Common Mistakes in Grammar, Punctuation, and Sentence Structure

Marianne Mallia, ELS

Manager and Senior Medical Writer
Scientific Publications
Texas Heart Institute at
St. Luke's Episcopal Hospital
Houston, Texas

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

What We'll Cover

- Writing good sentences
- Writing good paragraphs
- Common mistakes in writing
- Word choice
- Commonly misused words
- Punctuation

© 2009

REWARDS

- “This is a very well written BRP proposal to develop a novel cardiac replacement device …” (from the Overall Critique of a 2006 grant submission)
- "The manuscript effectively conveys the authors' data and conclusions. I have no changes to recommend and suggest that the paper be accepted for publication.“ (Reviewer, *J Thorac Cardiovas Surg*, on "A Single Nucleotide Polymorphism …”)
- “The manuscript is well written. . . . I have no concerns with any aspect of this manuscript.” (Reviewer, *J Thorac Cardiovasc Surg*, on “Transcutaneous Near-Infrared Spectroscopy Detects …Preliminary Experimental Results”)
- “Dr. J Michael Duncan and his associate have presented a well written case report of a patient with thrombus …” (Reviewer, *Ann Thorac Surg*)

© 2009

COMPOSING A GOOD SENTENCE

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

SENTENCE STRUCTURE

Place the message in the powerful places: subject, verb, and completer

- Topic = the subject (noun)
- Action = the verb
- Object = the completer (noun)

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

AVOID NOMINALIZATIONS

Nouns made from verbs with endings such as -tion, -ment, -ence, -al

- Measurement
- Assessment
- Occurrence
- Removal

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

SENTENCE STRUCTURE

- Place the message in the subject, verb, and object (completer)

Of the religious groups, their animal fat consumption is less than that of other Americans.

Revision

Seventh-Day Adventists consume less animal fat than other Americans.

The patient showed no change in symptoms.

Revision

The patient's symptoms did not change.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

SENTENCE STRUCTURE

- The subject should be followed immediately by the verb

  The importance of concomitant antiplatelet therapy in patients undergoing coronary thrombolysis was emphasized by the results of the ISIS-2 trial.

Revision

The ISIS-2 trial showed the importance of concomitant antiplatelet therapy…

© 2009

SENTENCE STRUCTURE
OLD TO NEW

- Remember the 2 most important positions: beginning and end
- Place “old,” previously stated information that links backward in the topic position (beginning of clauses and sentences). Place “new” information that you want to emphasize in the completer, ie, the stress position (end of clauses and sentences)

© 2009

SENTENCE STRUCTURE
OLD TO NEW

The hypothesis that the extent of myocardial injury reflects the degree of imbalance between myocardial oxygen supply and oxygen requirements from Braunwald, Maroko, et al. gained widespread acceptance in the 1970s as a result of observations in experimental animals and patients.

© 2009

SENTENCE STRUCTURE

Revision

As a result of their observations, Braunwald and associates hypothesized that the extent of myocardial injury after acute myocardial infarction reflects the degree of imbalance between myocardial oxygen supply and oxygen requirements. This hypothesis gained widespread acceptance in the 1970s.

The hypothesis that the extent of myocardial injury reflects the degree of imbalance between myocardial oxygen supply and oxygen requirements from Braunwald, Maroko, et al. gained widespread acceptance in the 1970s as a result of observations.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

ACTIVE VS. PASSIVE VOICE

Which is better?

- We found that…
- It was found that…

Active voice: subject performs the action

Passive voice: subject is acted upon

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

ACTIVE VOICE

- More vigorous than passive voice
- Expresses confidence in your research
- Trend in scientific writing toward active voice

© 2009

WHEN DO YOU USE PASSIVE VOICE?

- When the recipient of the action is more important:

  The patient was injected with the test drug.

- When it does not matter who performed the action or when who performed the action is not important:

  The patient was transported to the hospital by ambulance.

