KEY STAGE 4 - LESSON 6

Infection Prevention and Control (IPC):

Sexually Transmitted Infections (STIs)

A classroom-based activity demonstrates how easily STIs can be transmitted. Using chlamydia as an example, this lesson helps students to understand an individuals' susceptibility to sexually transmitted infection and the potential severity of its consequences.

Curriculum Links

Science

- Working scientifically
- Biology

PSHE/RSHE

- Health and prevention
- Intimate and sexual relationships
- Sexual health

English

- Reading
- Writing

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e-bug.eu/eng/KS4/lesson/STIs

*This lesson plan can be taught across two or three lessons.

Learning Outcomes

All students will:

- Understand that infections can be spread easily through sexual contact.
- Understand what they can do to protect themselves against STIs.
- Know that not everyone with an STI has symptoms.
- Understand that non-barrier forms of contraception do not protect against STIs.

Most students will:

- Understand how easily infections like chlamydia can spread among young people.
- Begin to explore effective communication around condom use.

Resources Required

Introduction
Per class

- [ ] **Copy of PP1**

Main Activity:
Test Tube Experiment

Per student

- [ ] 3 clean test tubes
- [ ] **Copy of SW1**

Per class

- [ ] Test tube rack
- [ ] Iodine
- [ ] Starch
- [ ] Water
- [ ] Gloves
- [ ] **Cling film**

Activity 2: Looking for legitimate Sources of Information

Per student

- [ ] Copy of SW2
- [ ] **Copy of TS1**

Activity 3: Safer Sex: Risks, Communication and Information

Per student

- [ ] Post-it notes
- [ ] **Pens/pencils**

Per class

- [ ] 4 A3 sheets of paper

Activity 4: Raising Awareness about Gonorrhoea

Per student/group

- [ ] Device to create a presentation (optional)
- [ ] Pens/ pencils
- [ ] **Paper**

Activity 5: Condom Negotiation

Per student

- [ ] Copy of SH1
- [ ] Copy of SH2
- [ ] **Copy of SW3**

Extension Activity 1:
Sexual Health Bingo

Per student

- [ ] Copy of SW4
- [ ] **Pens**

Per class

- [ ] Copy of TS2
- [ ] Box/hat (to draw cards out of)
- [ ] **Prizes (optional)**

Extension Activity 2: STI Quiz

Per student

- [ ] **Copy of SW5**

Key Words

Chlamydia, Condom, Contraception, Gonorrhoea, Safe Sex, Sexually Transmitted Infections (STI)

Advance Preparation

Test Tube Experiment

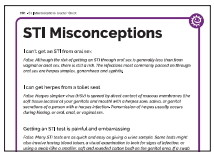
1. **Section A**
    a. Half-fill a test-tube with milk – one per student
    b. Replace one of the test-tubes with starch
2. **Section B**
    a. Half-fill a second set of test-tubes with milk
    b. Replace one of the test-tubes with starch
3. **Section C**
    a. Fill 4 test-tubes with milk
    b. Place cotton plugs or cling film over the top of 2 of the test tubes
    c. Fill an extra test-tube with starch
4. **Photocopy SW1 for each student**

NOTE: This activity can be used to demonstrate the spread of other types of infection.

Extension Activity: Sexual Health Bingo

a. Print bingo playing cards (SW4).
b. Print, cut and fold Sexual Health Bingo Caller Cards (TS2) and put in box/hat etc.
c. Organise prizes if required

Supporting Materials

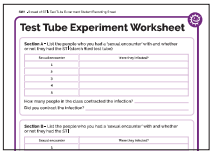


TS1 STI Misconceptions

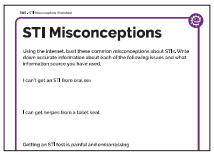
TS2 Sexual Health Bingo Caller Cards

SH1 Let's Talk About Condoms - Ineffective

SH2 Let's Talk About Condoms - Effective



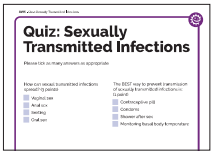
SW1 Spread of STIs Test Tube Experiment



SW2 STI Misconceptions

SW3 Let's Talk STEM Worksheet

SW4 Sexual Health Bingo



SW5 STI Quiz

Lesson Plan

Introduction

1. Recap on your sex education ground rules or use the suggested rules provided in the teacher refresher at the start of the pack.

