A guide to understanding

Cancer Clinical Studies

This guide is for patients and caregivers who want to learn more about clinical studies

How can this guide help me?

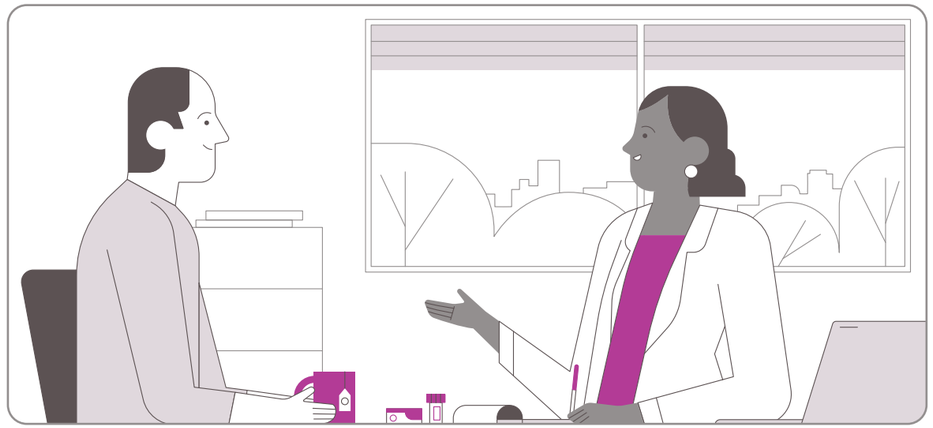
This guide explains key concepts about cancer clinical studies (also referred to as clinical trials) to help you have meaningful conversations with your doctor.

After reading this guide, we hope that you will feel comfortable:

- Playing an active role in your healthcare, which may include enrolling in a clinical study
- Having open and honest conversations with your doctor
- Asking your doctor any questions you may have about clinical studies

Chapter 1

Starting the conversation about clinical studies



What are clinical studies?

A clinical study is a type of research that involves human volunteers and looks at **investigational or study treatments,** such as medicines, vaccines, or medical devices, for benefits and risks. A clinical study is sometimes also called a *clinical trial*. Your doctor may have questions about the benefits and risks of an investigational treatment, and clinical studies help find answers about better ways to prevent, screen (or look) for, diagnose, or treat a disease. Before any investigational treatment is approved by the United States Food and Drug Administration (FDA) and becomes available to patients, it is carefully studied by a clinical study team.

It is important to know an investigational treatment is a treatment that is being studied and is not approved by the United States Food and Drug Administration (FDA)

Why are clinical studies important?

Clinical studies may help your doctor learn more about a disease and improve medicine. Joining a clinical study can make a difference in the care of future patients by providing important information such as if an investigational treatment works in a certain disease or explore ways to improve comfort and quality of life.

The main questions that clinical studies help answer are:

1. **What are the potential risks associated with the investigational treatment?**
2. **Does the investigational treatment work? How well does it work?**

You may hear the terms **benefits and risks** when learning about a clinical study. You and your doctor would talk about the potential pros and cons of an investigational treatment in detail before deciding if it would be right for you.

Benefits can be seen as something that potentially helps improve your health outcome or helps you feel better.

Risks can be any potential side effects that you might experience.

How do I decide if enrollment in a clinical study may be right for me?

You and your doctor will work together with the goal of deciding if a clinical study may be right for you. Your doctor will give you information about different investigational treatments to help you decide what may be appropriate for you. This could include considering the impact on daily activities and possible side effects from the investigational treatment.

There may be times when you may have to start the conversation and ask your doctor if there are any available clinical studies for which you may be a good fit.

It is important to know you can always get a **second opinion** from another doctor to help you decide if a clinical study is right for you. The decision to enroll in a clinical study may not be an easy one to make. Getting a second opinion can help you feel more comfortable and confident with your decision.

If you are interested in learning more about clinical studies, feel free to ask your doctor or healthcare team. They can provide you with more information and address any questions or concerns you may have.

Chapter 2

Understanding clinical studies: Taking a closer look at what clinical studies measure

What types of measurements are there?

