

# Tips for improving your medical writing

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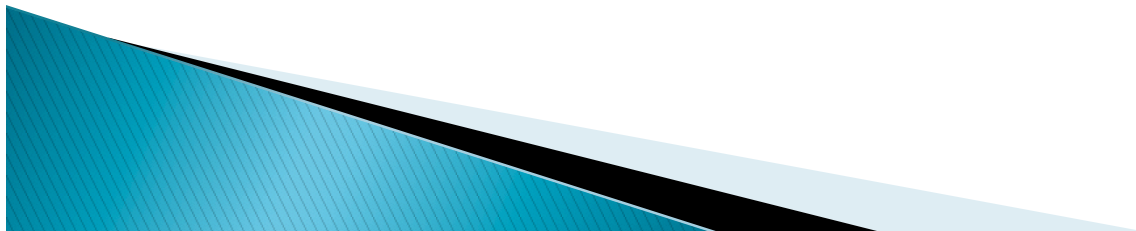
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“Say all you have to say in the fewest possible words, or your reader will be sure to skip them; and in the plainest possible words or he will certainly misunderstand them”

John Ruskin (1819–1900)

Art critic, author, and poet



# Tips for improving your medical writing

Be precise

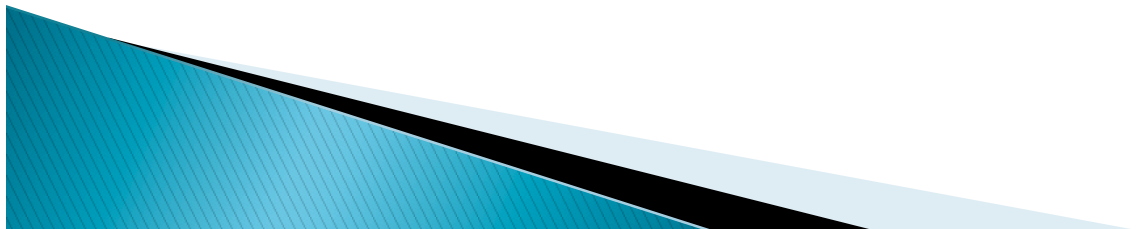
Be concise

Be accurate and clear

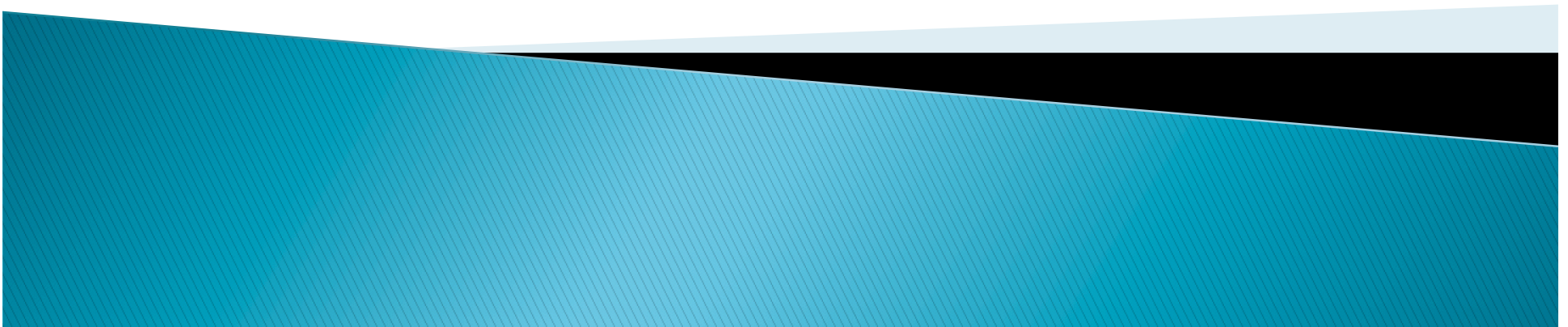
Be correct

Be organised

Write for your target audience



Be precise





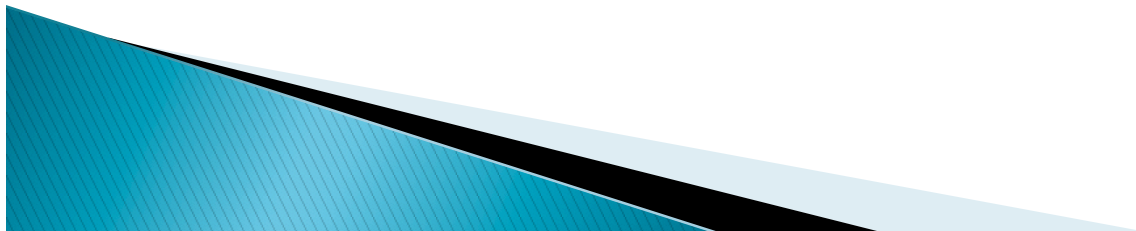
*“When I use a word....it means just what I  
choose it to mean – neither more nor less.”*

*Humpty Dumpty in Through the Looking Glass, by Lewis Carroll*



In scientific and medical writing precision is the most important goal of language

- choosing the right words
- choosing the correct level of detail



# What's in a word?

**affect** *verb* meaning to influence

**principal** *noun or adjective* meaning most important

**dose** quantity administered at one time

**examine:** patients, animals and slides are examined

**effect** *noun* means result or *verb* to bring about

**principle** *noun* meaning a law

**dosage** regulated administration of doses

**evaluate:** conditions and diseases are evaluated

## Hair Today, Gone Tomorrow: The Abandonment of Body Hair by American Women

Although the revival of the practice of body hair removal is a relatively recent trend in Western culture, this practice has deep roots in history. Rudimentary cave drawings depict beardless men hunting in the wild. Egyptian, Greek, and Roman men were known to shave their scalps and beards to avoid giving their enemy a handhold grip in battle. Alexander the Great ordered all of his men to shave their beards for this specific reason. Greek and Roman sculptures commonly depict hairless men and women, as this ideal was associated with class and civility.<sup>1</sup>

With the collapse of the Roman Empire, the practice of removing body hair did not become commonplace until the 1870s. In 1877, the American Dermatological Association was established. Afterward, this organization created the study of hypertrichosis, a problem seen to primarily affect young women. Men seldom were viewed as affected or required treatment.

