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World Endoscopy Organization

Training the Academic Endoscopist
Research & Publications

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Trainee wants do do research

- Comes to you and says
  - "I want to do a study"
- What do you tell them?
  - Give them one of your projects?
  - Ask them to come with a research idea?
  - Go away kid, I'm busy?

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- **Objectives**

- **Discuss the different steps of conducting and reporting research with a trainee**
- Identify a project
- Determine study design
- Conduct the study
- Perform data analysis
- Present results
- Prepare manuscript

Avoid the major pitfalls

- Select a project that is:
  - Doable
  - Doable
  - Doable
  - Doable!!!

- All aspects of the project should be completed by the end of fellowship
  - Begin projects early in training!

- **Projects & Mentors**

- **Caveat**: The trainee should do research in an **area that interests him/her**

- **Options:**
  1. Trainee identifies a mentor with a **similar interests** and works on the mentor's project
  2. Trainee develops their **own project/idea** and finds an appropriate mentor

Discussion Point

- How do trainees find projects and mentors at your institution?

Keeping the project on track

- **Mentors (You) Are People Too**
  - Time constraints
  - Competing concerns
- Don't let them off the hook!
  - Regular appointments
  - Have specific goals/agenda at each meeting
  - Regular updates on progress

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- Frequent communication is important
  - Don't expect them to initiate communication with you
  - Emails are **OK** but do not substitute for **face time**
    - Let them use e-mail for fairly simple direct questions
    - Sending attachments (data, manuscripts, agendas, cartoons, etc…)

- **Choosing a project**

- Encourage them to study something **they are interested in**
    - If not interested, not motivated
    - If not motivated, not successful
- Study something that **they actually see**
- The project must align with your interests, too
    - Eg., Don't mentor a hepatology project if you're not a hepatologist

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- **Where To Get Research Project Ideas**
- **Best:** Questions that arise from patients the trainee has seen
- Discussion sections of journal articles
  - Gaps in knowledge often identified
  - Areas where more study is needed
  - Society practice guidelines
- Mentors, colleagues

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- ## **Successful Research**
- Asks a specific question
  - Hypothesis testing
  - Specific aims
- No fishing allowed!
  - Create and analyze databases to ask a specific question
  - Don't create a database with idea that you'll dredge something out of it later

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"Doability"

- Have a specific question
- Project limited in scope
  - Needs to be completed in a set amount of time
- Availability of data
  - Appropriate patient population of adequate number
  - Existing data sets
- Adequate resources
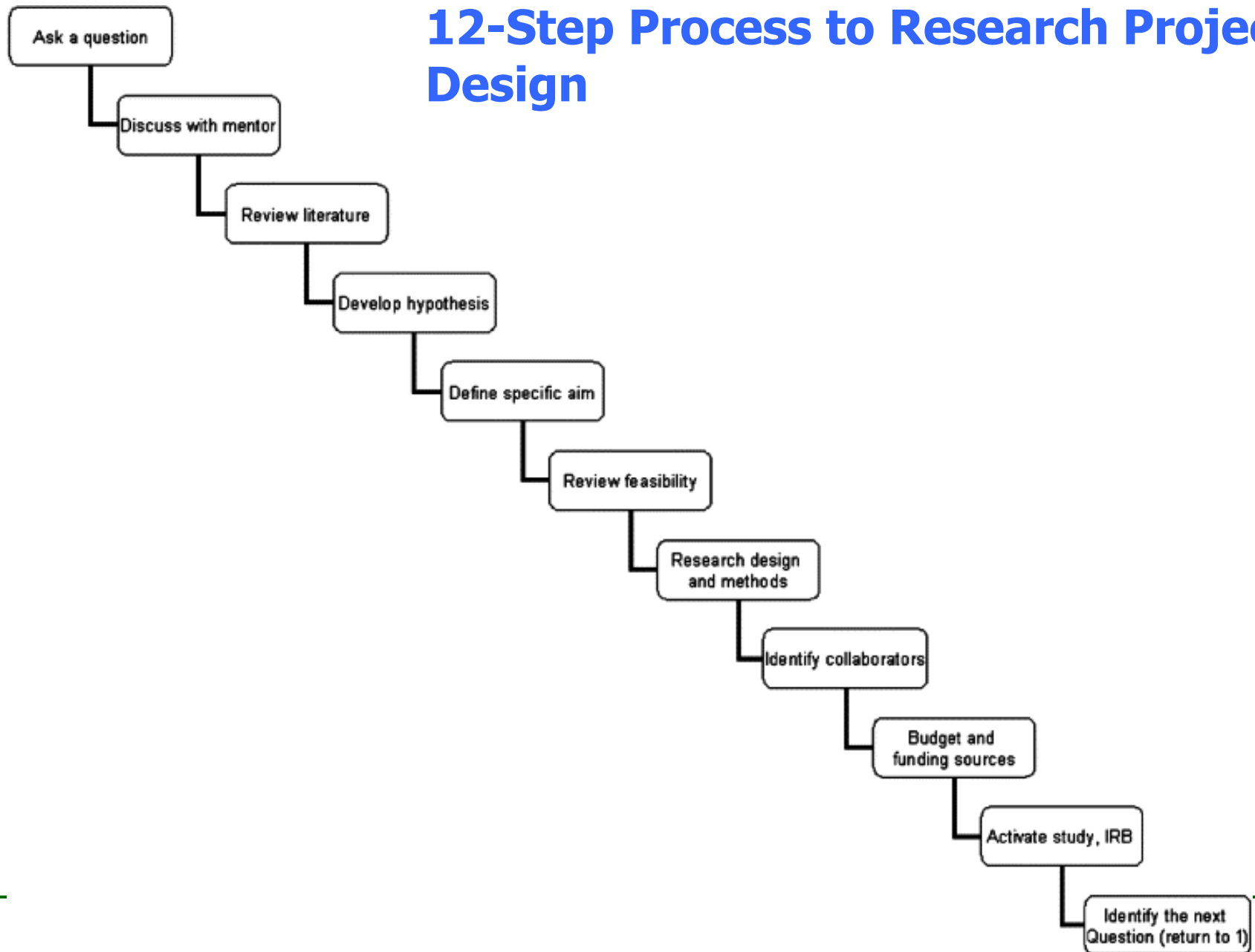 - Expertise (stats), facilities, personnel, $$

