Trichomoniasis - Management

View full scenario

CKS safe practical clinical answers - *fast*

What are the clinical features of trichomoniasis in women?

- Up to half of infected women have no symptoms.
- The most common symptoms include vaginal discharge, vulval itching, dysuria, and offensive odour. Vulvovaginal soreness and dyspareunia may also be presenting features.
- No abnormalities are found on examination in 5–15% of infected women.
- Vaginal discharge is present in up to 70% of infected women.
  - The discharge varies in consistency from thin and scanty to profuse and thick.
  - The classic discharge is frothy and yellow–green, and occurs in 10–30% of women.
  - For other causes of vaginal discharge, see the CKS topic on Vaginal discharge.
- Inflammation of the vulva and vagina, or more rarely a strawberry appearance of the cervix, may be seen.

Basis for recommendation

This information is from guidelines developed by the British Association of Sexual Health and HIV and is based on expert opinion [BASHH, 2004; BASHH, 2007].

How should I make a diagnosis of trichomoniasis in women?

- Ideally, refer the woman to a service specializing in sexual health or a general practice providing an enhanced sexual health service to confirm the diagnosis if trichomoniasis is suspected.
- If referral is not possible, confirm the diagnosis by sending a high vaginal swab (from the posterior fornix) for laboratory testing.

- The swab should be stored in transport medium (such as Amie's or Stuart's), should be refrigerated before transportation, and ideally should arrive at the laboratory within 6 hours.

▪ If trichomoniasis is detected incidentally on cervical cytology or by microscopy of a urine sample, and attendance at a specialist sexual health service is not possible, send a high vaginal swab to the laboratory to confirm the diagnosis, as the specificity and sensitivity of cytology is poor.

Laboratory testing

▪ The motility of *Trichomonas vaginalis* diminishes with time, therefore swabs should arrive at the laboratory within 6 hours [BASHH, 2004; RCGP and BASHH, 2006; BASHH, 2007].

▪ Sensitivity of testing varies depending on the test done. In women, wet-mount has a sensitivity of 40–80%, whereas culture has a sensitivity of up to 95% [RCGP and BASHH, 2006].

- Diagnosis by culture is considered to be the gold standard and increases the detection rate, but requires specific culture media, takes longer than microscopy, and is not routinely carried out by most laboratories [BASHH, 2006; Mabey et al, 2006; Nanda et al, 2006; RCGP and BASHH, 2006; BASHH, 2007].

▪ Polymerase chain reaction tests are more sensitive and specific when compared with microscopy or culture, but are not currently in general use [Schwebke and Lawing, 2002; BASHH, 2007].

▪ Cervical cytology may detect *Trichomonas vaginalis* as an incidental finding, with a weighted mean sensitivity of 58%. However, the false-positive rate is around 30% with pap smears, and may be less with liquid-based cytology, so diagnosis should be confirmed by microscopic examination or culture of vaginal secretions [BASHH, 2007].

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV and the Royal College of General Practitioners and are based on expert opinion and observational studies [BASHH, 2004; RCGP and BASHH, 2006; BASHH, 2007].

Referral to a service specializing in sexual health

▪ Referral to a service specializing in sexual health or a general practice providing an enhanced sexual health service is advised to attempt to confirm the diagnosis by microscopy of a wet-mount preparation in which characteristic motile, flagellated protozoa can be seen [Mabey et al, 2006].

▪ Testing in primary care is often impractical (for example, due to a lack of immediate access to microscopy) and reduces the chance of detecting trichomoniasis compared with a setting where microscopy is available on-site.

Trichomoniasis - Management

View full scenario

CKS safe practical clinical answers - fast

What advice should I give to a woman with trichomoniasis?

▪ Explain that trichomoniasis is a sexually transmitted infection (STI) and advise:

o Sexual abstinence (including abstaining from oral sex) until treatment is completed and any partners have also been treated and followed up.

o The use of condoms to reduce the risk of further infection and exposure to other STIs.

