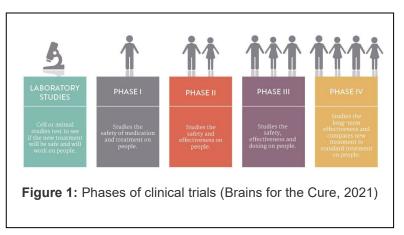


#### BACKGROUND

After pharmacological experimentation and other laboratory studies in animal models or cell culture, there must be a transition to clinical trials (Figure 1). Clinical trials are vital to the development of human treatments because, although animal beneficial. models are the pharmacokinetics and pharmacodynamics of drugs and their actions are variable between various mammals.



The ClinicalTrials.gov website is one of the main collections of clinical trial data. The site was created as a result of the Food and Drug Administration Modernization Act of 1997 which stated that a database of existing trials must be created for study of pharmacological disease treatment (NIH, 2018). Released by the NIH in 2000, the website originally contained a handful of NIH funded studies but has grown to incorporate studies funded from around the world (NIH, 2020). The impact has spanned across 219 countries with registration rates consistently increasing (NIH, 2018). The site is used by healthcare professionals, researchers and the public alike to become more informed about current studies focused on a wide range of diseases and disorders. The information is normally updated as a study develops, so that the newest data can be found and utilized to inform others about the progress being made (NIH, 2018).

Searching existing clinical trial data can be beneficial when trying to establish a basis for one's own research, or to understand what progress is being made in a specific subsection of medicine. This procedure will introduce the basics to navigating the clinical trial data and help develop an understanding of the different features of the website.

|   | SKILLS CENTER<br>STANDARD OPERATING PROCEDURE | A BIOFIZZ<br>PRODUCTON                            |
|---|---|---|
| Searching Clinical Trial<br>Data<br>Module Hours: 2.0 | Effective Date: 03/15/2021                    | Revision # 1.0<br>A. Siclair<br>Checked: M. Guzie |

#### 1. PURPOSE

The purpose of this procedure is to become comfortable with searching clinical trial data and analyzing the available information.

## 2. SCOPE

This procedure applies to qualified skills center users.

## 3. **RESPONSIBILITY**

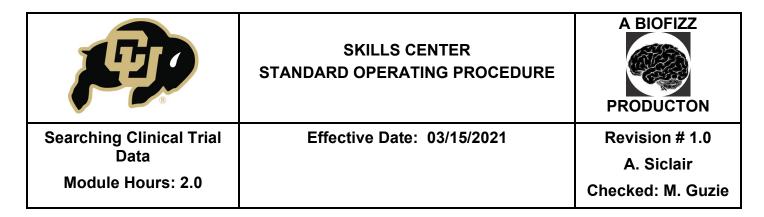
- 3.1. It is the responsibility of the user to understand and perform the procedure described in this document.
- 3.2. It is the responsibility of the user performing the procedure to fully document any deviations from the written procedure.
- 3.3. It is the responsibility of the user to become trained on the procedure.

## 4. **DEFINITIONS**

- 4.1. Clinical trial A research study in which human volunteers are assigned some sort of medical intervention based on a protocol, and then medical and health effects are measured.
- 4.2. Intervention A drug or medical approach to treatment that is being studied.

#### 5. MATERIALS/EQUIPMENT

5.1. Clinical Trials.gov website: https://clinicaltrials.gov/



## 6. PROCEDURE

#### 6.1. Basic Search for Clinical Trial Studies

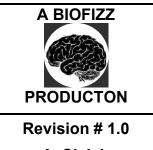
- 6.1.1. Go to the website: https://clinicaltrials.gov/
- 6.1.2. For basic search, enter in the desired condition, followed by other terms of interest and search. (Figure 2)
  - Alzheimer's Disease was used as the example for this procedure.
- 6.1.3. A new window will pop up listing many clinical trials that match the given search parameters. (Figure 3)
  - List: gives the most relevant studies based on the search terms.
  - By topic: gives categories or alphabetical lists of the related studies.
  - On map: gives results by location.
  - Search details: gives studies with related or synonymous terms and/or conditions.

