

Writing Case reports

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University of Toledo, Faculty Development Series

Case Report: What is it?

Case reports in the larger scheme of things

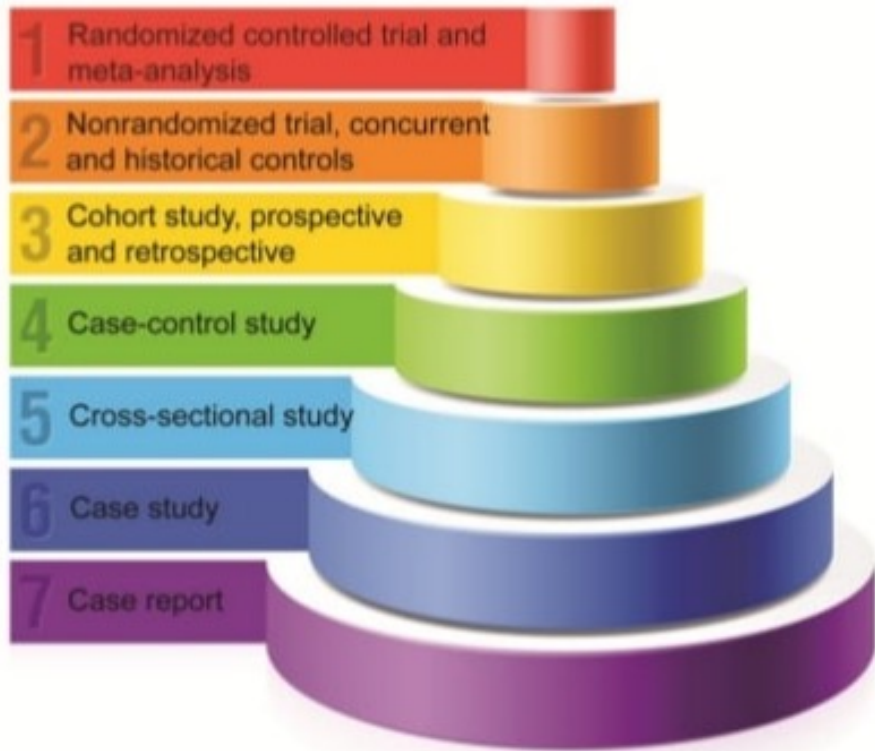
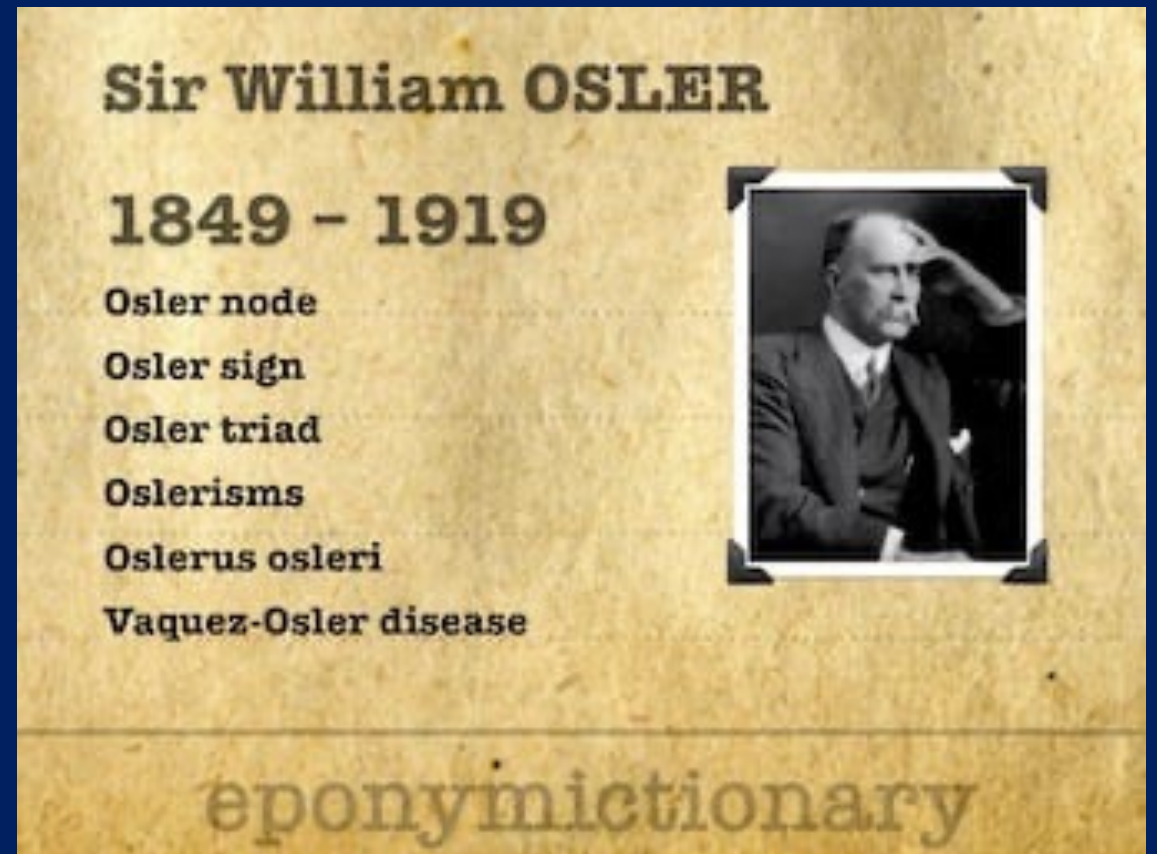


Figure. Hierarchy of Research Design

- Detailed Report on
- Diagnosis,
- Treatment,
- Response to therapies and
- Short to long term outcome evaluation limited to that individual patient.

Why case reports? Oslerisms

- Always **note** and **record** the **Unusual** and **Publish** it. Place it in a **permanent record** as a short, **concise note**. Such communications are **always of value**. – Sir William Osler
- Father of Modern Medicine
- Johns Hopkins School of Medicine 1889-1905



Case Report versus Case Series

- A **case report** is described in detail as
 - “a few individuals or clinical cases
 - having a unique disease or complication,
 - rare combinations of diseases, and
 - odd or deceptive semiology, etiology, or outcome”
- **Dictionary of Epidemiology.**



Case Report versus Case Series

- A **case series** is “a group of individuals with similar characteristics used to define certain clinical, pathophysiological, or operational features of a disease, therapy, or diagnostic approach.”
- Numbers? **Individualized to 4 or more**

Case-report & case-series

- Cases
 - people with health outcome
 - depends on what is of interest
- Case report / series
 - Describes
 - characteristics of disease / condition
 - characteristics of individual that may be associated with the condition



Case Report ? Which Discipline?

- Science,
- Education,
- Administrative,
- Psychology,
- Social work or
- Medicine.
- **Environmental?NO Barriers?**



Why Clinical case reports ?

- Open new Vista in presentations, therapy, outcome
- Pharmaco-therapeutics
- Expounded on case reports-
- William Osler and Sir Robert Hutchinson from UK ...

THE EVOLUTION OF ACADEMIA

From inability to let well alone; from too much zeal for the new and contempt for what is old; from putting knowledge before wisdom, science before art and cleverness before common sense; from treating patients as cases; and from making the cure of the disease more grievous than the endurance of the same, Good Lord, deliver us.

Sir Robert Hutchison, 1st Baronet

Why clinical case reports?

Writing case reports is one of the best ways to get started in medical writing. They are little mysteries that hold readers' interest and take less time to prepare

- Personal Impact

Nailing the Expectations: University of Toledo 12

- Must contribute something **clinically unique**
- -Not a “small variation” from previously presented cases
- - Illustrates classic conditions in new or unusual ways
- - Illuminates/expands knowledge concerning:
 - physiology, biology, genetics, or molecular mechanisms
 - - Reflects an understanding of the relevant science
- Consider such factors as **novelty or uniqueness** of:
 - - the case
 - - **clinical findings** presented
 - - **outcomes** documented
 - - **“take-away”** lessons or **teaching points**

Courtesy: Dean's Faculty Professional Development Lecture 2019

Historical case reports

THE DISCOVERY OF A BULLET LOST IN THE WRIST BY MEANS OF THE ROENTGEN RAYS.