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV and the Royal College of General Practitioners, and are based on expert opinion [RCGP and BASHH, 2006; BASHH, 2007].

How do I manage trichomoniasis in women who are not pregnant?

▪ **Ideally, treatment should be provided by a service specializing in sexual health or a general practice providing an enhanced sexual health service.**

▪ **If this is not possible:**

- Offer metronidazole 400 mg twice a day for 5–7 days.

- Alternative regimens (not recommended in pregnant or breastfeeding women) are:

- Metronidazole 2 g as a single dose — if compliance is a problem.

- Tinidazole 2 g orally in a single dose — if metronidazole is not tolerated.

- Intravaginal metronidazole is not recommended.

- Screen for coexisting sexually transmitted infections and advise contact tracing.

- After completion of treatment, follow up to review symptoms, confirm that contact tracing has been carried out, and discuss the results of the sexually transmitted infection screen.

- **Do not routinely test to confirm cure.**

- Repeat testing for trichomoniasis is only recommended if symptoms persist after treatment or recur after treatment is completed.

- Although rare, consider the possibility of sexual abuse in any child or young person with trichomoniasis, particularly in the following circumstances:

- The child is younger than 13 years of age, unless there is clear evidence of mother-to-child transmission during birth, or of blood contamination.

- The young person is 13 to 15 years of age, unless there is clear evidence of mother-to-child transmission during birth, blood contamination, or that the STI was acquired from consensual sexual activity with a peer.

- The young person is 16 to 17 years of age and there is no clear evidence of blood contamination or that the STI was acquired from consensual sexual activity *and* there is a clear difference in power or mental capacity between the young person and their sexual partner, in particular when the relationship is incestuous or with a person in a position of trust (such as a teacher, sports coach, minister of religion) *or* there is concern that the young person is being exploited.

- Follow appropriate child protection procedures and refer to a paediatrician if necessary.

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV [BASHH, 2007] and the Health Protection Agency with the Association of Medical Microbiologists [HPA and Association of Medical Microbiologists, 2008]. The aim of treatment is to eradicate the organism, relieve symptoms, if present, and prevent transmission to partners.

Metronidazole

- There is evidence that metronidazole is more effective than placebo for treating trichomoniasis in women [Forna and Gülmezoglu, 2003].

- There is evidence from two trials that oral treatment is more effective than intravaginal treatment [Forna and Gülmezoglu, 2003]. This is because of the high incidence of infection of the urethra and paraurethral glands [BASHH, 2007].

- Single high-dose metronidazole treatment may improve compliance, but is offered as a second-line option because there is evidence of an increased risk of adverse effects [Forna and Gülmezoglu, 2003], and a higher failure rate, especially if partners are not treated at the same time [BASHH, 2007]. People treated over 5–7 days are protected from reinfection during the time they are taking metronidazole; this protection is not as reliable with single dose treatments making it more important that any sexual partners are treated simultaneously [Cudmore et al, 2004].

Tinidazole

- Tinidazole 2 g as a single dose is usually reserved for people who cannot tolerate, or who have failed to respond to, metronidazole [BNF 56, 2008].

  - It is better tolerated than metronidazole [Nailor and Sobel, 2007].

  - There is methodologically weak evidence that tinidazole may be more effective compared with metronidazole at single high doses for treating trichomoniasis, but there is less experience of its use in UK practice.

How do I manage trichomoniasis in pregnant women?

- **Ideally, treatment should be provided by a service specializing in sexual health or a general practice providing an enhanced sexual health service.**

- **If this is not possible:**

  - **For women *with* symptoms,** offer metronidazole 400 mg twice a day for 5–7 days. For more information about the use of metronidazole in pregnant and breastfeeding women, see Additional information.

  - If the woman declines to take metronidazole, offer clotrimazole pessaries (unlicensed for this indication) at a dose of one 100 mg pessary daily for 6 days, but discuss with the woman that, although clotrimazole may help symptoms, it is unlikely to cure trichomoniasis.

  - Intravaginal metronidazole is not recommended.

