table>

15 2015 STD Treatment Guidelines CDC, Gonococcal Infections https://www.cdc.gov/std/tg2015/gonorrhea.htm

	For syndromic management of urethritis where gonorrhoea likely: • Advise patient they may need to return for additional antibiotic treatment once aetiology confirmed. • TOC/Re-testing advice will depend on confirmed aetiology. Consider providing patient with relevant Consumer Medicine Information and a gonorrhoea factsheet https://stipu.nsw.gov.au/resources/patient-resources/
Contact Tracing	Gonorrhoea - Refer to ASHA guidelines . NGU - Refer to ASHA guidelines .
Related Documents	Medication Supply/Administration Checklist Consumer Medicine Information http://www.tga.gov.au/consumer-medicines-information-cmi

Local Nurse Protocol Authorisation:

Date approved by ____________LHD Drug and Therapeutics Committee: **Review Date:**

3.4. Doxycycline supply for treatment of uncomplicated chlamydia in non-pregnant/non-lactating patients and/or treatment of non-gonococcal urethritis (NGU) and/or treatment of non-pregnant/non-lactating patients presenting as a sexual contacts of a patient with NGU or chlamydia.

Indication	1. Antibiotic treatment of uncomplicated pharyngeal, genital and ano-genital rectal chlamydia in non-pregnant patients. 2. Antibiotic treatment of uncomplicated NGU confirmed by microscopy or syndromic management where onsite microscopy is not available[16] and gonorrhoea unlikely. 3. Presumptive antibiotic treatment of non-pregnant patients presenting as a sexual contacts of a patient with NGU within past four weeks or chlamydia within 6 months.
Drug	Doxycycline; anti-infective tetracycline
Presentation	Tablets: 100 mg
Contraindications[17]	• Failure to meet all eligibility criteria per Medication Supply/Administration Checklist • Known hypersensitivity to tetracyclines • Concurrent use of oral retinoids • Concurrent use of Vitamin A • Use in pregnancy or lactation • History of increased intracranial hypertension • History of photosensitivity
Pregnancy Category	D; Drugs which have caused, are suspected to have caused or may be expected to cause, an increased incidence of human fetal malformations or irreversible damage.
Dose and frequency	Doxycycline 100 mg twice daily for 7 days, orally

16 Australian STI Management Guidelines For Use in Primary Care November 2017, Australasian Sexual Health Alliance (ASHA) accessed on November, 11th, 2017 http://www.sti.guidelines.org.au/.
17 The drug information provided is to act as a guide only, for further information reference should be made to the full product info available on MIMS or the Australian Medicines Handbook If contraindications, precautions or interactions are present refer to MO before administration

Supply and administration	• Oral • Best taken after food or milk • Take with plenty of water (at least 100 mL) and remain upright for an hour after doxycycline • If taking antacids and preparations containing iron, take them at least one hour before or two hours after doxycycline
Drug Interactions	• Antacids and iron preparations - not to be taken concurrently (see Supply and administration above) • Warfarin • Oral contraceptives (see Nursing Implications below) • Penicillin • Anticonvulsants (phenytoin, carbamazepine, barbiturates) - see • Vitamin A and oral retinoids (see Contraindications above)
Adverse Effects Relevant to STI Treatment	Common: gastrointestinal upsets, photosensitivity Rare: hypersensitivity (e.g. anaphylaxis, severe skin reaction)
Nursing Implications	For rectal chlamydia: • Rule out symptoms indicating **proctitis** (complaints of the frequent urge to defecate, rectal pain, tenesmus, itching, rectal discharge or bleeding). • Lymphogranuloma venereum (LGV) is a rare condition in Australia; an increase has been observed in MSM. It usually presents with symptoms of severe proctitis as above. For NGU • Rule out symptoms indicating **epididymo-orchitis** (complaints of scrotal pain or swelling). • For syndromic management, undertake STI testing per standard of practice as outlined in the NSW Sexual Health Standards Operating Procedures – Syndromes: Urethritis. • Non-liver enzyme-inducing antibiotics such as tetracyclines do not reduce the effectiveness of CHCs [Combined Hormonal Contraceptives] and

