Why do you read papers?
Levels of reading papers?

• Abstract is OK?
• Get info about topics
• Know what is there
• Use in your references: INTRO
• Use in your references: Discussion
• Review
Levels of reading
Jewell: «Critical reading...»

1. Browse
2. Search info
3. For research
4. (for review)
Rule of thumb

Read for use in Intro/background:
• Is it the best?
• Is it acknowledged
• Is it the first?
• Is it the latest?
• How many?

Read for Discussion section:
• Compare with your data: read the whole paper and see methods
How many papers to refer to?

«Tuberculosis is caused by \textit{m.tb.} (1-11)»

«Recent studies show a wide range of species isolated from shared environment (18, 19, 20, 21,22,23)»

«TB is more complicated due to HIV. (12)»

Why know the mind of the Editor? Need hints for your paper?

• Choosing references of your paper

• Submission of your paper
  – Responding to review

• Review submitted papers
Review

- Read the paper
- Write comments
- Answer questions (10)
- Insert comments
- Save and wait
- ...
- Submit

Decision by reviewer:

- Accept as it is 😊😊😊
- Minor revision 😊😊
- Major revision 😊
- Reject
1. Results of primary scientific research.
3. High technical standard / sufficient detail.
4. Conclusions: appropriate fashion / supported by data.
5. Written intelligible standard English.
6. Ethics of experimentation and research integrity.
7. Reporting guidelines / for data availability.
1. Clearly stated research question/study **objective**?
2. **Design** appropriate to the research question?
3. **Analysis** appropriate to the research question and the design?
4. **Conclusions** drawn appropriate to the analysis?
5. **Novel** finding or add to existing knowledge?
6. Conclusion have **application** to the improvement of health?
7. **Summary**: does the summary accurately resume the article?
8. **Tables/Figures**: are the Tables/Figures of sufficient clarity?
9. Does this article merit an **editorial**? suggest a possible author
1. Is the **research question** well posed by author?
2. Are **methods** appropriately and well described?
3. Are the data **sound**?
4. Std of reporting and data deposition?
5. Discussion **conclusion** well balanced supported by data?
6. Are the **limitations** stated?
7. Do they **acknowledge** work they build on?
8. Is **Title and Abstract** accurately convey what?
9. Is the **writing** acceptable?
Review questions

1. **Research question** well posed by author?
2. **Methods** appropriately and well described
3. Are the **data** sound?
4. Std of reporting and data deposition OK?
5. **Conclusion** supported by data? In objective?
6. Are the **limitations** stated?
7. **Acknowledge** work they build on?
8. **Title and Abstract** OK?
9. Is the **writing** acceptable?
THE LANCET

1. What were the study objectives?
2. What was the study about? How were the subjects recruited?
3. Was the design of the study sensible?
4. How were the preliminary questions dealt with?
5. How did the author measure the outcome?
6. Quality control issues
7. Data analysis
8. Was systematic bias avoided or minimized?
9. Ethical issues
10. Conclusions and their use
1. **Question** posed original, important and well defined?
2. Are the **data** sound and well controlled?
3. **Interpretation** balanced and supported by the data?
4. **Methods** appropriate and well described, sufficient details?
5. **Strengths and weaknesses**?
6. Can the **writing**, organization, tables and figures be improved?
7. **Ethical** or competing interests issues
1. Objectives
2. Recruitment
3. Design
4. Preliminary questions
5. Outcome measurement
6. Quality control
7. Analysis
8. Bias
9. Ethics
Reviewer must «at least» comment this

- Published before?
- Objectives clear
- Methods OK?
- Weaknesses
- Ethics
- Conclusions
How to cheat with statistics
(Greenalgh)

1. ALL $p < 0.05$
2. Baseline differences: not to adjust
3. Do not test normally distribution
4. Ignore “dropouts” and non-responders
5. Report all Pearson correlation coefficient ($r$)
6. Outliers Drop or use
7. Confidence intervals $< 0.05$: leave out
8. If uninteresting: subgroup analysis
9. If analysis neg. result: run through other tests
Must I read this way?

• Personal choice
• Efficiency
• Learn from others
How to read (1)
First impression (gut feeling)

• Read title + abstract
  – Is objective clear
  – Is objective answered in conclusion?
  – Is it new? Done before?
  – Is it important?

• TYPE of paper
  – Original
  – Short
  – Letter
  – Review
How to read (2)

Tables

• See tables
How to read (3)

Read thoroughly

• Why was this done? Well described research question?
• Clear objectives?
• Methods well described?
• Results: focus on new or data all over?
• Discussion: do they lead reader to the conclusion?
How to read (4)

Check again

• Are objectives answered in conclusion?
Language?

• Comment to editor
• Suggest revise?
• How important is language?
Resources

Greenalgh: How to read a paper

Keshav: How to read a paper