  - **If a pregnant woman *without* symptoms** is incidentally found to have trichomoniasis, discuss promptly with the woman's obstetrician or a genitourinary medicine specialist to decide whether to treat.

  - Screen for coexisting sexually transmitted infections and advise contact tracing.

  - After completion of treatment, follow up to review symptoms, confirm that contact tracing has been carried out, and discuss the results of the sexually transmitted infection screen.

- **Do not routinely test to confirm cure.**

  - Repeat testing for trichomoniasis is only recommended if symptoms persist after treatment or recur after treatment is completed.

Additional information

Pregnancy

- The use of metronidazole during pregnancy has not been shown to increase the risk of congenital abnormalities in humans [NTIS, 2008; Micromedex, 2009].

- Early case reports suggested that metronidazole may cause human fetal toxicity, however no pattern of abnormalities was evident.

- More recent reports from more than 1300 births involving prenatal exposure to metronidazole suggest that it is not associated with an increase in birth defects.

- Two meta-analyses involving a total of 2683 cases found no increase in teratogenic risk following exposure to metronidazole in early pregnancy.

- A more recent cohort study found no increased risk of congenital malformations in 228 cases of exposure to metronidazole, 86% of which occurred in the first trimester.

- Further large case series have also failed to demonstrate an increased teratogenic risk associated with metronidazole.

Breastfeeding

- Metronidazole has not been associated with adverse effects in breastfed infants [Passmore et al, 1988; Weiner and Buhimschi, 2004].

- The standard 5–7 day oral regimen is preferred in breastfeeding as there are more data to suggest it is safe to use.

- There is no consistent recommendation from experts on the use of the single 2 g dose during breastfeeding.

- The manufacturer advises that high-dose regimens are not recommended during breastfeeding.

- If it is considered essential to use the 2 g single oral dose (for example due to poor compliance), a washout period is recommended before resumption of breastfeeding; this can reasonably be achieved by taking the dose of metronidazole after the last breastfeed of the evening.

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV [BASHH, 2007] and the Health Protection Agency with the Association of Medical

Microbiologists [HPA and Association of Medical Microbiologists, 2008]. The aim of treatment is to eradicate the organism, relieve symptoms, if present, and prevent transmission to partners.

Metronidazole

- There is evidence from a randomized controlled trial that treatment with high-dose metronidazole produces a cure in over 90% of pregnant women compared with around 35% of untreated women [Ross, 1983].

- However, evidence from one trial [Klebanoff et al, 2001] included in a Cochrane systematic review [Gülmezoglu, 2002] suggests that treatment with metronidazole does not improve the outcome of pregnancy in women with trichomoniasis and may be associated with preterm delivery and low birthweight. This needs to be balanced against evidence that infection with *T. vaginalis* is associated with preterm delivery and low birthweight [Cotch et al, 1997; Hay and Czeizel, 2007].

- CKS found no evidence for the use of 5 day or 7 day courses of metronidazole in pregnancy, but there is evidence from two placebo-controlled studies that they have a higher cure rate and cause less adverse effects in women who are not pregnant than single high-dose regimens [Forna and Gülmezoglu, 2003]. There is no consistent recommendation from experts on the use of the single 2 g dose in pregnancy, but it is not recommended by the drug manufacturer [ABPI Medicines Compendium, 2008; BNF 56, 2008].

- There is evidence from two trials comparing intravaginal with oral metronidazole treatment (not specifically in pregnant women) that oral treatment is more effective [Forna and Gülmezoglu, 2003]. This is because of the high incidence of infection of the urethra and paraurethral glands [BASHH, 2007].

Tinidazole

- Tinidazole is not recommended because experts suggest that it should be avoided in pregnant women until further data regarding its safety are available [Nanda et al, 2006].

- There is limited information regarding the safety of tinidazole in pregnancy, although there are no reports of adverse outcomes after inadvertent exposure. Tinidazole is contraindicated in the first trimester of pregnancy [Micromedex, 2005].