BY ROBERT JONES, F.R.C.S. EDIN.,

HONORARY SURGEON TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL;

AND

OLIVER LODGE, F.R.S.,

PROFESSOR OF PHYSICS, UNIVERSITY COLLEGE, LIVERPOOL.

A BOY aged about twelve years was brought to me by Dr. Simpson of Waterloo, Liverpool, having shot himself in the left hand just above the deep palmar arch. The wound was enlarged, but the bullet could not be found, and it was thought injudicious to prolong the search in view of the important structures in the vicinity unless one possessed a

Lancet **1896**, First use of X-ray to visualize a bullet *in situ*

Historical case reports

**A HUMAN CARDIAC TRANSPLANT: AN INTERIM REPORT OF A
SUCCESSFUL OPERATION PERFORMED AT GROOTE SCHUUR
HOSPITAL, CAPE TOWN**

C.N. Barnard, M.D., M.Med., M.S., PhD., D.Sc (Hon. Causa), F.A.C.S.,
F.A.C.C., *Department of Surgery, University of Cape Town and Groote Schuur
Hospital, Cape Town*

On 3 December 1967, a heart from a cadaver was successfully transplanted into a 54 year old man to replace a heart irreparably damaged by repeated myocardial infarction.

**South
African Med
J 1967;
41: 1271-
1274.**

Historical case reports



Three cases of **Phocomelia** caused as the teratogenic effect of **Thalidomide** was first noticed by a case report in **1962**.

Subsequently led by many such reports

The drug was subsequently withdrawn

Fischel J. Coodin, Irene A. Uchida, and Claude H. Murphy **Phocomelia: Report of Three Cases** Can Med Assoc J. **1962** Oct 6; 87(14): 735-739.

Case Reports which Journal: Journal specific

**Journal of Case Reports in
Medicine**

An Open Access Journal for Case Reports in Medicine

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AMERICAN
JOURNAL
OF
SURGICAL
CASE
REPORTS

A Journal By
SCIENCE REPOSITORY

BMC

Journal of
Medical Case
Reports

biomedcentral.com

Part of Springer Nature

American
Journal
of
**Case
Reports**

American Journal of Case Reports

Case Reports: Which Journal?

- Kane-Gill SL, Smithburger PL, Williams EA, Felton MA, Wang N, Seybert AL. Published cases of adverse drug reactions: has the quality of reporting improved over time? *Therapeutic Advances in Drug Safety*. 2015;6(2):38-44. doi:10.1177/2042098615569725

Journal selection based on high impact factor and clinical focus meeting 4 specialty areas (critical care medicine, general medicine, nursing and pharmacy)



MEDLINE search to identify 5–10 most recent case reports per journal ($n = 100$ case reports)




Reviewers assessed 23 variables from comparator study for presence or absence in newly identified case reports



Summary data from newly identified case reports compared with study by Kelly [2003].

How to Write Case Reports?

- Have you **caught an unusual presentation** or outcome of treatment
- Let the **patient know** they are unique and important
- Contribution to knowledge and betterment of patient care
- **Informed consent** per ethical requirement, IRB Approval Not Required 
- **All journals require provision of informed consent at manuscript submission**
- Parental consent in minors
- POA /Close family member consent in adults unable to consent or Deceased patients

Case Reports: maintain Confidentiality!

- Patient anonymity
- HIPPA
- Particular attention while submission of clinical pictures



Case Report Structure :Format journal specific

- Title
- Abstract
- Introduction with mini-literature review
- Description of the case
- Discussion of relevance to **clinical knowledge/detailed current literature**
- Conclusion: With brief summary
- Supplementary parts: Clinical illustrations, Tables, graphs and technical details help enhance flow and clarity for readers.

CASE Reports : Literature Review

- What is the QUESTION?
- MeSH Indexing in PubMed Search
- Assign the Uniqueness to the case
- Back up the claim with discussion

Previous Indexing:

- [Thrombophlebitis \(1963-1998\)](#)

All MeSH Categories

Diseases Category

Top level broad category

Cardiovascular Diseases

Vascular Diseases

Embolism and Thrombosis

Thrombosis

Venous Thrombosis

Budd-Chiari Syndrome

Postthrombotic Syndrome

Retinal Vein Occlusion

Thrombophlebitis

Lemierre Syndrome

Upper Extremity Deep Vein Thrombosis

Broader terms

Narrower terms

CASE Reports : MeSH ?

- A **controlled vocabulary thesaurus** developed by the National Library of Medicine(NLM) **for indexing bio-medical literature.**
- Used by the MEDLINE/PubMed article database and by NLM's catalogue of Books
- Takes guess work out
- Identifies appropriate/preferred term while searching for information.



CASE Reports : Literature Search/Review

The image displays three overlapping web browser windows. The top window is the PubMed website, showing the search interface with a search bar containing 'PubMed' and a 'Go' button. The middle window is the PEDro website, featuring the PEDro logo and navigation links. The bottom window is the OvidSP website, showing a login form with fields for 'ID' and 'Password' and a 'Start OvidSP' button.

PubMed Window:
URL: <http://www.ncbi.nlm.nih.gov/sites/entrez/>
Search: PubMed for [] Go Clear
Buttons: Limits, Preview/Index, History, Clipboard, Details
Text: To get started with PubMed, enter one or more search terms. Search terms may be [topics](#), [authors](#) or [journals](#).

PEDro Window:
URL: <http://www.pedro.fhs.usyd.edu.au/>
Logo: PEDro
Text: Welcome to PEDro - The Physiotherapy Evidence Database
Buttons: home, SEARCH, questions, tutorial, links, supporters, cebp


OvidSP Window:
URL: <http://ovidsp.ovid.com/>
Text: Welcome to OvidSP
Instructions: To start a session with OvidSP:
• Enter your user ID and password below
• Click the "Start OvidSP" button once
Form: LOGIN
ID: []
Password: []
Start OvidSP []

Case Report Structure :Format journal specific

- Do Not follow the IMRAD (**I**ntroduction, **M**ethods, **R**esults and **D**iscussion) manuscript protocol
- Journal Specific Format
- Details found in Instructions to Authors.
- Careful attention to format and submissions of illustrations and tables.

Title of the Paper Goes Here

Author(s)' name(s) go here



Abstract

It is very common to put the abstract in a prominent place so that passers-by can get a quick understanding of your project, particularly if you are in conversation with another conference attendee. Therefore your abstract should be brief, engaging, and to the point. While specific conferences and disciplines may have their own criteria, abstracts are typically between 200 and 500 words.

The abstract of your study should summarize your research. The abstract should: (1) describe the problem that prompted your research, explain your approach to the problem, and (2) outline of the scope of your project. Your abstract should be easy to find as a well-constructed abstract.

Make sure that your font size is large enough to be read easily from a few feet away. The TLTC recommends a font size of 24-30 for body text. Don't choose a font smaller than 20-point. Remember the point of a poster is not to give the entire research paper but rather to get people's attention and engage them in conversation. Be wary to lay.

Introduction

The layout in this example is only a suggestion. Studies in the Humanities can take very different forms. Your poster may require a different layout for proper presentation.

Visual Information

In a visual medium like posters, images, photos and diagrams can effectively grab attention and quickly describe the scope and conclusions of your topic. Be sure and include short descriptions of your images so that readers will know exactly how each image relates to the study. Images should do more than decorate they should explain and match your message.

Methods

In many types of studies it is important to describe exactly how you gathered and analyzed the data for your study. A brief explanation of your process can help readers understand the nature of your data and how you arrived at your conclusions. Again, the TLTC recommends a font size of 24-30 for body text.