© 2009

SUBJECT-VERB AGREEMENT

The subject and verb must agree in number—

- Singular subject (no “s”)/singular verb (“s”)
- Plural subject (“s”)/plural verb (no “s”)
- Ignore intervening phrases

  The factor that affected study results was…
- Treat collective nouns as singular, unless the individual members are emphasized

  Twenty percent of her time is spent…

  The team responds to emergency calls.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

SUBJECT-VERB AGREEMENT

- Compound subjects (joined by “and”) require plural verbs:

  The patient with the Jarvik 2000 and the patient with the HeartMate II run 2 miles per day.

- Compound subjects joined by “or” or “nor” can be singular or plural, depending upon the nearest element:

  Neither the hospital nor the physicians were responsible.
  Neither the physicians nor the hospital was responsible.

- Indefinite pronouns (some, any, none, all, and most) can be singular or plural, depending on referents:

  Some of the values are correct.
  Most of the manuscript was written by 1 author.

© 2009

ONE IDEA AT A TIME

- Inappropriately overpacked sentence:

  To study the mechanisms involved in the beneficial effects of hydralazine on ventricular function in patients who have chronic aortic insufficiency, a radionuclide assessment of ventricular function was performed in 15 patients with pure aortic insufficiency, functional class I or II, at rest and during simple treadmill exercise.

© 2009

REVISED SENTENCE: IDEAS SEPARATED

We assessed the mechanisms involved in the beneficial effects of hydralazine on ventricular function in patients who had chronic aortic insufficiency. For this assessment, we performed radionuclide studies of ventricular function in 15 patients at rest and during treadmill exercise. All patients had pure aortic insufficiency and were in functional class I or II.

To study the mechanisms involved in the beneficial effects of hydralazine on ventricular function in patients who have chronic aortic insufficiency, a radionuclide assessment of ventricular function was performed in 15 patients with pure aortic insufficiency, functional class I or II, at rest and during simple treadmill exercise.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

ELIMINATE WORDINESS

- There had been major changes in our presentation related to the data accumulated as a consequence of exhaustive study of the results of treatment in cancers of the head and neck, breast, and gynecological tract.

Revision

Avoid prepositional phrases (phrases starting with in, of, to, by, at, through, from, with, away, etc.)

- We changed our presentation after exhaustively studying the results of treated cancers of the head and neck, breast, and gynecological tract.

© 2009

ELIMINATE WORDINESS

- Her job was to teach the basic fundamentals of pharmacology.
- The cells were red in color.
- The beakers were filled to capacity.

Other redundant words: advance planning, combine together, completely empty, eliminate altogether, fellow colleagues, fewer in number, skin rash, herein we describe, outside of, oval in shape, very unique, younger than 50 years of age, prior history

© 2009

EXPENDABLE WORDS

it goes without saying

needless to say

it is important to note that

it may be said that

it was found that

it was demonstrated

there are many statistics that show

© 2009

EXPENDABLE WORDS

due to the fact that (because)

an increased number of (more)

during the time that (while)

the majority of (most)

as the result of (because)

at this point in time (now)

in regard to (about)

have an effect on (affect)

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

EXAMPLE

In one patient who had numerous vegetations, it was demonstrated that the echocardiogram correctly predicted a large vegetation (15 mm) attached to the right coronary cusp but failed to detect three 4- to 5-mm lesions found during the time that surgery was being performed on the remaining two cusps, whereas in another patient, the echocardiogram correctly predicted lesions on all 3 cusps, and herein we will describe these three cases.

© 2009

HOW WOULD YOU REVISE THE EXAMPLE

- Long, wordy sentences are difficult to read—unless they are very well written
- Aim for 25-30 words per sentence, or less
- Include only 1 idea per sentence

© 2009

REVISION

In one patient who had numerous vegetations, the echocardiogram correctly detected a large vegetation (15 mm) attached to the right coronary cusp but failed to detect three 4- to 5-mm lesions found at surgery on the remaining 2 cusps. However, in another patient, the echocardiogram correctly detected lesions on all 3 cusps. This report describes these cases.

In one patient who had numerous vegetations, it was demonstrated that the echocardiogram correctly predicted a large vegetation (15 mm) attached to the right coronary cusp but failed to detect three 4- to 5-mm lesions found during the time that surgery was being performed on the remaining two cusps, whereas in another patient, the echocardiogram correctly predicted lesions on all 3 cusps, and herein we will describe these three cases.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

WHAT CHANGED?

