

# HIV testing and risks of sexual transmission

## January 2020

4th edition



**HIV i-Base**  
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Watch for out-of-date information

**HIV transmission and sexual risk**  
When to test  
U=U and PrEP  
What if I am HIV positive?

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Disclaimer: Information in this booklet is not intended to replace information from your doctor. Treatment decisions should always be taken in consultation with your doctor.

“HIV rates are going  
down thanks to  
effective treatment  
and PrEP...

but testing is still  
essential: there is no  
other way to know  
whether you are  
positive or negative”

## HIV in the UK <sup>[1]</sup>

- More than 102,000 people in the UK are HIV positive. 94,000 are diagnosed and 8,000 are still untested.  
*Over 98% of people who are diagnosed are on effective treatment (ART) which prevents transmission.*
- 1.5 million people take an HIV test each year. Half are in a sexual health setting and half in pregnancy screening. More than 99% of all results are negative.
- Of the roughly 4,300 people who tested positive last year (less than 0.5% of all tests), half were heterosexual and half were gay men.
- Half of diagnoses were late: ie in people who are likely to have been HIV positive for many years.
- Late diagnosis causes half of all HIV-related deaths. These could be prevented with earlier testing.

1. HIV in the UK, PHE 2018 report.

<https://www.gov.uk/government/statistics/hiv-in-the-united-kingdom>

## Introduction

**Over the last few years, and for the first time in 15 years, HIV rates in the UK and many other countries have started to drop.**

This is partly because people are testing more often and being diagnosed and treated earlier. It is also because PrEP is now much more widely used.

But knowing how to protect your sexual health is still very important - whether you are HIV positive or HIV negative.

This booklet is about sexual transmission of HIV and HIV testing.

It includes information on:

- How HIV risk is more than just about condoms.
- How and when different HIV tests can be used - and about the window period before they will work.
- What test results mean.
- The importance of making your own decisions about your sexual health.

This booklet is focused on different risks for transmission and on ways to stay HIV negative.

It is written for people who still want to have sex and who might want to do this without the need for condoms..

*An undetectable viral load on ART means the risk from HIV is zero.*

But even when being careful, some people will still become HIV positive.

If this happens, there is little to gain from looking back. HIV treatment (called ART) is very effective.

**If you are HIV positive, i-Base and other organisations can help.**

### Changes to the fourth edition

We have deleted 20 pages from the print version but left the detailed information online.

This includes information on each risk (ie oral sex etc) and also the FAQs.

<http://i-base.info/guides/testing>

The new pages on U=U explains why any risk becomes zero - even without condoms.

We have also added more information about PrEP which when used correctly PrEP reduces the risk of transmission by more than 99%.

## HIV basics

### Fear of testing

**HIV is not an easy virus to catch. Compared to how many people have sex, only a tiny percentage become HIV positive.**

The chance of not getting HIV is always much higher than getting HIV. This is the case even when one partner is HIV positive and the other is HIV negative.

However, it also only takes one exposure for an infection to occur. Many new infections, perhaps most, come from people who do not know their HIV status.

Someone who is very recently infected (within the last month or two) is at their most infectious. This is because in the first few months the amount of virus is at its highest. Yet they are likely to think and act as if they are still HIV negative.

In order to reduce new infections to zero, taking an HIV test needs to be a normal, routine part of health care.

### HIV, sex and risk

**This booklet is about sexual transmission of HIV.**

Although most people know what is high or low risk there is less confidence about the middle ground in between these extremes.

If one person has sex without a condom they are unlikely to become HIV positive. But if 10,000 people have sex without condoms, it is very likely that some will become HIV positive. Even if they all have exactly the same type of sexual risk.

Understanding risk is also not always easy and is something that is not really taught in school.

So we might worry most about things that are never likely to affect us, such as plane crashes and bird flu.

On the one hand we convince ourselves that things we enjoy are low risk (“it will never happen to me”).

On the other hand, some very low risk things are so scary that we can worry out of all proportion to the likelihood that it will happen (“I’m sure I am HIV positive”).

## Which body fluids are infectious?

### The risk of HIV transmission is related to different factors.

These include:

- Which body fluids are infectious.
- How infection occurs - often called the 'routes of infection'.
- Other risks – including viral load, type of sex, genetics etc.

Only some body fluids have the potential to be infectious.

These include:

- Sexual fluids (semen and vaginal fluid).
- Mucus from the vagina and anus.
- Blood.
- Drinking breastmilk is infectious to a baby but not to an adult.
- Tears (from crying) might be a theoretical risk - but unlikely actual risk.

Saliva, spit, urine and faeces are **not** infectious for HIV.

## What are the routes of infection?

### Common routes include:

- Contact with the mucous membranes of genital or anal tissue. A mucous membrane is a type of tissue that is a less effective barrier than skin. The inner foreskin is also a mucous membrane.
- Ulcers, sores, scratches, cuts or tiny abrasions (ie that are too small to see) on genital tissue (to the vagina, penis or anal lining).
- Any direct route into the bloodstream including cuts in your mouth. Sharing needles and injecting equipment has one of the highest risks of transmitting HIV. This is because there is a direct blood-to-blood route.

The drawings on pages 46 to 47 show the different cell structures for skin and mucous membranes.

They show why some risks are higher than others and why anal sex has an especially high risk.

They show why uncircumcised men have a higher risk for some types of sex compared to circumcised men.

## Ways HIV is not transmitted...

**HIV is not transmitted by day-to-day activities or by contact with objects, food or clothes.**

You can NOT catch HIV from:

- Eating any food, cooked or uncooked, with blood on it.
- From a sterile needle at a clinic or other health centre.
- From a human bite.
- From an insect bite including a mosquito bite.
- From an animal.
- From living in the same house as someone who is HIV positive.
- From a sewing needle if you stab your finger.
- From blood on a bus seat that went through your underwear.
- Cleaning nail clippers.
- Using a knife/fork/spoon/cup/plate that an HIV positive person may have used.
- Getting sexual fluid on skin.
- Getting sexual fluid on a cut that has already healed over. A cut has to be open to be a risk of HIV.

The above are all real examples sent as questions to i-Base. They show that ignorance about HIV is still common.

### Effective barriers against HIV

There are many effective barriers that prevent infection.

