

Study Guide for Kidney Transplant Recipients





Welcome to the Mercury Study

Thank you for choosing to take part in the Mercury Study. We are grateful for your commitment to help us learn more about a potential new treatment for people receiving a kidney transplant.

You will be part of a group of up to 75 people who require a kidney transplant and are participating in this study at about 40 study centers in the United States.

This guide contains information to help you understand what to expect during study visits and throughout the entire study. Your safety and well-being are important to us, so if you have any questions or concerns about the study, please contact the study team using the information provided on the back of this guide.

About the Mercury Study

When receiving a donor kidney, there is always the risk of rejection because your immune system might see the kidney as “foreign” and attack it. To help stop this, high doses of anti-rejection medication are usually given.

The Mercury Study will look at how safe an investigational therapy (a potential new treatment that is still under development) is and whether it can help people receiving a kidney transplant to avoid the need for long-term anti-rejection medications.

The investigational therapy is a preparation of stem cells from the blood of your matched kidney donor. Stem cells can develop into all of the different types of blood cells in the body, including those of the immune system. Researchers believe that giving you stem cells from your matched kidney donor may help your immune system accept the kidney transplant without the need for anti-rejection medications.



What will happen during the Mercury Study?

- Your participation in the Mercury Study will begin about 2 months before you receive the kidney transplant and will last for 3 years after receiving the transplant.
- You will have 1–3 study visits before the transplant, up to 8 study visits after receiving the transplant (depending on the length of your hospital stay), and about 60 study visits for the rest of the study.
- Once you are enrolled in the study, you will be randomly (by chance) assigned to 1 of 2 groups. Approximately 50 donor/recipient pairs will join the investigational group and 25 donor/recipient pairs will join the control group.
- You will have health assessments and medical procedures at the study visits after the kidney transplant, and for up to 1 year afterward. During the follow-up period, the study team will check the health of your kidney as well as your general health.

How will you receive the investigational therapy?

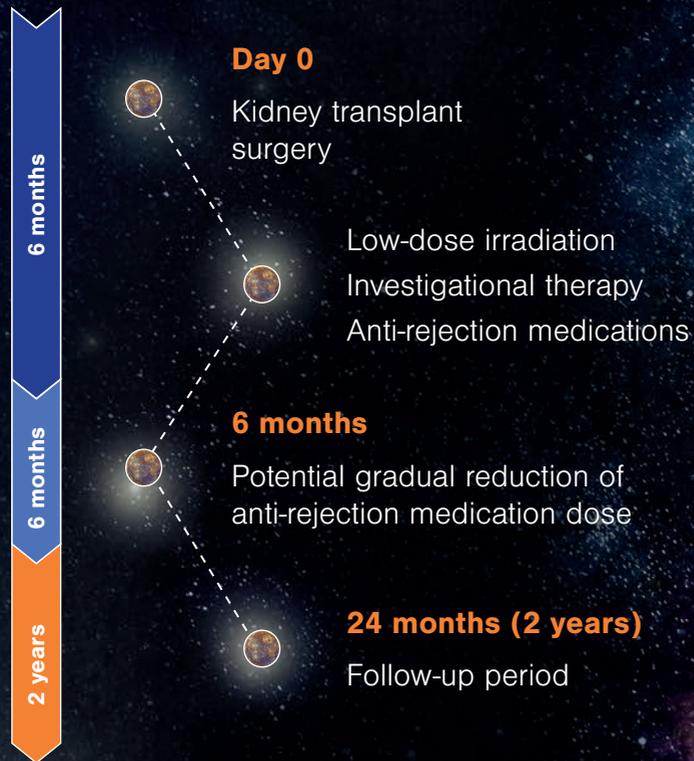
Investigational group

- You will receive the investigational therapy by infusion (a needle into a vein) about 11 days after your transplant. Before receiving the investigational therapy, you will have 2 procedures referred to as “conditioning”. The first will be an infusion of medication (called anti-thymocyte globulin [ATG]) that will remove some of your immune cells from circulation. In the second “conditioning” procedure, you will have 10 doses of irradiation (like an X-ray) directed at your chest and stomach area that will also remove some of your immune cells. You will also receive several types of medication that are commonly used after a transplant, including:
 - **Anti-inflammatory medication:** to reduce the chance of side effects from your short-acting immunosuppressive medications
 - **Immunosuppressive medications:** to stop your immune system from attacking the transplanted kidney
 - **Anti-microbial medications:** to help reduce the risk of infections (e.g. from bacteria).

