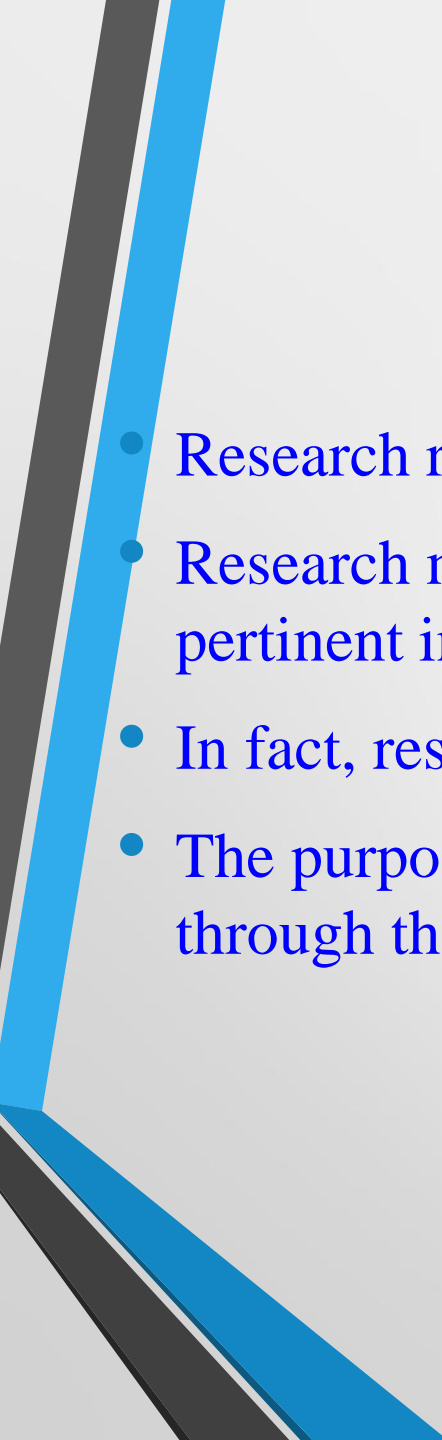




# Tips for a comprehensive proposal review

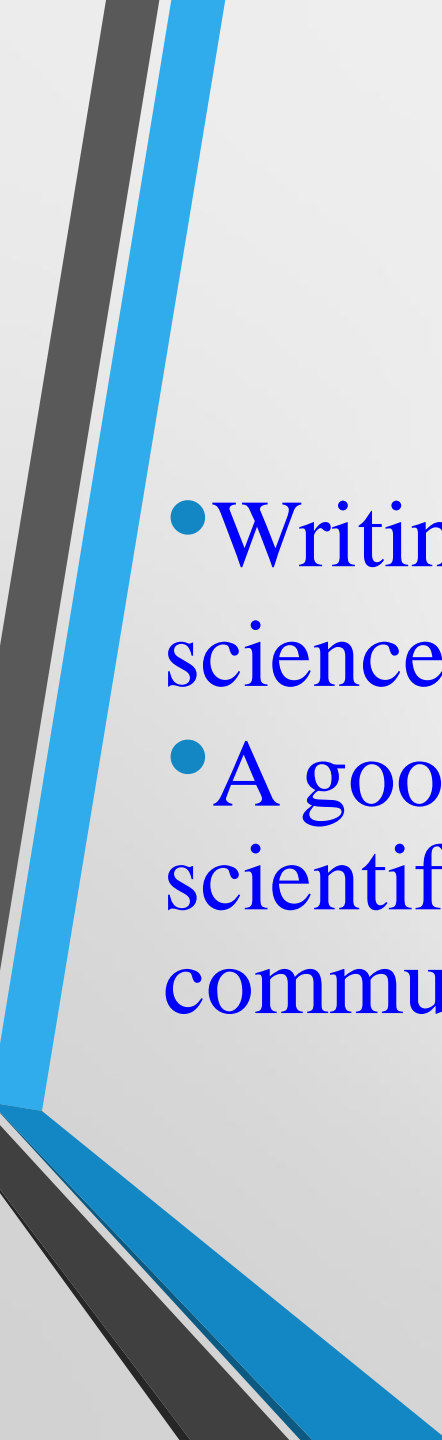
- 
- Research refers to a search for knowledge
  - Research means a scientific and systematic search for pertinent information on a specific topic
  - In fact, research is an art of scientific investigation.
  - The purpose of research is to discover answers to questions through the application of scientific procedures


# RESEARCH PROPOSAL

- Any Medical research / Epidemiological study should have a proper proposal in written form before it is actually carried out



It is like a blue print of a building plan before the construction starts

- 
- Writing a research proposal is both science and art
  - A good research proposal is based on scientific facts and on the art of clear communication



Writing a formal research proposal should be started by the time one has decided on the topic for the study

