

Royal Brompton and  
Harefield hospitals



Harefield Hospital

# Your coronary angioplasty





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This leaflet gives you general information about your coronary angioplasty. It does not replace personal advice from a qualified healthcare professional. If you have any questions, please ask your doctors and nurses.

## What is a coronary angioplasty?

Coronary angioplasty is a treatment to widen the main blood vessels that supply the heart with blood and oxygen. These blood vessels are called the coronary arteries. Narrowing of the arteries is caused by a build-up of a fatty substance called atheroma.

A coronary angioplasty is similar to a coronary angiogram. A thin flexible tube, called a catheter, is inserted into an artery in your wrist (radial artery) or groin (femoral artery). The catheter is guided through your arteries to your heart using X-ray images. A special dye is injected through the catheter, so the coronary arteries show clearly on X-ray.

Then a catheter with a balloon is guided through your arteries to your heart. The balloon is inflated and deflated to widen the narrowed artery and improve the blood flow. Usually, a small metal tube, called a stent, is left in place to keep the artery open.

## Before your coronary angioplasty


### Pre-admission appointment

About 1 to 2 weeks before your admission to hospital for a coronary angioplasty, you have a pre-admission appointment. We check your general health and fitness, make sure necessary tests have been done and answer any questions you may have.

The appointment is carried out by video using the Attend Anywhere secure web-based platform.

You can view a video and find out more information about Attend Anywhere on our video consultations web page:

[www.rbht.nhs.uk/patients-visitors/patients/outpatient-information/videoconsultations](http://www.rbht.nhs.uk/patients-visitors/patients/outpatient-information/videoconsultations)



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If you are unable to access the video platform, we can telephone you.

We try to keep to your appointment time as closely as possible. Please wait if your appointment is a little later than the arranged time.

If you do not speak fluent English, please have someone with you who will be able to translate.

A nurse consultant or clinical nurse specialist (CNS) carries out the appointment. We will ask you to discuss your health record, symptoms, allergies, and medicines.

**Before the appointment, please make sure you have:**

- an up-to-date prescription list as we will ask for the names and doses of any medicines you are taking
- details of your height and weight in metres and kgs
- a pen and paper ready to write down any extra information we give you
- watched the Explain my Procedure video of a coronary angioplasty (see page 5 for details)
- read the consent form

**During the appointment, we give you:**

- advice about any medicines you need to stop or start taking before coming into hospital
- information about the procedure and answer any questions you may have

Blood tests need to be taken no more than 6 weeks before you are due to be admitted into hospital. If you have not had any recent blood tests taken, we will arrange for you to come to Harefield Hospital to have them done.

You may need to have a test for MRSA (meticillin resistant staphylococcus aureus). MRSA is a common infection. We will let you know during your appointment if you need to be tested. If you have MRSA, we need to treat it before your coronary angioplasty. If we need to delay your coronary angioplasty, for any reason, we will explain what happens next.

## **Explain my Procedure video of coronary angioplasty**

Please watch our video about having coronary angioplasty before your pre-admission appointment.

To access the video, scan the QR code (shown right) with your smartphone or tablet. You then need to type in a password. The password appears in a printed version of this leaflet sent to patients having this procedure.



## **Do I have to attend a pre-admission appointment?**

Yes. The appointment is part of your admission to hospital. Even if you have had a coronary angioplasty (or coronary angiogram) before, certain parts of the procedure may have changed, and it is important you are well informed.

We may also find problems that need treatment before your admission to hospital – from an abnormal blood test, for example.

Unfortunately, if you do not attend your pre-admission appointment, we will have to rebook the appointment which may delay your admission to hospital.



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## **Benefits and risks of a coronary angioplasty, alternative treatment or having no treatment**

During the pre-admission appointment we discuss the benefits and risks of coronary angioplasty, alternative treatment or having no treatment. Please read more information about benefits and risks, alternative treatment or about having no treatment below.

### **Benefits of a coronary angioplasty**

Coronary angioplasty aims to widen narrowed coronary arteries and increase the flow of blood to the heart. The main benefit is that it can reduce symptoms of chest pain (angina). Widening the arteries may also reduce the risk of heart attack, and slow the progress of coronary artery disease.

