

## Residents As Researchers



Compliments of CORE Faculty Development

## Learning Objectives

- Participants will be able to:
  - discuss what research is, why it is important, and how it is conducted
  - describe the research process including the IRB
  - list the CORE resources available.

## What is Research?

- Research is a process that combines formal, structured inquiry with acceptable scientific methodology with the intent to answer questions, solve problems, and to contribute to generalizable knowledge.

## Conducting research is a lot like solving a puzzle. It requires:

- A strategy or plan
- Critical thinking
- Motivation
- Diligence
- A good environment
- Organizational skills
- Permission
- Monetary support
- Common sense!



## Why Do Research?

- Clinical research drives evidence-based medicine, which in turn, impacts clinical practice.
- Professional development and growth depends on having adequate skills to:
  - Critically read and evaluate journal articles
  - Understand and engage in conference workshops and presentations.

## Why Do Research?

- Research is required by all specialty colleges.
- By mastering basic research skills, physicians will be better prepared to critically assess the veracity and integrity of published medical literature.
- The osteopathic voice needs to be present in the research arena.

## Why Do Research?

- The AOA core competency on Practice-Based Learning and Improvement emphasizes that residents must demonstrate the ability to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.
- Research provides an active learning environment in which to obtain such experiences and to practice newly acquired skills.

## How Is Research Done?

- Register in the CORE Research Database, so that CORE Research can properly track your project and adequately assist you in your research.
- Complete an IRB training course before you can engage in research that entails data collection.
- Follow the Step-by-Step Checklist in the CORE Research webpage.

## How Is Research Done?

- Research process:
  - Grow your idea into a research question.
  - Research question can come from: your own clinical experiences, from the literature, your own interests/inquisitiveness, from conversations with colleagues, from medical presentations, or from cases.

## How Is Research Done?

- Research process cont.:
  - Consider the 5 characteristics of a good research question: feasible, interesting, novel, ethical, relevant (Cummings, et al, 1988).
  - Review of literature: This is where you provide a background of your study. This section is very important because it prevents you from re-inventing the wheel and it helps to identify evidence of support or non-support of your hypothesis.

## How Is Research Done?

- Research process cont.:
  - Methodology: This is where you outline the road map on how the research is going to be conducted.
  - The IRB of your CORE hospital will stand as your IRB of record. Institutional Review Boards for research on human subjects monitor and review all research that involve human participants: Beneficence (To do 'good'), Justice (To be 'fair'), Autonomy (To have control over one's self).

## How Is Research Done?

- Research process cont.:
  - No subject/participant recruitment or data collection can take place before final IRB approval is obtained.
  - Budget: Consider all costs that might be incurred (e.g. payment to subjects, payment to those assisting in gathering data, analyzing data, payment for clerical assistance, mailing/postage, equipment purchases, printing/copying, travel, etc.).

## How Is Research Done?

- **Research process cont.:**
  - **Results:** This is where you report the findings of your study.
  - **Conclusions:** This is where you report agreement or disagreement with previous studies, provide recommendations regarding the use of your findings, and provide recommendations regarding future research.
  - **References:** This is where you list your sources/literature.

## Support and Funding

- **CORE Research Support:** 
  - Methodological and statistical support
  - Editorial support
  - Statistical software packages.
- **External Funding**
  - CORE Research Committee (submit a formal request/application), professional organizations, government agencies, private foundations

## Final Reminder!

- Make a note of your timeline.
- Remember that all scholarly work needs to go through CORE Research.



## Residents As Researchers

- **What did we learn?**
  - Research is an important process – from developing a research question to obtaining IRB approval to data collection to publishing results.
  - There are CORE research resources that residents can avail of.