- Objective
- Justification
- Introduction
- Background /Review of literature
- Methodology
- Time frame and work schedule/Gantt chart
- Personnel needed / available
- Facilities needed / available
- Budget

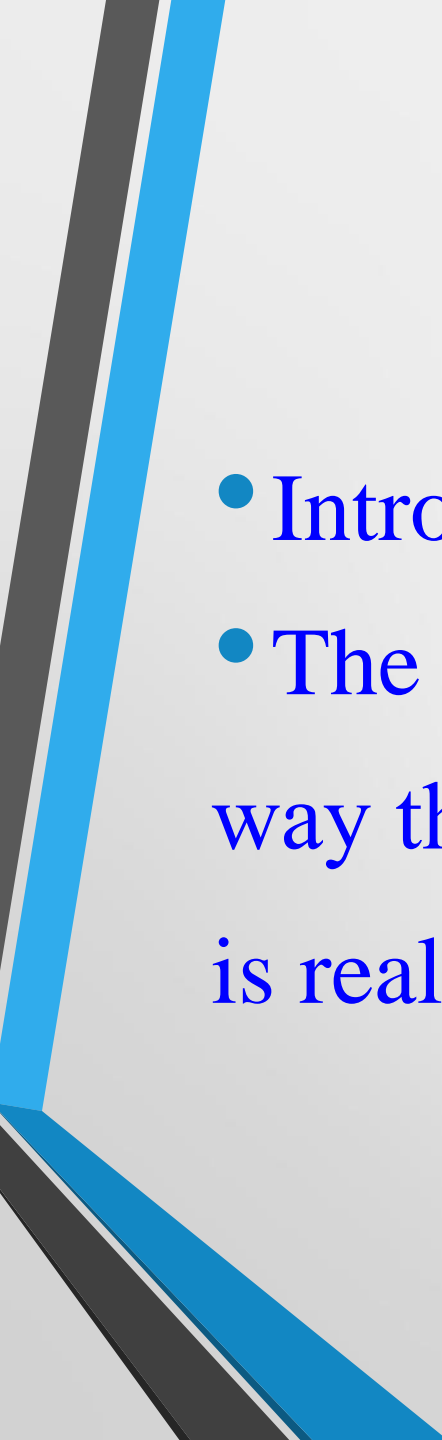
# Objectives

- This is a very important and pivotal section and everything else in the study is centered around it
- The objective of the proposed study should be stated very clearly
- The objective stated should be specific, achievable and measurable
- Too many objectives to be avoided
- Even just one clearly stated relevant objective for a study would be good enough
- If there is more than one objective the objectives can be presented in the appropriate order of importance



# Introduction

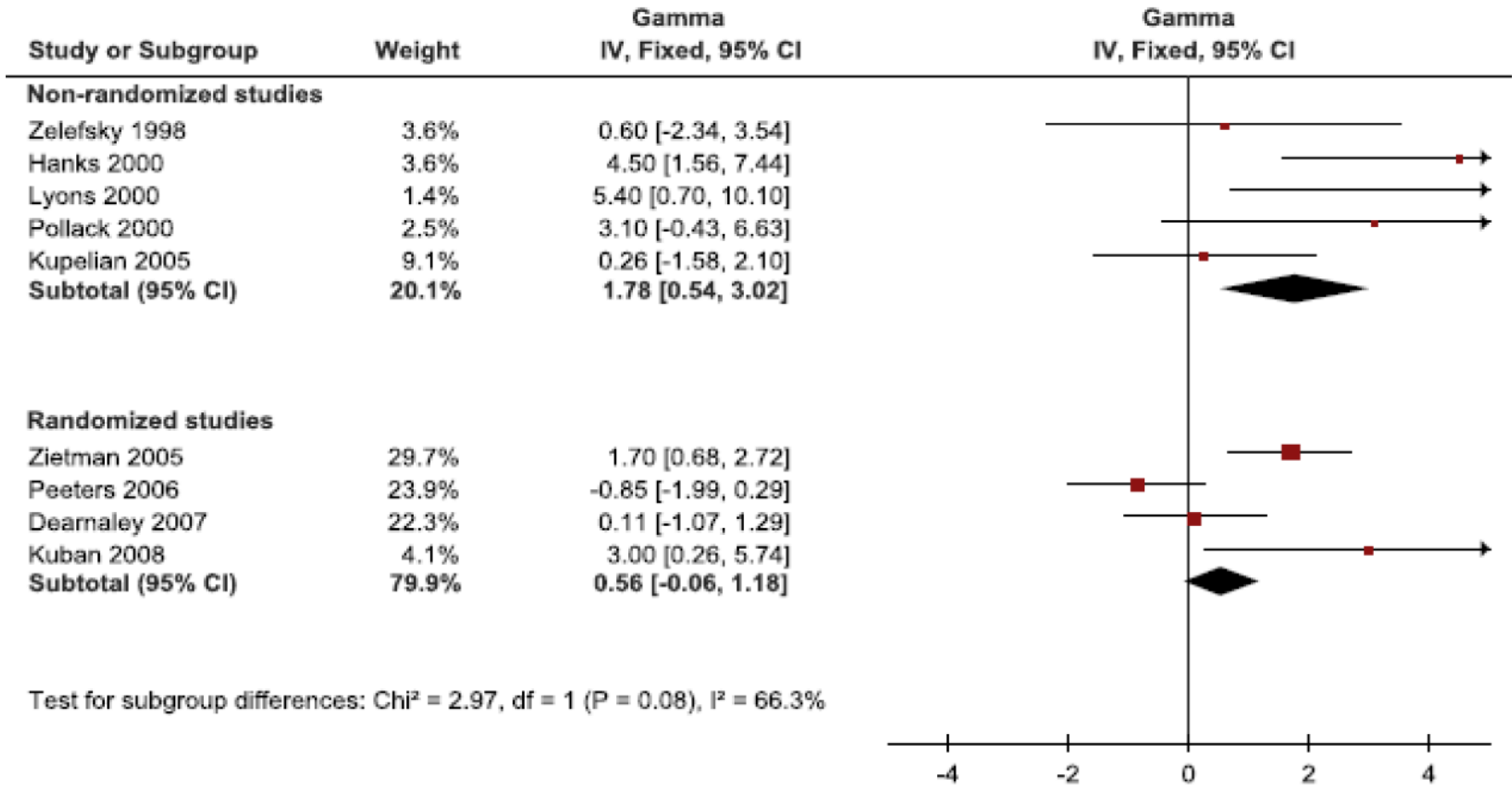
- The problem proposed to be studied is introduced in this section
- It should help the reader to acquaint with the topic