This notion was further compounded by the July 1915 issue of *Harper's Bazaar*, which depicted a model without underarm hair. This publication incidentally coincided with Gillette's introduction of the first women's razor.<sup>1</sup> The trend of hair removal continued to gain popularity, and, by 1922, Sears catalogs regularly started printing underarm hair-removal advertisements. Sociologist Christine Hope<sup>2</sup> notes that concern for excessive hair increased tremendously between 1915 and 1945, as magazines became widely disseminated, and models portrayed an ideal of hairless feminine beauty. Changing

fashion trends and the advent of the industrial revolution also popularized sleeveless and sheer evening gowns, as well as dresses with rising hemlines. Advertisements directly targeted this trend, with hair-removal advertisements stating, "Fashion Says—Evening gowns must be sleeveless or made with the merest suggestion of gauzy sleeves of tulle or lace. . . . The Woman of Fashion Says—The underarms must be as smooth as the face."<sup>3</sup> Hair-bearing areas, once confined to the intimacies of the bedroom, were now prominently displayed in the public's eye.

Since the 1980s, approximately 80% to 90% of women have been removing some type of hair from their bodies.<sup>2</sup> A century ago, hair removal was focused on the face and legs. Lately, men have also joined the trend and have begun shaving their armpits and other hair-bearing areas, colloquially known as "man-scaping." Still, some celebrities such as Mo'Nique, Julia Roberts, and Amanda Palmer proudly display their body hair, and a Lee Friedlander photographic print of an unshaven Madonna that appeared in *Playboy* in 1985 recently sold for \$37 500.<sup>3</sup> Clearly, our body hair management practices have changed over short periods of time, and, perhaps almost 100 years after the first advertisement appeared in *Harper's Bazaar*, a reversal of trends might be eminent.

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Contact Dr Lee at the Department of Dermatology, Brown University, 593 Eddy St, Ambulatory Patient Center 10, Providence, RI 02903 (kchuu@gmail.com).

1. Hansen K. Hair or bare? the history of American women and hair removal, 1014-1934; senior thesis in American Studies, Barnard College website. <http://history.barnard.edu/sites/default/files/inline-images/kirstenhansesthesis.pdf>. Accessed September 18, 2012.
2. Hope C. Caucasian female body hair and american culture. *J Am Cult*. 1982;9(1):93-99. doi:10.1111/j.1542-734X.1982.tb0103.x.
3. Saint Louis C. Unshaven women: free spirits or unkempt? *The New York Times* website. <http://www.nytimes.com/2010/04/15/fashion/15skin.html>. Accessed September 16, 2012.

Eminent or imminent?

.....perhaps almost 100 years after the first advertisements appeared in *Harper's Bazaar*, a reversal of trends might be eminent

# effect/affect

Although we gave penicillin and terramycin, the drugs had little \_\_\_\_\_. The \_\_\_\_\_ of the treatment was minimal.

In double-blind experiments, researcher bias does not \_\_\_\_\_ experimental results.

Digestion has the \_\_\_\_\_ of converting the substrate to short-chained peptides.

effect

effect

affect

effect

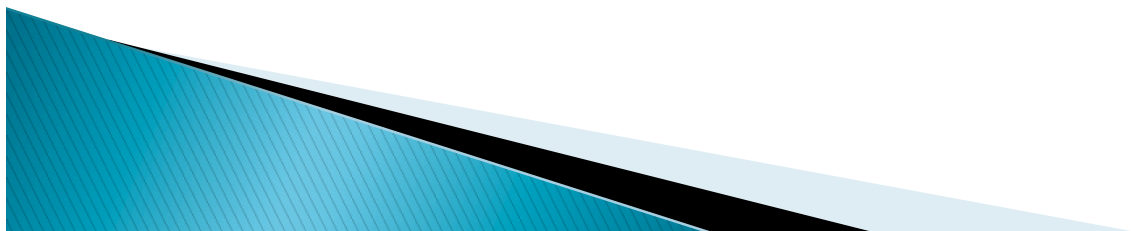
# Compared with or compared to?

- ▶ *Compared with* when looking for differences between things

80% of patients in the Wonderdrug group reported no loss of activity *compared with* 50% of patients in the placebo group

- ▶ *Compared to* when saying something is like something else

“Shall I *compare* thee *to* a summer’s day?”



# Singular or plural?

phenomenon

phenomena

stratum

strata

criterion

criteria

singular form

plural form



# Level of detail important

- ▶ precision is influenced by the level of detail

need to choose an appropriate level of detail



# Choosing the appropriate level of detail

Achieve a balance between

- ▶ general statements

- establish a direction of thought

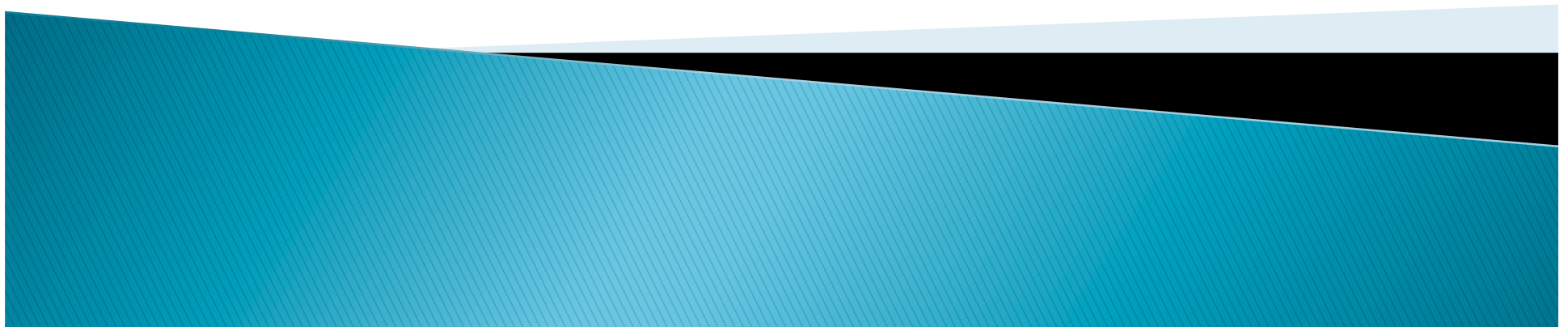
.. extent of undiagnosed clinically significant COPD in England, and the characteristics of this population have been investigated...