2. Begin the lesson by explaining to students that there are many ways in which microbes can be transmitted, e.g. touch, sneezing or through contaminated food or drinking water. Highlight that another important route of transmission is through the exchange of bodily fluid, i.e. unprotected sexual intercourse.

   To encourage students to talk about the topic, ask if they have ever heard of any STIs and if they know what causes them. Use the MS PowerPoint activity found at (e-bug.eu/eng/KS4/lesson/STIs) to help explain this.

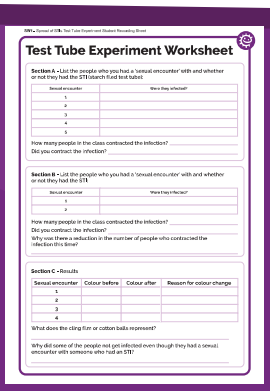
3. Explain that STIs are generally transmitted through unprotected sexual contact i.e. not using a condom, although some of the infections can be transmitted in other ways such as shared needles and syringes or skin-to-skin contact or from mother to unborn child and through breast milk. This is because some STIs are carried in the blood and transmission of this bodily fluid can also transmit the infection.

4. EMPHASISE that non-barrier forms of contraception, e.g. the contraceptive pill, DO NOT protect against STIs.

5. Note that the terms STI (Sexually Transmitted Infection) and STD (Sexually Transmitted Disease) are equivalent terms. An infection is defined as the invasion of the body by a microbe. While an infection can cause symptoms and complications that alter the normal function of the body, it does not depend upon this to be classed as an infection. A disease, by contrast, causes specific health complications. Therefore, STI is used as a broader term.

Main Activity: Test Tube Experiment

1. Pass liquid filled test tubes around, one of them will contain starch
2. Mix the fluids from your test tubes with 5 other people
3. Make a note of who you exchanged test tube fluid with and in which order
4. Find out who has the test tube with starch (STI) by testing everyone with iodine


Test Tube Experiment Worksheet

Section A • List the people who you had a 'sexual encounter' with and whether or not they had the STI (starch fixed test tube)

Sexual encounter	Were they infected?
1	
2	
3	
4	
5	

How many people in the class contracted the infection?

Did you contract the infection?

Section B • List the people who you had a 'sexual encounter' with and whether or not they had the STI

Sexual encounter	Were they infected?
1	
2	

How many people in the class contracted the infection?

Did you contract the infection?

Why was there a reduction in the number of people who contracted the infection this time?

Section C • Results

Sexual encounter	Colour before	Colour after	Reason for colour change
1			
2			
3			
4			

What does the cling film or cotton balls represent?

Why did some of the people not get infected even though they had a sexual encounter with someone who had an STI?

Test Tube Experiment

1. This activity is best carried out as a whole class activity. Ask students to record their results throughout the experiment on SW1.

Section A

2. Explain to the students that they will be simulating sexual contact by exchanging fluid (representing bodily fluid) between the two test tubes. Pass the test tubes around the class making sure that each student gets a test tube full of fluid.

   DO NOT let the students know that one of the test-tubes contains starch, although the teacher should know who has that test tube.

   NOTE: It may be important to select a student to take the test tube containing starch who will not be concerned or embarrassed when they realise they have been the 'carrier'.

3. Tell each student that they must exchange fluid with 5 other students (for a class smaller than 25 reduce the number of exchanges to three or four). Ask students to record this on SW1. Prompt students to mix outside their normal group of friends.

4. When finished, tell the class that one of them carried fluid which contained a simulated STI. The teacher should go around the class testing for the STI by adding a drop of iodine to each test tube. If the fluid turns black that person was infected.

Section B

5. Repeat the activity by reducing the number of times students exchange fluid (have sexual encounters) to one or two. Do the class notice the decrease in the number of infected people?

Section C

6. Choose five people from the class to do a demonstration. Show the class which student has the 'infected' test tube. Provide the other four students with the remaining test tubes, two of which are covered in cling film.

7. Ask the student with the 'infected' tube to have a 'sexual encounter' with each of the five other students in turn.

   NOTE: Do not mix fluids this time, simply let the infected student drop some of their fluid into the other test tubes using a dropper, the recipient must mix the sample well.

8. Test each of the samples for an STI using iodine.

9. Indicate that during these sexual encounters the cling film represented a condom and that these students didn't contract the infection.