- 
- Introduction should be short
  - The problem should be stated in such a way that its importance and relevance is realized by any one who reads it

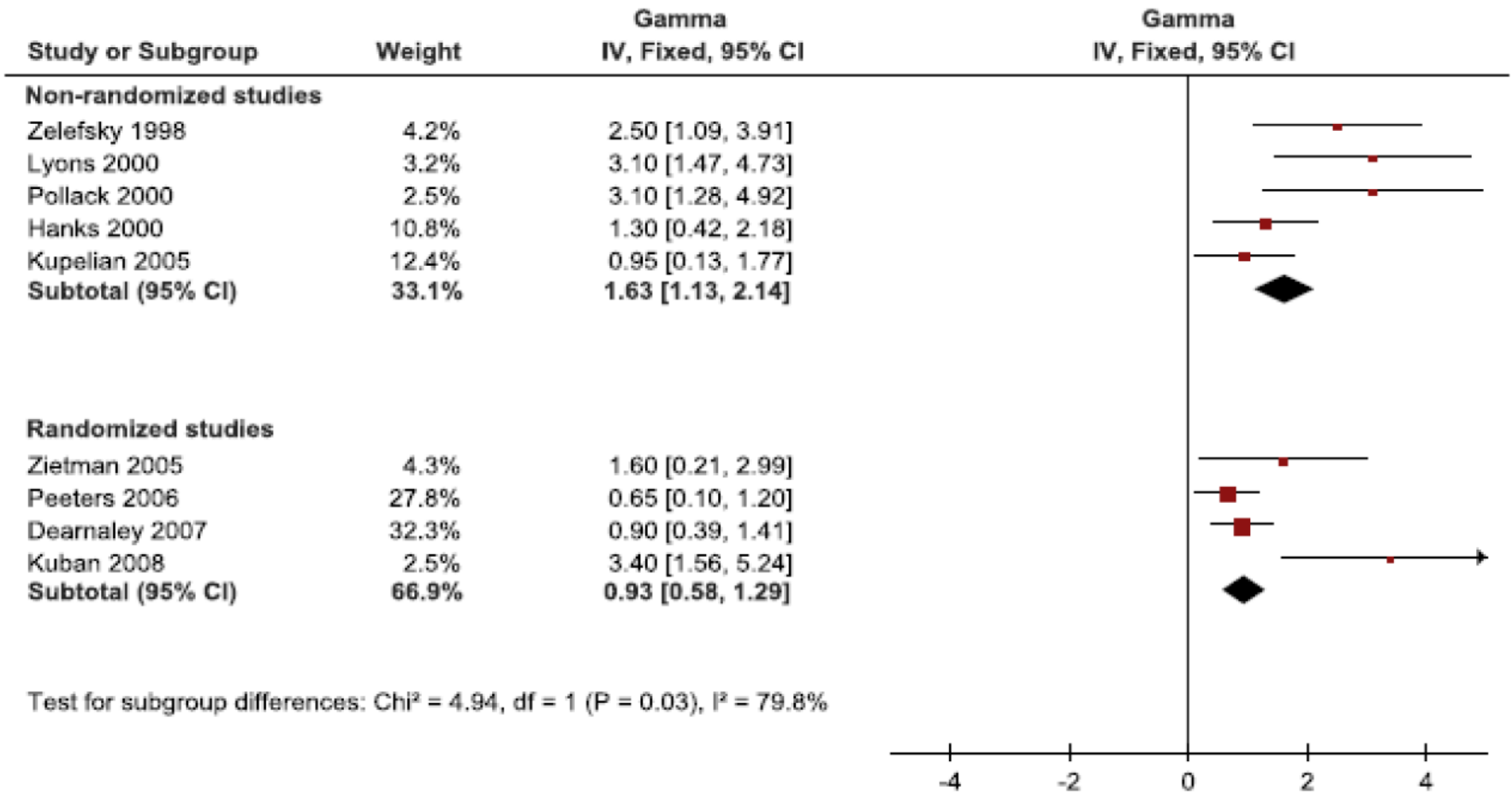
## Randomized Trials of Dose Escalation with EBRT