Control group

- Following the kidney transplant, you will receive standard immunosuppressive medications prescribed by your study doctor and have health checks for 3 years.

Investigational group



Control group



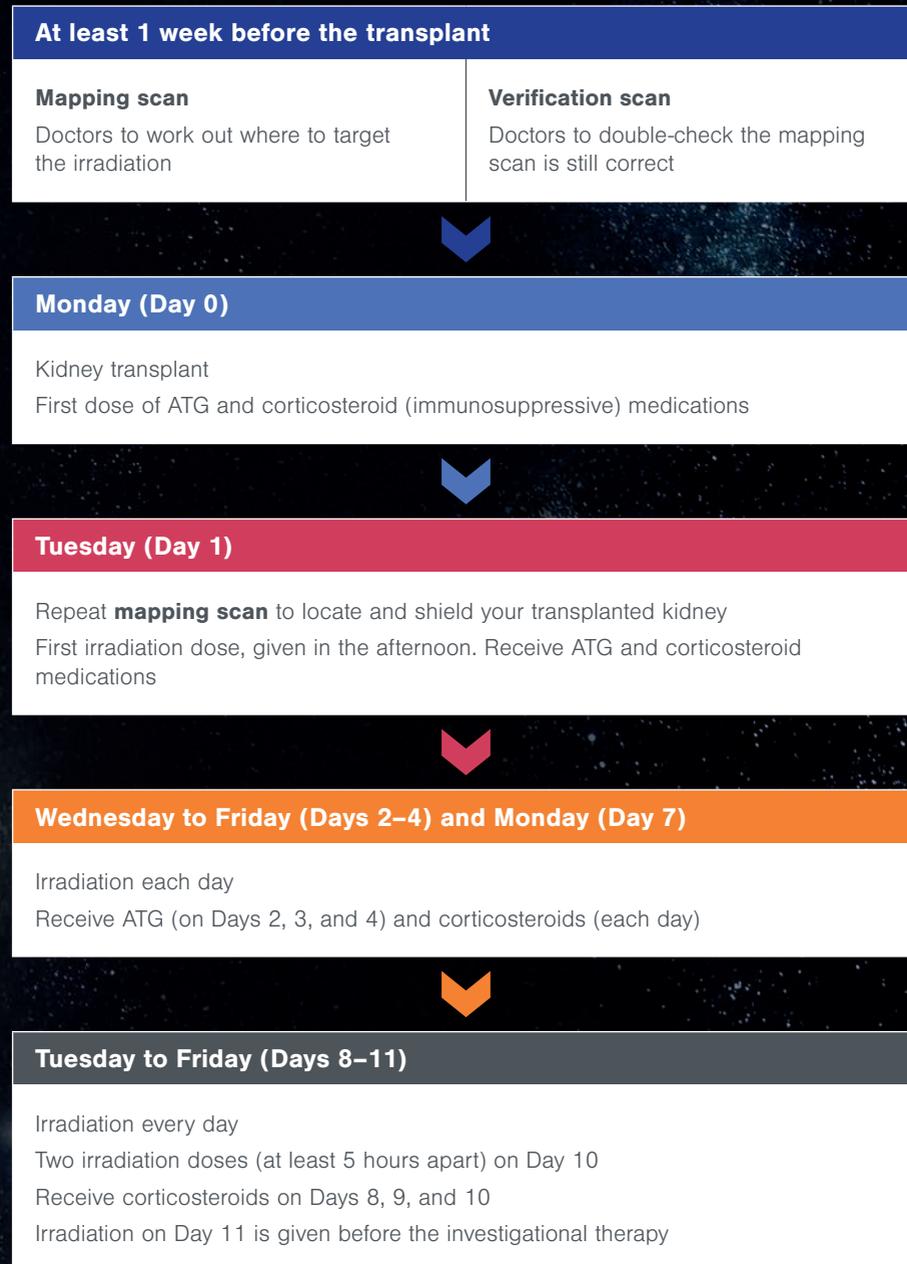
Irradiation

As mentioned previously, if you are in the investigational group, you will receive low-dose irradiation. The irradiation will be aimed at **lymph nodes** in 3 areas of your body: your neck/chest/arm pits, your stomach/spleen, and your groin/pelvis. Lymph nodes are small, bean-shaped glands that are part of your immune system.

