NASCIC
SCI RESEARCH
ADVOCACY COURSE

Module 2 – Understanding the Research Process and R&D Decision Making

How Clinical Trials Are Run

While drug and device sponsors are responsible for designing clinical studies and submitting the data to regulators, the studies are conducted in hospitals and medical centers with the help of partners and service providers.

Some of these service providers and partners include:

- CROs, or contract research organizations, which are companies that specialize in performing research studies;
- Academic medical centers, which are hospitals that are affiliated with a medical school or other teaching institution;
- Community hospitals; and, less often,
- Local physicians.

Sometimes, academic investigators or government research agencies run their own clinical studies.

CROs and medical professionals called “investigators” are responsible for interacting with and caring for the people who volunteer to participate in trials. They must:

- Explain the study,
- Get informed consent,
- Ensure the study plan is followed,
- Conduct clinic visits in which treatments are given and tests are performed,
- Collect and report data to the data monitoring board and sponsor, and
- Continue to do follow up monitoring of volunteers after the study is over.

Drug sponsors provide a very detailed clinical trial plan called a “protocol” that must be strictly followed to ensure everybody receives the treatment the same way.

All of the details included in the trial protocol are intended to make it easier to interpret the data so that sponsors and regulators can be confident that effects on safety and efficacy are

really the result of the treatment that is being studied, and not because of differences in how the treatments were used and how the effects were measured.

The protocol includes a description of who can volunteer and who cannot. These are called "inclusion and exclusion criteria," and may be based on age, type of injury or illness, severity of injury or illness, treatment history, and other factors. These criteria help ensure that the trial doesn't enroll volunteers for whom the drug candidate is not appropriate because it would not be safe or would be unlikely to work.

The protocol also includes details about what treatments are given during the trial, how much of the treatments are given, how often, and for how long.

If the treatment being studied will be compared with another treatment or a placebo, the protocol will describe how to decide who gets which treatment, and whether or not the investigators and volunteers are allowed to know which one they receive.

In drug trials, a placebo is a sham treatment that is given the exact same way as the drug candidate, but that contains no active medicine. In medical device trials, the same thing can be accomplished with a "sham" device.

Trials that use a comparator are called "controlled." Controlled trials help sponsors and regulators understand how much of an effect the drug candidate or device is really having.

If the choice of who gets what treatment is determined by chance, the trial is "randomized." And if volunteers and/or investigators are not allowed to know what treatment is being used, the trial is called "blinded." Both of these methods are used to reduce bias. For instance, blinding is used so investigators and volunteers aren't biased in their reporting of outcomes by knowing what treatment they are receiving.

Regulators often require that Phase 3 trials and pivotal trials are randomized, controlled, and blinded, unless there are practical or ethical reasons why that isn't possible.

The trial protocol also spells out what tests are done on volunteers, how the tests are performed, and how often they are done. It also says where treatments and tests are done: in a hospital, a doctor's office, or at home.

The protocol also must include a precise definition of how the trial will measure safety and efficacy, and how the data will be analyzed. The measurements of safety and efficacy are called "endpoints."

Most trials have several endpoints. The "primary endpoint" is the main criterion for success, and in Phase 3 and pivotal trials is usually the measure of efficacy that regulators require for approval.

While the details in a trial protocol help ensure that any observed effects on safety and efficacy are the result of the study treatment, they can also affect whether or not volunteers will be willing and able to participate.

Too many tests or doctor visits, restrictions on what medications people can take, and benefits that aren't important or risks that are unacceptable can all discourage participation.

These are among the things that SCI research advocates can help with by advising researchers on what it is like to live with SCI and what is important to the community.