Series	#	Randomization	PRFS	Advantage
MDACC (2002, 2008)	301	78 Gy vs 70 Gy	73% vs 50% (10-yr)	Intermediate Risk ( PSA>10)
MGH/LLMC (2006, 2010)	393	79.2 vs 70.2 Gy (protons)	83% vs 68% (10-yr)	Low and Int Risk
Peeters (2006)	669	78 Gy vs 68 Gy	64% vs 54%	Intermediate Risk
Dearnelay (2007)	843	74 Gy vs 64 Gy (with ADT)	71% vs 60%	All risk groups
GETUG (2011)	306	80 Gy vs 70 Gy	72% vs 61%	

# BENEFIT - LOW RISK

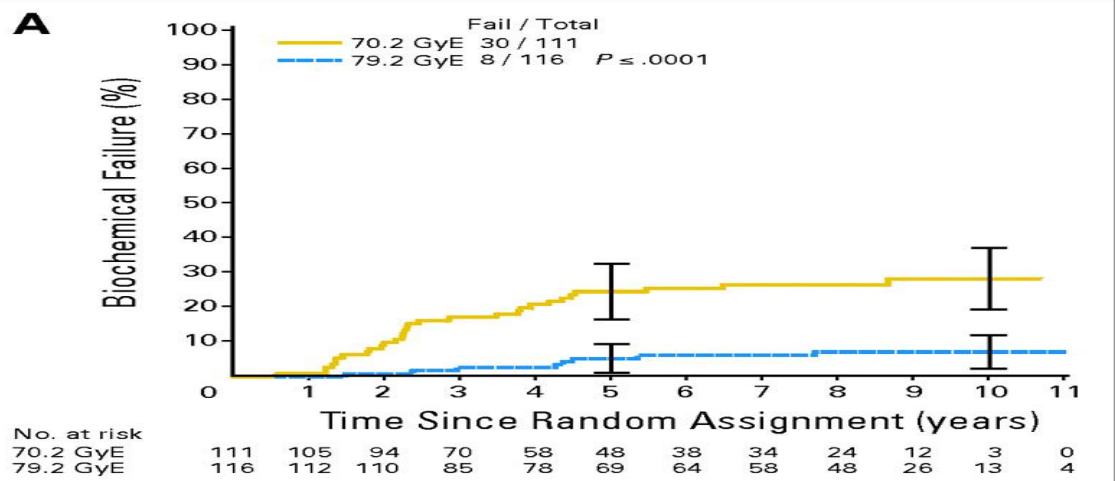


# BENEFIT - INTERMEDIATE-HIGH RISK

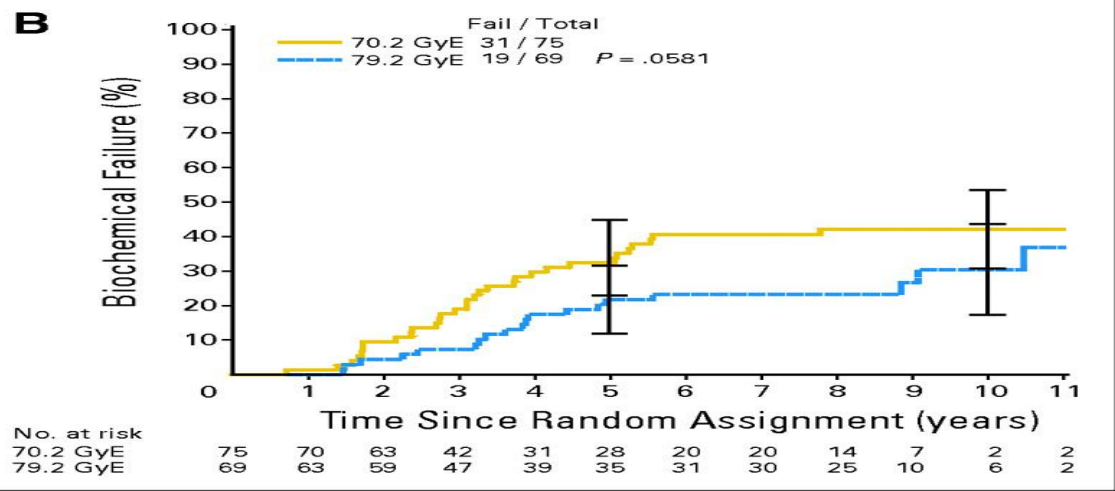


# Dose Escalation Advantage for Favorable Risk Disease

## Zietman et al JCO 2010



Favorable intermediate Risk



Intermediate- High risk Risk

# Objectives

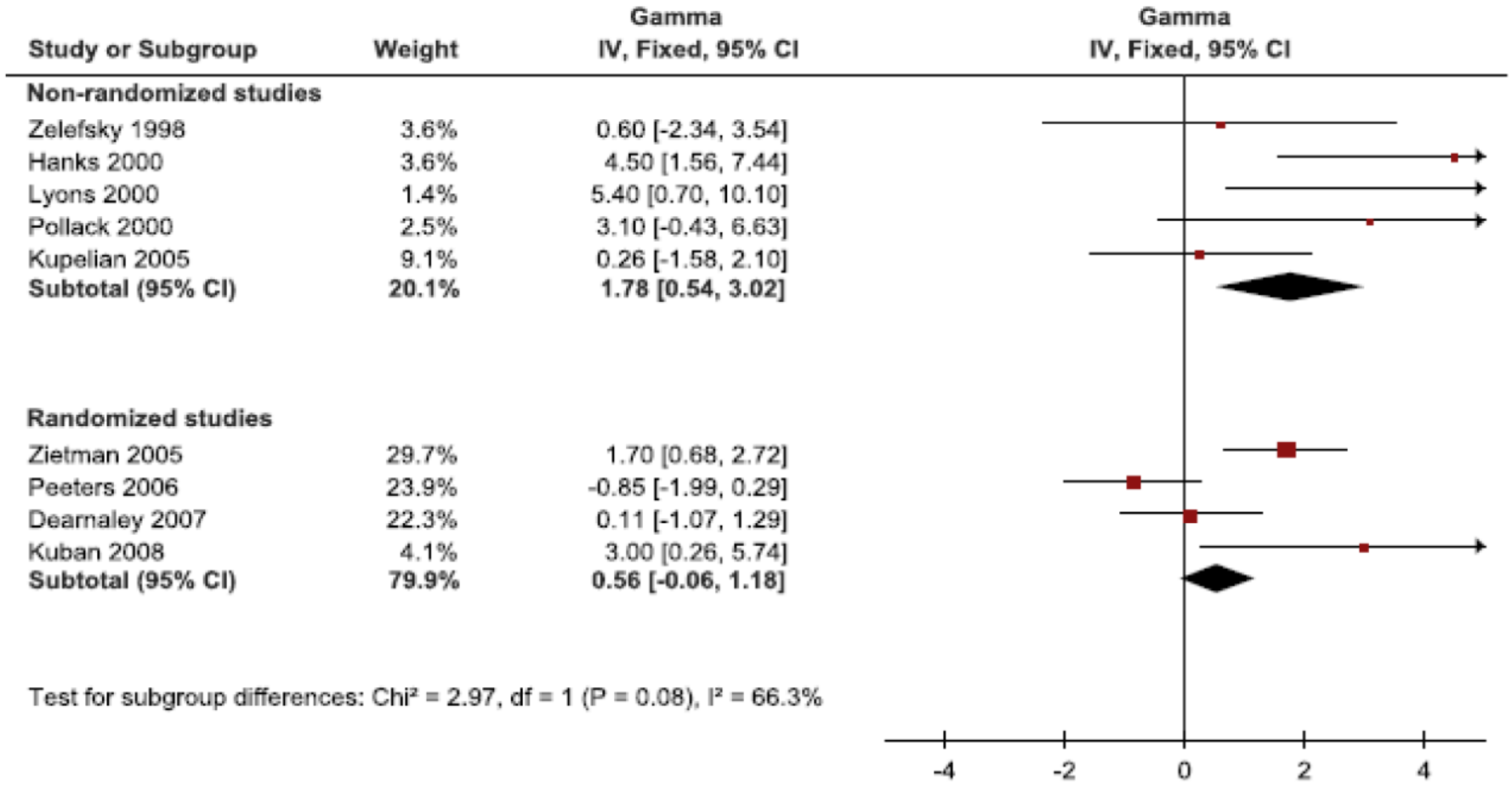
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## Randomized Trials of Dose Escalation with EBRT