| <ul> <li>Hide Filters</li> </ul>   |   |   |            |  |   | Download  | Subscribe to RS   |
|--|---|---|------------|--|---|---|---|
| Filters  |   | Showing: 1-10 of 1,311 studies     10 v     studies per page       Row     Saved     Study     Study Title     Conditions |            |  |   |   |   |
| Apply Clear<br>Status  | 1 |   | Recruiting | Early Onset Alzheimer's Disease Genomic Study  | Alzheimer     Disease                       | Genetic:     Genetic Testing  | Baylor Scott & White<br>AT&T Memory Center<br>Dallas, Texas, Unite                                  |
| Recruitment 1 :<br>Not yet recruiting<br>Recruiting<br>Enrolling by invitation<br>Active, not recruiting | 2 |   | Recruiting | MK-1942/Donepezil Interactions in Participants With Alzheimer's Disease<br>(MK-1942-005)                   | • Alzheimer's<br>Disease                    | <ul> <li>Drug: MK-1942</li> <li>Drug: Donepezil</li> <li>Drug: Placebo</li> </ul> | States<br>• Woodland Research<br>Northwest, LLC ( Si<br>0004)<br>Rogers, Arkansas,<br>United States |
| Suspended Terminated Completed Withdrawn   | 3 |   | Recruiting | Alzheimer's Disease Stem Cells Multiple Infusions  | Alzheimer     Disease                       | <ul> <li>Biological: 100<br/>million cells<br/>allogeneic<br/>hMSC</li> </ul>     | <ul> <li>University of Miami<br/>Miami, Florida,<br/>United States</li> </ul>                       |
| Unknown status <sup>†</sup> Expanded Access  :   | + |   | Unknown †  | Impact of Nilotinib on Safety, Biomarkers and Clinical Outcomes in Mild to<br>Moderate Alzheimer's Disease | <ul> <li>Alzheimer's<br/>Disease</li> </ul> | <ul> <li>Drug: Placebo<br/>Capsule(s)</li> <li>Once a Day by<br/>Mouth</li> </ul> | Georgetown     University Medical     Center     Washington, District                               |
| Eligibility Criteria -   |   |   |            |  |   | Drug: Nilotinib<br>Capsule(s)<br>Once a Day by                                    | of Columbia, United<br>States   |

| Status 🕄<br>Recruiting an | d not yet recruiting studies     | s 〇 All studies 🖲       |             |
|---------------------------|----------------------------------|-------------------------|-------------|
| Condition or dis          | sease 0 (For example: breast car | ncer)                   |             |
| Alzheimer Dise            | ase                              | x                       |             |
| Other terms ()            | For example: NCT number, drug na | ame, investigator name) |             |
|                           |                                  | x                       |             |
| Country 0                 |                                  |                         |             |
| United States             |                                  | ~ x                     |             |
| State 0                   | City 🕄                           |                         | Distance () |
|                           | ~ x                              |                         | x ~         |
| Search                    | Advanced Search                  |                         |             |
|                           |                                  | Studies on Map Glossary |             |



# **SKILLS CENTER** STANDARD OPERATING PROCEDURE



Searching Clinical Trial Data Module Hours: 2.0

Effective Date: 03/15/2021

A. Siclair

Checked: M. Guzie

- 6.1.4. The Filters section along the left-hand side gives further ability to narrow results. (Figure 3)
  - Filters include the type of current recruitment, eligibility criteria, the current phase of the trial, etc.
- 6.1.5. Some studies will have a "Has Results" link within the Status column, coupled with a status of "Completed". This is an active link that can take you to the trial results. (Figure 3)
- 6.1.6. The Show/Hide Columns button can be used to add or remove column descriptors that customize the search parameters to your needs. (Figure 3)

# 6.2. Advanced Search for Clinical Trial Studies

- 6.2.1. Go to the home page of the ClinicalTrials.gov site.
- 6.2.2. Hover over the Find Studies button and click Advanced Search. (Figure 4)

| ClinicalTrials.gov                          | Find Studies  About Studie     | es ▼ Submit Studies ▼ Resources ▼ About Site ▼ PRS Logi  |  |  |  |  |
|---|--------------------------------|--|--|--|--|--|
|   | New Search                     |  |  |  |  |  |
|   | Advanced Search                | and a second |  |  |  |  |
| ClinicalTrials.gov is a database of private | See Studies by Topic           | clinical studies   |  |  |  |  |
| conducted around the world.                 | See Studies on Map             |  |  |  |  |  |
|   | How to Search                  |  |  |  |  |  |
|   | How to Use Search Results      |  |  |  |  |  |
| Explore 370,533 research studies in         | How to Find Results of Studies | (all fields optional)  |  |  |  |  |
| all 50 states and in 219 countries.         | How to Read a Study Record     |  |  |  |  |  |