- You will receive 10 individual doses of irradiation. On some days, you will receive 2 irradiation doses, at least 5 hours apart.
- At least 1 week before your kidney transplant, you will need to have 2 computerized tomography (CT) scans performed from your neck to your mid-thighs. CT scans form a detailed image of the inside of your body, so that the doctor knows where to direct the irradiation.
- You will receive the first week of irradiation as an inpatient at the hospital, and the rest of your irradiation will be given to you as an outpatient (not staying in the hospital).

The diagram on the next page explains what will happen if you have your kidney transplant on a Monday. It is possible that you will have a different schedule than the one shown here, but you will receive all 10 irradiation doses within 3 weeks of your transplant. Your study doctor can explain this to you in more detail.

Irradiation schedule



What else do you need to know about the irradiation?

- Your first irradiation session will last for 45–60 minutes. Sessions after this may be faster.
- When you receive your irradiation, your organs (such as your heart and lungs) will be shielded from the machine.
- You will need to lie on a table to receive irradiation. The irradiation will be delivered from the front and back, from your neck to your pelvis. You will need to stay still – the table and machine will move.
- Although you will be alone in the room during your sessions, the irradiation technicians can see and hear you at all times. If you need help, they are immediately available.
- The irradiation rooms have audio systems, so you can listen to music.
- Your blood counts (e.g. white blood cells, platelets) will drop soon after you start this irradiation. This is normal and expected, but it means that you should avoid being around anyone who is sick. While you are in the hospital, you may be given a mask to wear.

Risks from the irradiation

- Rarely, people can experience some nausea, but this is usually related to the ATG. Please let your nurses know if you experience any nausea as a pre-medication can be given to help with this.
- As you will be receiving a relatively low dose of irradiation, you should not have any skin reactions or hair loss.
- You may be at an increased risk from certain infections caused by viruses, such as shingles, during the first 2 years after irradiation.
- People who receive irradiation to the neck may develop hypothyroidism (when the thyroid gland does not produce enough thyroid hormone). You will be monitored for this, and receive a low dose of replacement synthetic (man-made) thyroid hormone if you need.
- There is a rare risk of cancer related to irradiation.
- Sterility may develop if your ovaries/testes are not protected during irradiation. Because of this, your ovaries/testes will be shielded while you receive irradiation.



What are your responsibilities during the study?

- Please attend all study center visits and follow the instructions the study team gives you. Let the study team know if you need to reschedule an appointment.
- Tell the study team immediately about any side effects or other changes in your health. Let the study team know if you have had any doctor visits or have been at the hospital for any reason.
- Tell the study team about all medications you are taking and any medical procedures you have had.
- Inform the study team about any changes to your medications or if you are planning to have any medical procedures.
- If you are a woman who is able to have children, you must agree to use 2 methods of birth control from about 3 weeks before the kidney transplant until at least 3 months after the kidney transplant to avoid pregnancy. The study doctor will discuss suitable methods of birth control with you.
- If you are a man, you must agree to use a condom from the screening visit until at least 3 months after the transplant.



Health assessments and procedures at the study visits

This table shows the health assessments and medical procedures you can expect during the study periods.

Icon key			
	Vital signs and weight		Questions about your current medications and medical procedures
	Physical examination		Questionnaire
	Questions about changes in your health		Urine test
			Blood test
			Kidney biopsy
			Pregnancy test
			Intravenous infusion of medication
			Medication to be taken by mouth
			Irradiation

	Investigational group	Control group
Period before the kidney transplant (6 weeks to 1 day before the transplant)	 	 
Day of kidney transplant (Day 0)	 Immunosuppressive and anti-inflammatory medication  Anti-microbial medication	 Immunosuppressive medication  Anti-microbial medication
Period directly after the kidney transplant (Day 1–12 after the transplant)	     (Days 1–4, 7, 10–12)  (Days 1–4, 7–11)  Corticosteroids, ATG (Days 1–4)  Antibacterial medication (for 1 year), antiviral medication (for 6 months)  Investigational therapy (Day 11)  Immunosuppressive medication (Day 11–39)   Anti-rejection medication (ongoing)	     (Days 1–4, 7, 10–12)  Immunosuppressive medication  Anti-microbial medication