### **Risks of a coronary angioplasty**

All medical procedures carry some risk. A coronary angioplasty is a relatively safe procedure and serious complications are rare.

Less than 1 in 100 people have a serious complication as a result of having a coronary angioplasty.

The risks depend on your overall health and the condition of your heart. Your doctor will discuss the risks specific to your condition.

## **Common risks**

### **Bruising**

1 in 100 people may have bruising caused by the insertion of the catheter. Sometimes the bruising is painful for a few days but disappears over time.

The bruising may cause blood to build up under the skin to form a lump (haematoma). The lump gradually disappears and does not normally need any treatment.

## Bleeding

1 in 100 people may have problems with bleeding from the artery when the catheter is removed. Bleeding is controlled by applying firm pressure.

## Feeling faint

1 in 100 people may feel faint. Fainting (also called vasovagal attack) is caused by a drop in blood pressure and heart rate. Feeling faint is treated by lowering the head of the bed, or raising your feet, and giving medicines. Intravenous fluids (fluids given straight into a vein) may also be given to increase the heart rate and raise the blood pressure.

## Abnormal heart rhythm

Less than 1 in 100 people may develop an abnormal heart rhythm. If treatment is needed, an electrical shock may be used to restore the heart's normal rhythm.

## Stroke

Less than 1 in 100 people have a stroke as a result of having a coronary angioplasty. The risk increases with age.

## Aneurysm

In less than 1 in 100 people the artery where the catheter was inserted during a coronary angioplasty does not heal completely. This may be at the radial artery or the femoral artery, depending on where the catheter was inserted.

This may lead to a bulging (swelling) in the wall of the artery, called a femoral or radial aneurysm. You may need a separate procedure to repair the aneurysm.

## Allergic reaction

1 in 100 people patients may have an allergic reaction to the dye used to show the blocked arteries. Allergic reactions may need to be treated with intravenous medicines.



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## Kidney injury

The dye we use during a coronary angioplasty could affect your kidney function. The risk is very low if your kidney function is normal before your coronary angioplasty.

However, the risk is higher if your kidney function is abnormal before the coronary angioplasty. The blood tests you have before you are admitted to hospital will show how well your kidneys function.

If your kidney function is abnormal before your coronary angioplasty, we give you fluids intravenously (through a vein) to protect your kidneys during the procedure.

Very rarely, if your kidney function is significantly abnormal before the procedure, kidney dialysis is needed to treat kidney problems after a coronary angioplasty. Kidney dialysis is a treatment to remove waste products and excess fluid from the blood when the kidneys stop working properly.

## Radiation

This procedure uses X-ray which is a type of radiation. There is a small risk that exposure to radiation used in an angioplasty may damage some cells in the body, possibly leading to cancer in the future. If you have any questions, please ask your doctor.

## Rare risks

### Heart attack

Less than 1 in 200 people have a heart attack (myocardial infarction or MI). A coronary angioplasty may cause damage to a coronary artery, causing it to suddenly narrow or block (a heart attack). Damage is treated by:

- inserting more stents
- using another vein or artery as a bypass to re-direct blood around the blocked arteries. This is called a coronary artery bypass operation.



## Infection

One in 500 patients develop an infection of the area where the catheter was inserted. Antibiotics may be needed to treat this.

## Damage to the heart

1 in 1,000 people may have a small tear in one of the chambers of the heart caused by the insertion of the catheter during a coronary angioplasty. This can lead to blood collecting around the heart. The blood may need draining, using a small tube inserted below the breastbone, or with a separate procedure.

## Damage to an artery

1 in 1,000 people may have damage to the radial or femoral artery. The damage may lead to bleeding or blockage of the artery. A separate procedure would probably be needed to correct the damage. Very rarely, the lack of blood supply may lead to the loss of a limb.

## Emergency open heart surgery

1 in 1,000 people may need to have open heart surgery for complications such as:

- a tear in a coronary artery
- a heart attack
- if medical equipment breaks and becomes stuck in the coronary arteries
- damage to the aorta (the main blood vessel in the body)

## Death

Less than 1 in 1,000 people die during a coronary angioplasty, as a result of their heart condition or other complications.