Topical clotrimazole

▪ Expert opinion suggests that metronidazole is the preferable treatment in symptomatic pregnant women, but that clotrimazole pessaries may have a place for symptomatic relief in those women who decline, or are unable to take, metronidazole. The suggested dose is from guidance from the Health Protection Agency [HPA and Association of Medical Microbiologists, 2008].

▪ An open-label trial of 168 symptomatic women (pregnant women were excluded) compared oral metronidazole with clotrimazole vaginal tablets and found oral metronidazole to be more effective at both eradicating *T. vaginalis* and relieving symptoms [duBouchet et al, 1997].

How should current partners of a woman with trichomoniasis be managed?

▪ **Ideally, the sexual contacts of people with trichomoniasis should be treated by a service specializing in sexual health or a general practice providing an enhanced sexual health service.**

▪ Current partners of people with known trichomoniasis should be screened for trichomoniasis and other sexually transmitted infections and offered treatment regardless of the results.

- Offer metronidazole 400 mg twice a day for 5–7 days.
- Alternative regimens (not recommended in pregnancy or breastfeeding) are:
- Metronidazole 2 g as a single dose — if compliance is a problem.
- Tinidazole 2 g orally in a single dose — if metronidazole is not tolerated.

Basis for recommendation

The recommendation to screen and treat contacts of people with trichomoniasis is from guideline developed by the British Association of Sexual Health and HIV [BASHH, 2007] and is based on evidence from randomized controlled trials which showed that treatment of the partners of women with trichomoniasis reduced the relapse rate.

How should I manage treatment failure in women who are not pregnant?

If symptoms persist after treatment or if symptoms recur after the course of treatment has been completed, treatment should ideally be provided by a service specializing in

sexual health or a general practice providing an enhanced sexual health service. If this is not possible:

- **Check compliance** — ask if the metronidazole has caused vomiting.

- **Exclude the possibility of reinfection.** Check that any partners have been treated appropriately and simultaneously.

- **Reconsider the diagnosis.** Review the swab results and ensure that other causes of vaginal discharge have been excluded. For more information, see the CKS topic on Vaginal discharge.

- **Send a high vaginal swab** (from the posterior fornix) for laboratory testing.

  - The swab should be stored in transport medium (such as Amie's or Stuart's), should be refrigerated before transportation, and ideally should arrive at the laboratory within 6 hours.

  - If culture is used by the laboratory, leave 48 hours after the end of treatment before testing.

- **If the swab results confirm persistent infection or reinfection with trichomoniasis:**

  - If metronidazole was given as the initial treatment:

  - Offer a repeat course of oral metronidazole 400 mg twice a day for 7 days.

  - Tinidazole 2 g as a single dose is an alternative, particularly if resistance to metronidazole is suspected (when other causes of treatment failure have been ruled out).

  - If tinidazole was given as the initial treatment, offer a course of oral metronidazole 400 mg twice a day for 7 days (unless metronidazole is known not to be tolerated).

- **If a repeat course of metronidazole or a dose of tinidazole is unsuccessful, seek advice from a specialist in genito-urinary medicine.**

Basis for recommendation

These recommendations are based on expert opinion in a guideline developed by the British Association of Sexual Health and HIV [BASHH, 2007] and a review on the treatment of metronidazole-resistant cases [Cudmore et al, 2004].

Recommended treatments

- A repeat course of oral metronidazole is often effective in people who fail to respond to the first course of treatment [BASHH, 2007]. There is no evidence to guide the dose and duration of metronidazole in treatment failure, but it would seem logical to use a 7 day course in preference to a 5 day course or a single high dose.

- There is methodologically weak evidence from small trials that tinidazole may be more effective compared with metronidazole at single high doses for treating trichomoniasis [Forna and Gülmezoglu, 2003], but it is usually reserved for use in treatment failure because there is less experience of its use in UK practice. Resistance to metronidazole is uncommon. Cross-resistance among nitroimidazoles does occur, but is incomplete [Cudmore et al, 2004].