**Skin:** Skin is an excellent barrier against HIV, unless there is an open cut or open wound. Infectious fluid on skin is NOT a route for infection.

**Mucous membranes in the mouth, throat and stomach:** These membranes are good barriers against HIV infection, so long as there are not cuts, ulcers or sores.

**Saliva:** Saliva contains proteins and a low salt content that actively reduce its infectiousness. Even when HIV is detected there is too little to cause infection. HIV is not transmitted by kissing including deep kissing. Spit cannot transmit HIV.

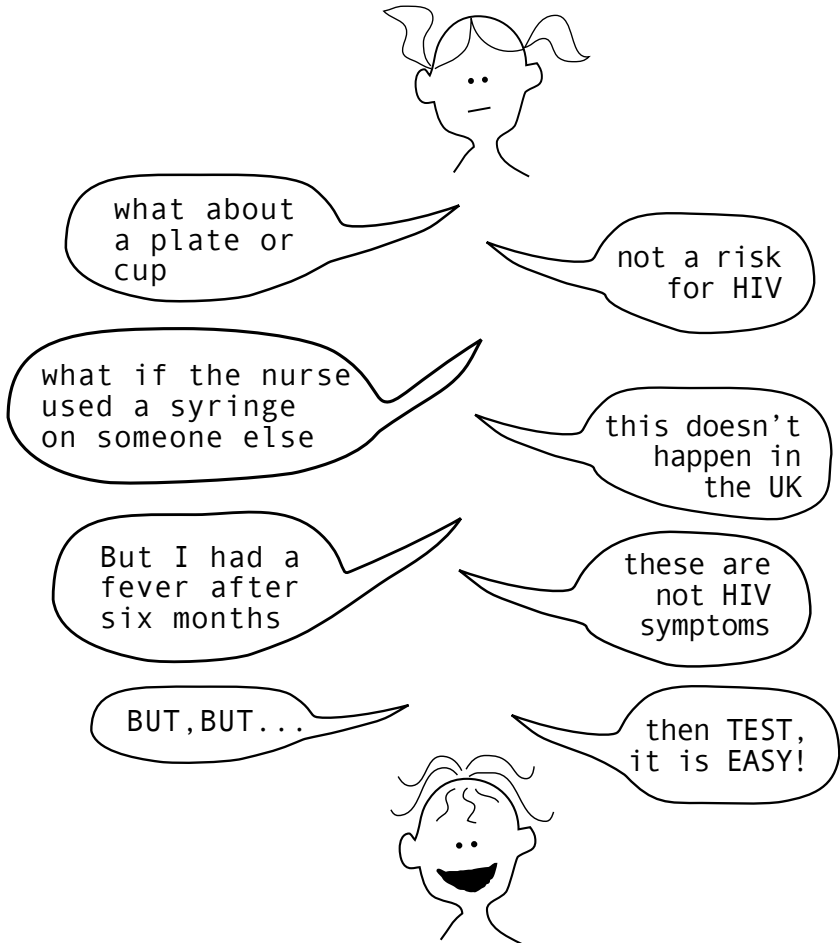
**Air:** HIV is not transmitted by air.

**Latex and rubber:** Condoms prevent infection from HIV and many other sexually transmitted infections.

**Many sexual situations have no risk of transmitting HIV.**

These include masturbation (by yourself or with a partner), kissing and deep kissing, receiving oral sex and vaginal or anal sex using a condom correctly.





## Risks for transmission

### Between 100% safety and 100% risk

**Whether HIV transmission takes place or not is related to many different factors. The most important of these are listed in Figure 1 on page 11.**

This is not just about you and your partners' HIV status or what you do with or without a condom. It includes viral load, type of sex, genetics, circumcision etc.

Very few activities have a 100% risk or 100% safety. The risk for any single exposure is usually somewhere in between these extremes.

The risk from each factor might be anywhere between highest and zero. They all affect and interact with each other.

The only way to know your HIV status is to take an HIV test.

The online version of this guide includes more details about each of these risk factors.