For every participant in a cancer clinical study, the clinical study team uses two common types of measurements to check the potential benefits of an investigational treatment. The first measurement is the change in the amount of cancer and the second is the time it takes to experience a change.

AMOUNT
Change in the amount of cancer

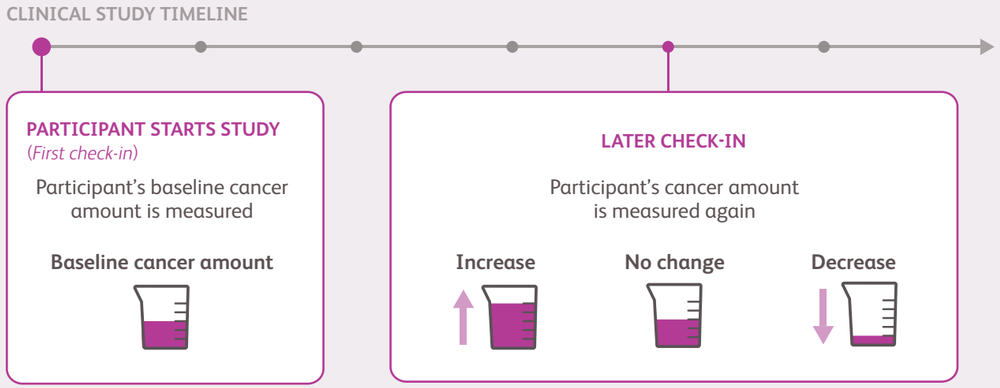
TIME
Time it takes to experience a change

In addition to measuring benefits, the clinical study team also measures risks. The assessment of benefit and risk measurements are reported as clinical study results.

How does a clinical study team figure out the change in the AMOUNT of cancer?

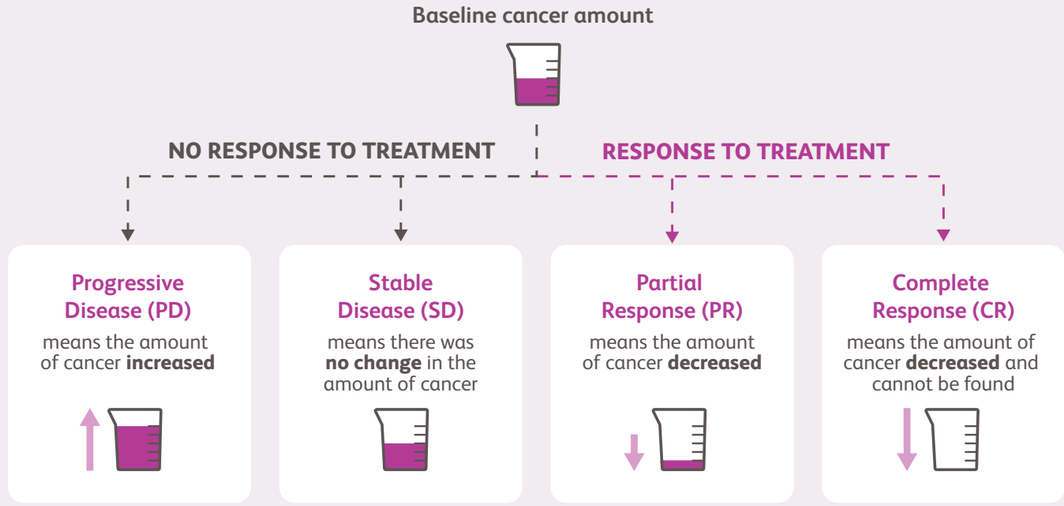
A clinical study team measures the change in the amount of cancer by looking at the difference between the starting, or baseline, amount and the amount of cancer at later scheduled check-ins.

At the scheduled check-ins, a clinical study team will measure if there was an increase, a decrease, or no change in the amount of cancer. This measurement shows if a clinical study participant is responding to the investigational cancer treatment being studied.



What does *response to treatment* mean?

A clinical study team uses a standard way to measure how well a participant responds to study treatment. There are 4 types of response a participant could have. The response type is based on whether there is an **increase**, **no change**, or **decrease** in the amount of cancer.