Conclusion

The conclusion is where you summarize your findings and analysis. A well-formatted conclusion should explain how your study contributes to existing research. You should explain the significance and limitations of the present study as well as suggest avenues for future study.

Be sure to make the connection between your data and your conclusion(s) very transparent. While you will be there to explain your work, there will be some readers who will want to read on their own. Your text should speak for itself. As with all other sections of text on your poster, less is more. Also be sure and credit outside sources appropriately. Not only is this standard academic practice, it is quite possible that one of your sources may read your poster!

Again, the TLTC recommends a font size of 24-30 for body text.

References

<http://www.tlctc.edu/abstract-procedures-illustrations/>
<http://www.tlctc.edu/abstract-procedures-illustrations/>

Reference list #1
Reference list #2
Use another reference page here

Title of image

In a visual medium like posters, images, photos and diagrams can effectively grab attention and quickly describe the scope and conclusions of your topic. Be sure and include short descriptions of your images so that readers will know exactly how each image relates to the study. Images should do more than decorate they should explain and match your message.




Diagram of Shakespeare's Globe Theatre

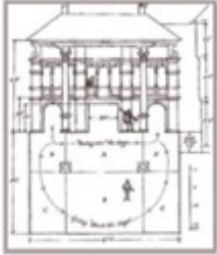
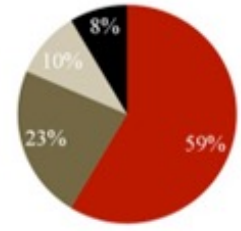
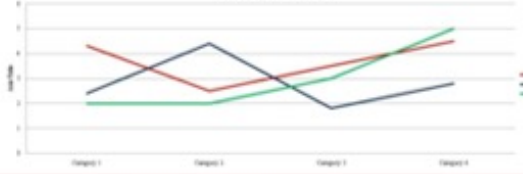


Chart Title




Result	Percentage
Result 1	59%
Result 2	23%
Result 3	10%
Result 4	8%

Chart Title



Category	Series 1	Series 2	Series 3	Series 4
Category 1	High	Low	Low	Low
Category 2	Low	High	Low	Low
Category 3	Low	Low	High	Low
Category 4	High	Low	Low	High



Case Report Format: Title

- First Component
- Catchy : Draw attention of reader without being artificial
- Serve function of search engine?
- Concise
- Informative
- Relevant to subject
- **Not too many acronyms!**



Case Report : Ideal Title?

- Attention focused on issue at hand
- Avoid redundant words e.g. Case report or review of literature
- Avoid ostentatious words: e.g. Unique or First ever



Case Report: Structure – Abstract

- Brief Summary or idea of the content
- Shorter than other types of articles
- Word limit (Journal specific) approximately less than or 100 words

Abstract

- Not required for all case reports
- Allows easy access via Medline
- About 100 words should suffice
- Include
 - The clinical question or problem
 - Analysis of literature review
 - Brief statement of why this case is unusual or noteworthy

Case Report: Structure – Abstract

- Pose the question or problem at hand
- “Just enough essential” information :
- Enable retrieval from electronic databases
- And readers to skim and gauge level of interest in the subject
- Saves time in the Era of information overload!

Case Report: Introduction

- Concise
- **Background** information : Why the report is important?
- Usually with **some Focused comprehensive** literature review
- Strengthens the reason for the case publication
- Critical evaluation of Literature **without details** which are saved for discussion
- **Some Journals do not include “introduction”** e.g. British Journal of Radiology(BJR)

Case report: Case Description/ Summary

- Main Focus of the Report
- Chronological order
- Enough details to paint the picture in minds eye of reader!

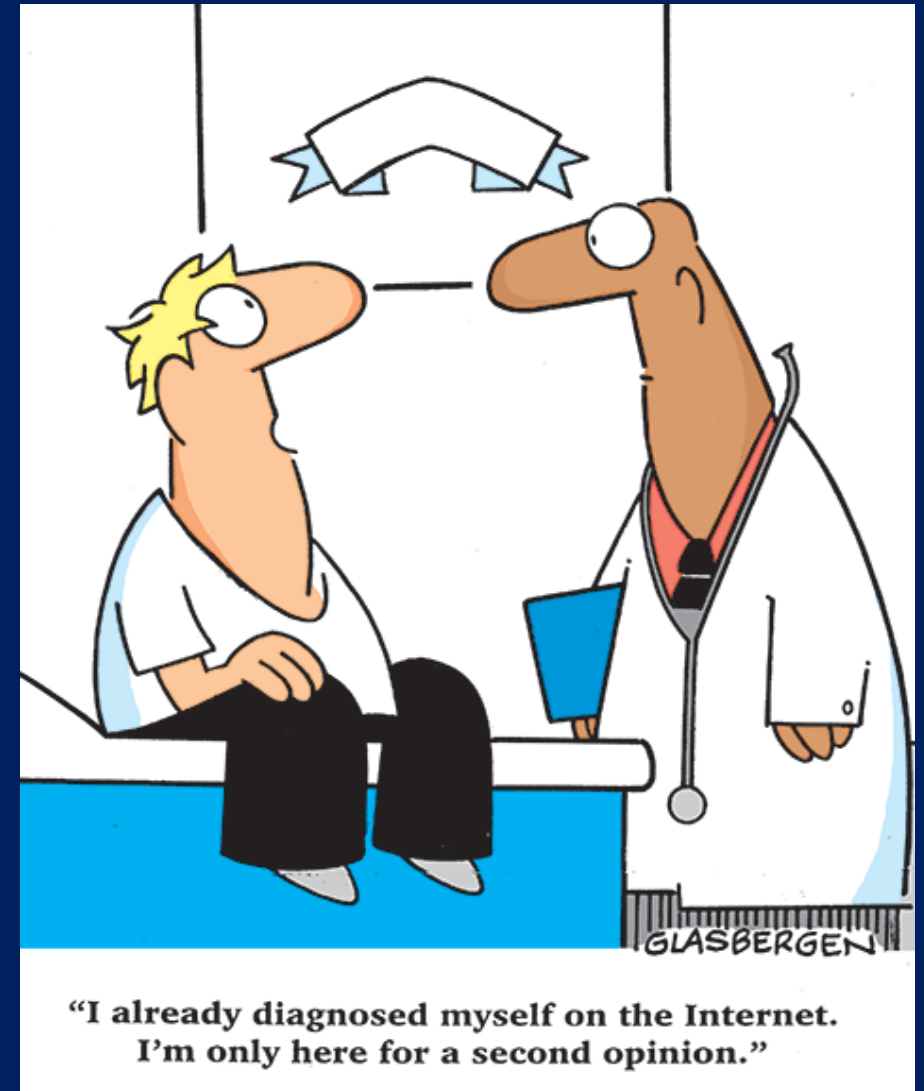
Case Information to Include	Examples in text
Patient demographics (age, gender, nationality, etc.)	"A 35-year-old man"; "a 1-month-old infant"; "a 12-year-old Somali girl," etc.
Presenting symptoms	"Demonstrated typical signs and symptoms of Huntington's Disease"; "presented to the hospital with severe chest pain"; "experienced a burning sensation due to swollen leg muscles"
History of problems/symptoms	"Reported a long history of asthma"; "had a family history of colon cancer on the maternal side"; "reported that inflammation had begun one year prior"
Diagnoses	"Based on the characteristic appearance of the cutaneous lesions, a diagnosis of granuloma annulare was made"; "a clinical diagnosis of chronic respiratory disease was made"; "intestinal legions were consistent with severe Crohn's Disease"
Treatment	"The patient was immediately intubated and antitubercular therapy was initiated"; "treatment was initiated with low-dose corticosteroids, anticoagulants, and vasodilators"
Procedures	"Following kidney biopsy, renal cysts were excised laparoscopically"; "the patient underwent three skin grafts"; "an emergency arteriogram showed smooth segmental narrowing and bilateral vasospasm"
Complications/challenges	"Additional history revealed that he had been ingesting ergotamine preparations for a number of years to relieve chronic muscle pain"; "laparoscopic access to the duodenum was inhibited by intra-abdominal fat"
Outcomes	"patient was asymptomatic on subsequent visits," "although scapular swelling subsided, she continued to report severe back pain for the following month," "...resulting in significant improvement within 4 hours and resolution of symptoms within 48 hours"