Treatments not recommended

- Other treatment options recommended by experts include high doses of metronidazole or tinidazole if initial treatment fails [BASHH, 2007]; as these are higher than the licensed doses, CKS does not recommend their use in primary or non-specialist care.

- Intravaginal treatment is not recommended as there is limited evidence that oral treatment is more effective than topical treatment for trichomoniasis [Forna and Gülmezoglu, 2003].

How should I manage treatment failure in pregnant women?

If symptoms persist after treatment or if symptoms recur after the course of treatment has been completed, treatment should ideally be provided by a service specializing in sexual health or a general practice providing an enhanced sexual health service. If this is not possible:

- **Check compliance** — ask if the metronidazole has caused vomiting.

- **Exclude the possibility of reinfection.** Check that any partners have been treated appropriately and simultaneously.

- **Reconsider the diagnosis.** Review the swab results and ensure that other causes of vaginal discharge have been excluded. For more information, see the CKS topic on Vaginal discharge.

- **Send a high vaginal swab** (from the posterior fornix) for laboratory testing.

o The swab should be stored in transport medium (such as Amie's or Stuart's), should be refrigerated before transportation, and ideally should arrive at the laboratory within 6 hours.

o If culture is used by the laboratory, leave 48 hours after the end of treatment before testing.

- **If the swab results confirm persistent infection or reinfection with trichomoniasis, discuss with a genito-urinary medicine specialist or the woman's obstetrician before prescribing further treatment.**

Basis for recommendation

These recommendations are from a guideline developed by the British Association of Sexual Health and HIV and are based on expert opinion [BASHH, 2007].

- There is evidence suggesting potential adverse pregnancy outcomes from metronidazole treatment, therefore CKS does not advise repeated courses of metronidazole without seeking specialist advice.

Prescriptions

For information on contraindications, cautions, drug interactions, and adverse effects, see the electronic Medicines Compendium (eMC) (http://emc.medicines.org.uk), or the British National Formulary (BNF) (www.bnf.org).

Metronidazole

Age from 13 years onwards

Metronidazole tablets: 400mg twice a day for 5 days

Metronidazole 400mg tablets
Take one tablet twice a day for 5 days.
Supply 10 tablets.

Age: from 13 years onwards
NHS cost: £0.58
Licensed use: off-label duration

Metronidazole tablets: 400mg twice a day for 7 days

Metronidazole 400mg tablets

Take one tablet twice a day for 7 days.
Supply 14 tablets.

Age: from 13 years onwards
NHS cost: £0.81
Licensed use: yes

Metronidazole tablets: 2g single dose

Metronidazole 400mg tablets
Take five tablets together as one dose.
Supply 5 tablets.

Age: from 13 years onwards
NHS cost: £0.29
Licensed use: yes

Tinidazole: alternative to metronidazole in treatment failure

Age from 13 years onwards

Tinidazole tablets: 2g single dose

Tinidazole 500mg tablets
Take four tablets together as one dose.
Supply 4 tablets.

Age: from 13 years onwards
NHS cost: £2.76
Licensed use: yes

Pregnant woman

Age from 13 years onwards

Metronidazole tablets: 400mg twice a day for 7 days

Metronidazole 400mg tablets
Take one tablet twice a day for 7 days.
Supply 14 tablets.

Age: from 13 years onwards
NHS cost: £0.81
Licensed use: yes

Metronidazole tablets: 400mg twice a day for 5 days

Metronidazole 400mg tablets
Take one tablet twice a day for 5 days.
Supply 10 tablets.

Age: from 13 years onwards
NHS cost: £0.58
Licensed use: off-label duration

Clotrimazole pessaries: 100mg at night for 6 nights

Clotrimazole 100mg pessaries
Insert one pessary into the vagina each night for 6 nights.

Supply 6 pessary.

Age: from 13 years onwards
NHS cost: £3.63
Licensed use: no - off-label indication

Trichomoniasis - Management

View full scenario

CKS safe practical clinical answers - *fast*

What are the clinical features of trichomoniasis in men?