If the amount of cancer decreased for a participant, it means that there was a **response to treatment** compared to the baseline amount of cancer. It is important to remember that each participant's baseline amount of cancer is different. A clinical study team will record each participant's category of response based on their individual starting amounts.

It is important to know a complete response does not necessarily always mean the cancer has been cured. A participant will continue to be monitored for signs of the cancer returning and to see if additional treatment is needed.

How are these measurements reported?

First, a clinical study team calculates the total number of participants who responded to study treatment. Then, they divide this number by the number of all participants in the study. The result is a percentage called the **overall response rate (ORR)**—the percentage of patients whose cancer shrinks or disappears after study treatment.

$$\frac{\text{number of respondents}}{\text{number of all participants}} = \text{ORR (\%)}$$

How does the clinical study team figure out the TIME for a change to occur?

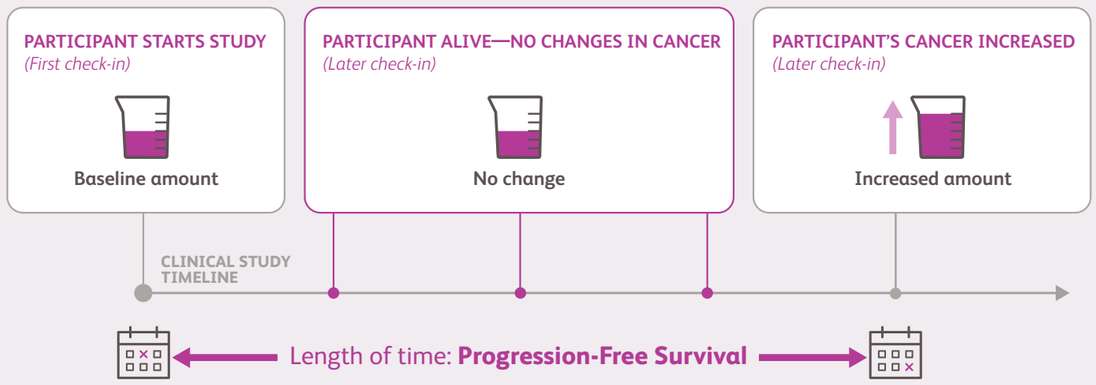
In addition to measuring the amount of cancer, a clinical study team will also measure time. The length of time will be measured between when a participant starts the study and when a participant *experiences a change.*

A change has occurred when:

- A participant shows signs of cancer growing or spreading
- A participant passes away

What time-related measurements does a clinical study team take?

One measurement is the average length of time after the start of study treatment in which a participant is alive and their cancer does not grow or spread. This length of time is called **progression-free survival (PFS)**. This measurement does require a clinical study team to consider the amount of cancer.



What time-related measurements does a clinical study team take? *(continued)*

Another measurement that the clinical study team takes is the average length of time participants are alive after the start of study treatment. This length of time is called **overall survival (OS)**. This measurement does not look at changes in the amount of cancer.

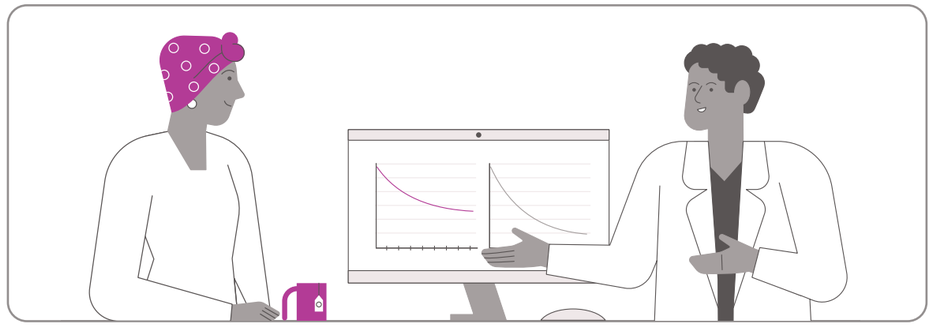
How are these measurements reported?