Case report: Case Description/ Summary

- Medical clinical history : Chronological order
- Relevant family history
- Physical examination
- Investigations: Lab results, relevant biopsies histopathology and Radiology
- Differential diagnosis
- Final Diagnosis
- Management
- Follow up and Outcome

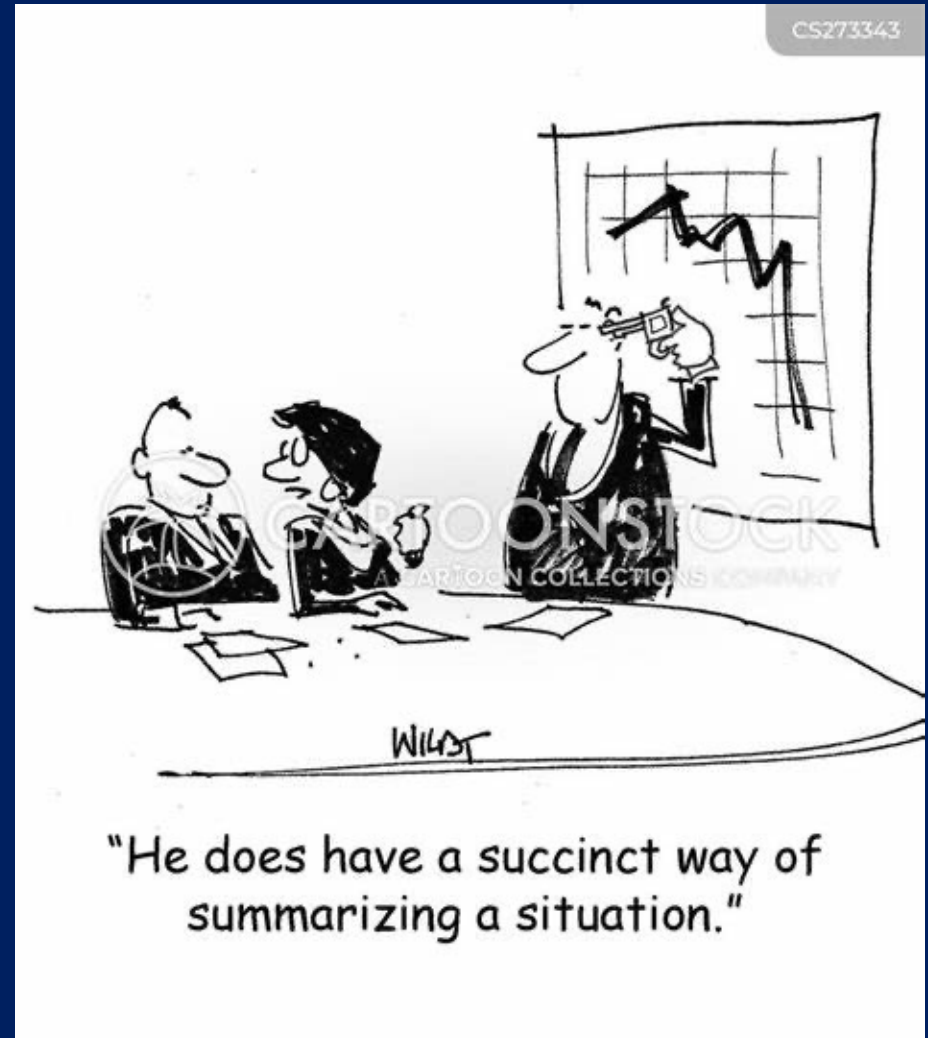
Case report: Case Description/ Summary

- All “**Important Negative**” findings should be included
- Avoid your own interpretation: **Maintain the Suspense**
- Enable readers to form their own possibilities- **Stimulate imagination**
- Enables **scientific thought** process



Case report: Case Description/ Summary

- Comparative findings best displayed with **tables or graphs**
- Chronological flow enabled with **flow charts or tables**
- **Methods** of therapy or **comparisons** are better comprehended



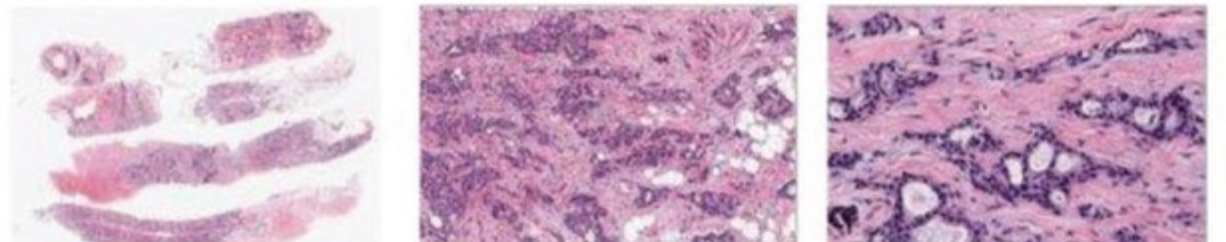
Case report: Case Description/ Summary

- Figures : Need brief and clear description
- Surgical Pathology specimens best portrayed by:
- Comprehensive surgical procedure and
- Detailed pathology report: Gross and histopathology

DIAGNOSIS

1. Infiltrating Ductal Carcinoma, Moderately Differentiated (SBR score 6), Right Breast Core Biopsies.
2. Ductal Carcinoma in situ, high grade.

NOTE: breast marker analysis is pending (IHC and FISH) and an addendum report will be issued. The results were reviewed by the pathologist.



Case report: Case Description/ Summary

- Patient Confidentiality maintained
- Only demographics used in first sentence: age, gender, sometimes race and occupation used
- Avoid patients initials, date of birth, hospital numbers, or address(HIPPA compliance guidelines)

CASE REPORT
CHRONIC OSTEOMYELITIS OF THE RIGHT FOOT



Presented by:
Annisa Trie Anna [C11101280]

Advisor:
dr. Eric
dr. Haranto

Supervisor:
dr. Henry Yudianto M. Phil., Ph.D,SpOT.
Orthopaedics and Traumatology Department
Medical Faculty of Hasanudin University
Makassar, 2012

Patient Identity

■ Name	: R
■ Age / Sex	: 49 years old/ male
■ Admission	: July 23 th , 2012
■ Registration	:555 978
■ Status	: JAMKESMAS

Case Reports : – Discussion

- Most important part
- Opens the podium for different thought flow
- Evaluation of the case at hand with historical cases and knowledge database



Case Reports : – Discussion

- Helps summarize and interpret the key findings
- Helps compare and contrast with previous known in literature
- Helps define the uniqueness of the case
- Derivation of new knowledge
- Application to practice in daily life /medicine
- Helps draw relevant conclusions
- Lays foundation to “Future Research”- Case Series –Randomized case control trails etc