#### HIV status

<http://i-base.info/guides/testing/risk-hiv-status>

#### Viral load

<http://i-base.info/guides/testing/viral-load>

#### Type of sex

<http://i-base.info/guides/testing/type-of-sex-and-condon-use>

#### Oral sex

<http://i-base.info/guides/testing/oral-sex>

#### Sexual fluids

<http://i-base.info/guides/testing/sexual-fluid>

#### How long sex lasts

<http://i-base.info/guides/testing/how-long-sex-lasts>

#### How vigorous the sex is

<http://i-base.info/guides/testing/how-vigorous>

#### Genetics

<http://i-base.info/guides/testing/genetics>

#### Male circumcision

<http://i-base.info/guides/testing/medical-male-circumcision>

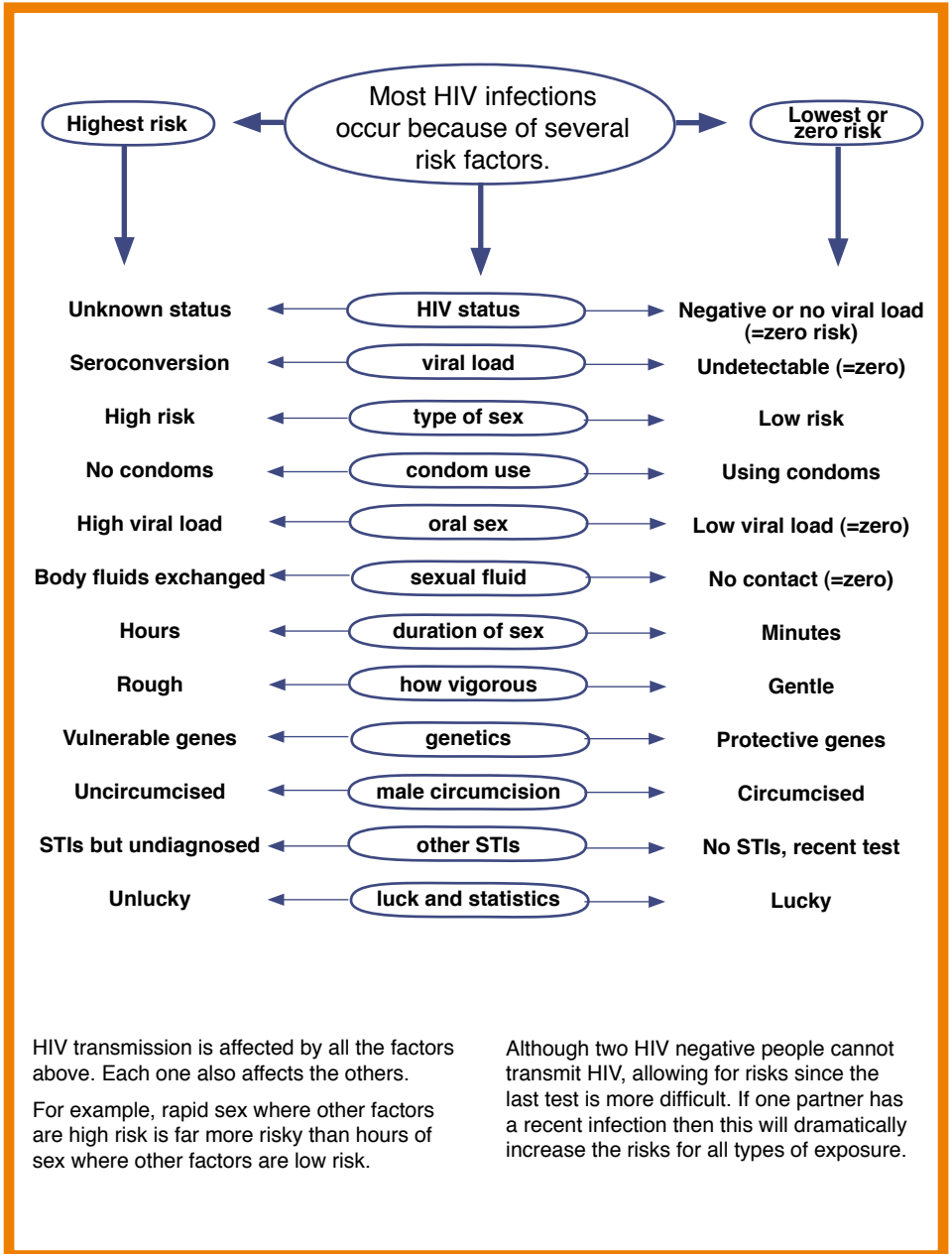
#### Other STIs

<http://i-base.info/guides/testing/other-stis>

#### Luck (and statistics)

<http://i-base.info/guides/testing/luck-and-statistics>

Figure 1: Common risks for transmission



## HIV testing: feelings of fear, anxiety and guilt

**Taking an HIV test can be stressful. It focuses your mind on the real risk, however small, that you might be HIV positive.**

Even though 99% of tests in a sexual health clinic in the UK are negative, the worry is still real.

It is also stressful because if the risk was recent it will take time to know if you caught HIV. A test at four weeks gives you a pretty good answer until you get the final test after 12 weeks.

This stress is usually still manageable. But, for a few people, HIV can become an unhealthy obsession that is out of all proportion to their level of risk.

This is often made worse by feelings of guilt related to the circumstances of the risk.

For example:

- If you usually use a condom but didn't on one occasion, or the condom broke.
- If these are your first sexual experiences, whatever your age.
- If you have tried new experiences. For example if you are usually straight and just had sex with another man.
- If you are in a relationship, gay or straight, and have had sex outside your main relationship.

- If you paid for sex or were paid to have sex.
- If you were sexually assaulted.

An obsessive focus on HIV risk can lead to psychological problems out of proportion to the actual risk.

There is also a concern for current sexual partners. If the risk was from a sexual experience outside your main relationship, this may involve changes to your sex life at home to protect your partner until you have your test results.

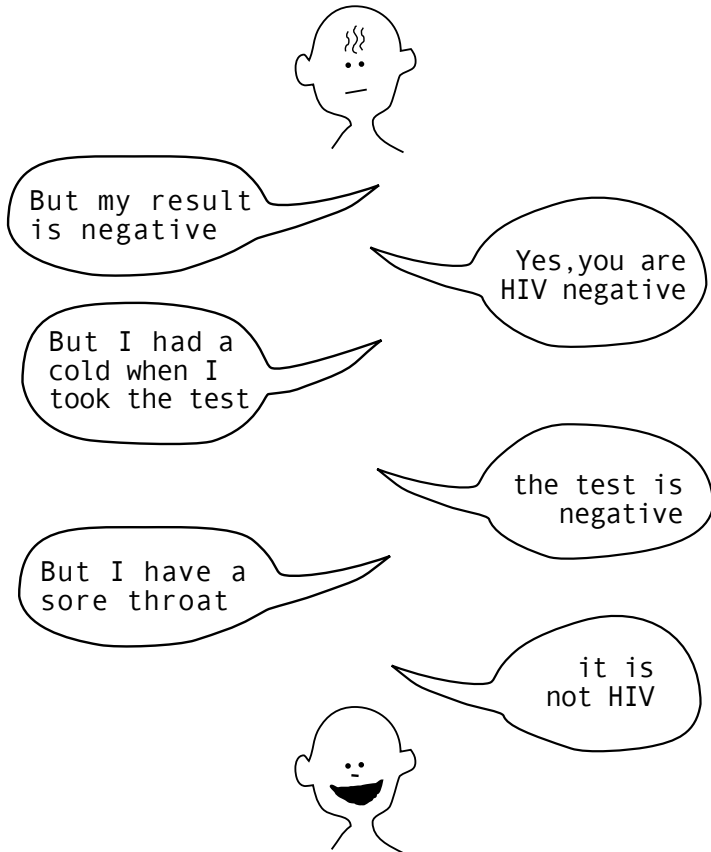
Worry and stress can cause symptoms that people then assume is HIV, especially if the worry has stopped you sleeping.

A health advisor can talk you through this.

Life is complicated and it is common over a lifetime to do things that you are not always happy with afterwards.

However, if your test result does turn out to be positive, there is a lot you can do. A tiny virus will complicate your life but most people still have the health and the life they had before.

Life expectancy for people who have access to treatment is now close to that of an HIV negative person.



## Frequently Asked Questions (FAQs)

**We are often asked similar questions regarding HIV transmission.**

Here are a few of the common questions with links to online answers.