If you have any questions about these risks, please ask your doctor.



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## **Risks for patients with chronically blocked arteries or arteries which contain large amounts of calcium**

The risks of having a coronary angioplasty increase a little in patients with severe calcification in the coronary arteries (where bone-like calcium deposits form within arteries).

Up to 3 people in every 100 with severe calcification in the coronary arteries are at risk of having one of the complications detailed in this leaflet as a result of a coronary angioplasty.

This includes patients who are having the procedure to open:

- a chronically blocked coronary artery (CTO – chronic total occlusion)
- an artery which contains a large amount of calcium (heavily calcified, calcific disease).

The risks increase because extra treatment is often needed during the procedure to break-up the calcium build-up. Once the calcium is broken down the walls of the artery become much more flexible, allowing the artery to be expanded and a stent fitted.

### **Extra treatment may include:**

- Rotablation which involves opening up an artery by using:
  - a small drill
  - or a laser

Both the drill and the laser are on the tip of a catheter which is inserted and guided to the heart.

- Shockwave intravascular lithotripsy (IVL) therapy which uses sound waves – also called high energy shockwaves – to break down the calcium.

The Shockwave IVL is given using a specially designed catheter that is inserted and guided to the heart.

## Alternative treatments

Alternative treatments include medicines or coronary artery bypass grafting (heart bypass surgery), which involves a general anaesthetic (being put to sleep).

## Choosing no treatment

If you do not have a coronary angioplasty, your coronary artery disease may get worse, and your risk of heart attack may increase.

If you have any questions about your treatment options, please talk to your doctor.

## Preparing to come into hospital

### Medicines

We give advice about your medicines at your pre-admission appointment.

Please bring all your medicines with you when you come into hospital for your coronary angioplasty. This includes any medicines you take for other conditions, such as inhalers.

On the day of your coronary angioplasty, take all of your usual morning medicines (except for any medicines we have asked you to stop taking, see below and on page 12).

If you have any questions about your medicines, please ask your doctor or nurse.

### Warfarin and other blood-thinning medicines

You may need to stop taking warfarin or other blood-thinning medicines before your coronary angioplasty. We advise you about this at your pre-admission appointment.



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## Metformin

Please stop taking metformin 48 hours before your coronary angioplasty. You should start taking it again 48 hours after your coronary angioplasty.

## Diuretics (water tablets)

The coronary angioplasty may take around 1 to 2 hours, so you may prefer to stop taking any diuretics (water tablets) on the day of your coronary angioplasty.

There may be other medicines that you will need to stop before your procedure. We will talk to you about this during your pre-admission appointment.

## Medicines to reduce blood clots

Taking certain medicines after a coronary angioplasty can help to reduce the risk of blood clots.

You will need to take aspirin. You will also need to take clopidogrel, unless you are already taking clopidogrel, ticagrelor or prasugrel.

**If you are not already taking aspirin and clopidogrel, ticagrelor or prasugrel we may:**

Give you a prescription for aspirin and/or clopidogrel before your procedure. You will need to collect this prescription from Harefield Hospital pharmacy. If this is not possible, we can give the medicines you need when you are admitted to hospital.

You will need to continue taking aspirin for life and clopidogrel, ticagrelor or prasugrel for at least a year after your coronary angioplasty. Some patients need to continue to take both these medicines long-term.

Your doctor or nurse will discuss your medicines with you before you go home.

## Female patients

A coronary angioplasty uses X-rays that may be harmful to an unborn baby.

If you think you may be pregnant, please contact the patient pathway schedulers on **01895 828 963**.

If you have not had a period in the 10 days before your coronary angioplasty, we will carry out a pregnancy test when you come into hospital.

## Eating and drinking

You may have breakfast on the morning of your procedure.

You may drink water until it is time for your procedure. During your pre-admission appointment, we remind you when you can eat and drink.

## Shaving

Please do not shave or remove hair from your chest, arms, legs or groin before coming into hospital. If needed, shaving is done in hospital just before your coronary angioplasty.