	additional contraceptive protection is no longer advised for concurrent use despite the warnings in the Product Information[18]. • According to the manufacturer's full product information, doxycycline can be safely used up to 18 weeks in pregnancy (16 weeks post conception) however pregnancy has been listed as a contraindication to patient eligibility under this protocol. In women of childbearing age, confirm patient using a reliable method of birth control (hormonal, copper intrauterine device in place) or undertake and record a negative urine hCG pregnancy test.
Patient Education	Advise the patient to avoid sex (oral, vaginal or anal sex) for 7 days after both they and their current partner/s have been treated. Seek medical advice immediately if signs of an allergic reaction (rare) such as rash, swelling, difficulty breathing. Report any skin reactions if sun exposure as doxycycline can cause skin to be more sensitive to sun. Avoid sun exposure especially between the hours of 10am to 3pm. If sun exposure wear protective clothing and sunscreen SPF+30. Avoid alcohol as can decrease the serum levels of doxycycline in the blood. Advise patient re-testing for chlamydia, if detected, is recommended at **3 months** to exclude re-infection. For NGU • Advise patient to return for medical review if symptoms persist or recur after completing treatment[19].

18 Family Planning New South Wales, Family Planning Victoria and True Relationships and Reproductive Health. (2016). Contraception: An Australian Clinical Practice Handbook, 4th Edition. Ashfield NSW.
19 2015 Sexually Transmitted Diseases Treatment Guidelines, Centres for Disease Control and Prevention. Accessed November 11, 2017 https://www.cdc.gov/std/tg2015/urethritis-and-cervicitis.htm

	• For syndromic management of NGU, advise patient they may need to return for additional antibiotic treatment once aetiology confirmed. • Re-testing for NGU advice will depend on confirmed aetiology. Consider providing patient with relevant Consumer Medicine Information and a chlamydia or NGU (Urethritis) factsheet https://stipu.nsw.gov.au/resources/patient-resources/
Contact Tracing	Chlamydia - Refer to ASHA guidelines NGU - Refer to ASHA guidelines
Related Documents	Medication Supply/Administration Checklist Consumer Medicine Information http://www.tga.gov.au/consumer-medicines-information-cmi

Local Nurse Protocol Authorisation:

Date approved by ____________LHD Drug and Therapeutics Committee: **Review Date:**

3.5. Metronidazole supply and administration for treatment of trichomoniasis and/or treatment of trichomoniasis in recent sexual contacts

Indications	1. Antimicrobial for treatment of trichomoniasis (by NAAT or microscopy) 2. Antimicrobial for treatment of suspected trichomoniasis in recent sexual contacts (past 30 days) of patients with trichomoniasis[20]
Drug	Metronidazole; nitroimidazole antibiotic
Presentation	Tablets: 200 mg, 400 mg
Contraindications[21]	• Failure to meet all eligibility criteria per Medication Supply/Administration Checklist • Hypersensitivity or allergy to imidazoles or to any of the inactive ingredients in the product • Unable to avoid concurrent alcohol for 24 hours after treatment. • Blood dyscrasias/disorders (or history) • Active organic CNS disease • Check for liver disease: metabolites may accumulate in severe hepatic impairment – may need to reduce dose; MO consult • Lactation – oral metronidazole may affect taste of breast milk, consider intra vaginal treatment; MO consult required.
Pregnancy Category	B2[22] Single-dose treatment with metronidazole recommended for all symptomatic pregnant patients[23]
Dose and frequency	Metronidazole 2 g as a single dose, orally

20 Australasian Contact Tracing Guidelines, 2016, Trichomoniasis. Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM). Accessed on November, 11th, 2017. http://contacttracing.ashm.org.au/conditions/when-contact-tracing-is-recommended/trichomoniasis

21 The drug information provided is to act as a guide only, for further information reference should be made to the full product info available on MIMS or the Australian Medicines Handbook If contraindications, precautions or interactions are present refer to MO before administration

22 Category B2 - Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human fetus having been observed.
Studies in animals are inadequate or may be lacking, but available data show no evidence of an increased occurrence of fetal damage

23 eTG Antibiotic Vulvovaginitis: noncandidal, Trichomoniasis 201. Accessed August 2, 2017 http://www.ciap.health.nsw.gov.au/