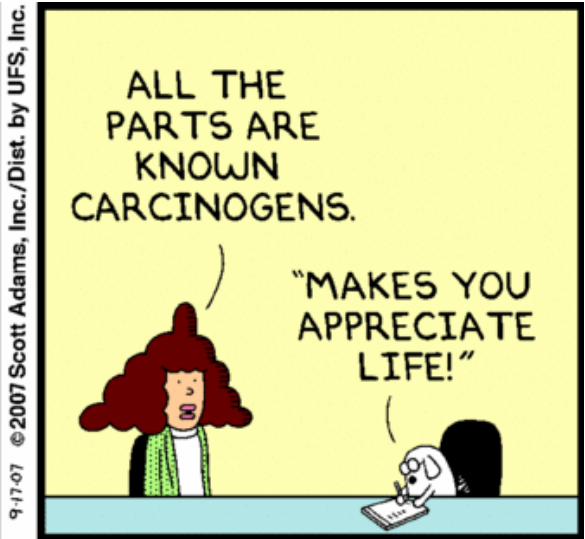
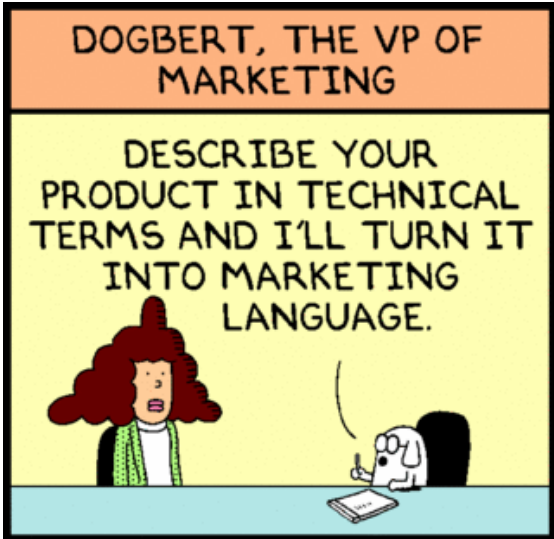
- ▶ specific detail

- gives evidence to support the direction

....identified 20,496 participants aged  $\geq 30$  years with valid lung function measurements. Of these, 971 (4.7%) were defined as having clinically significant COPD, 840 (86.5%) of whom had no previous diagnosis. Undiagnosed cases were more likely to be female, and smoke less. Overall, 25.3% of undiagnosed cases had severe disease ( $FEV_1 < 50\%$  predicted), 38.5% had Medical Research Council grade 3 dyspnoea and 44.1% were current smokers....

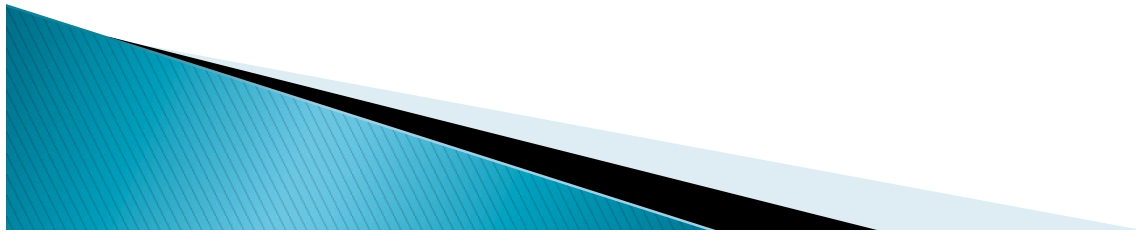
Be concise accurate and  
clear



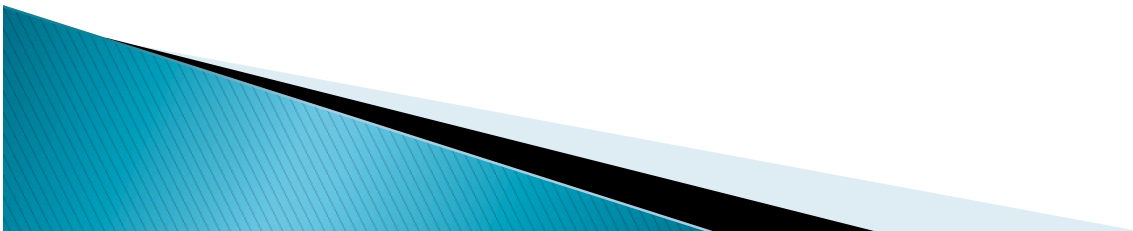


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- ▶ Avoid things you don't mean!
- ▶ Avoid more complexity than you need!



“Don't use words too big for the subject. Don't say "infinitely" when you mean "very"; otherwise you'll have no word left when you want to talk about something really infinite”



CS Lewis (1898 –1963)

## Excess wordiness

- ▶ It would appear that...
- ▶ In light of the fact that..
- ▶ It is this that..
- ▶ It is often the case that..

## Becomes

- ▶ Apparently..
- ▶ Because..
- ▶ This..
- ▶ Often..

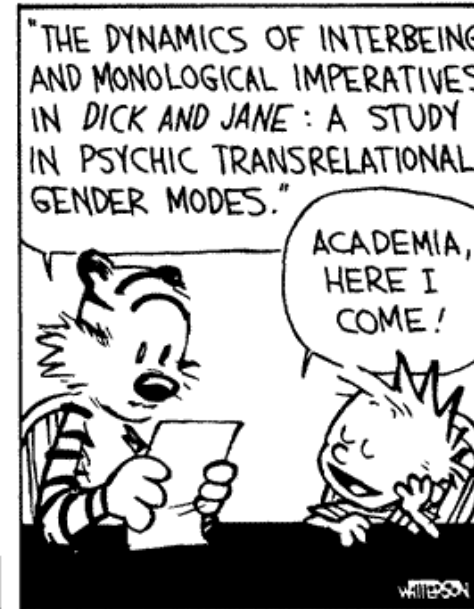
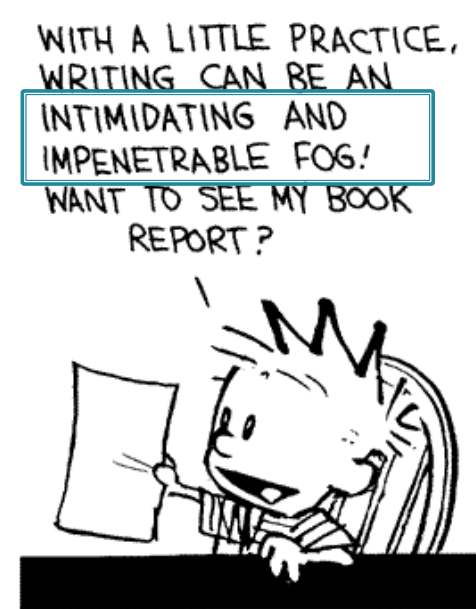
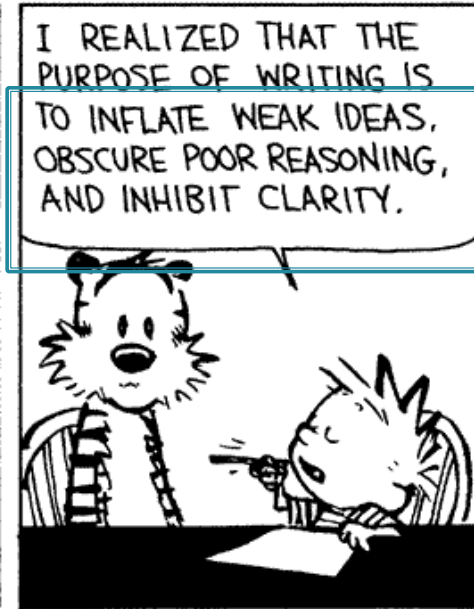
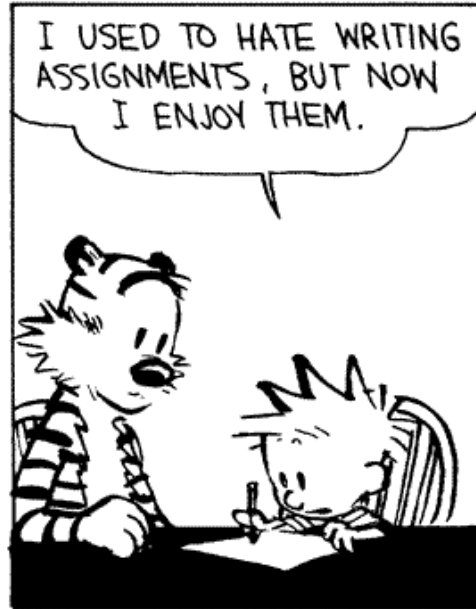