**Q: Do I have HIV?**

**Q: What is my risk of HIV?**

**Q: Do I need an HIV test?**

**Q: Can I ask my partner to test to know my risk?**

<http://i-base.info/guides/testing/do-i-have-hiv-or-need-to-test>

**Q: What is seroconversion?**

**Q: What are symptoms of seroconversion?**

<http://i-base.info/guides/testing/symptoms-and-seroconversion>

**Q: Does washing after sex reduce the risk?**

<http://i-base.info/guides/testing/does-washing-after-sex-reduce-the-risk>

**Q: Are some people protected from infection?**

<http://i-base.info/guides/testing/are-some-people-protected-from-infection>



how can I be negative when my partner tested +ve?



...you have just been very lucky..

**Q: How can my partner test positive and I test negative?**

<http://i-base.info/guides/testing/how-can-my-partner-test-positive-and-i-test-negative>

**Q: Are risks different for men and women?**

**Q: Are risks similar for insertive or receptive anal sex?**

<http://i-base.info/guides/testing/risks-for-men-vs-women-and-insertive-vs-receptive>

## PrEP

### What is PrEP?

PrEP stands for Pre Exposure Prophylaxis.

It is a way for an HIV negative person to use HIV drugs to protect against catching HIV.

Oral PrEP uses two HIV drugs in one pill. These are usually a version of tenofovir (TD or TAF) plus emtricitabine (FTC).

For highest levels of protection PrEP needs to be taken **before and after** sex.

Most PrEP studies involved taking one pill every day, even when not having sex. When people were good at taking PrEP, there was close to 100% protection.

Some men can take PrEP just when they need it, rather than every day. This is called on-demand dosing.

This involves a double-dose (two pills) 24 to 2 hours before sex, with a single pill at 24 and 48 hours after the first dose (total four pills).

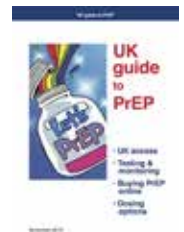
If you are the receptive partner, on-demand dosing only protects for anal (not vaginal) sex. Daily dosing works for the receptive partner in both anal and vaginal sex. On-demand dosing works for the insertive partner for all types of sex.

*When taken as prescribed, PrEP is more than 99% effective at stopping HIV.*

In Scotland, Wales and Northern Ireland, PrEP is available on the NHS. NHS England also provides PrEP on the IMPACT study.

However, many people buy generic PrEP online. It is legal and safe to do this. The cost is approximately £17.50 for 30 tablets.

The Mags Portman PrEP Access Fund run by the THT can provide PrEP if you can't afford it.



### More information

[www.i-base.info/uk-guide-to-prep](http://www.i-base.info/uk-guide-to-prep)

[www.lwantPrEPnow.org.uk](http://www.lwantPrEPnow.org.uk)

[www.prepster.info](http://www.prepster.info)

[www.tht.org.uk](http://www.tht.org.uk)

[www.prepimpacttrial.org.uk](http://www.prepimpacttrial.org.uk)

**PrEP: Using HIV drugs before exposure to reduce the chance of getting HIV.**

## PEP and PEPSE

### What is PEP and PEPSE?

**PEP stands for Post Exposure Prophylaxis.**

This involves using a combination of three HIV drugs **after** sex if there has been a significant risk - and taking them for a month. The word PEPSE is sometimes used - it stands for **PEP** after **S**exual **E**xposure.

PEP needs to be taken as soon after exposure as possible. This is preferably within hours rather than days. Most guidelines have a cut off for PEP of 48 hours after exposure.

Even though in the UK you can get PEP for up to 72 hours it is much less likely to work when it is used this late. The longer the delay the less the chance that PEP will work.

Before getting PEP you will need to talk about your risk. This involves talking about the type of sex and whether you know the HIV status of your partner.

You also need to have a rapid HIV test which gives the result within 30 minutes. **This test only tells you whether you were HIV positive three months ago.** It tells you nothing about the recent risk.

**PEP: Using HIV drugs after exposure to reduce the chance of infection**

You need an HIV test because if you are HIV positive without knowing it, a short course of treatment could cause drug resistance.

You can get PEP at any accident and emergency (A&E) department of a hospital 24 hours a day. You can also access PEP from a GUM clinic during working hours.

After a course of PEP you need to wait 28 days before testing for HIV. This is because PEP can delay infection.

For more information see:

[www.i-base.info/guides/testing/pep-pepse-and-prep](http://www.i-base.info/guides/testing/pep-pepse-and-prep)



## U=U: Undetectable = Untransmittable

### What is U=U?

**U=U stands for Undetectable (viral load) = Untransmittable (HIV).**

It means that an HIV positive person on ART with an undetectable viral load cannot transmit HIV even if you do not use condoms.

Sometimes this is also called TasP or Treatment as Prevention.

Since 2016, the global U=U community campaign has focused on Undetectable = Untransmittable.

Your doctor should talk about this.

It works because ART reduces HIV to levels that are too low to be infectious.

This was known in 2001 for heterosexual couples. In 2008, a group of Swiss doctors said that they believed this risk to be zero in a paper called the Swiss Statement. The doctors were sufficiently sure that they said it was safe to have a baby this way, if the man was positive and on treatment and the women was HIV negative.

### Links

The evidence for U=U:  
<http://i-base.info/htb/32308>

U=U campaign  
<https://www.preventionaccess.org>



Then in 2014, the PARTNER study reported no linked HIV transmissions after 900 couples had sex more than 44,000 times without condoms.

PARTNER included both gay and straight couples and included anal and vaginal sex.

In 2018, an extension of the study called PARTNER 2, provided even more evidence from gay couples.

In the UK, 98% of people who have been diagnosed HIV positive are on ART. Of these, 97% have an undetectable viral load.

This evidence should reduce the worry and anxiety for couples where one partner is positive and the other is negative, even if they still choose to use condoms.

It should also help reduce fear and stigma about HIV.