Supply and administration and supply	• Oral • Swallow tablets whole with a glass of water • Take with or after food • Avoid alcohol during treatment and for 24 hours after finishing treatment May be administered within a service or the medication may be supplied via pre-labelled stock for take home use outside the service.
Drug Interactions	• Alcohol - during treatment and for 24 hours afterwards (*see* Nursing Implications below) • Disulfiram (Antabuse®) - do not use metronidazole within 2 weeks of disulfiram. • Warfarin or other medicines used to prevent blood clots • Lithium • Phenytoin • Phenobarbitone • Cimetidine • Cyclosporin • Some anticancer drugs (e.g. carmustine, cyclophosphamide, 5-fluorouracil, busulfan)
Adverse Effects Relevant to STI Treatment	Common: gastrointestinal upsets, metallic taste, dizziness, headache Rare: hypersensitivity (e.g. anaphylaxis, severe skin reaction)
Nursing Implications	If TV detected on cervical screening (Pap smear), urine or high vaginal samples results must be confirmed by NAAT before initiating treatment. It is recommended that all cases of *Trichomonas vaginalis* infection in pregnant women are discussed with a medical officer. Whilst treatment for symptomatic trichomoniasis in pregnancy is recommended if symptoms present (malodourous vaginal discharge – often profuse and frothy; vaginal itch or soreness), this may not be the case for asymptomatic pregnant women. [24]

24 United Kingdom National Guideline on the Management of *Trichomonas vaginalis* 2014
Clinical Effectiveness Group, British Association for Sexual Health and HIV (BASHH) Treatment in Pregnancy and Breastfeeding
https://www.bashh.org/documents/UK%20national%20guideline%20on%20the%20management%20of%20TV%20%20 2014.pdf

Patient Education	Advise the patient to avoid sex (oral, vaginal or anal sex) for 7 days after both they and their current partner/s have been treated. Seek medical advice immediately if signs of an allergic reaction (rare) such as rash, swelling, difficulty breathing. Discuss interaction with alcohol. Advise to avoid alcohol including any medication with alcohol (i.e. cough syrup) on the day of treatment and for 24 hours after taking single dose treatment. Consider providing patient with relevant Consumer Medicine Information and a trichomoniasis factsheet https://stipu.nsw.gov.au/resources/patient-resources/
Contact Tracing	Current sexual partners should be offered presumptive treatment for TV. Refer to ASHA guidelines
Related Documents	Medication Supply/Administration Checklist Consumer Medicine Information http://www.tga.gov.au/consumer-medicines-information-cmi

Local Nurse Protocol Authorisation:

Date approved by ____________LHD Drug and Therapeutics Committee: **Review Date:**

3.6. Metronidazole supply for treatment of bacterial vaginosis

Indication	1. Antimicrobial for treatment of bacterial vaginosis per modified Amsel's criteria 2. Antimicrobial for treatment of bacterial vaginosis in pregnant women if symptoms present. 3. Antimicrobial treatment for women with symptoms undergoing termination of pregnancy
Drug	Metronidazole; nitroimidazole antibiotic
Presentation	Tablets: 400 mg
Contraindications[25]	• Failure to meet all eligibility criteria per Medication Supply/Administration Checklist • Hypersensitivity or allergy to imidazoles or to any of the inactive ingredients in the product • Unable to avoid concurrent alcohol for 24 hours after treatment. • Blood dyscrasias/disorders (or history) • Active organic CNS disease • Liver: metabolites may accumulate in severe hepatic impairment – may need to reduce dose; MO consult • Lactation – oral metronidazole may affect taste of breast milk, consider intra vaginal treatment; MO consult
Pregnancy Category	B2[26] Treatment is recommended for all pregnant women with symptoms[27]
Dose and frequency	Metronidazole 400 mg twice daily for 7 days, orally
Supply and administration and supply	• Orally • Swallow tablets whole with a glass of water • Take with or after food • Avoid alcohol during treatment and for 24 hours after