- Three sentences instead of one
- Periods broke up ideas
- Expendable words eliminated

© 2009

PUT ACTION IN THE VERB: ACTION INAPPROPRIATELY IN SUBJECT

- An increase in heart rate occurred.

Revision

- Heart rate increased.

© 2009

ACTION INAPPROPRIATELY PLACED IN SUBJECT

- Measurements of blood pH were made with a radiometer capillary electrode.

Revision

- Blood pH was measured with a radiometer capillary electrode.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

ACTION INAPPROPRIATELY PLACED IN OBJECT

- X drug caused a decrease in heart rate.

  Revision

- When patients were given X drug, their heart rate decreased.

© 2009

USING TRANSITIONS TO INDICATE RELATIONSHIPS

- Transitions are important for logical flow of sentences and paragraphs
- Use transitions to indicate how sentences and paragraphs are related

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

TRANSITIONS

- External transitions: not integrated into the sentence
- Internal transitions: a part of the sentence that connects it to the previous sentence
- Transitional sentences: sentences used to connect one paragraph to the next

© 2009

EXTERNAL TRANSITIONS

- For conclusions: therefore, thus
- In a sequence: first, second, then
- To contrast: however, in contrast
- Others: for example, in addition

© 2009

INTERNAL TRANSITIONS

Individual residues in the repeated-sequence blocks had diverged. Although the individual residues diverged, the patterns of amino acids were identical.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

EXTERNAL AND INTERNAL TRANSITIONS

By widening our focus to the entire trachea, we were able to see that most ganglion cell bodies (72%) were located in the neural plexuses, and only a small proportion (28%) were located along the longitudinal nerve trunks. Furthermore, we were able to see that most of the ganglia contained only 1-4 ganglion cell bodies. Thus, ganglia along the longitudinal nerve trunk that contain 1-20 ganglion cell bodies, as previously reported, are not typical of most tracheal ganglia.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

TRANSITIONAL SENTENCES (With an External and Internal Transition)

End of a paragraph:

None of the studies we reviewed found any evidence to support Duncan and Levy's hypothesis.

In contrast, we reviewed several studies that supported the alternate hypothesis proposed by Bjornson et al . . .

© 2009

WRITING A GOOD PARAGRAPH

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

GOOD PARAGRAPHS

Tell a story

- With organized ideas
- With clear relationships between the ideas

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

GOOD PARAGRAPHS

Include

- A topic sentence
- Supporting sentences with transitions
- A concluding sentence with transition

© 2009

TOPIC SENTENCES

A topic sentence

- Gives an overview of all the other sentences in a paragraph
- States either the general topic or the specific point of the paragraph
- Is placed first

  A paragraph may need a second topic (or summary) sentence at the end

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

SUPPORTING SENTENCES

A paragraph should have supporting sentences that

- Say something specific about the topic
- Are logically organized

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

EXAMPLE: PARAGRAPH STRUCTURE

There are 3 different theories regarding the slow relaxation of catch muscles of molluscs. (*topic sentence*) One theory holds that catch is due to some unusual property of myosin in these muscles that produces a slow rate of detachment.[12] (*states first theory)* In this theory, paramyosin would have no special role beyond that of providing the scaffolding on which the myosin is positioned. (*detail for previous sentence)* The second theory holds that the tension is developed by actin-myosin interaction but is maintained by paramyosin interactions.[13] (*states second theory)* Because the thick filaments are of limited length, interaction would have to occur through fusion of thick filaments.[14] (*detail for previous sentence)* A third theory, to which I subscribe, pictures a structural change in the paramyosin core affecting the rate of breaking of myosin-catch links at the filament surface.[15] (*third theory…)*

© 2009

CONTINUITY IN PARAGRAPHS

- Continuity: the smooth flow of ideas from sentence to sentence (and from paragraph to paragraph)
- What is the point of each sentence?
- What does each sentence contribute to the story?

