Clinical Trials from A to Z: Understanding the Basics

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Introduction

- Research is "a systemic search for facts" as defined by Webster's Dictionary.
- U.S. Department of Health and Human Services defines research as "a systemic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge."
- Louis Pasteur, known for pasteurization, performed research on humans as early as 1885.
- Only 1 in 5000 compounds in development make it from the laboratory to the FDA for approval for use
- Average time from "bench" to approval is 10 to 15 years.

Introduction

- Studies with volunteers that test new drugs or devices
- May be used to test against currently approved treatment or when no treatment is currently available
- New target for the disorder discovered and potential treatment developed
- Is the new treatment better than standard treatment?
- Will the treatment work where no treatment is available?

Why does that matter to me?

- A clinical study or trial has to be done to evaluate the new treatment
- You may be asked to participate in a clinical trial
- You may find a clinical trial and ask your doctor about it
- Your physician will give you options for treatment, including participation in a clinical trial
- You make the decision to participate or not
- Your doctor will continue to care for you if you do not participate

Common Facts About Clinical Trials

- Voluntary
- Most require more visits than you would normally have
- Most give more information about risks and benefits
- Clinical trials are more commonly used to treat children with cancer than adults (5% of adults versus 60% of children)
- Try to answer the question of safety and efficacy

What are the Types of Clinical Trials?

- Prevention trials
- Screening trials
- Diagnostic trials
- Treatment trials
- Quality of life trials
- Combination of treatment and quality of life

What is the Difference between Clinical Research vs Medical Treatment

- Medical treatment is usually standard of care
  - Treatment that was studied in prior trial and approved by FDA
  - Treatment that is given following current guidelines
- Clinical research treatment is a clinical trial
  - Does the treatment work for a specific disease or disorder
  - Are there more or less side effects or risks with the study treatment
  - Is the new treatment better than the one currently used
  - Does the new treatment work where no treatment is currently approved

Clinical Trial Protocols

- What is being studied
- Why is it being studied
- Who is the primary investigator
- Informed Consent developed
- Institutional Review Board (IRB) approval
- Procedures to be performed prior to and during the study
- Schedule of study events
- Risks and benefits

Informed Consent

- You give your consent to be a part of the clinical trial
- The doctor or a study nurse will describe the trial and introduce you to the informed consent form
- You will have the opportunity to review the information and ask questions
- What is the reason for the study, risks, benefits, costs, eligibility, and expectations?
- Once you completely understand, you will be asked to initial each page, initial various optional items, and sign the consent
- You will be given a copy of the signed consent for your records

Institutional Review Board (IRB)

- Group of people responsible for protecting the welfare of the participant and making sure the study complies with federal laws
- The IRB reviews the consent
  - Are you informed of all the risks and benefits of the trial
  - Is the study acceptable on medical, ethical, and legal grounds
  - Do you know what your costs will be or if you will be compensated/reimbursed
  - Is a doctor identified as the Primary Investigator
  - Do you have contact numbers for the doctor and the IRB for future questions

What Happens during a Clinical Trial?

- Informed consent
- Screening
- Treatment
- Follow up

Phases of Clinical Trials

- Pre-Clinical Studies
- Phase I
- Phase II
- Phase III
- Phase IV

Pre-Clinical Phase

- Laboratory testing
- Cell studies or laboratory animals used, not humans
- Test the properties of the potential product, efficacy, and safety
- Apply to FDA for a Investigation New Drug number (IND)
  - Includes results of testing, manufacturing information, protocol outline
- Many potential products do not make it past this pre-clinical phase

Informed Consent

- Remember—There is never a dumb question, only a dumb answer! ASK if you are not clear of what is expected
- Procedures will need to be performed to verify you are eligible for the trial
- Procedures will not be done until you sign consent
- Your insurance will be verified to confirm you have coverage for the trial
- One of the first things you see on the Informed Consent is that the trial is voluntary and you are permitted to withdraw at any time

Phase I

- First that involve humans with safety as the main concern
- What does the drug do to the body and what the body does to the drug
- No placebo treatment used
- Use cohorts with a single, ascending dose to find the MTD
- MTD is the Maximum Tolerated Dose that is used in future phases
- Usually only 20 to 80 people are in this phase, usually healthy volunteers
- Many clinic visits, vital signs, and research blood

Phase II

- Evaluating efficacy in a certain condition and clarifying safety
- Use cohorts with a single, ascending dose to find the MTD
- MTD is the Maximum Tolerated Dose that is used in future phases
- Can have "arms" to look at study drug versus placebo or an active control
- Can be "double-blind" meaning no one but the pharmaceutical company knows which arm you are on
- Usually 25 to 100 participants
- Requires many clinic visits and research blood draws and other procedures

Phase III

- Evaluating efficacy and clarifying safety, risk/benefit profile
- Compares standard of care with the investigational agent
- If no standard of care available, may be compared to placebo
- Studies last longer to show results or side effects over time
- Results may be used for marketing approval by the FDA
- Have a large number of patients, at least several hundred

Phase IV

- Additional safety information after approval by FDA
- Drug-drug or drug-disease interactions
- Broadest subject eligibility
- Post-marketing surveillance
- Accurately reflect actual use by patient
- May involve tens of thousands of people

How do Patients Find a Clinical Trial?