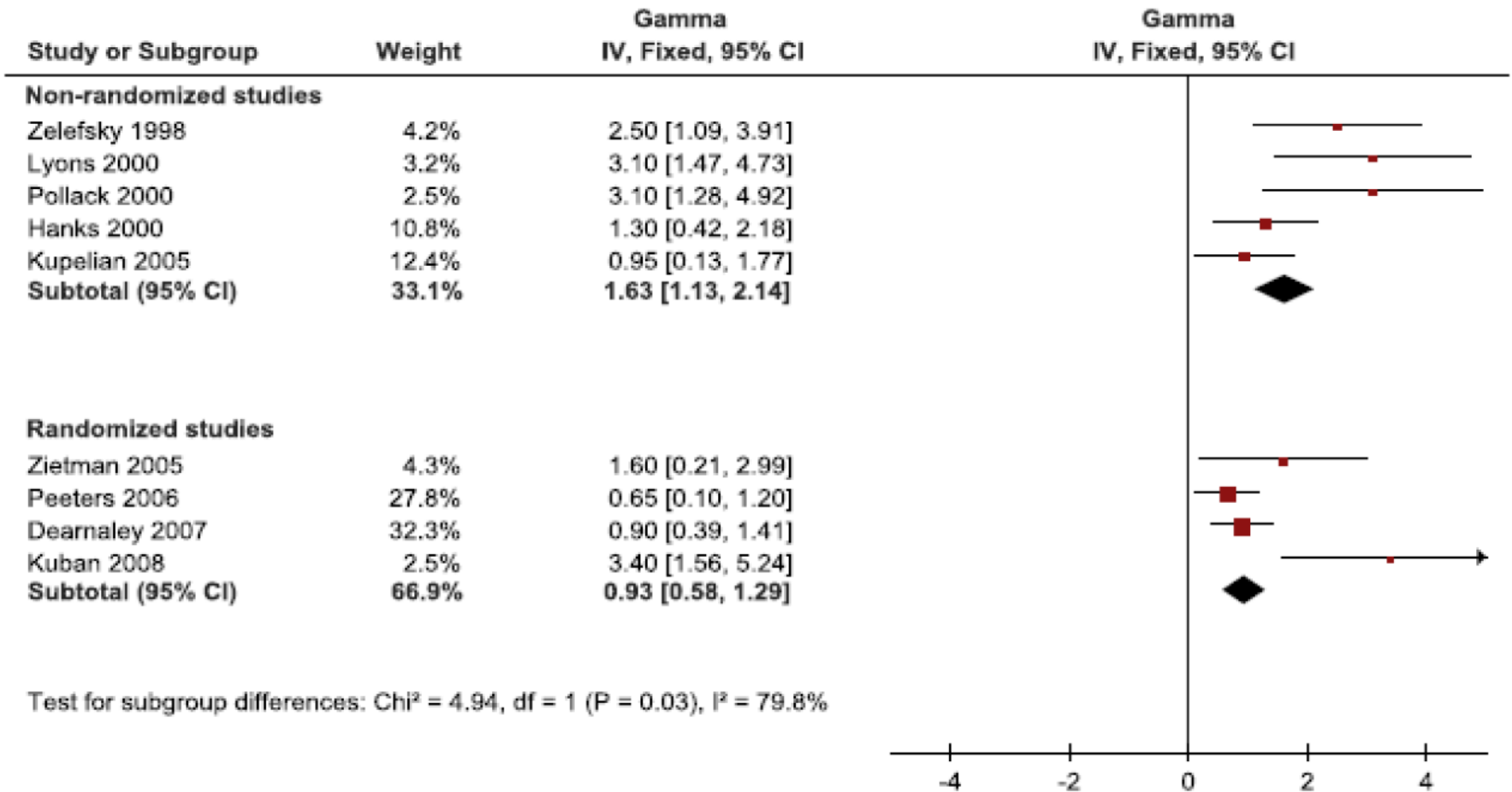
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# BENEFIT - LOW RISK