The clinical study team collects everyone's measurements and turns them into a graph. This information is reported as progression-free survival and overall survival results, usually shown in months or years.

In the next chapter, we will review what these graphs could look like and how you and your doctor would read them.

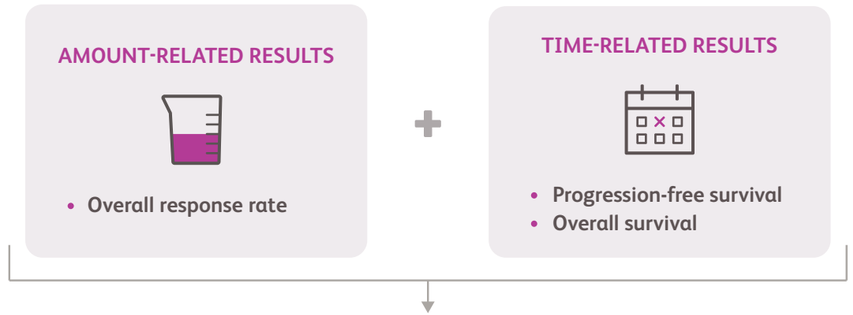
Chapter 3

Evaluating clinical study results



How does my doctor use clinical study results to evaluate investigational treatment benefits and risks?

Your doctor will examine the amount-related and time-related results. They will interpret this information and focus on the potential benefits and risks of the investigational treatment. These details will also reveal if you may be eligible for a clinical study.



It is important to know your doctor will look at your potential individual benefits and risks, like your age and other health conditions, when evaluating if an investigational treatment is right for you.

How does my healthcare team interpret overall response rate (ORR) to evaluate study treatments?

Your doctor counts the number of participants who responded to study treatment and calculates the overall response rate (ORR). ORR is the percentage of patients whose cancer shrinks or disappears after study treatment.

Let's walk through an example clinical study.

Imagine there were 10 participants who received a study treatment: **10**

By the end of the study, a clinical study team measured the following:

DID NOT RESPOND TO STUDY TREATMENT **4**

RESPONDED TO STUDY TREATMENT **6**

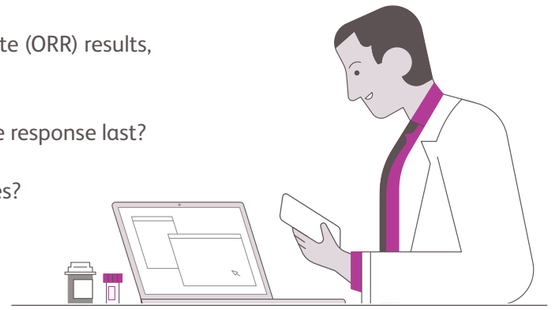
In this study, a total of 6 out of 10 participants responded to study treatment. So the overall response rate result is published as: **"ORR is 60%"**

It is important to know that each participant's response to treatment can be different. The starting amount of cancer, how long a response lasts, and how well the participant feels may all be looked at during the clinical study.

What other response-related information will my doctor look at?

In addition to looking at the overall response rate (ORR) results, your doctor may also consider the following:

- If a participant responded, how long did the response last?
- What was their quality of life like?
- Was there any change in their daily activities?