6.2.3. Fill in the desired parameters given, including the condition, the stage of the study, information about the drug/intervention target, etc. (Figure 5)

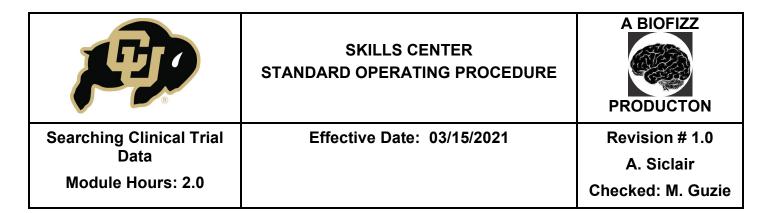
|   | SKILLS CENTER<br>STANDARD OPERATING PROCEDURE | A BIOFIZZ   |
|---|---|---|
| Searching Clinical Trial<br>Data<br>Module Hours: 2.0 | Effective Date: 03/15/2021                    | Revision # 1.0<br>A. Siclair<br>Checked: M. Guzie |

|                       | Search Help  |                           |     | Eligibility Criteria:                           | Child (birth-17)                                |       |             |
|-----------------------|--|---------------------------|-----|---|---|-------|-------------|
| Condition or disease: | Alzheimer Disease                                  |                           | x   | Age:  | X years OR Age Group: Adult (18–64)             |       |             |
| Other terms:          |  |                           | x   | Sex:  | All   | ~   x |             |
| Study type:           | Interventional Studies (Clinical Tri               | als)                      | ~ x | Accepts Healthy Volunteers:<br>Targeted Search: | Healthy volunteers may participate in the study |       |             |
| Study Results:        | All Studies  |                           | ~ X | Intervention/treatment:                         |   | x     | Ú.          |
| Status:               | Recruitment:                                       | Expanded Access:          |     | Title / Acronym:                                |   | x     |             |
|                       | Not yet recruiting                                 | Available                 |     | Outcome Measure:                                |   | ×     |             |
|                       | Recruiting   | No longer available       |     | Sponsor / Collaborator:                         |   | ×     | Exact match |
|                       | Enrolling by invitation     Active, not recruiting | Temporarily not available |     | Sponsor (Lead):                                 |   | x     | Exact match |
|                       | Suspended  |                           |     | Study IDs:                                      |   | x     |             |
|                       | Terminated   |                           |     | Locations:                                      |   | Loo . |             |
|                       | Completed  |                           |     | Country:  |   | ~   x | E.          |
|                       | Withdrawn Unknown status                           |                           |     | Location Terms:                                 |   | x     |             |

6.2.4. After searching, click on the Study Title to get details about a trial, same as with basic search.

#### 6.3. Analysis of a Specific Study

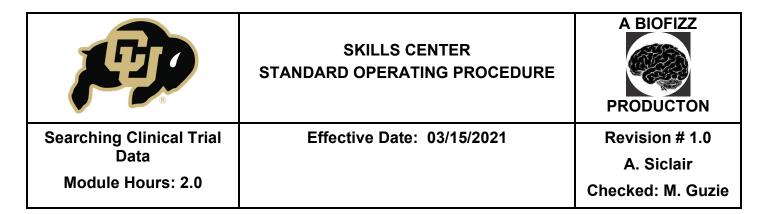
- 6.3.1. Click on a specific study that has been marked "Completed" and is listed with a "Has Results" tab.
  - The trial used for an example in this procedure: <u>https://clinicaltrials.gov/ct2/show/results/NCT01782742?cond=Alzheimer+Dise</u> <u>ase&cntry=US&draw=2&rank=7</u>
- 6.3.2. The Study Details tab will be the first to open.
  - You can save the study for future use by checking the box in the top right of the page. (Figure 6)
  - Note that significant dates from the trial are listed in the red box underneath the website identifier for the study.
  - Numerous key points will be delineated on the Study Details page as you scroll down. (Figure 6)
    - 1. Study description: Talks about the basis behind the study, the intervention used, the current phase of the trial, etc.
    - 2. Study design: Describes the way the experiment is modeled and the participant demographics.
    - 3. Arms and interventions: Describes how the treatment/intervention will be administered in detail. This looks different for observational studies.