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

TECHNIQUES OF CONTINUITY

- Repeat key terms
- Keep a consistent order
- Keep a consistent point of view
- Put parallel ideas in parallel form
- Signal the subtopics of a paragraph, ie, first, second, finally
- Use transitions to indicate relationships between ideas

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

REPEAT KEY TERMS

Key terms: words or phrases that name important ideas dealt with in a manuscript

- Repeating key terms exactly from sentence to sentence is the strongest technique for providing continuity (ie, if you start with a term like “restenosis,” use “restenosis” throughout)
- Use category terms plus “this” or “these” to avoid too much repetition
  - Category term: word or phrase that includes details from a previous sentence, ie, “quantitative cell-based bioassay” becomes “this bioassay” or “this procedure”

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

REPEAT KEY TERMS

- Digitalis increases the contractility of the mammalian heart. This change in inotropic state is a result of changes in calcium flux through the muscle cell membrane.

  Revision

- Digitalis increases the contractility of the mammalian heart. This increased contractility results from changes in calcium flux through the muscle cell membrane.

© 2009

KEEP A CONSISTENT ORDER

- If 2 or more items are listed in a topic sentence, explain them in supporting sentences in the same order
- Supporting sentences should include all of the information mentioned in the topic sentence and not add anything not mentioned in the topic sentence
- Avoid interrupting the sequence of explanations with other information

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

KEEP A CONSISTENT ORDER

A. To determine the distribution, size, and shape of ganglion cell bodies in the tracheal neural plexus, we examined individual cell bodies in their entirety at 100-400x with a compound light microscope. **B.** For the assessment of distribution, first each ganglion cell body was classified… **C.** For the assessment of the size and shape of each ganglion cell body, the major and minor axes of the cell body were measured…

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

KEEP A CONSISTENT POINT OF VIEW

- Sentences with the same topics should have the same subject

© 2009

IS THE POINT OF VIEW CONSISTENT?

A. Propranolol had variable effects on the hypoxemia-induced changes in regional blood flow. **B.** In the cerebrum, the increase in blood flow caused by hypoxemia was not significantly altered by propranolol. **C.** However, in other organs, such as the gut and the kidneys, and in the peripheral circulation, propranolol caused a more severe decrease in blood flow than did hypoxemia alone.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

KEEP A CONSISTENT POINT OF VIEW

Revision

Propranolol had variable effects on the hypoxemia-induced changes in regional blood flow. In the cerebrum, propranolol did not significantly alter the increase in blood flow caused by hypoxemia. However, in other organs, such as the gut and the kidneys, and in the peripheral circulation, propranolol caused a more severe decrease in blood flow than did hypoxemia alone.

© 2009

PUT PARALLEL IDEAS IN PARALLEL FORM

- Parallel sentences have the same patterns. Parallel form is effective for presenting similar or contrasting information

  We were able to see that most ganglion cell bodies (72%) are located ... and only a small proportion (28%) are located along the longitudinal nerve trunks. Furthermore, we were able to see ...

© 2009

PUT PARALLEL IDEAS IN PARALLEL FORM

But, do not use parallel form for nonparallel ideas

- To determine whether cholinergic or adrenergic nerves mediate secretion of fluids from tracheal submucosal glands, we did experiments on glands excised from ferrets. To induce secretion, we stimulated the tissue both electrically and pharmacologically. To inhibit secretion, we added X to the bathing solution.

Revision

- To determine whether cholinergic or adrenergic nerves mediate secretion of fluids from tracheal submucosal glands, we did experiments on glands excised from ferrets. We induced secretion by stimulating the tissue both electrically and pharmacologically. We inhibited secretion by adding X to the bathing solution.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

AVOID COMMON MISTAKES IN WRITING

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

COMPARISONS

Comparative terms (higher, greater, lower, less, increase, or decrease) use than, not compared to

- Experimental rabbits had a 28% greater decrease in alveolar phospholipid as compared to control rabbits during normal ventilation.

  Revision

- Alveolar phospholipid decreased 28% more in the experimental rabbits than in the control rabbits.

© 2009

AVOID COMPARISON OF UNLIKE THINGS

- These results are similar to previous studies.