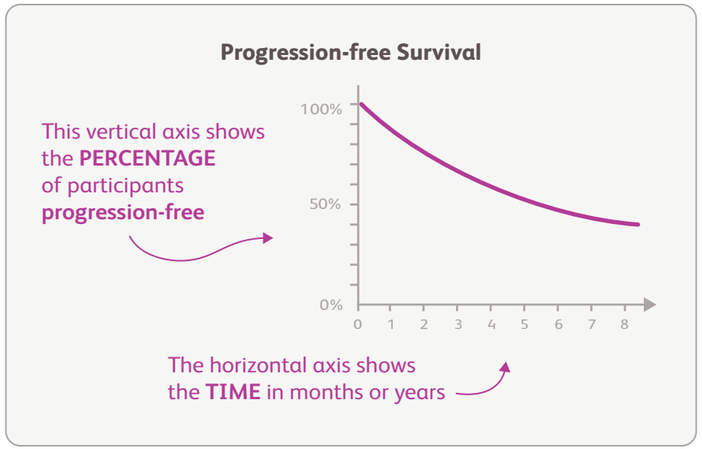


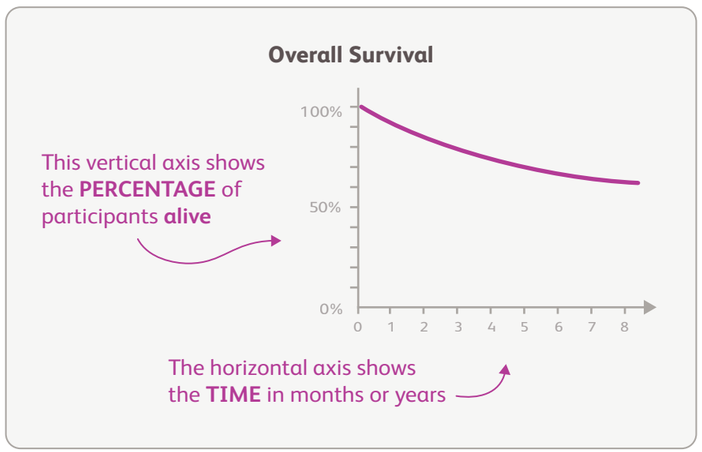
How does my doctor interpret progression-free survival (PFS) and overall survival (OS) to evaluate an investigational treatment?

Recall that progression-free survival (PFS) is the average length of time after the start of study treatment in which a participant is alive and their cancer does not grow or spread. Overall survival (OS), on the other hand, is the average length of time participants are alive after the start of study treatment.

To analyze participants' PFS measurements, a clinical study team draws them as a curve on a graph. They draw another curve for OS measurements. The curves show the rates of an event for a group of patients over a period of time. Your doctor will look at the curves and evaluate them as a whole, as well as certain time points in the study.

Let's look at a curve that a clinical study team drew in an example study. A clinical study team created one curve for PFS and another curve for OS.

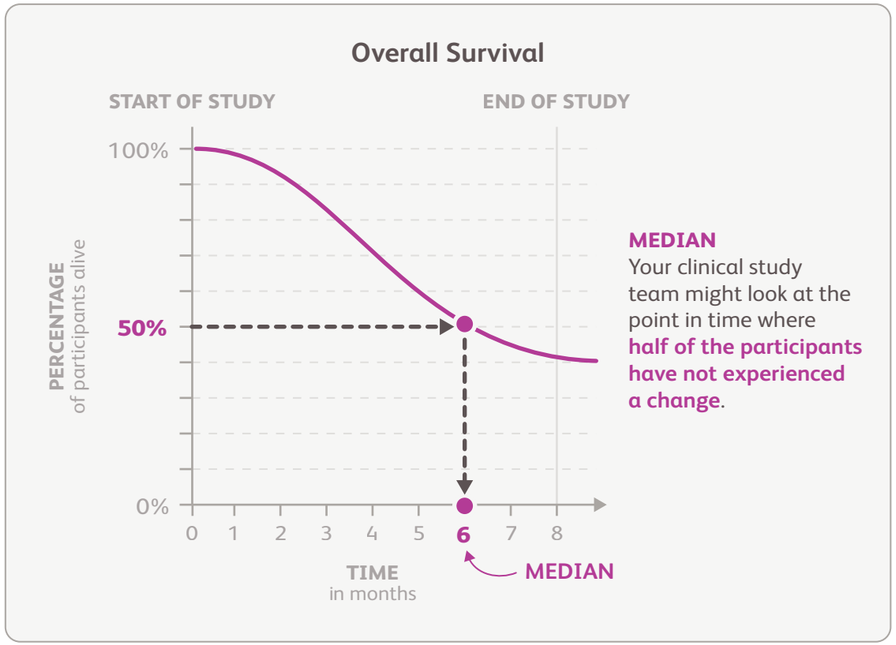




What is a common way of analyzing survival curves from clinical studies?

A common way of analyzing survival curves from clinical studies is to look at the point in time where half the participants (50%) were not experiencing a change—the median.