Remember:

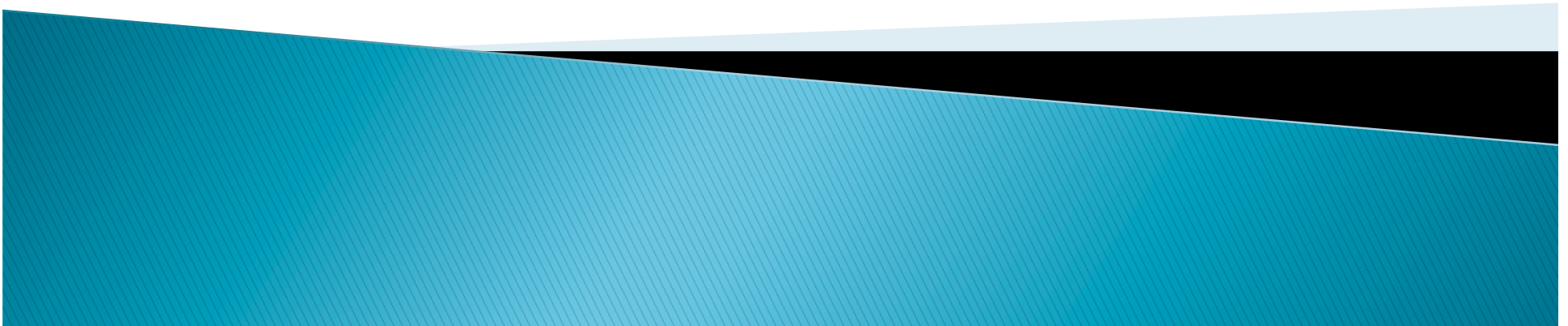
A medical writer is communicating complex ideas to different audiences.....

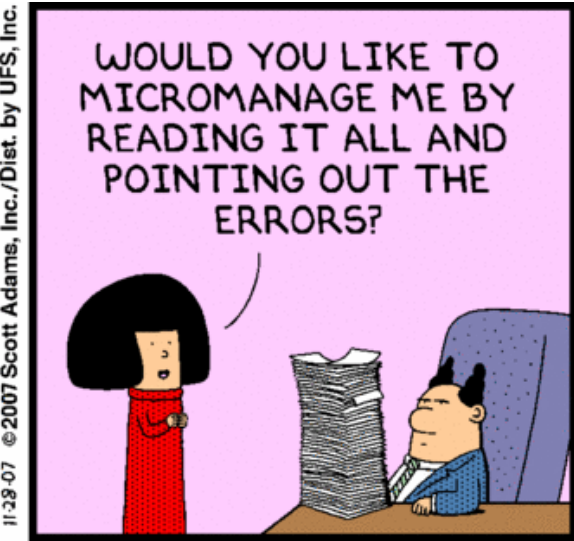
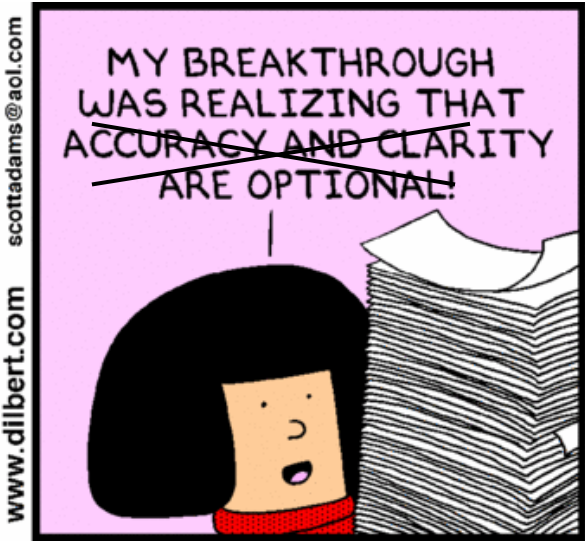
.....the language is not there to impress and confuse the reader





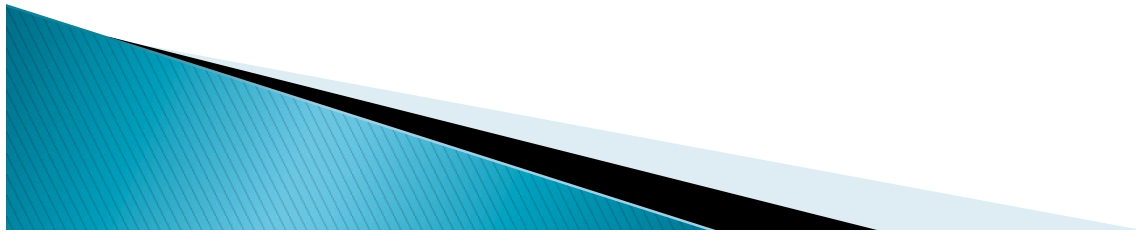
Be correct





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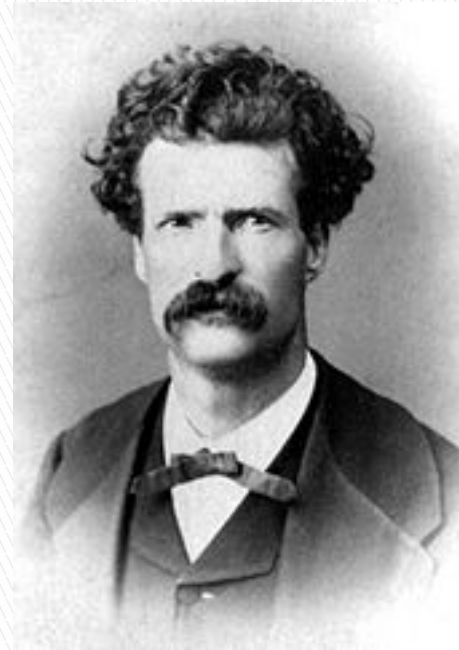
# Be accurate and remember:

*“A lie gets halfway  
around the world  
before the truth has  
a chance to get its  
pants on”*

*Winston Churchill*



“Be careful about  
reading health books.  
You may die of a  
misprint”

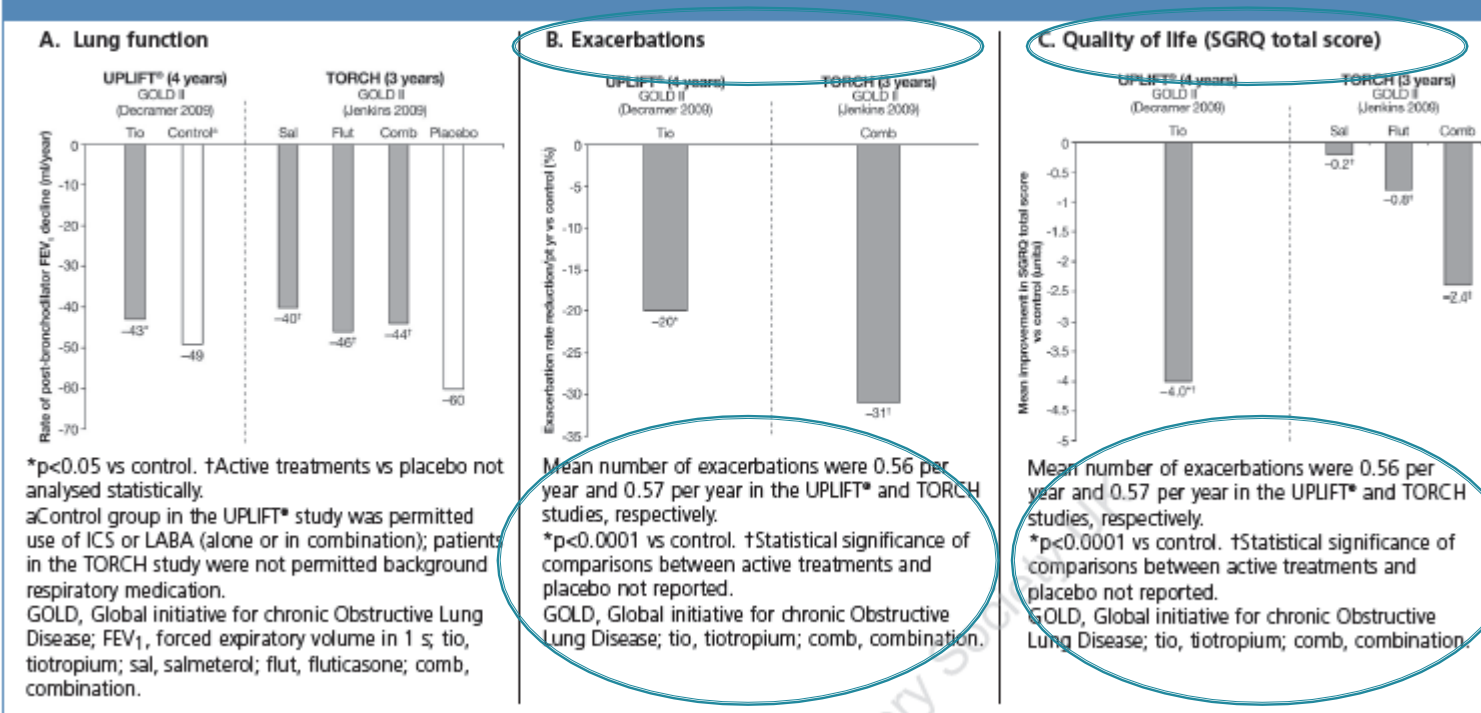


Mark Twain, author  
1835 -1910



# Optimising pharmacological maintenance treatment for COPD in primary care. *Primary Care Respiratory Journal* (2011); 20(1): 33-45

Figure 5. Lung function, exacerbations, and quality-of-life outcomes in patients with earlier disease (GOLD stage II) in UPLIFT<sup>®15</sup> and TORCH<sup>16</sup> trials.





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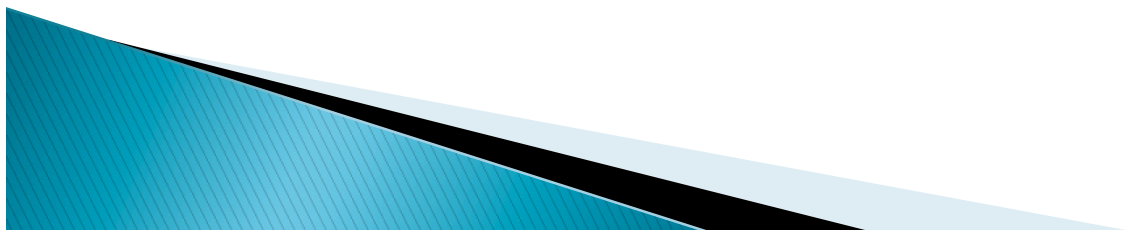
Salmeterol and Fluticasone Propionate and Survival  
in Chronic Obstructive Pulmonary Disease

Peter M.A. Calverley, M.D., Julie A. Anderson, M.A., Bartolome Celli, M.D., Gary T. Ferguson, M.D., Christine Jenkins, M.D.,  
Paul W. Jones, M.D., Julie C. Yates, B.S., and Jørgen Vestbo, M.D., for the TORCH investigators\*

N Engl J Med 2007;356:775-89.

In another paper referenced as:

Calverley PM, Anderson JA, Celli B, Ferguson GT, Jenkins C, Jones PW, Yates JC, Vestbo J. for the TORCH investigators. [Efficacy of salmeterol and fluticasone propionate on mortality in chronic obstructive pulmonary disease: the TORCH survival trial.](#) N Engl J Med 2007;356:775–789.



