Neuromuscular Disease Foundation **Web:** www.curegnem.org

Title:

Guidance on Clinical Trials and Studies for Patients.

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Aims of the Resource:

The resource aims to increase knowledge and provide practical guidance concerning the following:

- What a clinical trial or study is;
- Understanding the implications, realities and/or risks involved before you sign up to a trial or study; and
- Where to find further advice and support.

What is a clinical trial or study?

A clinical trial/study involves investigating a particular health condition and/or potential treatment using human participants (usually patients or healthy volunteers) that is intended to add to medical knowledge.

Trials and studies help doctors identify how to treat a specific illness that may benefit you, or others similar to you, in the future.

There are two main types of clinical studies:

1. Clinical trials (also called 'interventional studies') and
2. Observational studies.

Clinical Trials

In this type of trial, the investigators will create a set research plan or protocol, and participants will be given specific interventions according to it. These interventions may be medical products, e.g., drugs, procedures, devices, or changes to participants' behavior, such as diet.

"Clinical trials may compare a new medical approach to a standard one that is already available, to a placebo that contains no active ingredients, or to no intervention. Some clinical trials compare interventions that are already available to each other. When a new product or approach is being studied, it is not usually known whether it will be helpful, harmful, or no different than available alternatives (including no intervention). The investigators try to determine the safety and efficacy of the intervention by measuring certain outcomes in the participants. For example, investigators may give a drug or treatment to participants who have high blood pressure to see whether their blood pressure decreases."

Source: Learn About Clinical Studies - ClinicalTrials.gov.

When trials research drug development for treatments or cures, these are sometimes described by phase and defined by the Food and Drug Administration (FDA).

Testing and phases are described in the **Appendix**.

Observational Studies

In this type of study, a research plan is set up by investigators to monitor health outcomes in groups of participants who may receive interventions or procedures as part of their routine medical care. However, participants are not assigned to specific interventions by the investigator (as in a clinical trial).

> For example, "investigators may observe a group of older adults to learn more about the effects of different lifestyles on cardiac health."
>
> (**Source:** Learn About Clinical Studies - ClinicalTrials.gov).

Who conducts clinical studies?

A principal investigator (PI), usually a medical doctor, leads every clinical study supported by a research team of nurses, social workers, and other healthcare professionals and doctors.

Where are clinical studies conducted?

Depending on who is conducting the study, many different locations can be used to run clinical research, such as hospitals, universities, doctors' offices, and community clinics.

How long do clinical studies last?

The length of a clinical study depends on what is being studied. Don't worry, as participants are told how long the study will last before they take part.

How do I take part in a clinical trial?

The World Health Organization's International Clinical Trials Registry Platform (ICTRP) provides access to clinical trials in countries all around the world.

Or visit Home - ClinicalTrials.gov - a resource provided by the U.S. National Library of Medicine.

Watch Leadiant Bioscience's video on 'How can patients participate in research for new therapies?'.

"Patients and caregivers play an increasingly important role in researching and developing new therapies for rare and ultra-rare diseases."

Source: Leadiant Biosciences

Why join a clinical trial or study?

If you take part in a clinical trial, you could help to improve treatment for patients in the future. You may also be one of the first people to benefit from a new treatment, but there is no guarantee of that because researchers sometimes need to use a placebo[1].

There is also no guarantee that the new treatment will be effective, better, or worse than the standard treatment (if one is available).

Some clinical trials offer payment depending on what's involved and expected from you. Some trials cover your travel and expenses but do not offer compensation.

What are the practical matters to bear in mind?

Before you sign up for a trial or study, it's crucial to learn about the risks involved and any inconvenience you may experience and assess whether it is worth it.