Revision

- These results are similar to the results of (or to those of) previous studies.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

COMPARE TO, COMPARE WITH

- Compare 1 thing or person “with” another to examine similarities or differences in detail (usually in science, “with” is correct)

  We compared complication rates in patients treated with X drug with those in patients treated with Y drug.
- Compare 1 thing or person “to” another only when describing a single striking similarity or dissimilarity

  We compared heart transplant patients to coronary bypass patients in terms of rates of atrial fibrillation.

© 2009

MISPLACED AND DANGLING MODIFIERS

Misplaced modifier: a word of phrase whose placement is illogical or ambiguous

Dangling modifier: a word or phrase that is not attached to any word in the sentence or is attached to the wrong word

- Because it was totally occluded, the surgical team decided to bypass the artery.

Revision

- The surgical team decided to bypass the artery because it was totally occluded.
- Blood flow was allowed to return to baseline before proceeding with the next occlusion.

Revision

- Blood flow <u>was allowed</u> to return to baseline before the next occlusion <u>was begun.</u>
- Changing from a standing to recumbent position, the heart expanded noticeably in all directions.

Revision

- When the patient changed from a standing to recumbent position, the heart expanded noticeably in all directions.

© 2009

AVOID DANGLING MODIFIERS IN TITLES

- Isolation of Antigens From Monkeys Using Complement-fixation Techniques

Revision

- Isolation of Antigens From Monkeys by Using Complement-fixation Techniques
- Use of Complement-fixation Techniques to Isolate Antigens From Monkeys

© 2009

KEEP PRONOUN ANTECEDENTS CLEAR

An antecedent is the word a pronoun refers to. If the antecedent is unclear, the reader may not be able to understand the sentence

- Tyson et al. abruptly occluded the venae cavae before analyzing the heart beats. As a result of this, the volume of the right heart rapidly decreased.

Clarify the antecedent with a category term

- As a result of this procedure or occlusion…

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

CASE OF PERSONAL PRONOUNS

Pronouns replace nouns

Subject case: I, he, she, we, who, whoever, they
Object case: me, him, her, us, whom, whomever, them

- Give the award to <u>whomever</u> you prefer.
  (Objective case: the object of “you prefer”)
- Give the award to <u>whoever</u> will benefit most.
  (Subjective case: the subject of “will benefit”)
- <u>Whom</u> did you consult?
  (Objective case: object of “did consult”)

© 2009

CASE OF PERSONAL PRONOUNS

When using personal pronouns in questions, you can choose the correct pronoun by answering the question

- Who would be the best reviewer for this paper?

  She would be the best reviewer. (Not her)
- To whom should I give the award?

  I should give it to him. (Not he)

© 2009

PARALLEL STRUCTURE

Parallel ideas are ideas that are equal in logic and importance. Parallel ideas should be written in parallel form, either as a pair or in series

- We hoped to increase the complete response and to improve survival.
- Pulmonary blood flow was always greater than renal blood flow.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

PARALLEL STRUCTURE

- Cardiac output was less in the group with *E. coli* than the group with *Pseudomonas*.

Revision

- Cardiac output was less in the group with *E. coli* than in the group with *Pseudomonas*.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

NONPARALLEL ELEMENTS IN A SERIES

- The D225 modification contains 12.5 mg of cysteine HCL, 50 mg of methionine, and has a final volume of 115 mL.

Revision

- The D225 modification contains 12.5 mg of cysteine HCL and 50 of methionine; its final volume is 115 mL.

© 2009

WORD CHOICE

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

LABORATORY VALUES
Be Precise

- Hemoglobin level
- Prothrombin time
- Pulse rate
- Total serum cholesterol value
- Creatinine level or clearance
- Rise in bilirubin level or increase in bilirubin

© 2009

USE PRECISE WORDS

- The bilirubin has been elevated for several hours.

  Revision

- The bilirubin level has been elevated for 4 hours.

© 2009

USE PRECISE WORDS

- In isolated, perfused dog lungs, infusion of serotonin was associated with an increase in microvascular pressure.

Revision

- After serotonin infusion, microvascular pressure increased 10% in isolated, perfused dog lungs.