- 4. Outcome measures: These are the things that will be or were used in the study to measure the effect of the intervention on the participants.
- 5. Eligibility criteria: Gives the information about what permitted and prevented participants from being chosen for the trial.
- 6. Contacts and locations: Gives information about the location and sponsors of the trial.
- 7. More information: Gives information on references and publications that are associated with the data and results from the study.

| Trial record 7 of 1311 for: Alzhe  | pimer Disease   United States              |  |
|--|--|--|
| manecold 7 of 1511 lot. Alzhe  | siner Disease   Onited States              |  |
| Previous Study   Return  | to List   Next Study •                     |  |
| exarotene Amyloid Treatment for Alzheimer's Disease (BEAT-AD)                      |  |  |
|  | ClinicalTrials.gov Identifier: NCT01782742 |  |
| The safety and scientific validity of this study is the responsibility of the      | Recruitment Status 0 : Completed           |  |
| A study sponsor and investigators. Listing a study does not mean it has            | First Posted () : February 4, 2013         |  |
| been evaluated by the U.S. Federal Government. Read our disclaimer<br>for details. |  |  |
|  | Last Update Posted (): February 12, 2016   |  |
| <b>N</b>   |  |  |
| Sponsor:<br>The Cleveland Clinic   |  |  |
| nformation provided by (Responsible Party):  |  |  |
| The Cleveland Clinic   |  |  |
|  |  |  |
| Study Details Tabular View Study Results Disclaimer I How to Read a                | Study Record                               |  |
|  |  |  |
| Study Type Interventional  |  |  |
| interventional   |  |  |

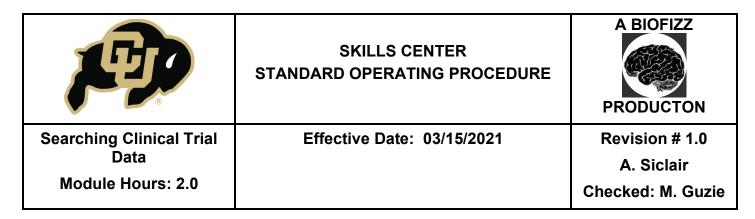
- 6.3.3. The Study Results tab gives more insight into what occurred or is occurring during the study. Numerous sections are included on this page. (Figure 6)
  - 1. Participant flow: Describes the progress of the participants as the study develops.
  - 2. Baseline characteristics: The beginning data collected at the start of the study for all participants, including controls.
  - 3. Outcome measure: Describes the protocol-decided measurement that will be analyzed as the main result of the study, coupled with the results of that measurement for treatment and control groups.



- 4. Adverse effects: Negative effects on the life or health of the patients experienced during the trial, or abnormal lab findings.
- 5. Limitations of the study: Things that could have restricted the results of the study that could be improved upon in the future.
- 8. More information: Gives information on references and publications that are associated with the data and results from the study, as well as information about involved researchers and sponsors.

## 7. REFERENCES

- Cummings, J.L. (2016, Feb 12). *Bexarotene Amyloid Treatment for Alzheimer's Disease* [Dataset]. ClinicalTrials.gov. <u>https://clinicaltrials.gov/ct2/show/results/</u> NCT01782742?cond=Alzheimer+Disease&cntry=US&draw=2&rank=7
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## 8. MODULE MASTERY TASK

This quiz will test your skillset regarding searching clinical trial data and understanding the related information.

- 1. Choose a disease and enter it via basic search. What was your chosen disease?
- 2. Go to the On Map section. What area of the world has the most studies focused on your chosen disease? What is the number?
- 3. Go to Search Details. What other similar studies did your search query bring up?
- 4. Filter your studies to "Completed" and choose a study that has results. When were those results first posted?
- 5. Who was the provider of the results information?
- 6. What is the intervention of the chosen study?
- 7. How was the intervention administered?
- 8. How many participants, if any, dropped out of the trial?
- 9. What was the required eligibility for the participants in this study?
- 10. What is one interesting thing that you learned about the protocol or results of this trial?