# Clinical research: getting started

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### Rehabilitation Studies Unit

#### Role:

- > teach graduate medical and allied health students
- conduct research
- advocate for people with disabilities
- advise policy makers
- > supervise masters, PhD and post graduate students
- encourage evidence-based practice

### During this session:

- 1. why do research
- 2. benefits for clinical sites
- 3. how to get started
- 4. picking a doable project
- 5. key design features
- 6. getting published

### 1. Why do research

#### Motivating factors for clinicians:

- answer a question
- improve understanding of research
- > increase job satisfaction and intellectual stimulation
- develop new skills
- broaden knowledge in topic area
- > to achieve something tangible
- progress career



### 2. Benefits for clinical sites

#### These include:

- creates a more dynamic and intellectually stimulating work environment
- attracts and keeps high quality staff
- enhances reputation of clinical site



### 2. Benefits for clinical sites

#### The risks:

- waste your, your hospital's and your patient's time, money and effort
- final product = poor and unpublishable study with misleading results



# 3. How to get started

#### To get started:

- > enroll in research-based post graduate degree
- > team up with someone with experience
- participate in an up-and-running trial
- upgrade your quality projects
- participate in journal clubs

### 3. How to get started

#### Master the following skills:

- understanding of research design
- ➤ IT skills word, excel, powerpoint, graphical software, statistical software, reference manager software, file management
- database searching
- writing, writing .....and more writing
- > presenting



### 3. How to get started

#### General principles

- lower your ambitions your first research project is primarily about learning the process
- do not start data collection until you have run the project past someone with experience



# 4. Picking a doable project

#### General principles

- > start with something small and containable
- mould the question around the characteristics of your patients/subjects
- > try to get financial support but....difficult



# 4. Picking a doable project

#### Make sure you know what is out there

- > do comprehensive search of PEDrO, medline, pubmed etc.
- set-up automated searches
- > search trial registries



#### Types of studies

- reliability/validity studies
- > clinical trials
- prognostic studies
- aetiology studies
- > systematic reviews



#### Reliability/validity studies:

- > easiest
- > do not be tempted to design a new assessment tool
- > ensure your sample is representative of intended population

#### Clinical trials (treatment effectiveness):

- ambitious but doable
- > aim for quality with minimal susceptibility to bias
- do not look at treatments for prevention unless what you are trying to prevent is EXTREMELY common
- follow the CONSORT guidelines
- > quantify size of treatment effects (not statistical significance)

#### Prognostic studies (prediction):

- difficult to do well
- must have consecutive and representative sample
- no more than one predictor for every 10 subjects
- > must follow-up everyone
- need to quantify strength of predictors (not statistical significance)
- > must not be tempted to imply causation



#### Aetiology studies:

- avoid at ALL cost extremely difficult to do well
- > must have consecutive and representative sample
- > must measure every factor which could influence outcome
- > must account for confounding between variables

#### Systematic reviews:

- > requires good understanding of stats
- > could do as first project but tricky
- > avoid just tabulating and paraphrasing authors' conclusions
- read the Cochrane manual
- > follow PRISMA guidelines

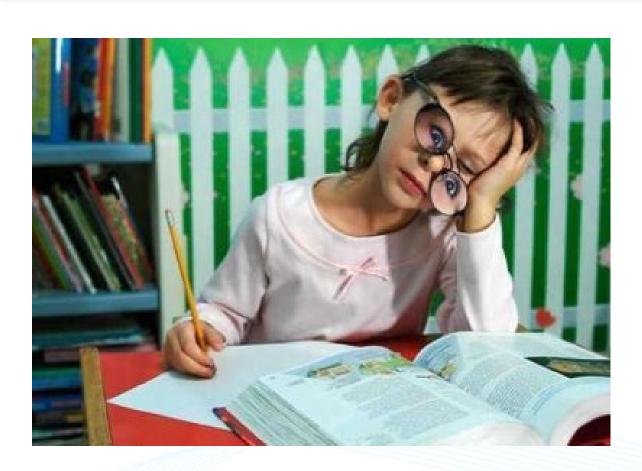
### 6. Getting published

#### Key points:

- aim for appropriate journal
- > start writing the paper from day one
- > attention to detail
- > work on expression
- don't make is unnecessarily complex
- say is as it is don't talk it up
- understand the review process



# Your ideas





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