## Hygiene

It is extremely important that you have a thorough shower or bath the night before you come into hospital. Please pay special attention to washing under skin folds such as under the breasts, the groin and genital area. When you attend for your blood tests, we will give you an antiseptic body wash to use the night before and the morning of your admission. Alternatively, this is posted to you.



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## **Complete and send the consent form**

Please make sure you have completed the consent form giving your permission for treatment. The easiest way to do this is to use the web link to the online (electronic) version of the form. Just click on it, tick the boxes and submit the form.

Do not worry if you are unable to do this, we will complete your consent form with you when you are admitted to hospital.

## **What to bring into hospital**

Remember to bring:

- any forms we have asked you to complete
- all your medicines
- a dressing gown
- slippers that fit well and have a good grip
- your washbag with toiletries, such as a toothbrush and toothpaste
- something to read

## Date of your coronary angioplasty

If you have any questions about the date of your coronary angioplasty, or you need to change the date, please contact the patient pathway schedulers on **01895 828 963**.

## Bed confirmation

Your admission letter tells you to go to the acute cardiac care unit (ACCU) or the Cherry Tree day case unit for your coronary angioplasty.

### If you are going to:

- ACCU – call the ward before you leave home to make sure a bed is available. If there is not a bed available, we will explain what happens next.
- Cherry Tree Day Case unit – you do not need to call the unit to make sure a bed is available.

We ask you to arrive at the hospital at either 7.30am or 10.30am on the day of your admission. We confirm the time during your pre-admission appointment.

## Arriving at hospital

Please go to the main reception and ask for the admission office. An admissions officer will check your details and direct you to the ward.

### On the ward

When you get to the ward, a nurse shows you a bed/chair, where you wait for your coronary angioplasty. The nurse checks that nothing has changed since your pre-admission appointment. You have a cannula (small plastic tube) placed in your arm/hand to enable us to give you medicines. You are asked to sign the consent form for the procedure if this did not happen in the pre-admission clinic. You have plenty of time to ask any further questions you may have about the procedure.



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On ACCU – male and female patients usually share the same ward but have separate bays and bathrooms. There are exceptions, when we have emergency admissions, for example.

The Cherry Tree day case unit is a mixed-sex ward. We do try to separate male and female patients on the unit, although sometimes that is not possible.

Patients asked to arrive at 7.30am usually have their coronary angioplasty carried out first.

We try to keep waiting times to a minimum, but sometimes there are delays when other patients need to be seen in an emergency. We will keep you informed of any changes.

If you have any questions, please ask the nurse looking after you or the matron.

## **What happens during your coronary angioplasty?**

You have your coronary angioplasty in a cardiac catheterisation laboratory (cath lab). The coronary angioplasty takes about 1 to 2 hours.

A local anaesthetic is injected in your wrist or groin, to numb the skin. Then a small cut is made, to insert a small tube into the artery.

The procedure is done under a local anaesthetic so you will be awake throughout. If you feel anxious you can have a sedative. A sedative is a medicine that calms you down.

The doctor inserts the catheter through the small tube and guides it gently towards the heart. The doctor watches the catheter on a TV monitor, using a low dose X-ray. This is called fluoroscopy.

When the catheter reaches your heart, the doctor injects a special dye into the arteries. The dye shows any narrowed areas or blockages in your arteries on the X-ray.



After the dye is injected, you may feel warm, flushed and as though you need to pee for a few seconds. You may also feel an occasional missed or extra heartbeat, but you should not have any pain.

We take a few X-ray images. The doctor may also ask you to take a few deep breaths and hold your breath.

The doctor then inserts a different catheter, with a small inflatable balloon at the tip.

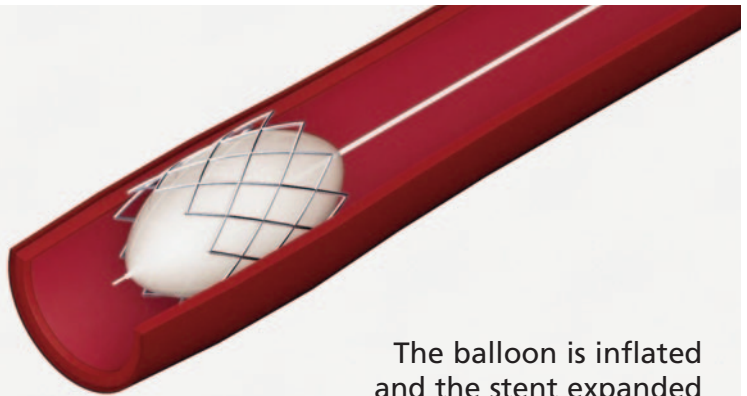
## Images showing a balloon and stent inside an artery