Let's look at an example of an overall survival (OS) curve below.

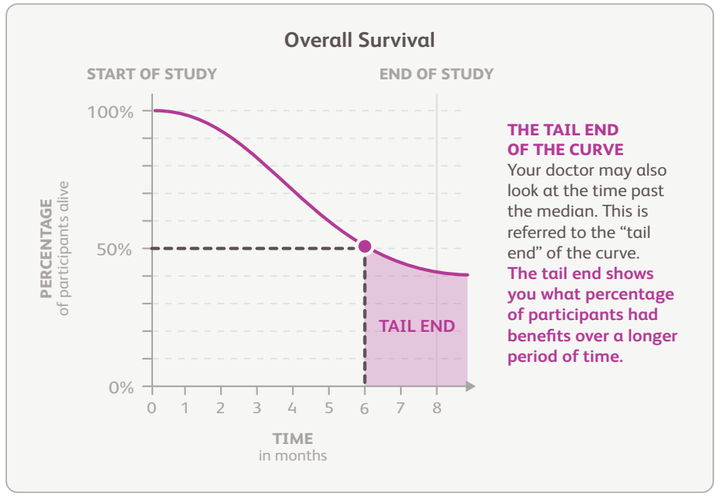


In this study, the point in time where 50% of the participants have not experienced a change is 6 months. So the median overall survival time is published as:

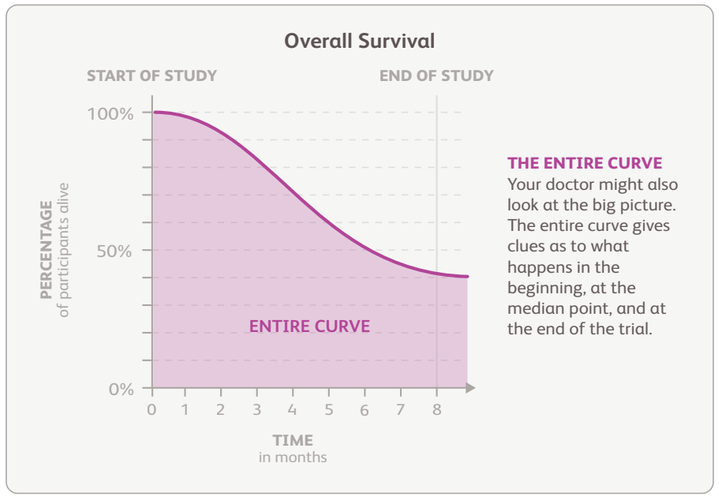
"Median OS is 6 months"

What other information on the curve can my doctor look at and analyze?

With investigational treatment options, the benefit may be seen over a longer period of time. Therefore, it is important for your doctor to look at additional aspects of the curves, like the **tail end and the entire curve**. Your doctor will look at all the clinical study results, along with the collected safety information such as side effects and if participants stopped study treatment due to side effects, to make a more educated decision.



THE TAIL END OF THE CURVE
Your doctor may also look at the time past the median. This is referred to the "tail end" of the curve. **The tail end shows you what percentage of participants had benefits over a longer period of time.**



THE ENTIRE CURVE
Your doctor might also look at the big picture. The entire curve gives clues as to what happens in the beginning, at the median point, and at the end of the trial.

What are some questions I could ask my doctor to learn more about clinical studies and investigational treatments?

Here are some example questions to ask your doctor:

The study

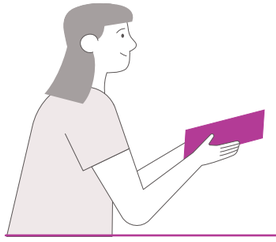
1. What is the purpose of this study?
2. How long will the study last? How long will I be expected to participate in the study?
3. How often will I have to visit the study site? What happens if I must miss or reschedule a visit?
4. How far will I need to travel to be a part of this study? If I must travel from far away, will there be somewhere for me to stay? If I am local, what options are available for transportation to and from the study site?
5. What kinds of tests, assessments, physical exams, or procedures will I undergo during the study?
6. How will I know if the investigational treatment is working?
7. What are the potential risks and benefits of this investigational treatment, and what happens if I am harmed?
8. What are the risks and benefits of this investigational treatment compared to the standard of care?
9. Will follow-up visits be done in person, by telephone, or virtually?
10. What treatment will I be on after the clinical study ends? Can I contine on the investigational treatment if it is working for me but not yet approved by the United States Food and Drug Administration (FDA)?
11. Have similar studies already been done and what were the results?
12. What are some different ways to address my disease/condition?