   Possible discussion points with students after this experiment include:

   a. The ease of transmission. Discuss with the students how easy the STI was spread from one person to the next. Were they surprised about any of the ways STIs can spread from person to person?

   b. Reducing the risk of infection. Talk about how far and quickly STIs can spread and how reducing the number of contacts automatically reduces the spread of infection.

   c. Personal responsibility for your own health. It is important that young people are responsible for and feel empowered to look after their own health, this includes their sexual health. We should avoid discussions around 'blame' of sexual partners.

   d. Difficult conversations. Imagine you have to advise a sexual partner to get checked/treated for an STI - better to prevent infection instead.

Activity 2: Looking for legitimate Sources of Information (non-lab activity)

Young people are most likely to search the internet for information about pleasure, relationships or symptoms of STIs, or to use sources viewed as legitimate, such as the NHS. Using the internet, ask students to bust some common STI misconceptions on SW2. This activity can be adapted to a class discussion. Answers can be found on TS1.

Activity 3: Safer sex: Risks, Communication and Information (non-lab activity)

1. Put four large sheets of paper up around the room, with the following questions written on each sheet:
   - What are the risks of having unprotected sex?
   - What does safe sex mean to you?
   - How can we communicate with each other to make sex safer?
   - How can we become more comfortable talking about safer sex with partners and in general?
2. Provide students with post-it notes. Ask them to write their answers down on them, and then stick these answers onto the relevant sheets.

Activity 4: Raising Awareness about Gonorrhoea (non-lab activity)

Gonorrhoea is becoming a multi-drug resistant microbe. This means that gonorrhoea is becoming more resistant to antibiotics used to treat the STI. Ask students to design a promotional campaign to raise awareness about gonorrhoea. Students could include information on disease aetiology, existing treatments for gonorrhoea and why gonorrhoea becoming a superbug is a growing global public health threat.

Activity 5: Condom Negotiation (non-lab activity)

1. Building on the discussion using the questions above, reinforce the importance of making individual decisions and discussing sexual decisions and safer sex with partners. This activity focuses on partner communication surrounding decisions to have sex and using condoms to provide good protection from STIs. Ask students to practice effective and ineffective communication techniques regarding negotiation of condom use through the following role-play activity.
2. Distribute the 'Let's Talk About Condoms: Ineffective' handout (SH1). After students have performed the role-play record feedback on the white board.
3. Repeat the process with the 'Let's Talk About Condoms: Effective handout (SH2).
4. As a group discuss the following:
   a. Which communication is more effective?
   b. What makes one communication more effective?
   c. What elements of assertive communication did Tai use?
5. Distribute the Let's Talk handout (SW3). This final activity gives students the opportunity to practice assertive communication regarding condom use.
6. Ask students to pair up, agree on the narrative of the conversation and role play to either groups or to the class.
7. Debrief the exercise by asking students to reflect upon their responses and to decide if they have demonstrated assertiveness.

Extension Activities

Sexual Health Bingo

Reinvention of the classic bingo game using sexual health terms instead of numbers.

Aim: Participants are introduced to sexual health concepts relating to safer sex, STIs and sexual health testing.

Give each participant a Sexual Health bingo playing card (SW4) and pen. Explain game rules. One at a time, draw a Sexual Health bingo caller's card from the box/hat (TS2). Read the item on the caller's card and an associated health message. Use the information on the caller's cards to introduce more information, discuss and check everyone's understanding. Anyone with this item on their playing card can mark it off with a cross. The first person to cross off a complete horizontal, vertical or diagonal row and call out "Bingo!" wins the game. Alternatively, play can continue until there is a first, second or third place.

When playing this game, be prepared to slow down or speed up the pace of play according to the needs of students. Also consider spelling out any words to assist young people in locating them.

Key messages:

- To keep sex safe always use a condom and get tested regularly for STIs
- Condoms are most effective when used properly
- Familiarise yourself with condoms, how to use them and where to get them

- Condoms offer the best protection against STIs and at the same time prevent unplanned pregnancies
- Condoms when used correctly during oral sex, can prevent STIs
- Young people have a right to make their own decisions about sex
- Consent can be given and taken away at any time
- Condoms are strong and flexible
- Most STIs don't have symptoms – you can't tell who has an STI
- STI testing is quick, easy, painless and usually free with the NHS/ GUM sexual health clinic
- Most STI tests are self-collected urine tests or swabs
- Young people who are sexually active should be tested for STIs when they change partners or at least every year, even if they have no symptoms
- Talk with your partner/s about sexual health
- Each person is unique and has a right to feel comfortable with who they are

Guest Speaker

Invite a guest speaker in from a local young persons' clinic/(school) nurse to give a talk about the free and confidential services they offer. Write up a list of questions you want to ask them in advance.