Copyright Explain my Procedure



The catheter containing the balloon and stent is inserted

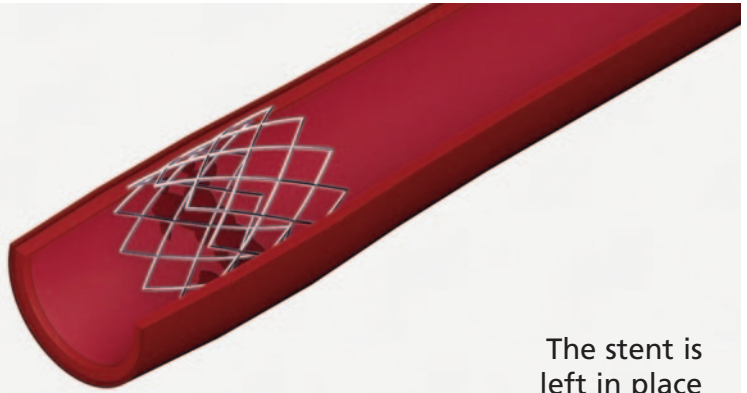
Copyright Explain my Procedure



The balloon is inflated and the stent expanded



The balloon is deflated and removed



The stent is left in place

When the catheter reaches the narrowed area of the artery, the balloon is inflated and deflated. The balloon squashes the atheroma against the walls of the artery to widen the artery and improve the blood flow. The balloon is inflated and deflated several times.

Usually, the doctor puts a small expandable metal tube, called a stent, in the artery, to keep the artery open. The stent is mounted on a balloon and as the balloon is inflated the stent is pushed into the wall of your artery. The balloon is then deflated and removed, leaving the stent in place.

If you sometimes get angina (pain in the heart), you may have chest pain during your coronary angioplasty, but it should not be worse than usual.

During the coronary angioplasty, we use a heart monitor to check your heart rate and rhythm. If you have new pain or other symptoms, such as shortness of breath, please tell a doctor or nurse.

When your coronary angioplasty is finished, the doctor removes the catheter and the tube.

You have a small wound in your wrist or groin, where the catheter has been removed. The doctor applies firm pressure to stop bleeding from the wound.

If your coronary angioplasty is carried out through:

- your wrist – the doctor puts a band called a TR band on your wound. The TR band is inflated with air, to stop bleeding.
- your groin – the doctor may use a small plug, called an angioseal, to stop bleeding. The angioseal is made of collagen and is absorbed by the body over 90 days.


## After your coronary angioplasty

After your coronary angioplasty, we will take you back to the ward. You need to rest in bed or in an armchair for 1 to 2 hours, and have some food and drink when you feel ready.

If you have a TR band, the nurses will gradually remove the air, and then remove the band, and apply a dressing.

The nurses will monitor your pulse, blood pressure and may use a heart monitor to check your heart rate and rhythm.

You will need to stay in hospital for at least 4 hours after your coronary angioplasty.



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We expect you to get up, dressed and moving as soon as possible after your procedure. Being active will help you to recover more quickly.

## Visiting times

Please contact the ward that you are going to be admitted to for details of visiting times.

## Going home

You will need to arrange for someone to take you home after the treatment. This is because you must not drive for 7 days after your coronary angioplasty.

You will be able to go home on the same day as your coronary angioplasty, or the next day.

Your admission letter will say if we think you need to stay in hospital overnight.

Before you go home, we ask you to walk up and down the ward several times to make sure that the wound in your wrist or groin has healed adequately.

If you go home on the same day as your coronary angioplasty you will need to have someone to stay with you for the first night.

If you have any questions once you are at home, please contact the ACCU or Cherry Tree day case unit (see Useful contacts on page 23).