- Physician discussion regarding treatment options
- www.clinicaltrials.gov
- www.cancer.net
- www.nih.gov
- Hospital or clinic website
- Advocacy websites

How Long Can a Clinical Trial Take?

- Trials take many years to complete
- Pre-clinical can last 6 years or more
- Early phases can last from 1 to 5 years each
- Phase III and IV can last 10 to 20 years to gather long term safety and efficacy information
- FDA may have questions prior to approval that can add an additional 5 years

Which Study is Best Suited for Me?

- Best to have a discussion with your physician
- Depends on length of time since diagnosis, your age, your health, other treatments that you have had, the known risk/benefit of the trial
- Do you meet all the eligibility requirements?
- Will you be able to follow the "recipe"?
- How far away do you live?

The Cost of the Clinical Trial

- The cost of the study drug is usually covered by the trial
- Is the procedure or test standard of care?
- Supportive care medications are usually not covered
- Some, but not all, trials that have multiple visits will reimburse for travel
- Parking and the cost of meals may be out of pocket expenses
- Insurance coverage needs verified

Relationship between Health Insurance and Clinical Trials

- Does your insurance cover clinical trial treatment?
- Are you in network for the location of the clinical trial?
- Routine patient costs covered by insurance
- New treatment and special tests, procedures, visits paid by sponsor of trial
- Have your questions answered about cost and insurance before taking part

Common Questions About Clinical Trials

- Would you go on this trial?
- What are my risks?
- Will the treatment work?
- Will I still see my current doctor?
- Can I have treatment or testing near my home?
- Who do I call if I have questions?
- What do I do if I decide I don't want to stay on the study?
- What if I'm not eligible?

Questions to Ask the Research Team

- Who do I call if I have questions?
- How will my identity be protected?
- How will I know if the treatment is working?
- Will I know treatment I am getting?
- Ask any question that you may have so that you completely understand!

How are Study Participants Protected?

- You are assigned a study number and identified by initials and study number
- Belmont Report provides 3 basic principles to protect patients in trials
  - Respect for persons
  - Beneficence
  - Justice
- Institutional Review Board
- Data Safety Monitoring Boards
- Office of Human Research Protections
- Food and Drug Administration

Advantages of Participating in Clinical Trials

- Access to promising new treatment not otherwise available
- Treatment my be more effective than current treatment
- Close monitoring, advice, care, and support
- Opportunity to be the first to benefit from the new treatment
- Chance to help society by contributing to medical research
- Play an active role in your healthcare and gain understanding of your disease

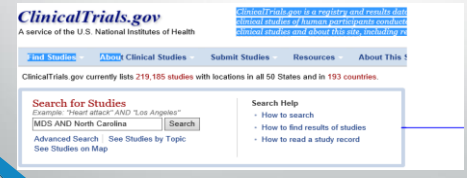
What Happens After a Clinical Trial is Completed

- Researchers carefully review information collected
- Early phase studies—Move to next phase or stop testing
- Phase III-Do the results have medical importance
- Publication in scientific journals
- Insights are gained about safety and effectiveness of the therapy
- New doors are opened to find ways to prevent, diagnose, treat, or cure condition

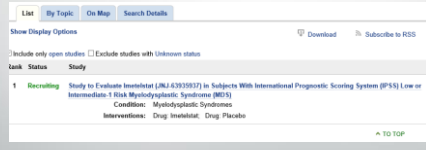
Case Study

- 62 year old male with fatigue, hemoglobin 7.9 during physical exam
- Diagnosed by bone marrow biopsy with MDS December 2015
- Requiring blood transfusions of 2 units about every 2 weeks to keep hemoglobin above 9
- Has not received any treatment other than the transfusions but his doctor thinks he may need treatment soon
- Local MD suggested a possible clinical trial

Search For A Trial



Find A Study



Is The Trial For Me?

Next Steps

- Where is the trial located?
- Is my doctor familiar with the trial?
- Will you doctor refer you for evaluation?
- Learn about risks, benefits, expectations.

Questions

Thank You

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