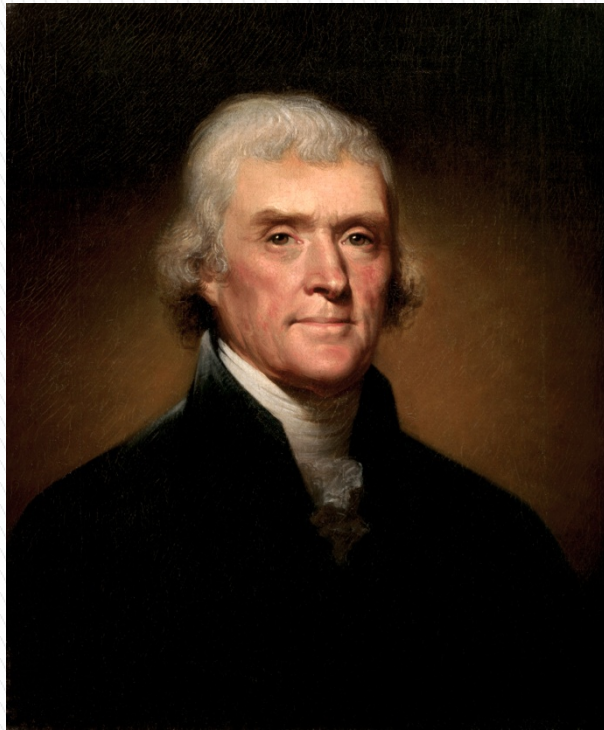
# Be careful of plagiarism

- ▶ Plagiarism screening to verify the originality of content submitted before publication
  - **Quotations:** identical to the original, uses only a small part of the original and must be **attributed to the original author**
  - **Paraphrasing:** involves summarising and putting information from source material into your own words and must be **attributed to the original author**
  - **Summarising:** involves putting a large amount of information into a few summary points, and must be **attributed to the original author** <http://owl.english.purdue.edu/owl/resource/563/1/>

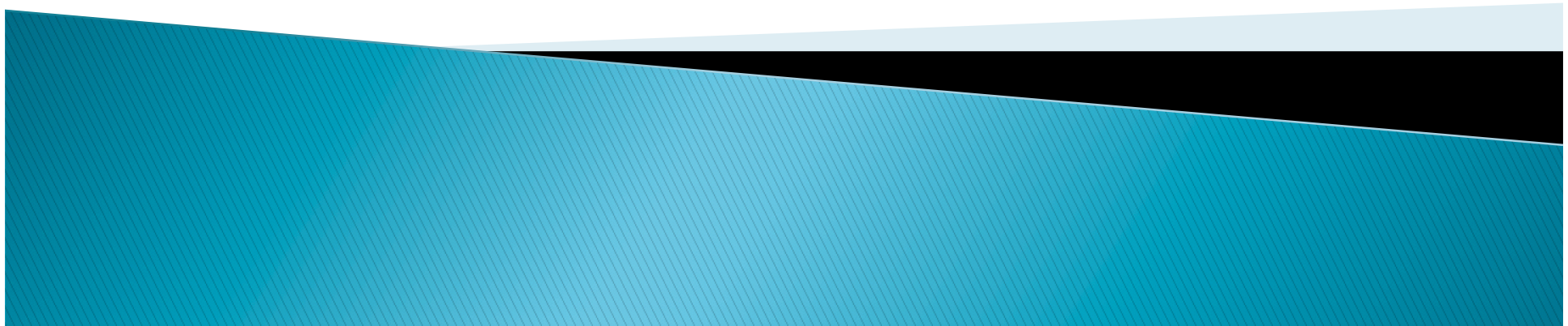


“Delay is preferable to error”

Thomas Jefferson



Punctuation and  
grammar are important



# Use punctuation correctly

A woman, without her man, is nothing

# Use punctuation correctly

A woman: without her, man is nothing

# A puzzle for you

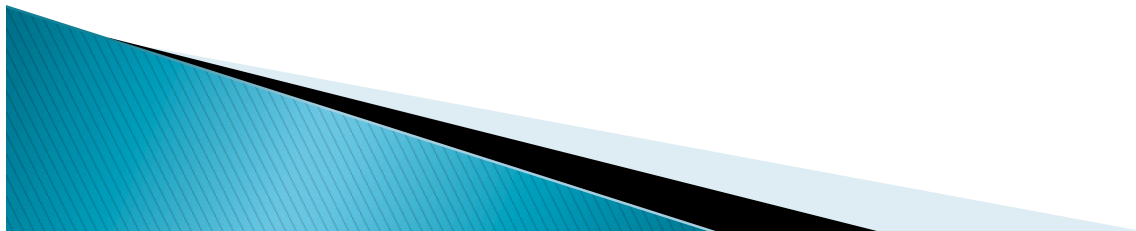
Every Lady in this land  
Hath 20 Nails on *each* Hand;  
*Five & Twenty* on Hands *and Feet*;  
And this is true, without deceit.

Meaning: every lady in this land has twenty nails. On each hand five; and twenty on hands and feet.

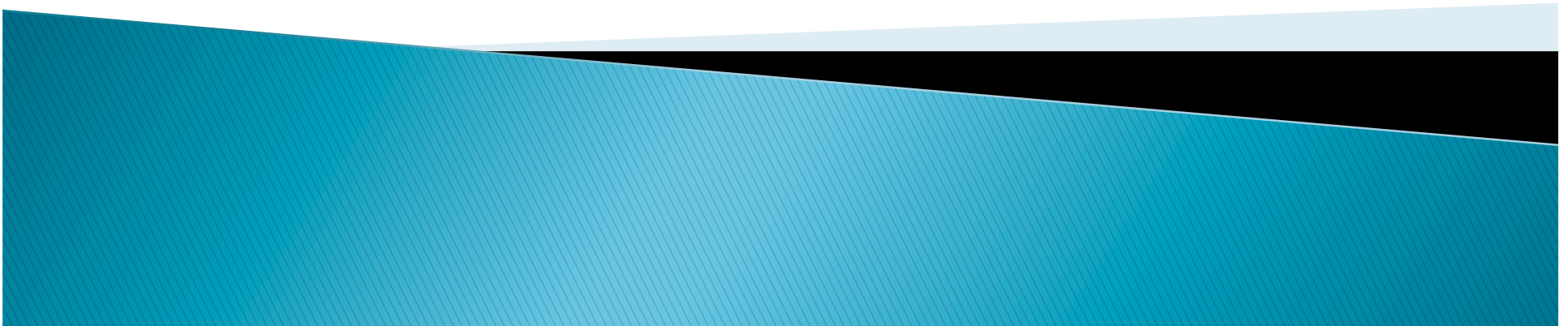


- ▶ Grammar is also important

<http://www.grammarmudge.cityslide.com/>



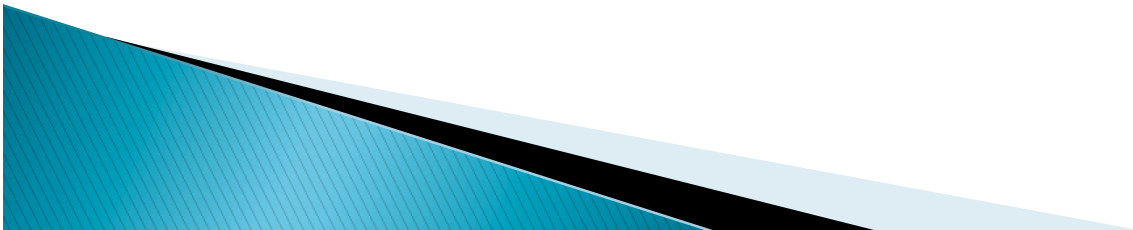
Be organised



“The man who removes a mountain begins  
by carrying away small stones.”