# HIV testing

## How soon can I take an HIV test?

**This question usually refers to how soon after exposure can someone test for HIV.**

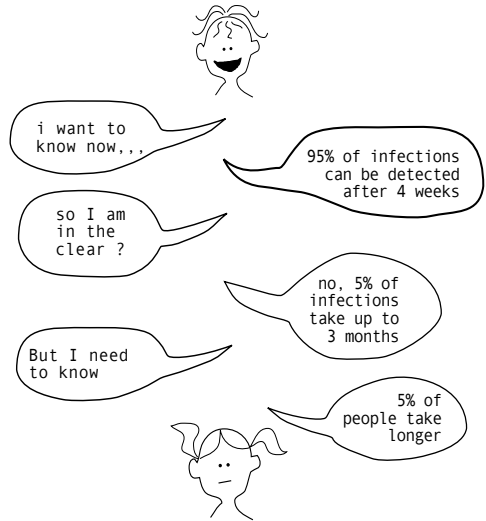
This usually requires waiting 3 to 4 weeks before taking an antibody-based test (see Figure 5).

UK guidelines state that 4th generation HIV tests (antigen/antibody) will detect 95% of infections four weeks after exposure.

A negative test after four weeks then needs to be confirmed with a second test three months after the risk. This is to cover the small chance that you take longer than four weeks to generate an antibody response.

In high risk exposures, especially if symptoms occur, viral load testing is sometimes used after one week.

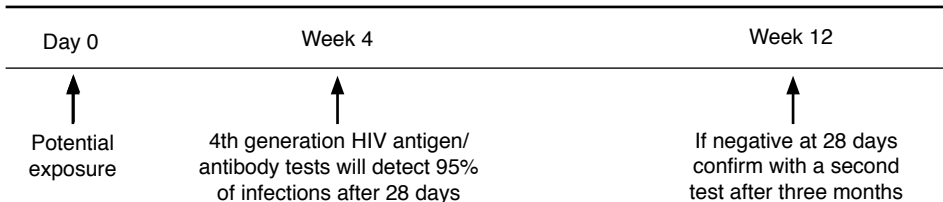
This includes after a sexual assault or after a needlestick injury to a healthcare worker.



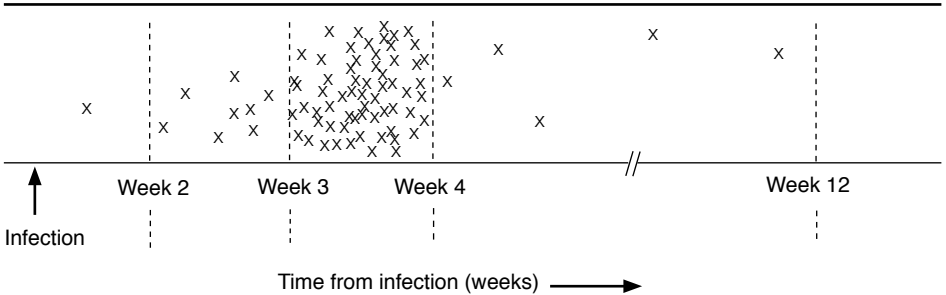
In these cases a viral load test can exclude an infection when there are symptoms.

Viral load tests are not approved to diagnose HIV. A negative result still needs to be confirmed by an antibody test three months after the risk.

**Figure 5: Recommended time from exposure to HIV test**



*A negative HIV test four weeks after an exposure is good news, but you still need to confirm this three months after the exposure.*

**Figure 6: Time to develop antibodies: 95% by week 4 and more than 99.9% by week 12**

Each 'x' represents the time when a different person develops HIV antibodies. Testing is only useful when the majority of infections would be detected. Even though a few people can be detected earlier, testing after only 2 or 3 weeks is not very useful.

## What is the window period?

**The window period is time between HIV infection and the point when the test will give an accurate result.**

During the window period a person can have HIV and be very infectious but still test HIV negative.

The window period for a 4th generation antigen/antibody test is about four weeks. By this time 95% of infections will be detected (see Figure 6). There is a three month window period after exposure, for the confirmatory result to detect more than 99.9% of infections.

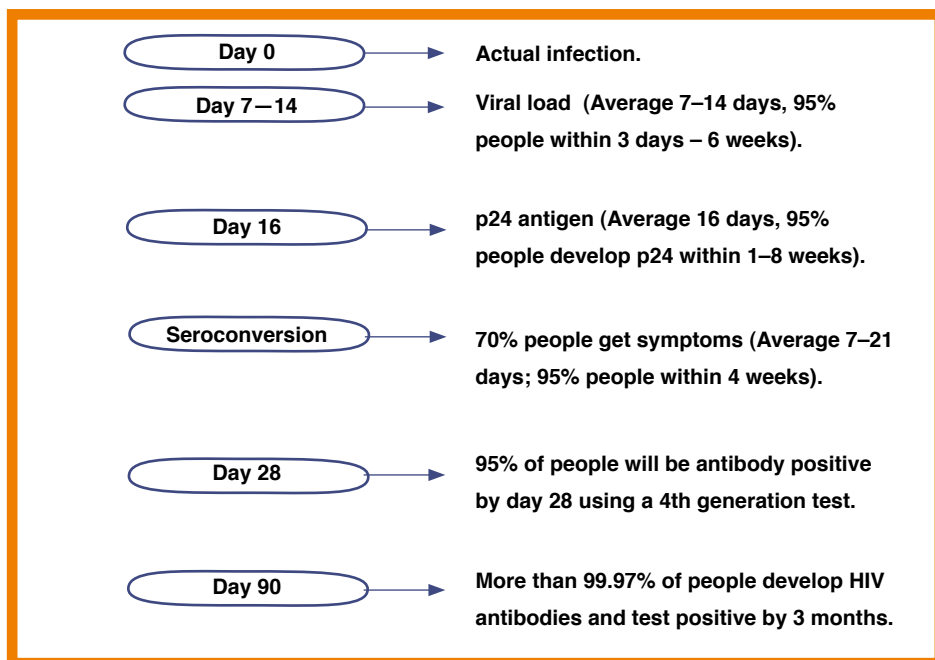
Figure 7 shows the range of times that people can take to respond to HIV infection.

The earliest marker is HIV viral load. This is in the first weeks after infection (usually from 1 to 6 weeks after exposure). A high viral load is related to seroconversion symptoms.

The first HIV protein (antigen) that can be measured is p24 (from 1 to 8 weeks after exposure).

Viral load and p24 tests are not accurate for diagnosing early HIV if the results are negative.

Figure 7: Timeline for HIV infection, immune responses and window period for tests



An HIV antibody response can be detected as early as two weeks in a few people and in more than 99.9% of people by 12 weeks. An antibody test at 4 weeks will detect 95% of infections.