Learning Consolidation

Provide groups of 3 to 4 students with SW5 Quiz. The team with the most points wins.

Discussion

Check for understanding by asking the students the following questions:

Who can contract STIs?

Anyone who has had unprotected sex with someone who has an STI can contract an STI. STIs are NOT exclusive to people who you may consider engage in risky behaviours such as drug use, sex work, multiple sexual partners, and/or anal sex. You only need to have a sexual encounter with an infected person once to contract the infection and that person may not know that they are infected.

What is an STI?

Sexually Transmitted Infections (STIs) are infections which are mainly passed from one person to another (that is transmitted) during sexual contact. There are at least 25 different STIs with a range of different symptoms. These diseases may be spread through vaginal, anal or oral sex.

How can we reduce the risk of contracting an STI?

There are several ways to prevent contracting an STI. These include:

i. Abstinence: The only sure way to prevent contracting an STI is not to have oral, anal or vaginal sexual contact.

ii. Use condoms: Condoms are the recommended preventative measure; however, condoms only protect the skin they cover, any sores or warts found on the genital region not covered by the condom can still spread to another person's skin.

iii. Talk to your partner: Talk to your partner about safer sex practices, for example, using a condom. If you have a new partner discuss the option of you both being tested for an STI before committing to a sexual relationship.

iv. People should get tested and have regular check-ups: When sexually active, especially if you change sexual partners, even if you do not appear to have any symptoms, it is still very important to have regular tests and check-ups to make sure you do not have an infection. Not all STIs show symptoms at first, if at all.

Do other forms of contraception, other than the condom, protect against STIs?

NO. The other methods of contraception only protect against pregnancy, they will NOT protect against contracting an STI.

What are the symptoms of an STI?

Symptoms of sexually transmitted infections vary, but the most common are soreness, unusual lumps or sores, itching, pain when urinating, bleeding between periods and/or an unusual discharge from the genital region.

Where can I go for further advice and be tested?

Ask your school nurse or General Practitioner (GP), or visit a GUM clinic. Ordering a home testing kit online is now much more widely available.

Does everyone who contracts an STI show symptoms?

NO, STIs are a common problem because many people are infected without realising it. In some cases, women do not realise they have an infection until they experience infertility problems in later life.

STI Misconceptions

I can't get an STI from oral sex

False. Although the risk of getting an STI through oral sex is generally less than from vaginal or anal sex, there is still a risk. The infections most commonly passed on through oral sex are herpes simplex, gonorrhoea and syphilis.

I can get herpes from a toilet seat

False. Herpes simplex virus (HSV) is spread by direct contact of mucous membranes (the soft tissue located at your genitals and mouth) with a herpes sore, saliva, or genital secretions of a person with a herpes infection. Transmission of herpes usually occurs during kissing, or oral, anal, or vaginal sex.

Getting an STI test is painful and embarrassing

False. Many STI tests are as quick and easy as giving a urine sample. Some tests might also involve having blood taken, a visual examination to look for signs of infection, or using a swab (like a smaller, soft and rounded cotton bud) on the genital area. If a swab is needed, some services will offer you the option of using it yourself. Health professionals carry out sexual health check-ups every day – and they don't look at an STI test as a reflection on your behaviour, but as a responsible health choice.

The pill can protect you from contracting STIs

False. The contraceptive pill is effective against preventing pregnancy. It is not effective against protecting against STIs.

People with many sexual partners have STIs

False. STIs do not discriminate against the number of partners a person may have. Anyone can get a STI, it doesn't matter if you have one partner or multiple. STIs can be passed through unprotected sex.

STIs will go away on their own

False. It is unlikely that an STI will go away by itself. Getting tested is the first step in seeking treatment for an STI. Delaying treatment could lead to unintended long-term consequences.

STI

STI stands for Sexually Transmitted Infection

PROTECTION

The best form of protection from STIs is condoms

ORAL

Condoms can help you stay safe during oral sex

PAINLESS

Getting a sexual health test is painless

CHECK-UP

Getting tested for STIs should be part of your normal health check-up

SEX

If you're having sex you can keep it safe by always using a condom

CONDOMS

Condoms are the only form of protection that prevent pregnancy and STIs

TESTED

If you're having sex, stay safe by testing for STIs regularly