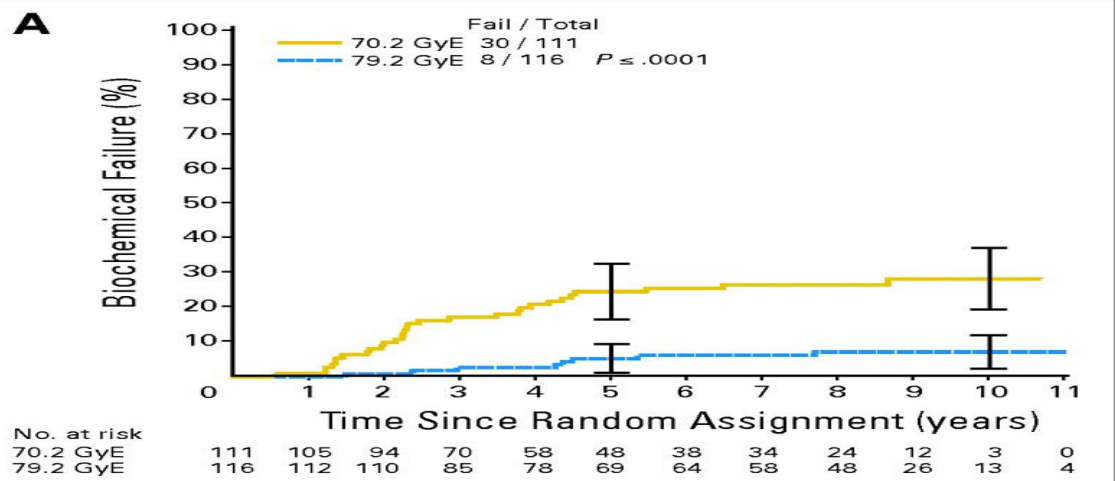


# BENEFIT - INTERMEDIATE-HIGH RISK

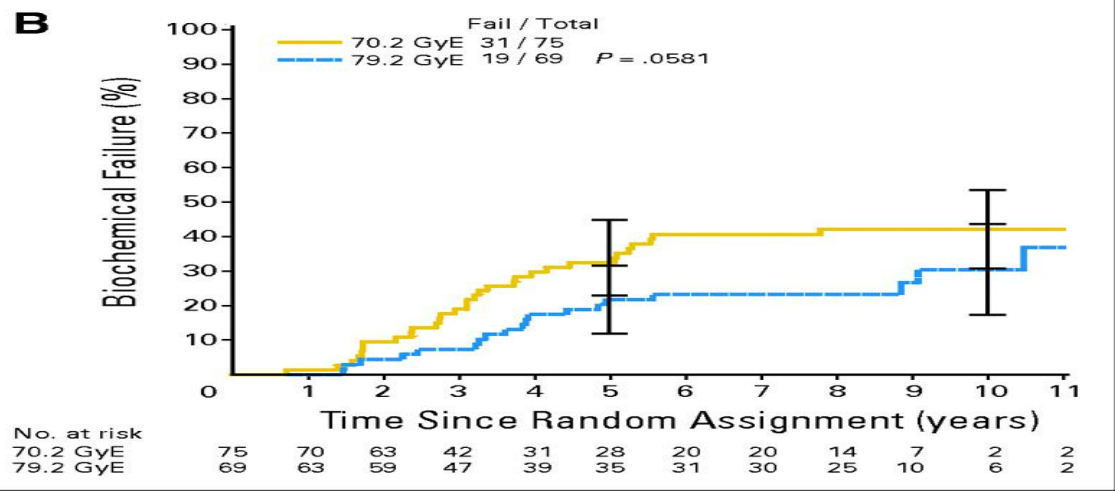


# Dose Escalation Advantage for Favorable Risk Disease

## Zietman et al JCO 2010



Favorable intermediate Risk



Intermediate- High risk Risk


# Background

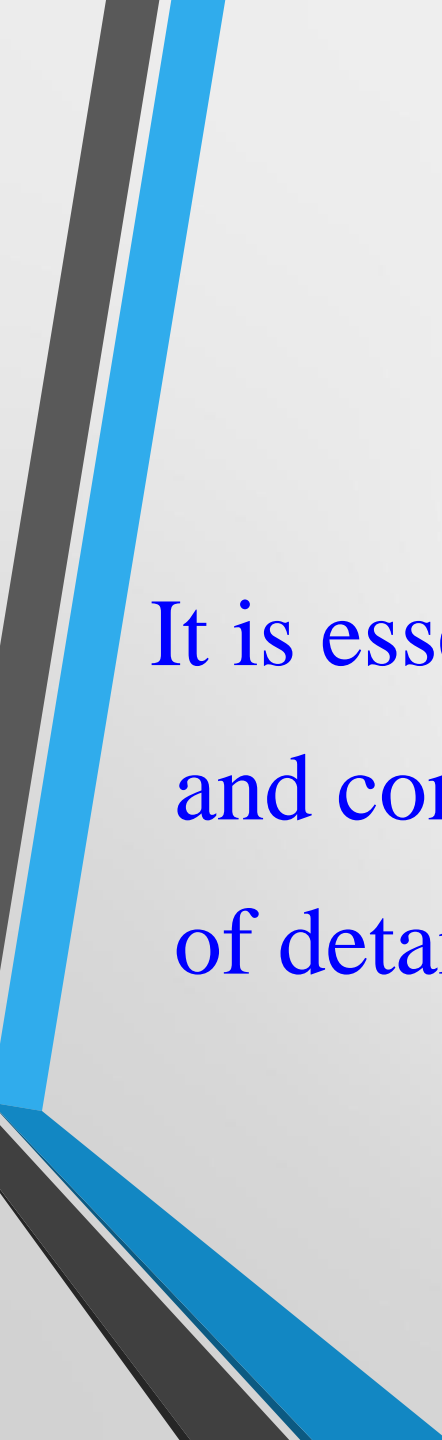
## (Review of Literature)