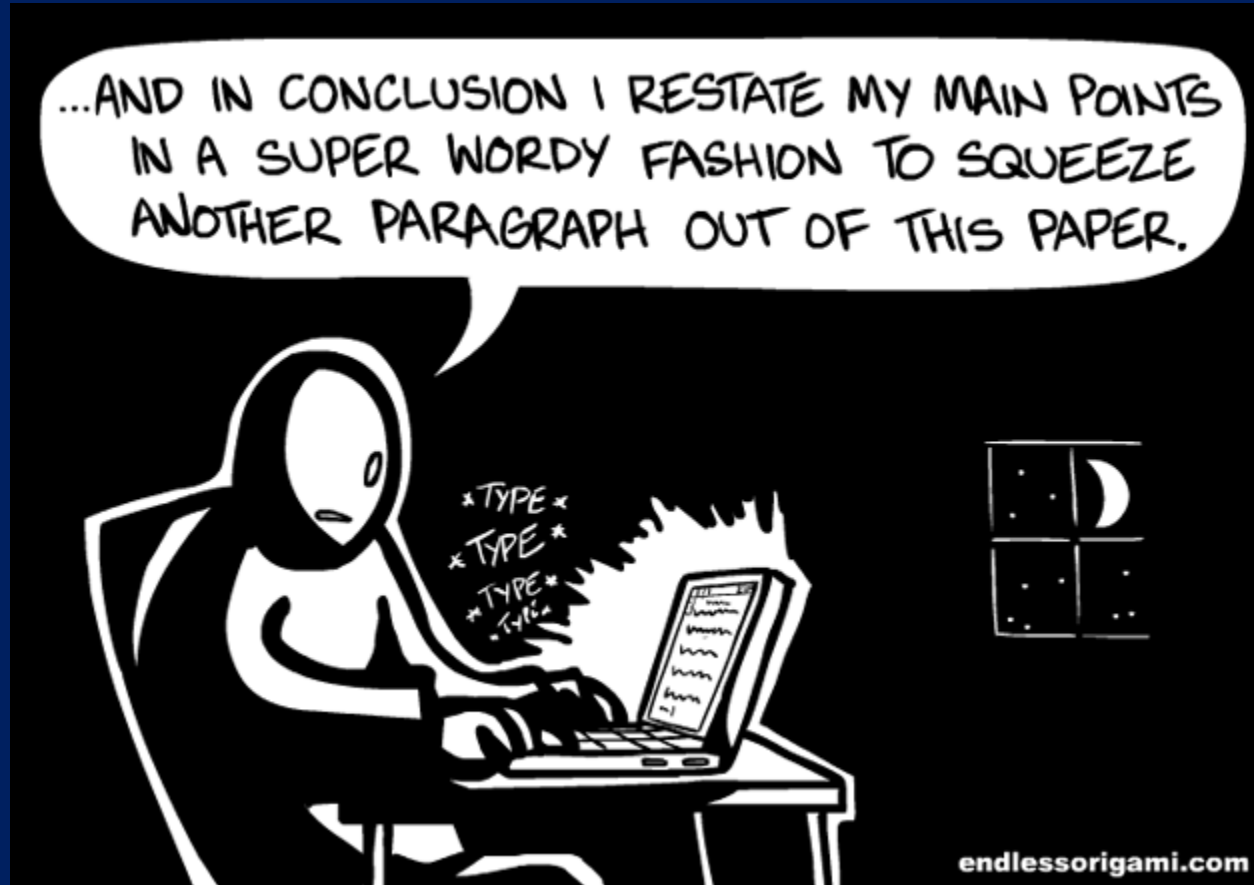
Case Reports : – Discussion

- **Not** designed to provide the huge comprehensive review of existing literature and Citations of all references.
- Any Limitations should be boldly stated
- Significance of each limitation best described as per relevance
- Value of the case report depending on lessons that can be learnt
- Future management strategies
- New tools for diagnosis and treatments

Case Reports : – Discussion

- Main conclusion drawn should be highlighted
- Justifiable evidence-based recommendation used to
- Put forth a strong and bold statement which leaves readers enlightened!
- Section best kept concise to one paragraph

Case Reports: - Conclusion



Case Reports: - Conclusion

- The Challenge statement
- The Solution is also a Lesson!
- Usability IMPACT: Future use for benefit of similar or related challenges
- Business impact
- Reflecting on the Project
- Future domino effects : Leading to breakthrough RCT research?

Case reports: – References

- Carefully chosen by **virtue of Relevance**
- Additional information to **readers to explore**
- References should provide additional information for readers interested in more detail than can be found in the case report, and they should support any specific points highlighted.
- Restriction on number of references(< 15 for a case report)

Case Report : Conflict of interest (COI) statement

Conflicts of Interest Statement _____

Manuscript title: _____

The authors whose names are listed immediately below certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

Author names:

The authors whose names are listed immediately below report the following details of affiliation or involvement in an organization or entity with a financial or non-financial interest in the subject matter or materials discussed in this manuscript. Please specify the nature of the conflict on a separate sheet of paper if the space below is inadequate.

Author names:

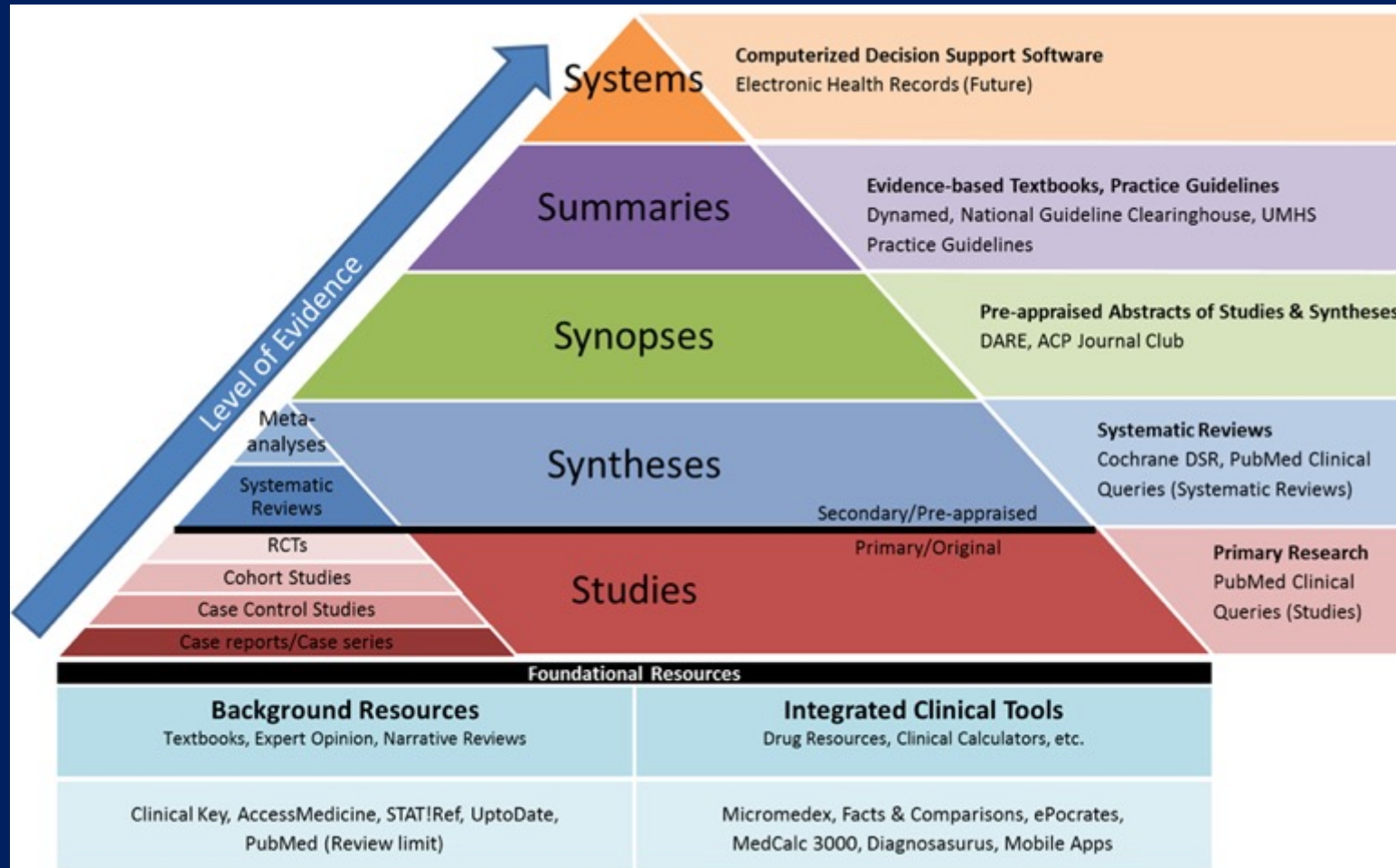


Case Reports: Impact on research

- Do not have as much potential impact on clinical practice of healthcare as randomized controlled trials or other research articles.
- Valuable **sources of new and unusual** information
- Share **anecdotal experiences** with individual cases,
- **Increase awareness** of unusual presentations or complications and
- Deliver **educational and teaching message**.

