

The background of the slide is an open book. The right page is visible and features the title 'HIPPOCRATIS COL' at the top. A stethoscope is resting on the right page, with its chest piece positioned over the text. The book's pages are aged and yellowed.

# How to write a paper

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# Why write a paper?

Clear thinking + understanding

Discipline + skill

Analytical ability

Sense of accomplishment

Critical appraisal

Advances knowledge

Improves disease management

CV

# Levels of evidence

**Systematic reviews + meta-analysis**

**RCTs**

**Cohort studies**

**Case-control studies**

**Case series**

**Case reports**

**Ideas / editorials / expert opinion**

**Animal research**

**Test tubes**

# Impact Factor

**No. articles published in  
2010-11 and cited in 2012**

**÷**

**Number of articles  
published in 2010-2011**

<http://impactfactor.weebly.com/>

Top ranking  
medical  
journals in all  
specialities  
(2012)

Rank	Journal	Impact Factor
1	NEW ENGL J MED	53.484
2	LANCET	33.633
3	JAMA-J AM MED ASSOC	30.011
4	ANN INTERN MED	16.729
5	PLOS MED	15.617
6	BRIT MED J	13.471
7	ANNU REV MED	12.457
8	ARCH INTERN MED	10.639
9	CAN MED ASSOC J	9.015
10	COCHRANE DB SYST REV	6.186
11	J INTERN MED	5.935
12	BMC MED	5.75
13	MAYO CLIN PROC	5.712
14	AM J MED	5.115
15	ANN FAM MED	4.457
16	ANN MED	4.323
17	MEDICINE	4.256
18	AM J PREV MED	4.11
19	CLEV CLIN J MED	3.495
20	PREV MED	3.299

Top ranking  
surgical  
journals (2012)

Rank	Journal	Impact Factor
1	ANN SURG	7.474
2	ENDOSCOPY	6.096
3	AM J TRANSPLANT	6.048
4	J NEUROL NEUROSUR PS	4.791
5	ARCH SURG-CHICAGO	4.5
6	BRIT J SURG	4.444
7	J AM COLL SURGEONS	4.241
8	ANN SURG ONCOL	4.182
9	AM J SURG PATHOL	4.106
10	J VASC SURG	3.851
11	TRANSPLANTATION	3.676
12	J THORAC CARDIOV SUR	3.608
13	ANN THORAC SURG	3.558
14	WOUND REPAIR REGEN	3.443
15	SURG ENDOSC	3.436
16	SURGERY	3.406
17	ARTHROSCOPY	3.317
18	NEUROSURGERY	3.298
19	TRANSPL INT	3.211
20	SHOCK	3.203

# Sources

## Trisha Greenhalgh, BMJ, 1997

Papers that go beyond numbers (qualitative research)

Papers that summarise other papers (systematic reviews and meta-analyses)

How to read a paper. Papers that tell you what things cost (economic analyses)

How to read a paper. Papers that report diagnostic or screening tests.

How to read a paper. Papers that report drug trials

How to read a paper. Statistics for the non-statistician

Assessing the methodological quality of published papers

How to read a paper. Getting your bearings (deciding what the paper is about)

How to read a paper. The medline database

# Getting started

Background reading – whats out there?

Select journal – check guidelines

Timetable

Protected time – biorhythms

Mentor





**Sometimes feel like an impostor?  
You're not alone.**

# An iterative process

**Iteration: the act of repeating a process with the aim of approaching a desired goal or result**

# Structure

Methods

Results

Discussion

Introduction



# Methods

- **Past tense**
- **Statistical methods – get help!**
- **Inclusion / exclusion criteria**
- **Retrospective / prospective**
- **State ethics**
- ***make it repeatable***

# Results

- Past tense
- Facts in logical sequence
- Accuracy, accuracy, accuracy
- Numbers, %, *p* value, CI
- Avoid discussion
- Text, tables and figures
- Tables / figures: don't duplicate text

What is...? series

Second edition

Statistics

Supported by sanofi-aventis



## What are confidence intervals and p-values?

**How TO Davies** PhD  
Professor of Health  
Care Policy and  
Management,  
University of St  
Andrews  
**Iain K Crombie** PhD  
FFPHM Professor of  
Public Health,  
University of Dundee

- A confidence interval calculated for a **measure of treatment effect** shows the range within which the true treatment effect is likely to lie (subject to a number of assumptions).
- A p-value is calculated to assess whether trial results are likely to have occurred simply through chance (assuming that there is no real difference between new treatment and old, and assuming, of course, that the study was well conducted).
- Confidence intervals are preferable to p-values, as they tell us the **range of possible effect sizes** compatible with the data.
- p-values simply provide a cut-off beyond which we assert that the findings are 'statistically significant' (by convention, this is  $p < 0.05$ ).
- A confidence interval that **embraces the value of no difference between treatments** indicates that the treatment under investigation is not significantly different from the control.

# Tables and Figures

## Figures:

Visual presentation of results

Graphs, diagrams, photos

For trend or patterns

Ki67 was correlated with tumour size (fig. 4)

NOT

Fig. 4 show the results of Ki67 in different tumour sizes

Table legends: above, left justified

Fig. legends: below (don't use title)

Use error bars – SD / CI

Do acid test

# Discussion

- State major findings
- Explain meaning
- Explain why findings are important
- Relate to similar studies
- Consider other explanations of findings
- State the clinical relevance
- Acknowledge study limitations
- Suggest further research
- 'Take-Home Message'



# Discussion

## DON'T

- Overinterpret
- Unwarranted Speculation
- Inflate importance
- Tangent
- Conclusions not supported by data

# Introduction

## 3 paragraphs

- Brief background (present tense)
  - context / problem
- Importance and what is unknown
- Hypothesis / objective / purpose

## Abstract

- Determines if paper is read
- Avoid acronyms / abbreviations

## Title

- Determines how manuscript is indexed
- Describe core of paper

*The breast: a clean-contaminated surgical site*

*The role of fibrin glue instillation under skin flaps in the prevention of seroma formation and related morbidities following breast and axillary surgery for breast cancer: A meta-analysis*

## References

- Only essential / relevant / seminal
- No manipulation
- Endnote

HEPPOCRATES COL



# Review papers

**Problem**

**History**

**Basic Science**

**Animal studies**

**Human studies**

**Discussion**      unresolved problems

speculate future

**Conclusion + recommendations**

**“The best writers make the fewest words go the longest way”**

**Be ‘active’**

**There are treatment guidelines for anal carcinoma that were reported by Benson**

**Treatment guidelines for anal carcinoma were reported by Benson**

**Benson reported treatment guidelines for anal carcinoma**

**‘significant’**

**Crisp**  
**Accurate**  
**Clear**  
**Brief**



- *mates*
- *Read out load*
- *2 week rule*

# Authorship

Decide up front

- **1<sup>st</sup> = 1<sup>o</sup> collect / analyse / write**
- **Last = senior / established / mentor**
- **Middle = order of contribution**

# Rejection

**“Good writing is rewriting”**

**Truman Capote**

- **Free peer review**
- **60-70%**
- **Get revenge**





DETERMINATION

**The Race Is Not Always To The Swift...  
But To Those Who Keep On Running**