Participation and care

1. How will my medical information and privacy be protected?
2. How long do I have to make up my mind about joining the study?
3. What happens if the clinical study is stopped or if I need to stop the investigational treatment early?
4. How could joining this study affect my daily life, including going to work and being a caregiver?
5. Will I be able to take my regular medications while participating?
6. What if I have another health condition, such as heart disease, kidney disease, autoimmune disease, etc?
7. Who will be a part of my cancer healthcare team? Will the clinical study team include others who are not a part of my original cancer healthcare team?
8. Will the study provide interpreter services or documents translated into other languages?
9. Is there a person I can contact at any time with questions or concerns I may have?

Costs

1. What costs do I have to pay and what costs will be covered by my health insurance?
2. Will I be paid back for expenses such as travel, parking, lodging, or meals?
3. What resources are available for me if I need additional assistance?
4. Will the cost of childcare be covered while I am in the study?



What's next?

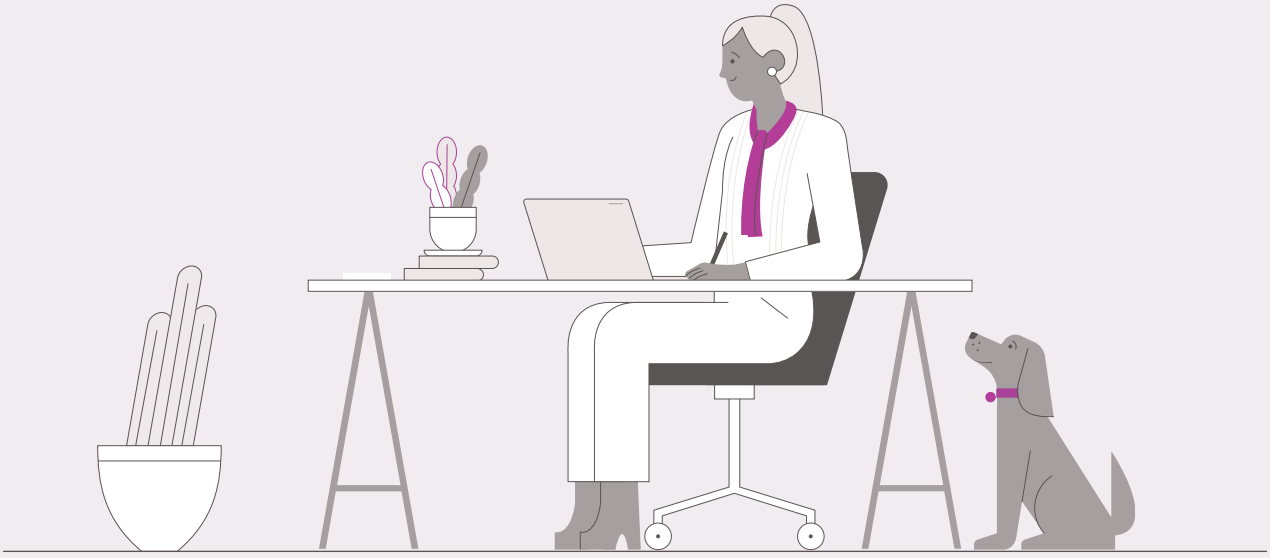
Write down any notes or additional questions you have about clinical studies. Please bring your questions to your next appointment with your healthcare team.

MY NOTES

Thank you for considering a clinical study

Want to learn more about clinical studies?

Study Connect is a starting point for patients that are considering taking part in clinical studies. The website has information about clinical studies for you, your loved ones, and your doctor. To learn more, please visit **www.bmsstudyconnect.com**



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