Antibody testing at 4 weeks can give you a good indication of your HIV status, but you need a test at 12 weeks after the exposure to be considered HIV negative.

### Where can I test in the UK?

**In the UK you can test at any GUM (genito-urinary medicine) clinic or sexual health clinic. You can also test at your GP.**

The 'Health services near you' section of the NHS website includes a sexual health menu to search for clinics by town or postcode.

<http://www.nhs.gov>

Sexual health or GUM clinics often offer more info on HIV and other sexually transmitted infections (STIs).

## Community testing sites

Many HIV organisations offer free rapid HIV testing in community venues. These are usually drop-in services with no need to make an appointment.

The Terrence Higgins Trust (THT) have testing centres around the UK. ([www.tht.org.uk](http://www.tht.org.uk))

Positive East offer rapid HIV tests in many sites in East London.

<http://www.positiveeast.org.uk/testing>

LGBT Foundation test in Manchester.

<http://lgbt.foundation/get-support/for-men/get-tested>

Private clinics charge to test for HIV.

## Testing at home

There are also several ways to have an HIV test at home. This includes:

1. Self tests use a pinprick blood sample. You get the result yourself after about 15 minutes.
2. Self sample tests. This is where you take your own sample and post it to a lab. These can use a mouth swab or pinprick of blood.

Free self tests are available as part of some research studies.

Free self sample tests are already available in many parts of the UK.

<https://www.test.hiv>

Home tests are also available to buy online and in some pharmacies (for about £30).

## Why do some UK clinics ask people to wait 3 months?

UK clinics should NOT ask you to wait for three months before testing.

UK guidelines say you can be tested 3 to 4 weeks after an exposure.

Ask if your clinic uses 4th generation tests. If so, you can test after 3-4 weeks, and confirm this with a second test after three months.

**If your clinic doesn't use 4th generation tests ask why not, and where you can get this test.**

Please call i-Base if you want us to help.

## What happens when I test?

Before taking an HIV test someone at the clinic should explain what is involved. This should include information about the type of test and test accuracy.

It should include information about what happens if the results are positive. It is important that you know about what happens if the results are positive.

Blood samples can be from a pinprick or having blood taken into a test tube.

Oral tests involve rubbing a swab on your gums to collect samples of cells.

**You cannot catch HIV by taking an HIV test.**

### How long do results take?

Rapid HIV tests can give results in 15 to 60 minutes, or on the same day.

**‘Rapid’ refers to the time taken for the results and not to the time between exposure and the test.**

If samples are being sent to another lab, results can take from a few days or a few weeks.

Rapid blood tests put a pin-prick of blood on a testing strip. This test takes about 15-20 minutes so you can get the results whilst you wait.

Some rapid tests also work on oral samples by collecting cells from the surface of the gums. These cells can contain HIV antibodies.

When samples are sent to a lab you can either collect your results in person or they will be posted out to you. It is your responsibility to get the results. A few clinics may give results over the phone.

**A positive result from a rapid test always needs to be confirmed by a different laboratory test.**

### How are results reported?

Your test centre should clearly explain the results of your test.


**If you have questions that were not explained, or that still worry you, ask the test centre first.**


Rapid blood tests show two lines if positive or one line if negative, in a similar way as a pregnancy test (see Figure 8).


Results from laboratory tests are given as negative, positive or indeterminate.

- Negative or non-reactive means you are HIV negative. You do not have HIV (based on the window period and no recent risks).
- Positive or reactive means the test shows you are HIV positive and you have HIV infection.
- Indeterminate means the test result was unclear and needs to be repeated.

**Figure 8: Example results from a rapid test**

**C**  Non-reactive result (HIV negative)  
**T** Only control area shows a line  
 No line in the test area

**C**  Reactive result (HIV positive)  
**T** Line in both control and test area  
 (may be different strengths)

**C**  Invalid result (repeat the test)  
**T** No control line showing

## What does a number on my negative HIV test result mean?

Some tests (not usually in the UK) include a number (ie 0.31 or 0.64).

- If the number is less than 1.0 the result is negative.
- If the result is above 1.0 the result is positive.
- If the result is very close to 1.0 (higher than 0.90) the doctor may repeat the test.

**A higher number below 1.0 does NOT indicate a higher chance of having HIV.**

## Are HIV tests accurate?

Yes. Modern HIV tests are very accurate.

This accuracy has to be considered with the window period in mind.

For example, 4th generation tests will pick up 95% of infections at 28 days after exposure.

A confirmatory test three months after the exposure is always recommended. This is because 5% of people take this long to show a positive result.

A positive test result is routinely confirmed using a different type of test called western blot. The western blot test looks for immune responses to specific HIV proteins and is 100% accurate as the second test.

## Can anything affect the result of my HIV test?

HIV antibody tests are not affected by other circumstances.

This includes infections, medications, most vaccinations, putting on weight, eating or drinking anything before the test, use of alcohol or recreational drugs, mouthwash or time of day.

Your test result is accurate even if you had flu or a cold or are using any medication.

You do not need to fast before your test. Food and drink do not affect the results.

## Do I need to take another test?

This will depend on how recent your last exposure was.

As part of good practice, if the exposure was less than three months ago then testing at three months after exposure is usually recommended.

## Can it take longer than three months for a test to work?

This is so unlikely that UK guidelines consider a negative result three months after an exposure as being HIV negative.

## Is a negative test 100% accurate?

HIV tests after the 3 month window are more than 99.97% accurate. They work for all types and subtypes of HIV.

Very few medical tests have 100% accuracy. There will still be rare cases where someone is HIV positive and not picked up.

However, HIV tests are one of the most accurate tests for any medical infection. Tests showing a negative result are interpreted as negative.

## What is a 'false negative' test result?

A false negative test result occurs when the test shows negative and the person is really HIV positive.

This is very rare and usually occurs during the window period when people are newly infected but the test can't quite pick up the infection.

As with other types of tests, there is always be a small margin of error. With antibody-only tests (3rd generation) only 0.3% of tests (3 tests in every 1000) will be a false negative after 3 months.

With 4th generation tests this is even lower. In practice, a negative result after three months means you do not have HIV.