25 The drug information provided is to act as a guide only, for further information reference should be made to the full product info available on MIMS or the Australian Medicines Handbook If contraindications, precautions or interactions are present refer to MO before supply and or/administration.
26 Category B2 - Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human fetus having been observed.
Studies in animals are inadequate or may be lacking, but available data show no evidence of an increased occurrence of fetal damage
27 Australian STI Management Guidelines For Use in Primary Care November 2017, Australasian Sexual Health Alliance (ASHA). Accessed on June, 28th, 2019. http://www.sti.guidelines.org.au/

	finishing treatment
Drug Interactions	• Alcohol - during treatment and for 24 hours afterwards (see Patient Education) • Disulfiram (Antabuse®) - do not use metronidazole within 2 weeks of disulfiram. • Warfarin or other medicines used to prevent blood clots • Lithium • Phenytoin • Phenobarbitone • Cimetidine • Cyclosporin • Some anticancer drugs (e.g. carmustine, cyclophosphamide, 5-fluorouracil, busulfan)
Adverse Effects Relevant to STI Treatment	Common: gastrointestinal upsets, metallic taste, dizziness, headache Rare: hypersensitivity (e.g. anaphylaxis, severe skin reaction)
Nursing Implications	For detailed information around sampling/laboratory procedures refer to NSW Sexual Health Standard of Practice Manual Section C8 Laboratory Procedures and C14 Screening Women for STIs. Amsel's criteria is outlined in definition section of document. Bacterial vaginosis is associated with increased risk of spontaneous abortion, premature labour and PID. Rule out symptoms indicating **PID** (complaints of fever, chills, nausea and vomiting, bilateral lower pelvic pain, IMB or PCB). In symptomatic pregnant women, if patient presents with symptoms beyond usual BV presentation described then seek consultation with MO.
Patient Education	Advise patient to seek medical advice immediately if signs of an allergic reaction (rare) such as rash, swelling, difficulty breathing. Discuss factors that can disrupt normal vaginal flora such as douching as this can lead to replacement with high concentrations of anaerobic bacteria leading to bacteria vaginosis (BV).[1]

	Discuss increase risk of thrush with use of medication. Advise patient to follow up if sore mouth, white mouth or tongue develops while taking or soon after stopping medication. Also if vaginal itching or discharge develops. Discuss interaction with alcohol. Advise to avoid alcohol including any medication with alcohol (i.e. cough syrup) on the day of treatment and for 24 hours after taking single dose treatment. Consider providing patient with relevant Consumer Medicine Information and a bacterial vaginosis factsheet https://stipu.nsw.gov.au/resources/patient-resources/
Contact Tracing	Not required. Assess current female sexual partners as BV is common in female sex partners.[28]
Related Documents	Medication Supply/Administration Checklist Consumer Medicine Information http://www.tga.gov.au/consumer-medicines-information-cmi

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28 Australian STI Management Guidelines For Use in Primary Care November 2017, Australasian Sexual Health Alliance (ASHA). Accessed on June, 28th, 2019.http://www.sti.guidelines.org.au/

4 APPENDIX LIST

1. RN Supply and Administration of STI Therapies Checklist

1. RN Supply and Administration of STI Therapies Checklist

- ☐ Patient is14 years of age and over
- ☐ Reports no chills, body aches or flu like symptoms?
- ☐ Reports no IMB, PCB, pelvic pain, dyspareunia, fever, testicular pain, and breaks in skin or ulceration or rectal discharge or bleeding; anal pain or tenesmus?
- ☐ Reports no urethral discharge, vaginal discharge, genital itch or dysuria for more than seven days?
- ☐ Reports no previous allergy, reaction or hypersensitivity to relevant medication?
- ☐ Reports no contraindications including drug interactions as outlined on relevant medication protocol?
- ☐ Pulse is above 50 and below 120 beats per minutes?
- ☐ Current temperature is above 35.5 and below 38.5 degrees Celsius?
- ☐ Check NSW STIPU website to ensure correct treatment is used as per Medication Protocols under NSW Health Policy Directive RN Supply and Administration of STI Therapies in Publicly Funded Sexual Health Services.

If the above is not met consultation with a medical officer must be sought.

Education

- ☐ Advised no unprotected intercourse until medication complete.
- ☐ Provided information on how to take medications including drug interactions.
- ☐ Informed of common side effects associated with medication.
- ☐ Advised when to seek medical advice in case of allergic reaction or adverse events related to medication.
- ☐ Advised of expected symptom resolution (if symptoms present).
- ☐ Advised timing of test of cure and/or retest per medication protocol.
- ☐ Contact tracing and STI testing of sexual contacts undertaken per medication protocol and NSW Sexual Health Standards Operating Procedures Manual– HIV and STI Testing and HIV and STI Partner Notification.