- It can be time-consuming and/or tiring:
  - You may be expected to attend a number of screenings and follow-up sessions, and some trials require you to stay overnight.
  - Factor in the time and/or financial impact - Some trials may be conducted in another city or even another country. If you are employed, make sure you have the support and the time off from your employer. If you have young children, make sure you have childcare arrangements.
  - Think about the physical and emotional impact - Some of the interventions may be intrusive or intense e.g., being monitored 24hours a day, having a biopsy, having your bloods drawn every 60mins, having regular electrocardiogram (ECG) tests, undergoing a Magnetic Resonance Imaging (MRI) test undertaking physical tests and/or having to provide urine samples, etc.

- There may be restrictions on what you can and cannot do – for example, you may be asked not to leave the hospital for some time or to fast/not eat, etc.

[1] A 'placebo' looks the same and is given the same way as an active drug or treatment being trialed but is intended to have no healing or curative benefit.

- You may need a carer/companion to accompany you, so confirm the support before committing.

- As with any treatment, you cannot be sure of the outcome; therefore, you may experience side effects.

- You may be asked to complete many forms, such as data protection release forms, questionnaires, a diary, etc. Take your time to understand what is written in the documents, and do not be afraid to ask questions before you sign the forms.

Can I leave a trial?

If your health is worsening or you feel the treatment is not helping you, you may decide to stop participating in a trial. Remember, you can also choose to leave at any point without giving a reason and without it affecting the care you receive.

Where can I get more information? Please visit:

- ClinicalTrials.gov is a resource provided by the U.S. National Library of Medicine: https://www.clinicaltrials.gov/ct2/about-studies/learn#Participating

- National Health Service (NHS), UK: Clinical trials - NHS (www.nhs.uk)

- National Institutes for Health (NIH):

  Finding a trial: https://www.nih.gov/health-information/nih-clinical- research-trials-you/finding-clinical-trial

  Glossary: https://www.nih.gov/health-information/nih-clinical-research- trials-you/glossary-common-terms

- Leadiant Biosciences: https://leadiant.com/patients-and-caregivers/resources/

APPENDIX: Testing a new medicine and phases explained

Testing a new medicine

- All clinical trials of new medicines go through a series of phases to test whether they work safely.
- The medicines will usually be tested against another treatment called a control. This will either be a dummy treatment (a placebo) or a standard treatment already in use.

Phase 1 trials:

- A small number of people, who may be healthy volunteers, are given the medicine.
- The drug is being trialed on human volunteers for the first time. Researchers test for side effects and calculate the correct dose to use in treatment.
- Researchers start with small doses and only increase the amount if the volunteers do not experience any side effects or if they only experience minor side effects.

Phase 2 trials:

- The new medicine is tested on a larger group of people who are ill. This is to get a better idea of its effects in the short term.

Phase 3 trials:

- Carried out on medicines that have passed phases 1 and 2.
- The medicine is tested in larger groups of people who are ill and compared against an existing treatment or a placebo to see if it's better in practice and has significant side effects.
- Trials often last a year or more and involve several thousand patients.

Phase 4 trials

- The safety, side effects, and effectiveness of the medicine continue to be studied while it's being used in practice.
- They are not required for every medicine.
- Only carried out on medicines that have passed all the previous stages and have been given marketing licenses – a license means the medicine is available on prescription.

Control groups, randomization, and blinding

- If you take part in a clinical trial, you'll usually be randomly assigned to either the: Treatment group – where you'll be given the treatment being assessed, or
- Control group – where you'll be given an existing standard treatment, or a placebo if no proven standard treatment exists.

While the treatments are different in the two groups, researchers try to keep as many of the other conditions the same as possible. For example, both groups should have people of a similar age, with a similar proportion of men and women, who are in similar overall health. (Many rare diseases including, GNEM, do not follow this because we do not have a large pool to choose from.)

In most trials, a computer will be used to decide which group each patient will be allocated to randomly. Many trials are set up, so nobody knows who's been allocated to receive which treatment. This is known as blinding, and it helps reduce the effects of bias when comparing the outcomes of the treatments.

(**Source:** National Health Service (NHS), UK).