- Of men with trichomoniasis, 15–50% are asymptomatic and usually present as sexual partners of infected women.
- The most common presenting symptoms are urethral discharge or dysuria, or both.
  - Urethral discharge is present in 50–60% of men (usually only small or moderate amounts).
  - Rarely, the discharge can be copious.
- Other clinical features include:
  - Balanitis.
  - Urethral irritation.
  - Urinary frequency.
- Occasionally, men can present with prostatitis.
- For more information, see the CKS topics on Balanitis, Prostatitis - acute, Prostatitis - chronic, and Urethritis - male.

Basis for recommendation

This information is from guidelines developed by the British Association of Sexual Health and HIV and is based on expert opinion [BASHH, 2004; BASHH, 2007].

How should I make a diagnosis of trichomoniasis in men?

- **Ideally, refer the man to a service specializing in sexual health or a general practice providing an enhanced sexual health service for diagnosis and treatment. If this is not possible it is reasonable to test him in primary care, but the results may not be as reliable.**

- In men with urethral symptoms, ensure that infection with *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, and *Mycoplasma genitalium* has been excluded or treated. For more information, see the CKS topic on Urethritis - male.

- For trichomoniasis, send a urethral swab for laboratory testing (usually microscopy) and state on the form that trichomoniasis is suspected.

  - The swab should be stored in transport medium (such as Amie's or Stuart's), should be refrigerated before transportation, and ideally should arrive at the laboratory within 6 hours.

  - Some laboratories may accept a first-void urine specimen, but it is advisable to check with local services first.

- If the test is positive for trichomoniasis, or the man's partner has trichomoniasis, offer treatment. If the test is negative, refer the man to a service specializing in sexual health.

Laboratory testing

- The motility of *Trichomonas vaginalis* diminishes with time, therefore swabs should arrive at the laboratory within 6 hours [BASHH, 2004; RCGP and BASHH, 2006; BASHH, 2007].

- Diagnosing trichomoniasis in men is much more difficult than in women [Nanda et al, 2006].

- Direct observation by wet-mount or staining will diagnose about 30% of infections in men [RCGP and BASHH, 2006].

- Diagnosis by culture is considered to be the gold standard and increases the detection rate, but requires specific culture media, takes longer than microscopy, and is not routinely done by most laboratories [BASHH, 2006; Mabey et al, 2006; RCGP and BASHH, 2006; BASHH, 2007].

- Urethral culture if a discharge is present, or culture of first-void urine, will diagnose 60–80% of infected men. Testing both samples increases the diagnostic rate [Nanda et al, 2006; BASHH, 2007].

▪ Polymerase chain reaction tests are more sensitive and specific when compared with microscopy or culture, but are not currently in general use [Schwebke and Lawing, 2002; BASHH, 2007].

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV and the Royal College of General Practitioners and are based on expert opinion [BASHH, 2004; BASHH, 2006; RCGP and BASHH, 2006] and an observational study [BASHH, 2007].

Referral to a service specializing in sexual health

▪ Referral to a service specializing in sexual health or a general practice providing an enhanced sexual health service is advised to confirm the diagnosis by microscopy of a wet-mount preparation in which characteristic motile, flagellated protozoa can be seen [Mabey et al, 2006].

▪ Testing in primary care is often impractical (for example, due to a lack of immediate access to microscopy) and reduces the chance of detecting trichomoniasis compared with a setting where microscopy is available on-site.

Trichomoniasis - Management

View full scenario

CKS safe practical clinical answers - fast

What advice should I give to a man with trichomoniasis?

▪ Explain that trichomoniasis is a sexually transmitted infection (STI) and advise:

- Sexual abstinence (including abstaining from oral sex) until treatment is completed and any partners have also been treated and followed up.

- The use of condoms to reduce the risk of further infection and acquisition of other STIs.

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV and the Royal College of General Practitioners, and are based on expert opinion [RCGP and BASHH, 2006; BASHH, 2007].