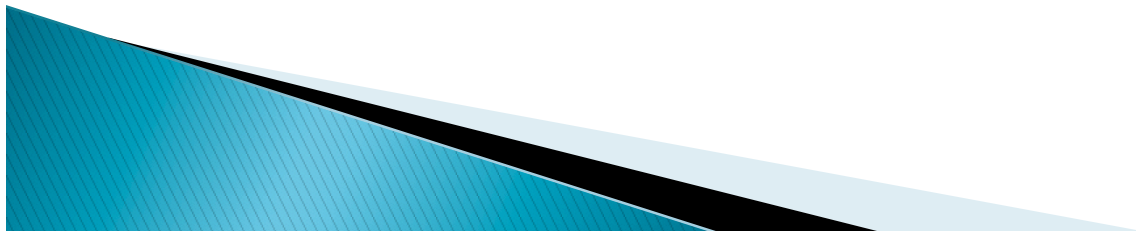
*William Faulkner*

(William Faulkner, Nobel Literature Prize 1949)



# Organise and plan your message

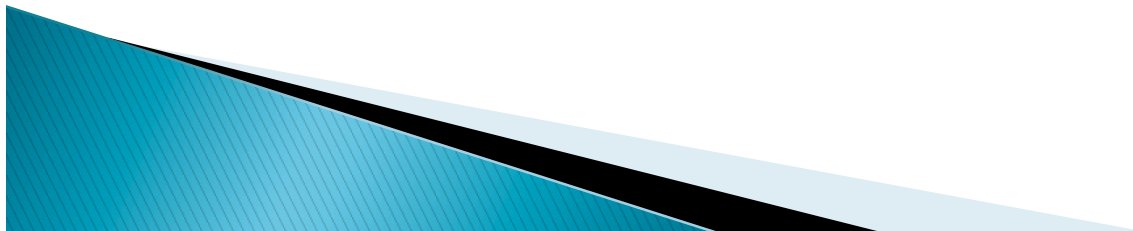
- ▶ Capture key points
- ▶ Translate into an organised list
- ▶ Develop a framework or outline
- ▶ Use complete sentences or phrases or words



# Capturing ideas

- ▶ Mind mapping
- ▶ Brainstorming
- ▶ Concept maps
- ▶ Random list

Lists are rearranged, edited and structured



# Develop a framework or outline

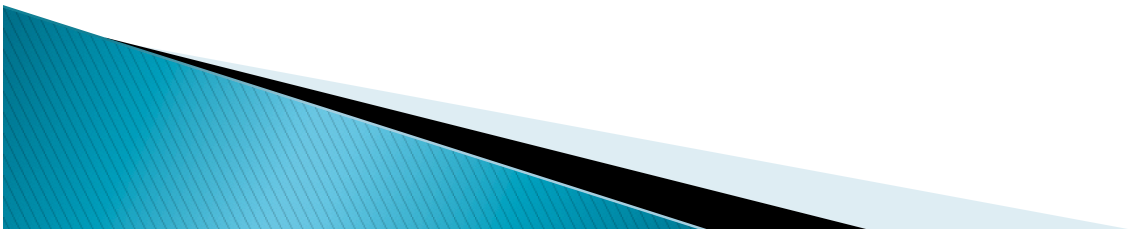
- Use headings and sub headings
  - Often use IMRaD structure
- Group related themes together

## **Importance of early detection**

- Symptomless and/or cough/sputum
  - Important health messages
- Smoking cessation and physiological changes
- Improved prognosis
- Reduced treatment costs

## **Strategies to Improve early detection**

- How to identify those at risk
  - Spirometry is the most reliable detection method for COPD



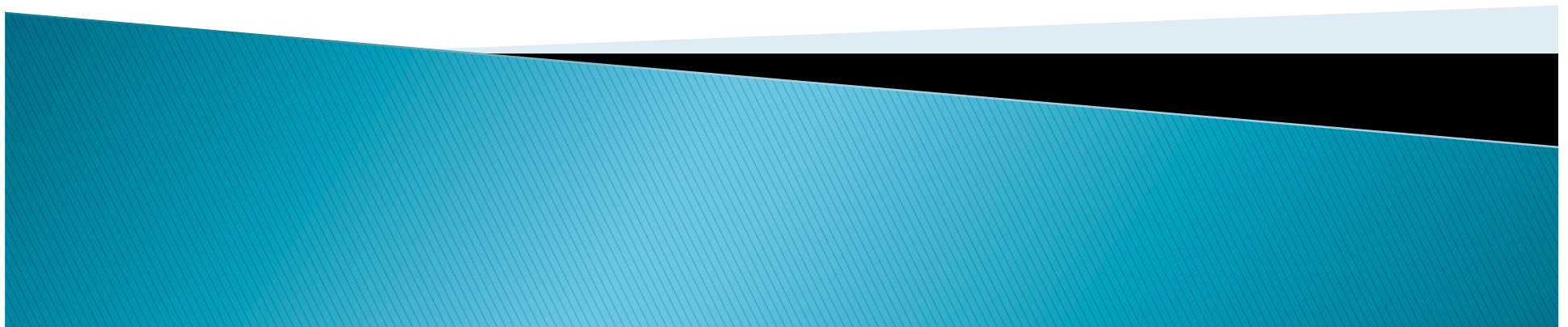
“By failing to prepare, you are preparing to fail.”



Benjamin Franklin



Write for your target  
audience

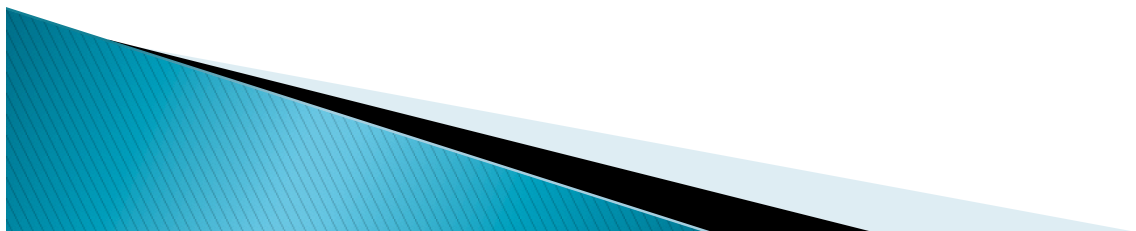




# Ask yourself

1. **Why** am I writing this document?
2. **Who** am I writing it for?
3. **What** do I want them to understand?
4. **What** tone should I use?