© 2009

USE SIMPLE WORDS

- Use men and women, not males and females (except when male and female are used as adjectives, e.g., male donor, male children; when children and adults are mixed, females, aged 12 to 25)
- Use died, not expired
- Use humanely euthanized (AMA style: humanely killed) or euthanized for animal studies, not sacrificed

© 2009

USE AND UTILIZE

- To utilize something is to put it to a new or unusual use

  Because there are no quality-of-life questionnaires specifically designed for adults with congenital heart problems, we utilized one designed for patients with congestive heart failure.

- For any other purpose, use is best

© 2009

DATA, CRITERIA, MEDIA

- Data is the plural of datum
- Criteria is the plural of criterion
- Media is the plural of medium

Data, criteria, and media all take PLURAL verbs. The data were analyzed ….

© 2009

SHORTER WORDS

Use shorter words, when possible:

- Prior to vs before

  Before (not prior to) writing my review, I read everything I could find on the topic.

- Following vs after

  After (not following) his head injury, Phineas Gage's behavior changed dramatically.

© 2009

USE SIMPLE WORDS

- All heat-stable materials utilized in the isolation and assay of solutions were sterilized prior to use.

Revision

- All heat-stable materials used in the isolation and assay of solutions were sterilized before use.

© 2009

INCOMPARABLE WORDS

comprehensive

equal

final

unanimous

unique

original

expert

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

AVOID JARGON

- The trachea was intubated, and the lamb was placed on a Harvard ventilator.

Revision

- The trachea was intubated, and the lamb was ventilated with/connected to a Harvard ventilator.

© 2009

NONSTANDARD ABBREVIATIONS

Avoid nonstandard abbreviations; they make writing difficult to read

IBCBB, in vitro cell-based bioassays

PK, pharmacokinetic

TK, toxicokinetic

© 2009

SUBJECT AND VERB MUST MAKE SENSE TOGETHER

- The appearance of nondialyzable ^{35}S in the luminal bath was measured.

Revision

- The appearance of nondialyzable ^{35}S in the luminal bath was noted. OR, the amount was measured.

© 2009

DO NOT OMIT HELPING VERBS

- The tissue was minced and the samples incubated.

  Revision

- The tissue was minced, and the samples were incubated.

© 2009

WORDS CARELESSLY INTERCHANGED

© 2009

ACUTE, CHRONIC

Use for symptoms, conditions, diseases (they refer to duration, not severity), but not for patients, treatment, or medication

- Long-term treatment
- Long-term marijuana users
- Acute renal failure
- Acute studies

© 2009

AFFECT, EFFECT

- Affect, verb—to act on

  How smoking affects health is still a matter of concern to physicians.
- Effect, noun—resultant condition

  We studied the effect of epinephrine on glucose kinetics in dogs.
- Effect, verb—to bring about, to cause

  He hoped to effect a change in the system. (Used as verb—to bring about)
- Affect, noun—emotional state or expression

  The schizophrenic patient had blunted affect.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

CAN, MAY, MIGHT

- Can: ability to do something

  Homogeneous cell lines of short duration can be achieved with cloning techniques.
- May: possibility or permission

  This mechanism may also be the cause of the ozone effect.
- Might: smaller possibility

  Our findings might one day lead to a better treatment.

© 2009

COMPOSE, COMPRISE

Comprise: “to be composed of” or simply “include”:

- The “quack” medication comprises several highly toxic ingredients.
- The “quack” medication is composed of several highly toxic ingredients.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

DOSE, DOSAGE

- Dose: quantity to be administered at one time, or the total quantity administered

- Dosage: a regimen; the regulated administration of individual doses, usually expressed as a quantity per unit of time

  The patient received an initial dose of 50 mg and, thereafter, a dosage of 25 mg 3 times a day for 6 days.

© 2009

DUE TO/BECAUSE OF

Use “due to” only when you could substitute “caused by”

- Incorrect: The study was halted due to a loss of funding.
- Correct: The study was halted because of a loss of funding.
- Correct: The false result was due to an error in the statistical analyses.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

ENSURE/INSURE/ASSURE

To make certain:

- Ensure: general
- Insure: guarantee against loss (financial)
- Assure: takes preposition *of*

© 2009

ETIOLOGY/CAUSE

Etiology: the study of all the possible causes, separate or related, of a condition or a disease

- The etiology of cancer is a maze of unknowns.