How do I manage trichomoniasis in men?

- **Ideally, management should be provided in a service specializing in sexual health or a general practice providing an enhanced sexual health service.**
- **If this is not possible:**
  - Offer metronidazole 400 mg twice a day for 5–7 days.
  - Alternative regimens are:
  - Metronidazole 2 g as a single dose — if compliance is a problem.
  - Tinidazole 2 g orally in a single dose — if metronidazole is not tolerated.
  - Screen for coexisting sexually transmitted infections and advise contact tracing.
  - After completion of treatment, follow up people with trichomoniasis who have not been managed by a specialist service, to review symptoms, confirm contact tracing has been carried out, and discuss the results of the sexually transmitted infection screen.
- **Do not routinely test to confirm cure.**
  - Repeat testing for trichomoniasis is only recommended if symptoms persist after treatment or recur after treatment is completed.
- Although rare, consider the possibility of sexual abuse in any child or young person with trichomoniasis, particularly in the following circumstances:

- The child is younger than 13 years of age, unless there is clear evidence of mother-to-child transmission during birth, or of blood contamination.

- The young person is 13 to 15 years of age, unless there is clear evidence of mother-to-child transmission during birth, blood contamination, or that the STI was acquired from consensual sexual activity with a peer.

- The young person is 16 to 17 years of age and there is no clear evidence of blood contamination or that the STI was acquired from consensual sexual activity *and* there is a clear difference in power or mental capacity between the young person and their sexual partner, in particular when the relationship is incestuous or with a person in a position of trust (such as a teacher, sports coach, minister of religion) *or* there is concern that the young person is being exploited.

▪ Follow appropriate child protection procedures and refer to a paediatrician if necessary.

Basis for recommendation

These recommendations are from guidelines developed by the British Association of Sexual Health and HIV [BASHH, 2007] and the Health Protection Agency with the Association of Medical Microbiologists [HPA and Association of Medical Microbiologists, 2008]. The aim of treatment is to eradicate the organism, relieve symptoms, if present, and prevent transmission to partners.

Metronidazole

▪ There are no studies investigating the treatment of trichomoniasis in men, therefore recommendations were extrapolated from randomized controlled trial evidence in a Cochrane systematic review that found that metronidazole is effective for the treatment of trichomoniasis *in women* [Forna and Gülmezoglu, 2003].

▪ A longer course of treatment has been recommended first-line because although single high-dose metronidazole treatment may improve compliance, there is evidence from two placebo-controlled studies *in women* of an increased risk of adverse effects with single high-dose metronidazole compared with a 5–7 day course [Forna and Gülmezoglu, 2003], and a higher failure rate, especially if partners are not treated at the same time [BASHH, 2007]. People treated over a 7-day period are protected from reinfection during the time they are taking

metronidazole. This protection is not as reliable with single-dose treatments making it more important that any sexual partners are treated simultaneously [Cudmore et al, 2004].

Tinidazole

▪ Tinidazole 2 g as a single dose is usually reserved for people who cannot tolerate, or who have failed to respond to, metronidazole [BNF 56, 2008]. For trichomoniasis, there is methodologically weak evidence from small trials that tinidazole may be more effective compared with metronidazole at single high doses *in women* [Forna and Gülmezoglu, 2003] but there is less experience of its use in UK practice.

How should current partners of men with trichomoniasis be managed?

▪ **Ideally, the sexual contacts of people with trichomoniasis should be treated by a service specializing in sexual health or a general practice providing an enhanced sexual health service.**

▪ Current partners of people with known trichomoniasis should be screened for trichomoniasis and other sexually transmitted infections, and offered treatment regardless of the results.

o Offer metronidazole 400 mg twice a day for 5–7 days.

o Alternative regimens (not recommended in pregnancy or breastfeeding) are:

o Metronidazole 2 g as a single dose — if compliance is a problem.

o Tinidazole 2 g orally in a single dose — if metronidazole is not tolerated.