- This section reflects extensive review of literature done by the investigator
- In this section what is already known about the topic is written including the lacunae
- Just quoting the literature verbatim will not serve the purpose
- It is important to make it coherent, relevant and easily readable knowledge
- It helps the investigator to gain good knowledge in that field of inquiry
- It also helps the investigator to have insight on different methodologies that could be applied


# Research methodology

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically

- 
- It is necessary for the researcher to know not only the research methods/techniques but also the methodology.
  - Researchers not only need to know how to develop certain indices or tests and how to calculate the mean, the mode, the median or the standard deviation or chi-square etc.,




It is essential to discuss procedures clearly and completely with considerable amount of details

- 
- Study design
  - Study population / Sampling specifications
  - Sample size needed
  - Instrumentation
  - Specific procedures



# Study design

**Definition:** A study design is a specific plan or protocol for conducting the study, which allows the investigator to translate the conceptual hypothesis into an operational one.


- 
- The study design should be clearly stated
  - The study design to be used should be appropriate for achieving the objective of the study

## **Study population / Sample specifications**

- It is important to describe which would be the study population
- How study subjects would be selected, randomization process and other details should be given

# Sample size

It is important to mention in the protocol what would be the minimum sample required and how it is arrived



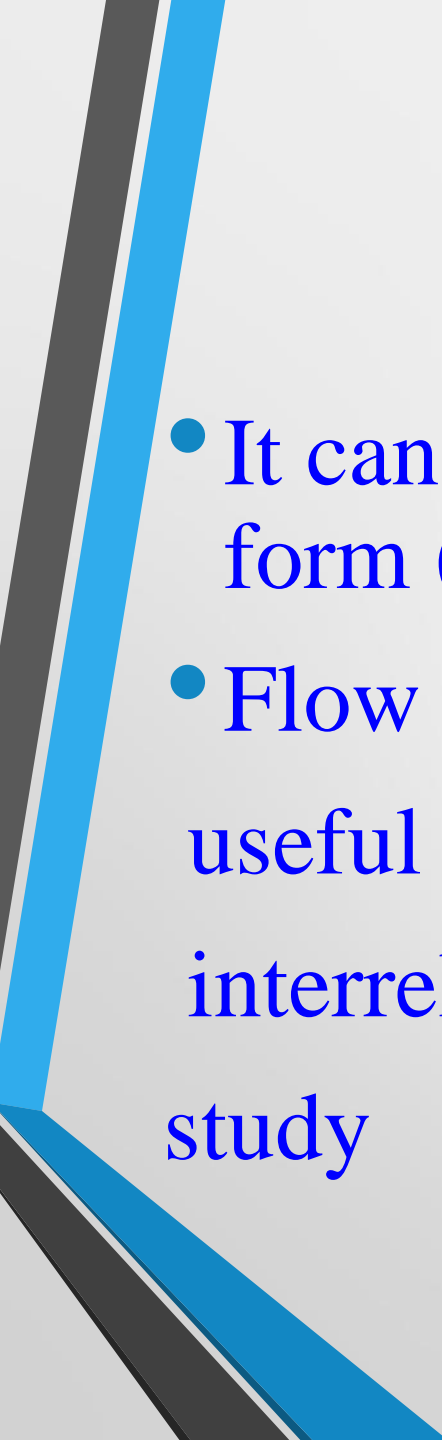
Determination of sample size is a bargain between precision and the price (Resources & expenses involved)

## **Description of process**

- Proposal should include the details of all process to be adopted in the study
- How exposures, outcome variables and other variables are going to be measured should be described in detail
- A brief description of how the data will be processed and use of statistical package if any should be given
- What statistical tests of significance would be used?

# Time Frame & Work Schedule

The proposal should include the sequence of tasks to be performed, the anticipated length of time required for its completion and the personnel required

- 
- It can be presented in tabular or graphic form (Gantt chart)
  - Flow charts and other diagrams are often useful for highlighting the sequencing and interrelationship of different activities in the study



## Facilities

The proposal should also include the important facilities required / available for the study namely computers, laboratories, special equipment etc

# Personnel

- Proposal should include who are the primary investigators and co- investigators, their qualifications, research experience etc
- The proposal may also include the Major roles to be taken up by different investigators

# Budget

- The budget translates project activities into monetary terms
- It is a statement of how much money will be required to accomplish the various tasks

# Budget

## Major items

- Salary for staff
- Travel
- Purchase of equipment
- Printing / Xeroxing
- Consultancy charges
- Institutional overheads

# Title & Abstract

- The title should reflect the study and study outcomes





**Thanking you**