## What is a 'false positive' test result?

A false positive test is when the test result shows positive but the person is really negative. This can happen with antibody tests when the test picks up antibodies for other infections.

Approximately 1.5% (15 out of every 1000) antibody only tests are a false positive. The fourth generation tests have a much lower chance of a false positive.

This means that a small percentage of people who test positive on a rapid test (where the results are given within an hour) may turn out to be HIV negative.

A second blood sample will be tested in a lab to look for this.

All positive laboratory tests in the UK are routinely confirmed using a second type of test called western blot that is 100% accurate.

## What if I still think I have HIV?

A few people test many times after one exposure. Even when the results are all negative they refuse to believe the results.

**If you have had more than one test and all results are negative, without any additional exposures, then you do not have HIV.**



## What happens if I am HIV positive?

**If your test results are positive with a rapid test then you first need a lab test to confirm the result.**

If your positive result came from a lab test, then the confirmatory test will already have been done.

If you are HIV positive then your test centre will arrange for you to speak with a doctor. It is important that you then have a few other tests to see how strong your immune system is.

You will need time to come to terms with this news.

With support and information this will become easier. Good information will help you to make informed decisions about your health.

Learning you are HIV positive is never great news. But HIV is now largely a treatable and manageable infection.

**HIV treatment can give you a normal life expectancy with a great quality of life.**

Even before the new treatments, HIV positive people wanted to continue to live life to the full. There are very few things that you can't do now because of this virus.

For further information or support then please contact i-Base via our website ([www.i-base.info](http://www.i-base.info)) or our treatment information phoneline.

### What if I am diagnosed in pregnancy?

HIV testing is routinely offered to every woman as part of prenatal care.

The almost universal use of HIV testing has reduced the number of babies born with HIV in the UK.

This is because diagnosing HIV during pregnancy allows the mother to receive treatment that also protects the baby. If your HIV is managed correctly, the UK has one of the lowest rates of transmission to the baby (less than 1%).

If you are diagnosed during pregnancy you should get special care and counselling.

For more information, see the testing section of the i-Base guide "HIV, Pregnancy and Women's Health".

<http://www.i-Base.info/guides>

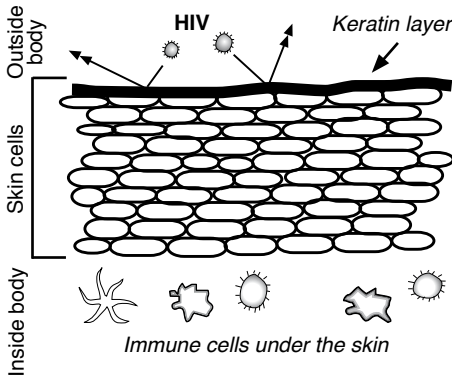
# Skin, mucous membranes and HIV transmission

**Figure 9 shows the cellular structure of skin compared to mucous membranes.**

Figure 10 shows the earliest stages of infection.

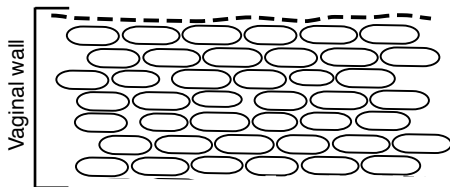
**Figure 9: Cell structure of skin and mucous membranes**

(a) Skin: tightly packed cells are a barrier to HIV



Most of your skin (on your hands, arms, legs, stomach, back, etc) is a thick layer of tightly packed cells that is further protected by a keratin layer. This stops HIV getting to the immune cells that it needs to infect.

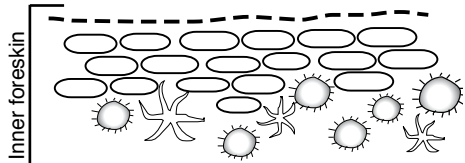
(c) Cells in the vagina wall



Mucosal tissue inside the vagina has many layers but the cells are more loosely packed.

HIV can get through loosely packed cells. This is why vaginal sex without a condom is such a high risk for a woman to catch HIV.

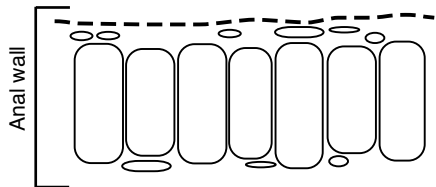
(b) Cells in the inner foreskin of the penis



Tissue on sexual organs can be different from skin. The inner foreskin is a mucous membrane with a thin layer of cells with no keratin layer that is easy for HIV to cross.

There may be a higher concentration of HIV target cells in the glans (penis head) of an uncircumcised man.

(d) Cells in the anal wall



The anus is also lined with a mucous membrane. This tissue is made up of a single layer of column shaped cells. This is even less of a barrier against HIV compared to the multiple layers of cells that line the vagina.

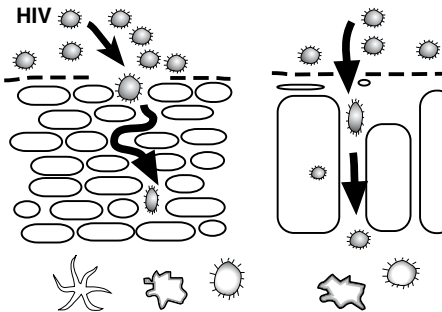
This is why unprotected anal sex is a much higher sexual risk for the receptive partner.

Electron microscope image of cells in anal wall



Figure 10: How HIV crosses skin or mucosal barriers

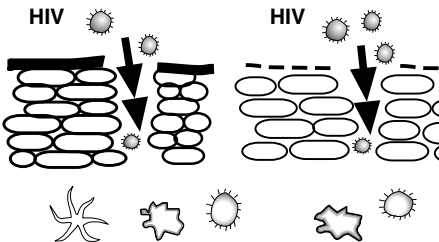
(a) Genital tissue is an easy target for HIV



Vaginal tissue, rectal tissue and the inner foreskin are all mucous membranes. Cells in mucous membranes are more loosely connected compared to skin.

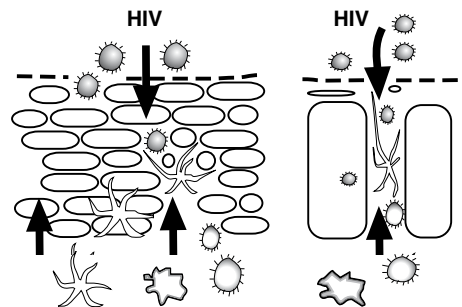
This makes it easier for HIV to penetrate.