Basis for recommendation

The recommendation to screen and treat contacts of people with trichomoniasis is from guideline developed by the British Association of Sexual Health and HIV [BASHH, 2007] and is based on evidence from randomized controlled trials which showed that treatment of the partners of women with trichomoniasis reduced the relapse rate.

How should I manage treatment failure in men?

If symptoms persist after treatment or if symptoms recur after the course of treatment has been completed, treatment should ideally be provided by a service specializing in

sexual health or a general practice providing an enhanced sexual health service. If this is not possible:

- **Check compliance** — ask if the metronidazole has caused vomiting.

- **Exclude the possibility of reinfection.** Check that any partners have been treated appropriately and simultaneously.

- **Reconsider the diagnosis.** Review the swab results and ensure other causes of urethritis have been excluded. For more information, see the CKS topic on Urethritis - male.

- **Send a urethral swab** for laboratory testing (usually microscopy) and state on the form that trichomoniasis is suspected.

  - The swab should be stored in transport medium (such as Amie's or Stuart's), should be refrigerated before transportation, and ideally should arrive at the laboratory within 6 hours.

  - If culture is used by the laboratory, leave 48 hours after the end of treatment before testing.

  - Some laboratories may accept a first-void urine specimen, but it is advisable to check with local services first.

- **If the swab results confirm persistent infection or reinfection with trichomoniasis:**

  - If metronidazole was given as the initial treatment:

  - Offer a repeat course of oral metronidazole 400 mg twice a day for 7 days.

  - Tinidazole 2 g as a single dose is an alternative, particularly if resistance to metronidazole is suspected (when other causes of treatment failure have been ruled out).

  - If tinidazole was given as the initial treatment, offer a course of oral metronidazole 400 mg twice a day for 7 days (unless metronidazole is known to be not tolerated).

- **If a repeat course of metronidazole or a dose of tinidazole is unsuccessful, seek advice from a specialist in genito-urinary medicine.**

Basis for recommendation

These recommendations are based on expert opinion in a guideline developed by the British Association of Sexual Health and HIV [BASHH, 2007] and a review on the treatment of metronidazole-resistant cases [Cudmore et al, 2004].

Recommended treatments

- **Metronidazole:** there is no evidence to guide dose and duration in treatment failure, but it is logical to use a 7-day course in preference to a 5-day course or a single high dose.

- **Tinidazole** is a second-line option because resistance to metronidazole is uncommon. Cross-resistance among nitroimidazoles does occur, but is incomplete [Cudmore et al, 2004].

Treatments not recommended

- Other treatment options recommended by experts include high doses of metronidazole or tinidazole if initial treatment fails [BASHH, 2007]; as these are higher than the licensed doses, CKS does not recommend their use in primary care.

Prescriptions

For information on contraindications, cautions, drug interactions, and adverse effects, see the electronic Medicines Compendium (eMC) (http://emc.medicines.org.uk), or the British National Formulary (BNF) (www.bnf.org).

Metronidazole

Age from 13 years onwards

Metronidazole tablets: 400mg twice a day for 5 days

Metronidazole 400mg tablets
Take one tablet twice a day for 5 days.
Supply 10 tablets.

Age: from 13 years onwards
NHS cost: £0.58
Licensed use: off-label duration

Metronidazole tablets: 400mg twice a day for 7 days

Metronidazole 400mg tablets
Take one tablet twice a day for 7 days.
Supply 14 tablets.

Age: from 13 years onwards
NHS cost: £0.81
Licensed use: yes

Metronidazole tablets: 2g single dose

Metronidazole 400mg tablets
Take five tablets together as one dose.
Supply 5 tablets.

Age: from 13 years onwards
NHS cost: £0.29
Licensed use: yes

Tinidazole: alternative to metronidazole in treatment failure

Age from 13 years onwards

Tinidazole tablets: 2g single dose

Tinidazole 500mg tablets
Take four tablets together as one dose.
Supply 4 tablets.

Age: from 13 years onwards
NHS cost: £2.76
Licensed use: yes