Case Report: Impact on Research

- Contribute to medical literature and
- Enrich our evidence-based medical knowledge
- Guidelines and tips for writing case reports :
- Exercise and improve our skills needed in medical writing.



Courtesy of University of Michigan Libraries

Case reports: Authorship

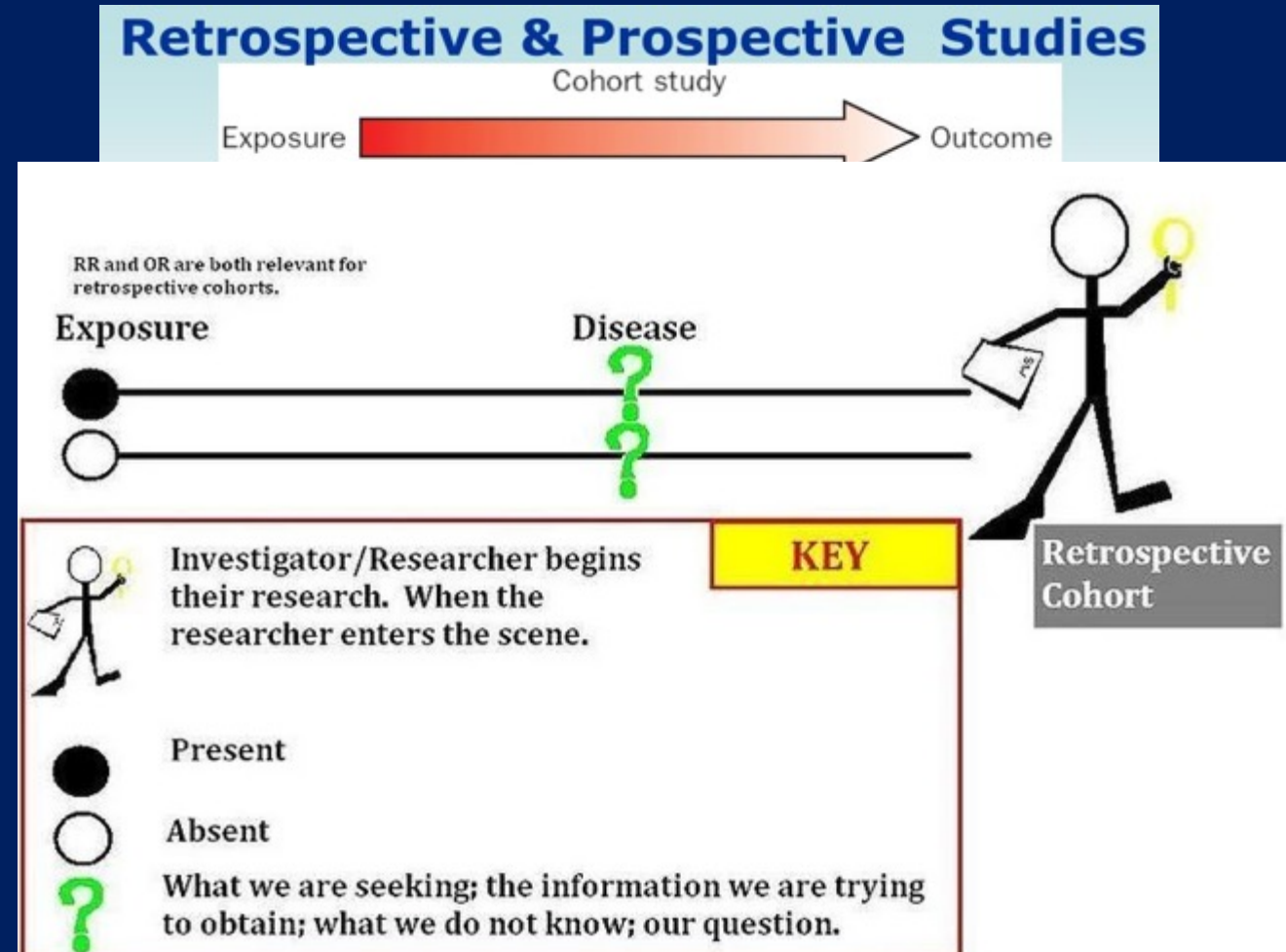
- **Journal Specific Criteria:** e.g. maximum of 4 authors for BMJ Case reports.
- **One** of the co-authors should be the **lead clinician responsible** for the patient's care and responsible for the integrity of the content of the case report,
- **Signed informed consent** and author statements accompanying **each** manuscript.
- **Corresponding authors** who are **medical students, foundation year doctors or interns** should **copy the lead clinician** co-author on all journal correspondence.

Patient as Coauthors?

- Declare in **author statement** that they are patient in the case report, **this statement will appear in the case report**
- Case reports where the patient is the sole author or the patient is a relative of the author: **NOT Published !**
- Report require **careful anonymization** – patients with concerns about anonymity are advised not to co-author manuscripts but to add their “patient perspective” instead

When to write Case Report ?

- Retrospective case reporting:
- Reporting the observation now
- for interventions done in past



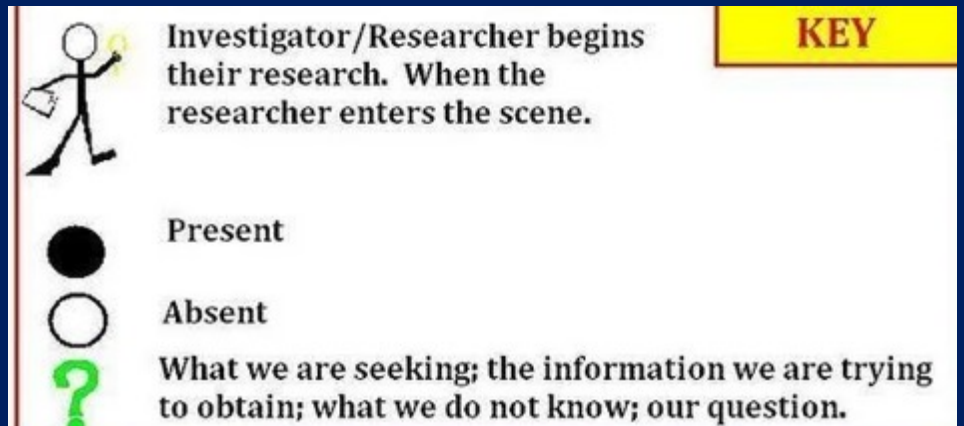
When to write Case Report ?

- **Ambispective case reporting:**
- Report the observation for interventions of the past,
- Continue with the intervention and
- Report the observation in future

- In this study **Both** the retrospective and prospective elements **are combined**.
- The **cohort** is identified **from the past records** and assessed of date for the **outcome**.
- The same **cohort is followed up prospectively into future** for the further assessment of the **outcome**.