But—

- The cause of his heart failure was acute myocardial infarction.

Other abused “-ology” words: pathology, morphology, histology, symptomatology

© 2009

EXAMINE, EVALUATE

- Patients are examined
- Conditions or diseases are evaluated

Not: We <u>evaluated</u> the patient for signs of heart disease.

But: We <u>examined</u> the patient for signs of heart disease.

© 2009

SHOW, REVEAL, DEMONSTRATE

- **Show:** indicate something by evidence
  The data show that clotting times vary widely.
- **Reveal:** make known something previously unknown
  Differential staining revealed 3 types of cells.
- **Demonstrate:** Show by reasoning and experiments
  By dropping objects from the Leaning Tower of Pisa, Galileo demonstrated that bodies of different masses fall with equal velocities and with a uniform acceleration.

© 2009

LEARN A FEW PUNCTUATION RULES

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

APOSTROPHES

Not used for plurals of all-capital abbreviations or numerals

- ECGs
- IQs
- Woman in her 40s
- During the 1970s

© 2009

HYPHENS

Hyphenate 2 words that come before a noun and work together to modify that noun. Do not hyphenate 2-word modifiers that come after the noun

- Risk-reward ratio (BUT: ratio of risk to reward)
- We performed a double-blind study. (BUT: The study was double blind.)
- Each 96-well microplate assay consisted 8 or 9 samples.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

HYPHENS

Hyphenate compound numbers from 21 to 99 and fractions used as adjectives, but not fractions used as nouns

- Thirty-six patients were examined.
- A two-thirds majority was needed.
- Three fourths of the questionnaires were returned.

© 2009

HYPHENS

- The following common prefixes are not joined by hyphens:

  ante, anti, bi, co, contra, counter, de, extra, infra, inter, intra, micro, mid, non, over, pre, post, pro, pseudo, re, semi, sub, super, supra, trans, tri, ultra, un, under
- Exceptions: co-opt, possibly intra-aortic
- Check journal style

© 2009

HYPHENS

When two or more hyphenated compounds have a common base, omit the base in all but the last compound. In unhyphenated compounds written as one word, repeat the base

- 10- and 15-year-old boys
- Preoperative and postoperative treatment

  (**Not** pre- and postoperative treatment)

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

HYPHENS

Omit hyphens in words commonly read together as units:

- public health officials
- open heart surgery
- social service agency

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

HYPHENS

Not used after an adverb ending in –ly even when used in a compound modifier

- The electrically actuated pump…

© 2009

COMMAS

- Set off nonrestrictive clauses or phrases that are not important to sentence meaning
- Nonrestrictive clauses begin with “which”
- Do not set off restrictive clauses; restrictive clauses begin with “that”
  - The numbness, which had been apparent for days, disappeared after drug therapy.
  - The numbness that caused the patient’s death was attributed to drug therapy.

Texas Heart® Institute
at St. Luke’s Episcopal Hospital
© 2009

COMMAS

Set off viz, ie, eg, and the expanded equivalents: namely, that is, and for example

- The use of standardized scores, eg, Z scores, has no effect on statistical comparisons.

AMA Style: no periods

© 2009

COMMAS

Separate main clauses joined by coordinating conjunctions (and, but, for, or, nor, yet, so). This sentence construction is called a compound sentence

- No subgroup of responders could be identified, and differences between centers were so great that no real comparison was possible.

© 2009

COMMAS

Placed around interrupting words and phrases that are not important to meaning (nonrestrictive)

- An in vitro cell-based bioassay, to my knowledge, has been developed and validated…
- At 16 and 32 ng/mL, however, 4 of the 5 curves had at least 1 predicted concentration that deviated…
- Sam's sister Sarah had 12 children. John's twin sister, Sue, had 8 children.

© 2009

COMMAS

Separate each element in a date

- Edward's rhinoplasty was scheduled for August 19, 1985, at the Mayo Clinic.

Exception: month and year without the date.

- December 1941 was a time to fear.