Examples of Doable Projects

- Retrospective chart review studies
  - Case-control (harm, risk factors), GI journalism
- Prospective case series
  - Descriptive statistics, test accuracies (e.g. H pylori, FNA)
- Analysis of existing databases
  - May be for primary or secondary endpoints
  - SEER
- Meta-analysis (expertise)
- Questionnaires (more heat than light)
- Beware the RCT!
  - Difficult, time-consuming, costly, usually not completable by end of fellowship

Discussion Point

- Tell us about successful trainee studies you have done

12-Step Process to Research Project Design

Ask a question

Discuss with mentor

Review literature

Develop hypothesis

Define specific aim

Review feasibility

Research design and methods

Identify collaborators

Budget and funding sources

Activate study, IRB

Identify the next Question (return to 1)

Key Trainee Activities

- **Writing the protocol**
  - Research question
    - Literature review
  - Study design: which one?
    - Plan statistical analysis up front
    - Sample size calculation
- **Obtain IRB approval if needed**
- **Address resources**
  - Money, personnel etc

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- **Perform the Study**
- Execute protocol
  - Specific plan and schedule
    - Deliberate time management, mentor meetings
  - Collect data
    - **Organized database (REDCap, Excel)**
- Analyze data (JMP, SPSS, SAS, Excel)
- Present results (research conference, regional/national meetings)
  - Network with people with similar interests
- Publish

Discussion Point

- Should trainees do their own research or just participate in ongoing projects?

- What pitfalls have you faced in doing research with trainees?

Presenting at meetings

- Review and Practice
  - Have the trainee present to you
  - If an oral presentation, use a timer (and don't interrupt)
- Posters:
  - Professionally printed looks best
  - Adhere to meeting size guidelines
- Oral:
  - Slides should be short and to the point!

Keep it simple

- Short phrases
  - Just the essence
  - Sub-bullets
    - for supporting information
- Three main headings/slide
  - 2-3 subheadings
  - Keep slides simple
- Key points only
  - PowerPoint is a tool!
  - It is not the show

KEEP
CALM
AND
KEEP IT
SIMPLE

Title: 36-40 Point (This is 36)

- Text point type – This is 32
  - This is 28
    - This is 24 (24 minimum)
- San serif fonts best (Arial or Calibri)
- Serif fonts (Times New Roman) harder to read from back of room

Color Considerations

- Use light on a dark background
  - Yellow
  - White
- Avoid red and green
  - Don't project well

Color Considerations 2

- Dark on white background
  - Dark Blue
  - Black
- Avoid yellow and light colors

Manuscript writing.
Telling the story

- Don't write the paper in the order it appears in print
- Figures and tables first
  - All the important results should be in a figure or table
- Methods: this is how you got the data
- Results: narrative description of the data
  - in text citation of tables/figures
- Introduction: What the question is and why important
- Discussion: What the results mean
- Abstract: structured according to journal guidelines

Submitting the paper

- Pick your journal
  - A "reach" vs. a "sure thing"
- Adhere to instructions for authors
- Three possible outcomes:
  - Paper accepted (almost never on 1st submission)
  - Option to resubmit with edits
    - Address all of the reviewers concerns
    - Don't get defensive
  - Rejected
    - Resubmit immediately to another journal (lower impact factor)

Discussion point

- How do you get trainees to write the paper?

Do Do that Voodoo…

- Do pick a doable project
- Do pick in an area of interest
- Do pick an appropriate mentor
- Do propose a specific question
  - Hypothesis, aim
- Do prepare a detailed protocol
- Do organize your time and effort
- Do present and publish your results