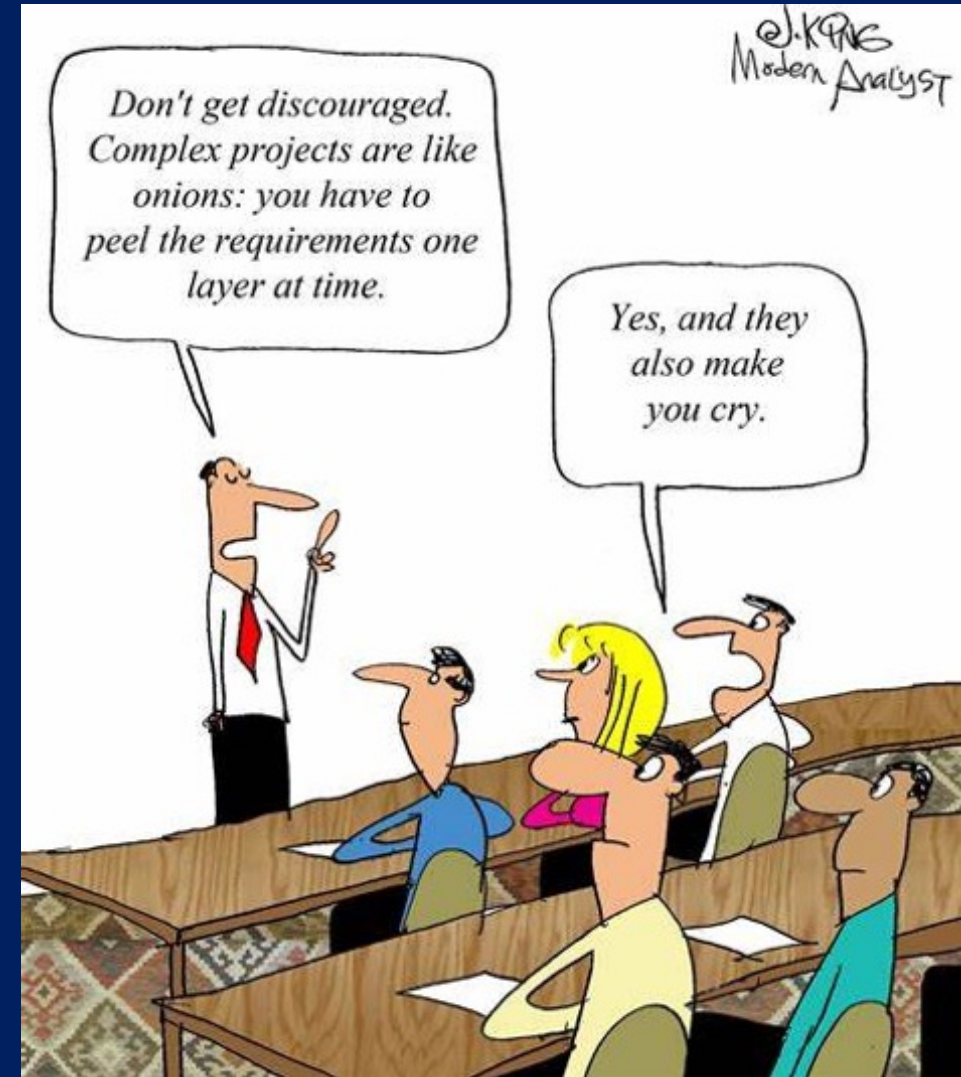
When to write Case Report ?

- **Prospective case reporting:**
- Begin the intervention now and
- Report the observation in future



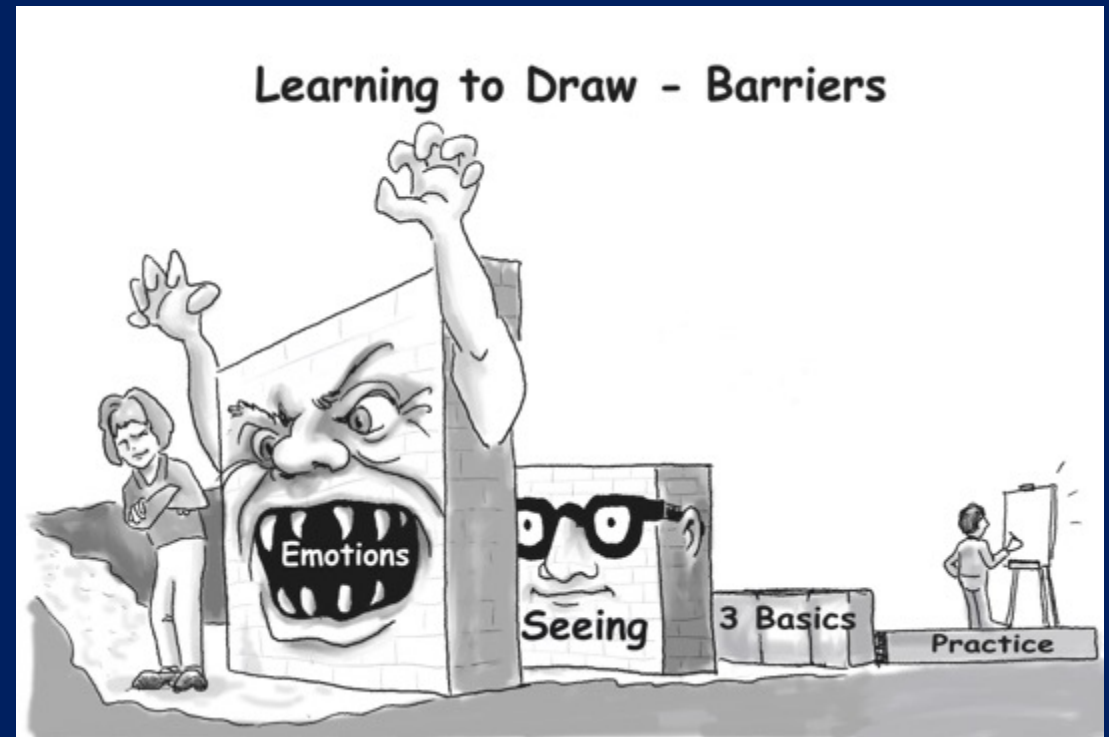
CASE Reports : Learning Points

- 3 to 5 bullet points.
- This is a required field.
- What do you want readers to remember when seeing their own patients?