Health assessments and procedures at the study visits (continued)

	Investigational group	Control group
Extended period after the kidney transplant (2 weeks to 1 year after the transplant)	 (as needed)	 (as needed)
	 (Day 30 and every 30 days)	 (Day 30 and every 30 days)
	 (Days 90, 180, 270, 365)	 (Days 90, 180, 270, 365)
	 (Days 180 and 365)	 (Days 180 and 365)
	 (Days 14, 30, 44, 180, 365)	 (Days 14, 30, 44, 180, 365)
	 (Days 180 and 365)	 (Days 180 and 365)
	 (Days 180 and 365)	 (Days 180 and 365)
	 (Days 14, 30, 90, and every 30 days; Days 44, 75, and every 30 days; Days 180 and 365)	 (Days 14, 30, 44, 75, 90, 180, 365, plus every 30 days)
	 Anti-microbial medication (ongoing)	 Anti-microbial medication
  Anti-rejection medication (ongoing)		
Follow-up period (1 year to 3 years after the transplant)	 (as needed)	 (as needed)
	 (Days 425, 485, 545, 620, 710, 760, and then every 30 days)	 (Days 425, 485, 545, 620, 710, 760, and then every 30 days)
	 (Days 730 and 1095)	 (Days 730 and 1095)
	  (at 2 and 3 years)	  (at 2 and 3 years)
	 (at 2 and 3 years)	 (at 2 and 3 years)
	 (Day 395 and then every 30 days; Day 380 and then every 30 days until Day 710; Days 425, 485, and 545, and then at 2 years, 3 years, and as needed)	 (Day 395 and then every 30 days; Day 380 and then every 30 days until Day 710; Days 425, 485, and 545, and then at 2 years, 3 years, and as needed)

What health assessments should you expect at the study visits?

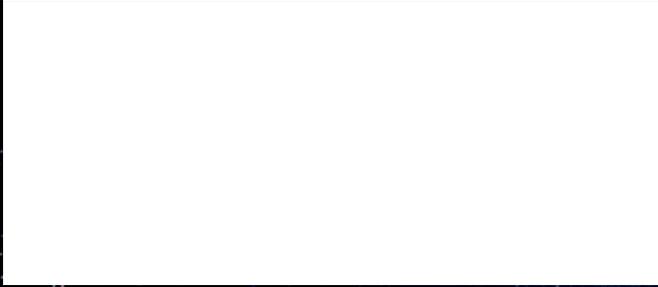
The study team will do the following health tests and assessments during study visits:

Assessment	Description
 Vital signs and weight	Your blood pressure, heart rate, breathing rate, and body temperature will be measured. Your body weight will also be recorded.
 Physical examinations	This may include an assessment of your general appearance, head and neck, eyes and ears, neck, nose and throat, chest, lungs, heart, stomach, muscles, joints, lymph nodes, and skin and nerves, depending on your symptoms.
 Blood tests	Blood samples will be taken for a variety of tests, including tests that assess the composition of your blood, how well your blood clots, whether you have any viral infections, and the levels of proteins and electrolytes (minerals) in your blood.
 Urine tests	A sample of your urine will be collected to check the health of your kidney.
 Pregnancy tests	If you are a woman who is able to have children, you will have a pregnancy test at screening and within 1 week before the transplant.

Assessment	Description
 Questionnaire	You will be asked to fill out a questionnaire about your general health, how you feel, and how well you can perform your daily activities.
 Questions about changes in your health	You will be asked if you have had any side effects or changes in your health, and if you have visited the doctor's office or hospital.
 Questions about your current medications and medical procedures	You will be asked if there have been any changes to the medications you are taking, and if you have had, or are planning to have, any medical procedures.
 Kidney biopsy	This involves placing a thin needle through your skin into the transplanted kidney to remove a small piece of tissue for examination. This will happen under local anesthesia.

Contact information

If you have any questions or concerns about the study, or you notice a change in your health, please contact the study team immediately.



*Thank you for taking part in the
Mercury Study!*