If you feel you need treatment urgently, please contact your GP, or go to the nearest accident and emergency (A&E) department.

**Please remember that Harefield Hospital does not have an accident and emergency (A&E) department.**

## Medicines

Before you go home, the ward nurse gives you a supply of clopidogrel (if you do not take ticagrelor or prasugrel). You will need to take clopidogrel, ticagrelor or prasugrel for a year after your coronary angioplasty, or possibly longer. Your doctor or nurse will tell you how long to take the tablets. You will need to get more tablets from your GP. We will advise you about the other medicines you need to take and will supply you with any other new medicines we prescribe.

We will also give you information on how to care for yourself after your coronary angioplasty.

## Cardiac rehabilitation

After your coronary angioplasty you may see a member of the cardiac rehabilitation team to talk about your recovery and risk factors for heart disease, or a member of the team will arrange to have an appointment by video or phone with you within 48 hours of your discharge from hospital. You will be given an information pack before you go home.

You will be invited to take part in a cardiac rehabilitation programme to help with your recovery. This may include education and exercise sessions at Harefield Hospital or your local cardiac rehabilitation centre.

## Getting back to normal

We give you a leaflet called 'After your angiogram or coronary angioplasty' that gives more information about your recovery.

## Work

It is normal to have one week off work after your coronary angioplasty. Please discuss this with your doctor or nurse.



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## Exercise

For a week after your coronary angioplasty, walking is the only exercise you should take.

Start by walking short distances and gradually build up. Rest after walking and avoid heavy lifting to give the small wound in your wrist or groin a chance to heal.

You should be back to normal by the end of the week. If you have any questions about exercise, please ask your doctor or nurse.

## Hygiene and wound care

You have a dressing on your wound when you go home. You can take the dressing off the next day.

You may have some bruising and a little tenderness around the wound. Remember to keep the wound clean and dry. It is okay to have a shower, but do not have a bath for 24 hours after your coronary angioplasty.

## Driving

You must not drive for one week after your coronary angioplasty. This is a DVLA regulation.

If you hold a bus, coach, or lorry licence you must inform the DVLA about your coronary angioplasty. This is also a DVLA regulation.

You can find more information on the DVLA website:

[www.gov.uk/coronary-angioplasty-and-driving](http://www.gov.uk/coronary-angioplasty-and-driving).

## Follow-up appointment

You will have a follow-up appointment. We will give you an estimated time for the appointment before you leave hospital. You will then get a letter with the date and time.

## Useful contacts

ACCU	<b>01895 828 667</b> or <b>01895 828 648</b> (24 hours)
Pre-admission co-ordinators	<b>01895 828 827</b> (Monday to Friday, 8am to 4pm)
Patient pathway schedulers	<b>01895 828 963</b> (Monday to Friday, 8am to 4pm)
Cherry Tree day case unit	<b>01895 828 658</b> (Monday to Friday, 7.15am to 8pm)
Cardiac rehabilitation team	<b>01895 828 944</b> (Monday to Friday, 8am to 4pm)

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If you have concerns about any aspect of the service you have received in hospital and feel unable to talk to those people responsible for your care, call the Patient Advice and Liaison Service (PALS) on:

- Royal Brompton Hospital – 020 7349 7715
- Harefield Hospital – 01895 826 572

You can also email [pals@rbht.nhs.uk](mailto:pals@rbht.nhs.uk). This is a confidential service.

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Phone: 0330 12 88121

Website: [www.rbht.nhs.uk](http://www.rbht.nhs.uk)

Royal Brompton and Harefield hospitals are part of Guy's and St Thomas' NHS Foundation Trust

إذا كنت ترغب في الحصول على ترجمة فورية لمضمون هذه الوثيقة إلى اللغة العربية، يرجى منك الاتصال بأحد مستخدمينا بجناح المصلحة التي يتم فيها استشفائك. أحد موظفينا سيسعى لترتيب إجراءات الترجمة وإتمامها في الوقت المناسب لك.

Brosurteki bilginin Türkçe tercemesi için tedavi görüyor olduğunuz bölüme bas vurunuz. Bölüm personeli tercemenin gerçekleşmesini en kısa zamanda ayarlayacaktır.