© 2009

COMMAS

Inside quotation marks and before superscript citation of references and footnote symbols (American style)

- “I’ll lend you my stethoscope,” she replied.
- Sampson et al.,[1] Jones et al.,[2] and our group[3] reported the studies simultaneously.
- Title page of manuscript: James T. Willerson, MD,[1] Mike Wilson, MD,[2] and Denton A. Cooley, MD[3]

© 2009

COMMAS

- After introductory clauses or phrases

  If the infection recurs, another course of zithromycin should be given.

- After items in a series

  The doctor, the nurse, and the therapist saw the patient daily.

- Between a series of modifiers

  The randomized, double-blind, placebo-controlled trial …

© 2009

SEMICOLONS

Separate independent clauses

- The conditions of 52% of the patients improved greatly; 4% of the patients were lost to follow-up.

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

SEMICOLONS

Separate main clauses joined by a conjunctive adverb (eg, furthermore, then, however, thus, hence, indeed, yet) or a coordinating conjunction if one of the clauses has internal punctuation. Use a comma after the conjunctive adverb

- The patient's fever had subsided; however, his condition was still critical.
- This consideration is important in any research; but, often, it is overlooked.

© 2009

SEMICOLONS

Sometimes used to separate list items when one or more of the items has internal punctuation

- The study had three goals: first, to examine medication compliance in our patients; second, to determine the relative influence of clinical effectiveness and adverse effects on medication compliance; and third, to test a psychosocial intervention designed to improve medication compliance.

TEXAS HEART® INSTITUTE
at St. Luke's Episcopal Hospital
© 2009

PARENTHESES

- Parentheses are for parenthetical information
- Punctuate material inside ( ) appropriately
  - The discussion on parentheses lasted 2 hours (much longer than I would have liked) and did not resolve the question.
  - After what seemed an eternity (It took 2 hours!), the discussion on parentheses ended.

© 2009

CAPITAL LETTERS

- Do NOT use for EMPHASIS in SCIENTIFIC or REGULATORY WRITING
- Use only one graphic element at a time

USING MORE THAN ONE ELEMENT MAKES THE BRAIN WORK HARDER TO PROCESS THE INFORMATION IT HAS RECEIVED

© 2009

QUOTATION MARKS

- Place outside commas and periods, inside colons and semicolons
- Place other punctuation inside quotation marks only when part of quoted material

  Why bother to do autopsies at all if the result is invariably “edema and congestion of the viscera”?

  Do not do the autopsy if the result is invariably “edema and congestion of the viscera.”

  If the result is “edema and congestion of the viscera,” do not do the autopsy.

© 2009

QUOTATION MARKS

Place around coined words, slang, and words or phrases used ironically or facetiously

- Avoid overuse: We have found that the majority of children with “chronic” SVT develop “cardiomyopathy.”

  With quotation marks, the sentence implies that the children did not have chronic SVT or cardiomyopathy

© 2009

CAPITALIZATION

Do not capitalize the second part of a hyphenated compound when both parts together constitute a single word, even in a title

- Long-term goals
- Follow-up studies

Texas Heart® Institute
at St. Luke's Episcopal Hospital
© 2009

CAPITALIZATION

Do not capitalize words from which acronyms are derived

- ELISA, enzyme-linked immunosorbent assay
- LOQ, limit of quantitation

© 2009

REWARDS

- “This is a very well written BRP proposal to develop a novel cardiac replacement device …” (from the Overall Critique of a 2006 grant submission)
- "The manuscript effectively conveys the authors' data and conclusions. I have no changes to recommend and suggest that the paper be accepted for publication.“ (Reviewer, *J Thorac Cardiovas Surg*, on "A Single Nucleotide Polymorphism …”)
- “The manuscript is well written. . . . I have no concerns with any aspect of this manuscript.” (Reviewer, *J Thorac Cardiovasc Surg*, on “Transcutaneous Near-Infrared Spectroscopy Detects …Preliminary Experimental Results”)
- “Dr. J Michael Duncan and his associate have presented a well written case report of a patient with thrombus …” (Reviewer, *Ann Thorac Surg*)

© 2009

Thank You!

Marianne Mallia, ELS
832.355.6776
mmallia@heart.thi.tmc.edu



© 2009