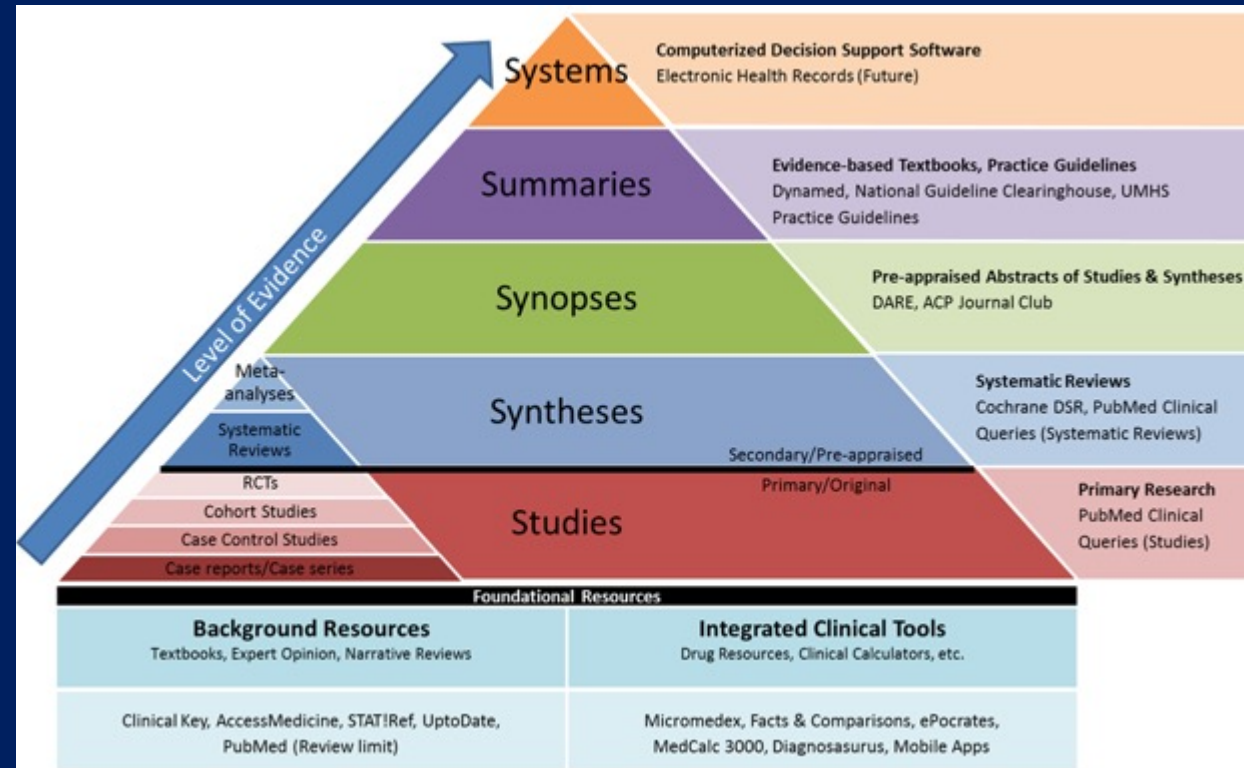
CASE Reports : Barriers /Limitations

- Time to collect data
- Consent in deceased and difficult POA
- Editorial review process
- Reliable Literature review
- Finding the correct Journal



Limitations of case reports

- 1) Low level evidence on the evidence hierarchy: highest is RCT
- 2) Low generalizability or external validity: outcome pertaining to only single case cannot be replicated
- 3) Low publish-ability : may not be preferred by all journals



Limitations of case reports

- 4) **Tempting the physician** to use inadequately tested therapies in rare conditions
- 5) **Warning the physician:** undue reporting negative results: hence restricting therapeutic options
- 6) **Promoting self treatment:** patients having rare incurable conditions are attempted to be treated in par with similar cases



Limitations of case reports

- Publish your observations once you are convinced that these may help others in making right therapeutic choices.
- Adds Time Delay.....



Case reporting: Practical Tips

- Examine **the patient** to the utmost details
- Examine **all** the available **records** of the patient
- Keep **note of everything** you observe
- Keep a **close follow-up** of the patient for any positive / negative changes
-



Case reporting: Practical Tips

- Try to understand logically the **reasons for any change** observed
- **Linkup the observation** with scientific logic whenever you can
- **Repeat** the same approach to more similar cases
- **Identify the trends** and see the variability of responses



Benefits of case reporting

- Immediate benefits:
- Addition of knowledge to the peers
- Increase the hope of finding treatment for untreatable conditions
- Long-term benefit:
- Generates better understanding of variability in human for ablation
- Works as a clue to plan more serious systematic studies in target area as similar cases are seen again

CASE Reports : Example of a well written Case report

- Resection of a large carotid paraganglioma in Carney-Stratakis syndrome: a multidisciplinary feat.

Rebecca Spenser Nicholas,
Ayyaz Quddus, Charlotte
Topham, Daryll Baker
Published: 16 April 2015

Critically Evaluating Case Reports

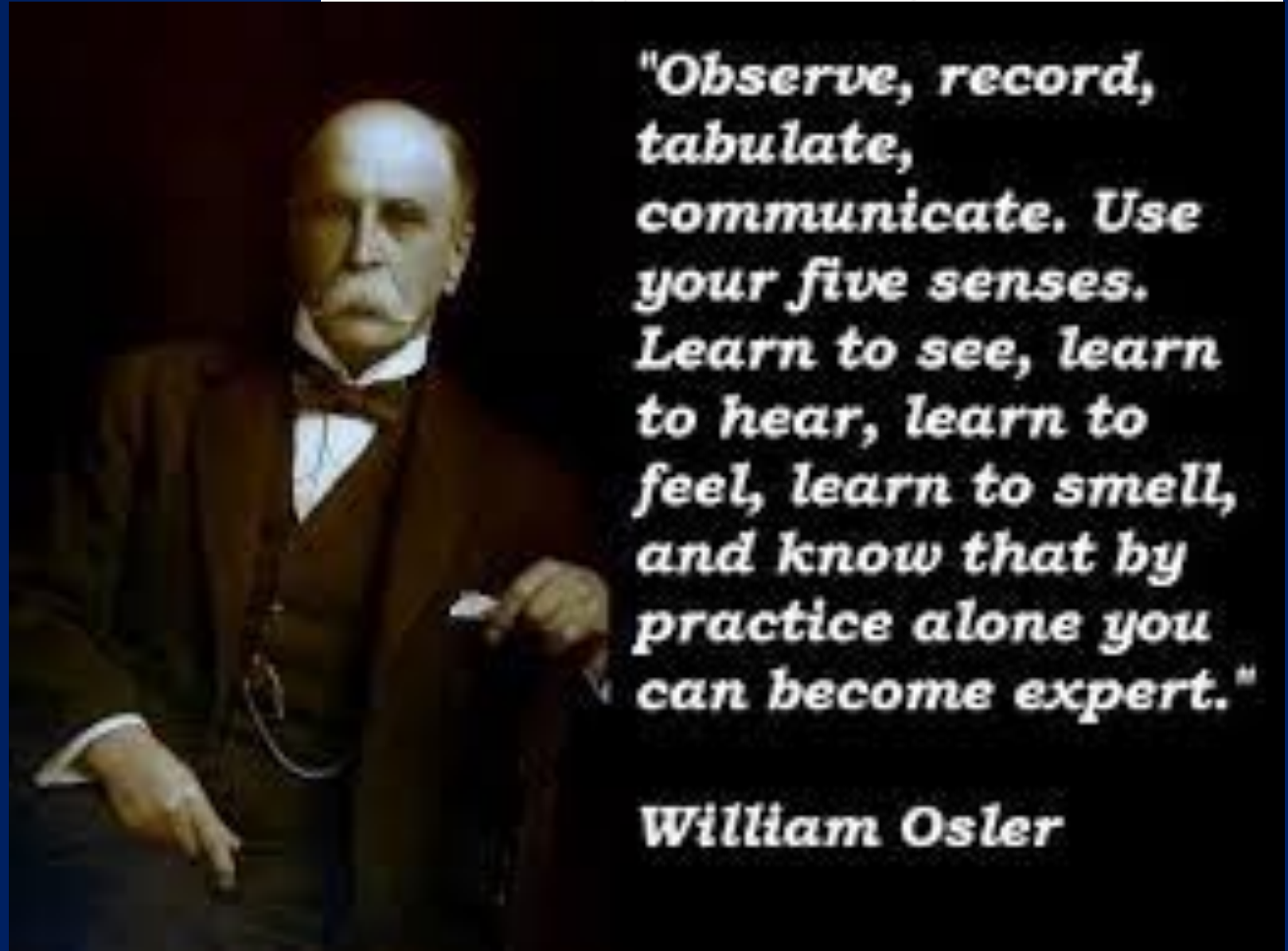
Pierson's tool

- 5 Criteria
- Scored 0 to 2

Item	Description
Documentation	Evidence supporting contention
Uniqueness	Requires complete literature search
Educational value	Possibility to apply
Objectivity	Level of bias
Interpretation	Support for conclusions

Conclusion

- QUESTIONNAIRE?



"Observe, record, tabulate, communicate. Use your five senses. Learn to see, learn to hear, learn to feel, learn to smell, and know that by practice alone you can become expert."

William Osler

Any Questions?

BMJ Case Reports

INDEXED
IN MEDLINE
(PubMed)

Get published in
the world's largest
online repository of
case reports

All faculty, staff and students at this institution can:

- Submit unlimited number of cases
- Enjoy fast, sympathetic peer review and rapid publication
- Access all published material and reuse it for personal use and teaching
- Rate and comment on cases

HOW TO GET PUBLISHED:

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References:

- ClipArt
- BMJ Case report Journal
- Sage Journal Guidelines for case reports
- UTMC prof development series lectures
- As mentioned in the Inserts.