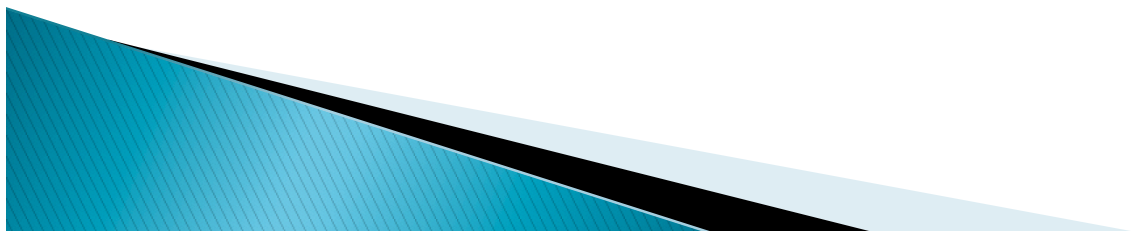
The tone you use to write a document changes depending on your intended audience



# Types of audiences

- ▶ Physicians or experts in the field
- ▶ Patients
- ▶ Regulatory authorities
- ▶ General public
- ▶ Internal or external audiences?

Is your audience knowledgeable about the disease or therapy?



# Your audience determines

- ▶ The words you use
- ▶ How much depth you need
- ▶ Which results to emphasise
- ▶ The types of illustrations you use
- ▶ How to structure the information being presented

The tone you  
adopt



# Writing for your audience

- ▶ Documents for medical professionals and regulators will contain technical and scientific data and explanations
- ▶ Information for patients and the general public needs to be accurate, clear and free from technical, medical and scientific jargon



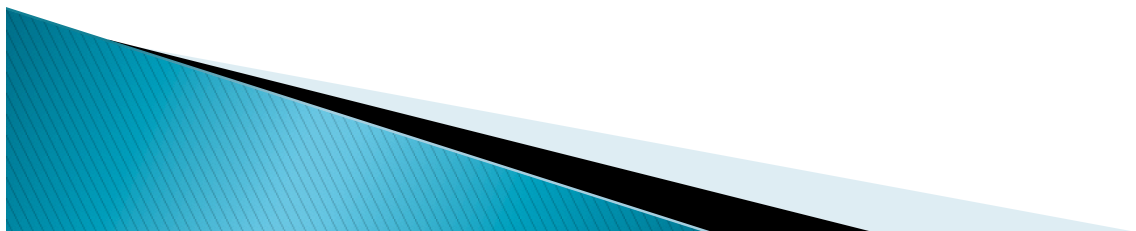
*Super milk* is effective for managing cow's milk allergy (CMA) and there is evidence of it promoting oral tolerance. A recent study has illustrated that after 6 months x% of infants with CMA receiving *Super milk* are tolerant to cow's milk, which increases to xx% after 12 months of usage.

Aimed at GPs

Oral tolerance to cow's milk is an acquired state where the infant no longer reacts to cow's milk proteins

- A recent study shows that after 6 months x% of infants with CMA receiving *Super milk* are tolerant to cow's milk, which increases to xx% after 12 months of *Super milk* treatment
- In the study, infants accepted *Super milk* without problems, and no adverse events were observed

Aimed at dieticians



# Journals have target audiences

## ▶ **International Dental Journal**

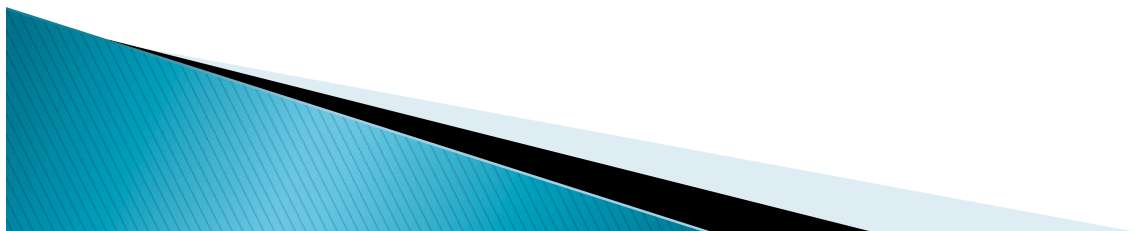
“...features peer-reviewed, scientific articles relevant to international oral health issues, as well as practical, informative articles aimed at clinicians..”

## ▶ **Caries Research**

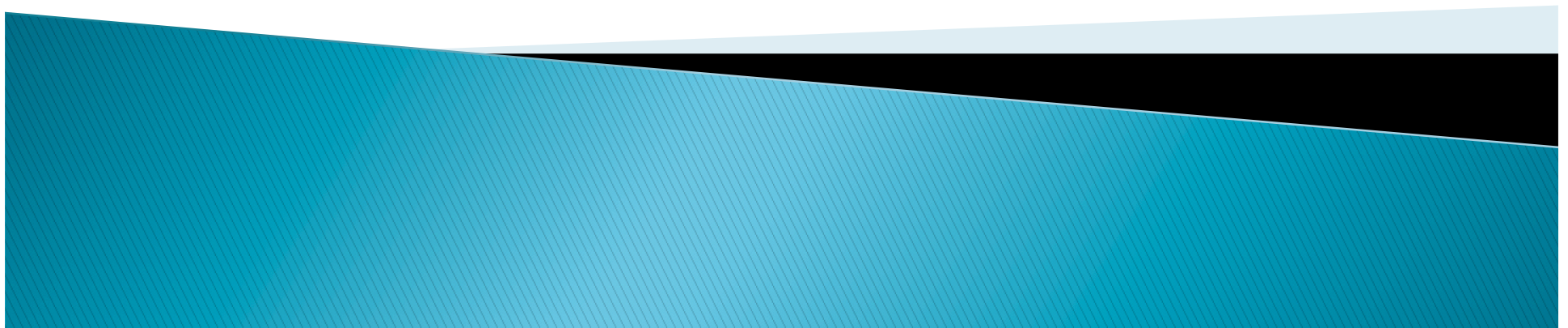
“peer-reviewed ...papers on the aetiology, pathogenesis, prevention and clinical control or management of dental caries...*Aspects of caries beyond the stage where the pulp ceases to be vital are outside the scope of the journal...*”

## ▶ **Nutrients**

“...international, peer-reviewed open access advanced forum for studies related to Human Nutrition..publishes reviews, regular research papers and short communications...”



In Summary.....



*“Put it before them briefly so they will read it, clearly so they will appreciate it.....and above all, accurately so they will be guided by its light”*



**Joseph Pulitzer**  
(1847 –1911)