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**Research Lecture**  
*The Successful  
Research Program:  
Ideas, The Research, and  
Presenting the Work*

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**Global Objectives**

- Improve Emergency Medicine Dx, Rx
- Know how to quickly evaluate patients
- Determine how to use empiric therapies
- Provide evidence-based protocols
- Facilitate disposition, improve pt outcome
- Improve Emergency Medicine practice

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**Specific Objectives**

- Know how to get the work done
- Utilize necessary technical resources
- Complete the work
- Work within a well-structured system
- Succeed in conducting research within your own institution

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**Session Plan**

- Examine idea development
- Discuss how to conduct the research
- Specify how to present and publish work
- Determine how to archive the work
- Review some systems for research success

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## Idea Development

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## People

- Discuss the ideas in a nice venue
- Make it regular
- Nurture the generation of clinical questions and approach to answering them
- Tie it to excellence in clinical practice and to published guidelines

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## Idea Development

- Orderly progression
- A thought, observation, or image
- A case report
- A case series
- A case-control study
- A clinical trial

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## Pub Med

- Utilize the literature to develop ideas
- What still needs to be answered? Why?
- Generate an annotated bibliography
- Probe what is a relevant clinical question and why

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## Reference Management

- Pull all Pub Med searches into a reference management software
- Copy PDFs for future use

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## Research Proposal

- Two page summary of the work
- What will you ask, why?
- What will you do, how will you do it?
- What are the implications?
- Can you pull it off?
- How much support do you need?

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## Conducting the Research

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## IRB Completion

- Utilize exempted or expedited review when appropriate
- Complete all required training without letting IRB lapse
- Serve on the IRB, or know somebody who is in an IRB leadership position

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## Case Identification

- Utilize the electronic medical record and electronic line list
- Do searches of the ICD-9 codes
- Accept that some cases may be missing

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## Eligible Patient Line List

- Include, sample and discuss those who were eligible but not included in the study, in order to minimize selection bias

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## Data Collection Form

- Only collect data that is part of abstract, results, data table
- No more, no less

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## Data Collection

- Collect as much data retrospectively as is possible from the medical record (electronic or chart)

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## Data Entry

- Only allow it to take place in the EM research offices
- No home entry
- Back up the work on a regular basis

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## Data Cleaning

- Do a quick look at the data to make sure data entry errors did not take place
- Lock a final data set and name it as such

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## Data Analysis

- Do preliminary frequency counts
- Do univariate analysis
- Save all analyses

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## Statistical Analysis

- Statistical support to confirm your univariate analysis work and to conduct multivariate analysis

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## Data Summary Sheets

- Summarize the univariate data in sheets that tell the percentages and statistics
- Review the results

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## Data Summary Statements

- At the end of every summary sheet, make a statement of what the data tells us

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## Data Tables

- Summarize the summary sheets onto a summary data table
- Use this to generate the manuscript data tables

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## Data Archiving

- Save all data tables and analyses with original data
- Email to yourself for internet archive

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## Data Storage

- Store the original data sheets in a secure location
- They may never leave the research shop

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## HIPAA

- Follow all of the rules
- Be completely compliant with HIPAA

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## *Publishing & Presenting the Research Findings*

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## Production Schedule

- Write the draft manuscript first
- Complete the manuscript before or concomitant with the presentation of the research work
- Submit it for publication within 30 days of presentation of the data

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## Abstract Writing

- Have a preformatted abstract for different meetings
- Utilize this format for the actual abstract

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## Abstracts Submission

- Submit to every meeting
- Have a running deadline for upcoming meetings
- Don't let an abstract submission get in the way of publishing the manuscript

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## Manuscript Writing

- See the "Manuscript Writing in 28 Days" presentation

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## Manuscript Submission

- Utilize staff to make this process more painless and easily facilitated
- Don't take anything personally
- Develop a "Ding Wall"
- Return revisions within 30 days

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## Poster Production

- Work off of a standard PPT presentation
- Cut and paste in MS publisher
- Use white background and colors for each of the sections of the work

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## Presentation Production

- Use a standard format
- Keep it simple
- Utilize summary statements, especially when data tables include raw data
- Visuals help
- Keep the introduction short!

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## Archiving the Work

- Put all data, analyses, presentations, publications in one place
- Have Internet access to the work

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## Developing a Departmental CV

- Develop a EM Department Internet website that archives all of the work
- Use this in a promotional manner and to make future work more easy to facilitate

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## Research Process Ideas

- Make the work progress in an orderly manner
- Make every meeting count
- Bring all information to every meeting
- Archive work on the Internet on an ongoing basis so that it can be accessed

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## Research Process Ideas

- Publish the annotated bibliography on line to promote completion
- Always use a template
- Have a clear policy on publishing once the resident or faculty member have left the program
- Keep the final data set for future use

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## *A Global Plan for Research Success*

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## A Global Research Plan

- Clearly identify in advance what faculty are projected to complete what work at what time
- Mobilize all EM Department resources to help meet that deadline
- Set up to submit the final manuscript within a 30 day period

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## A Global Research Plan

- Utilize all EM department staff, personnel, statisticians, grad students, med students to get this one project done
- Plan for review by the research committee
- Plan to present the work at staff meeting and to EM residents at grand rounds

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## Conclusions

- This is excellent work
- With adequate support success is likely
- You must develop an imperative
- Processes are mandatory
- Constant upgrading and modifying of the approach is necessary

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## Recommendations

- Do your homework
- Make sure there is a plan
- Make buy-in mandatory
- Create an imperative equal to clinical mission
- Constantly create support opportunities
- Go forth and prosper

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*Thank you.*

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