(b) Tiny cuts or tears are an easy route for HIV



If you get a cut in your skin or your mucosal membranes have microscopic tears, HIV has an even easier way to reach target cells.

(c) Some STIs increase the risk of infection



Immune cells move up through skin cell layers to get closer to an infection

If you have a sexually transmitted infection (STI) your body sends immune cells to genital tissue. These immune cells move closer to the surface to reach the infection.

For most infections this is a good thing.

But this just makes it easier for HIV to establish an infection. These immune cells are the cells that HIV needs to target and infect.

Because there are more of these cells, and they are easier to find, some STIs increase the risk of acquiring HIV.

## Additional online information

Three appendices have been produced with this guide that include more technical details about HIV testing.

Print copies of this booklet do not include these sections which are all available online:

<http://www.i-Base.info>

These additional 14 pages are only available in the online and PDF versions.

### **Appendix 1: Different types of HIV test**

This section explains in detail the difference between the main types of tests used to test for HIV and when they are used.

These are:

- Antigen only (p24 tests). These are rarely used.
- Antibody only tests (Ab). These are rarely used because of more recent availability of joint Ag/Ab tests.
- Combined antibody-antigen tests. These are the most commonly recommended tests in the UK. These test for both antibodies to HIV and p24.
- Viral load tests (RNA PCR test)  
Viral load tests are not approved to diagnose HIV but are used in some circumstances.

### **Appendix 2: Theoretical risk, population risk & individual risk**

This section discusses the differences between individual risk and population risk. Sometimes what is a very small individual risk may still not be acceptable for many people.

It also includes a brief section about how difficult it is to judge risks and how we approach the idea of risk in daily life.

### **Appendix 3: How HIV tests work**

This section describes how HIV tests work in more detail.

Sometimes i-Base is asked technical details and so these might be useful for some people.

This section talks about antigens and antibodies and explains how each of these tests work.

It also explains the differences between Elisa and western blot tests.

It also includes more detailed information and the timing of different stages of early infection and seroconversion.

*If you do not have access to the internet please contact i-Base and we can post you a print out of these sections.*

## Feedback

Your feedback on this guide helps us develop new resources and improve this resource. All comments are really appreciated. Comments can be posted free to: i-Base, 107 The Maltings, 169 Tower Bridge Rd. London SE1 3LB.

Or made directly online at: <http://www.surveymonkey.com/s/Z9BP2FY>

1. How easy was the information in this guide to understand?

Too easy     Easy     Difficult     Too difficult

2. How much of the information did you already know?

None     A little     Most     All

3. Did this guide help you feel more confident when speaking to your doctor?

Yes, a lot     Yes, a little     Maybe     No

4. Which information did you find most useful?

5. Do you still have questions after reading this guide? Please give examples.  
Please include a contact email address if you would like us to reply.

6. Any other comments?

Contact details (if you would like a reply): Name \_\_\_\_\_

Email \_\_\_\_\_ @ \_\_\_\_\_

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Or order online: [www.i-Base.info](http://www.i-Base.info)

*If you post this form back, please consider filling in the feedback form on the reverse, answers will remain anonymous.*

The treatment guides listed below are written in everyday language.  
HTB is written in more technical medical language.

**Please send me**

**No. of copies**

<b>HIV testing and sexual transmission</b> ( <i>this guide</i> ) .....	_____	<input type="checkbox"/>
<b>UK Guide to PrEP</b> .....	_____	<input type="checkbox"/>
<b>Introduction to ART</b> .....	_____	<input type="checkbox"/>
<b>Guide to hepatitis C for people living with HIV</b> .....	_____	<input type="checkbox"/>
<b>HIV, Pregnancy and Women's Health</b> .....	_____	<input type="checkbox"/>
<b>Guide to Side Effects and Other Complications</b> .....	_____	<input type="checkbox"/>
<b>Treatment passport</b> (to record your treatment history) .....	_____	<input type="checkbox"/>

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## Further information

If you would like to talk to someone about **HIV treatment** contact the i-Base information service by phone or email.

**0808 800 6013**

**questions@i-Base.org.uk**

If you would like to talk about **HIV testing and the risk of transmission** call your local GUM clinic or the Terrence Higgins Trust on 0808 800 1221.

## Selected websites

The following websites include information on HIV, safer sex and sexual transmission of HIV.

- UK site for gay men and men who have sex with men  
<http://www.gmfa.org.uk>
- UK Health information organisations  
<http://www.hivscotland.com>  
<http://www.tht.org.uk>
- US medical site developed for younger people  
<http://www.iwannaknow.org>
- Information on health and sexuality  
[www.avert.org/young-gay-sex.htm](http://www.avert.org/young-gay-sex.htm)



WWW...

## References

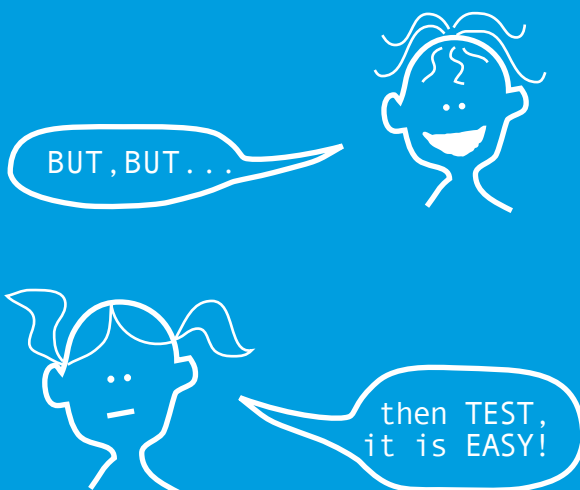
Full references for the medical information are available in the online version of this guide.

<http://www.i-Base.info/guides>

# Call us on 0808 800 6013

**i-Base Treatment  
Information Phonenumber**

**Monday to Wednesday  
12 noon to 4pm**



i-Base can also answer your questions by email or online

[questions@i-Base.org.uk](mailto:questions@i-Base.org.uk)  
[www.i-Base.info/questions](http://www.i-Base.info/questions)