

Health Literacy Educational Module Learning Session 3

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LAURA FERGUSON, MD, FAAP

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GOAL

Increase awareness of providers and their teams of the need to review the use of written instructional materials in their practice, with regard to health literacy, and use of techniques to ensure patient and parent understanding of treatment goals.



RATIONALE

Optimal asthma care includes measures related to patient and parent/caregiver education, with regard to strategies to improve the health and well-being of patients with asthma. Parents must be knowledgeable about:

- Child's diagnosis of asthma
- Recognition of signs and symptoms of exacerbation
- How to use an asthma action plan



LEARNING OBJECTIVES

- Describe the relationship between family literacy levels and the ability to comply with provider recommendations for asthma care
- Demonstrate use of simple tools to review existing practice resources for asthma with regard to literacy level
- Define terms such as “plain language” handouts, readability tools, average literacy level, target literacy level
- Address other components of patient education, including numeracy, native language, etc. through resources for clear communication
- Demonstrate competency in “teach back” and other oral language strategies to enhance asthma management patient education



REFLECTIONS ON PART 1 (PRE-WORK)

- **Thoughts about pre-reading/pre-viewing**
 - What were your impressions?
 - Did anything surprise you?

- **If you had a chance to experiment using the “readability” tool...**
 - What did you learn about the handout you assessed?



Part II

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DEFINITIONS:

- Readability formulas for evaluation of written material
- Plain Language Handouts
- Teach-Back technique for oral language reinforcement
- Numeracy concerns
- Cultural concerns



READABILITY

- **Readability** is the ease with which a reader can understand a written text. In natural language, the **readability** of text depends on its content (the complexity of its vocabulary and syntax) and its presentation (such as typographic aspects like font size, line height, and line length).

Source: Wikipedia via Iowa State reference



READABILITY BASICS

- Number of words per sentence and number of syllables per word. The higher those numbers, the higher the literacy level
- Also, font size, number of paragraphs and amount of white space influence readability



READABILITY FORMULAE

1. [The Flesch Reading Ease formula](#) will output a number from **0 to 100** - a higher score indicates easier reading. **An average document has a Flesch Reading Ease score between 6 - 70.** As a rule of thumb, scores of **90-100** can be understood by an average 5th grader. 8th and 9th grade students can understand documents with a score of **60-70**; and college graduates can understand documents with a score of **0-30**.
2. [The Flesch-Kincaid Grade Level](#) outputs a U.S. school grade level; this indicates the average student in that grade level can read the text. For example, a score of 7.4 indicates that the text is understood by an average student in 7th grade.
3. [The Fog Scale \(Gunning FOG Formula\)](#) is similar to the Flesch scale in that it compares syllables and sentence lengths. **A Fog score of 5 is readable, 10 is hard, 15 is difficult, and 20 is very difficult.** Based on its name, 'Foggy' words are words that contain 3 or more syllables.
4. [The SMOG Index](#) outputs a U.S. school grade level; this indicates the average student in that grade level can read the text. For example, a score of 7.4 indicates that the text is understood by an average student in 7th grade.
5. [The Coleman-Liau Index](#) relies on characters instead of syllables per word and sentence length. This formula will output a grade. For example, 10.6 means your text is appropriate for a 10-11th grade high school student.
6. [Automated Readability Index](#) outputs a number which approximates the grade level needed to comprehend the text. For example, if the ARI outputs the number 3, it means students in 3rd grade (ages 8-9 yrs. old) should be able to comprehend the text.
7. [Linsear Write Formula](#) is a readability formula for English text, originally developed for the United States Air Force to help them calculate the readability of their technical manuals. Linsear Write Formula is specifically designed to calculate the United States grade level of a text sample based on sentence length and the number words used that have three or more syllables.



EXERCISE

- If you brought an electronic example of one of your practice's handouts, Google the “automatic readability checker” and plug it in OR use any patient/parent information handout you can find and plug it in



EXAMPLE: SMOKING HURTS (FROM HEALTHYCHILDREN.ORG)

12/2/2018

Smoking Hurts Everyone - HealthyChildren.org

Smoking Hurts Everyone

Many people think that the only people harmed by tobacco use are smokers who have smoked for a long time. The fact is that tobacco use can be harmful to everyone. This includes unborn babies and people who don't smoke.

If you smoke cigarettes, cigars, or pipes, or use [smokeless tobacco](#) ([/English/health-issues/conditions/tobacco/Pages/Dangers-of-Chew.aspx](#)) like chew and snuff, quit! It's the best thing you can do for yourself and for everyone around you is quit.



Smoking Harms Infants and Children

When parents expose their children to smoke, or let others do so, they are putting their children's health in danger and sending a message that smoking is OK.

[Secondhand smoke](#) ([/English/health-issues/conditions/tobacco/Pages/Dangers-of-Secondhand-Smoke.aspx](#)) is the smoke a smoker breathes out. It's also the smoke that comes from the tip of lit cigarettes, pipes, and cigars. It contains about 4,000 different chemicals, many of which cause cancer. Because of exposure to secondhand smoke, about 3,400 nonsmokers die from lung cancer every year and 22,000 to 69,000 nonsmokers die from heart disease every year.

Breathing in smoke can cause:

- Asthma
- Respiratory infections (like bronchitis and pneumonia)
- Lung problems
- Ear infections
- Sudden infant death syndrome (SIDS) (for babies younger than 1 year)

The American Academy of Pediatrics (AAP) recommends that families keep smoke-free homes and vehicles ([/English/health-issues/conditions/tobacco/Pages/Importance-of-Smoke-Free-Homes-and-Cars.aspx](#)) **at all times. This is the only way to fully prevent exposure to the toxic chemicals in secondhand smoke.**

Smoking Harms Unborn Babies

[Smoking during pregnancy or exposing pregnant women to smoke](#) ([/English/ages-stages/prenatal/Pages/Where-We-Stand-Smoking-During-Pregnancy.aspx](#)) can lead to many serious health problems for an unborn baby, such as:

- Miscarriage

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AUTOMATIC READABILITY CHECKER

Paste a sample of plain text in the box. Your sample can be between 150-3000 words. We do not store or reuse your text in any way.

Smoking Hurts Everyone
Many people think that the only people harmed by tobacco use are smokers who have smoked for a long time. The fact is that tobacco use can be harmful to everyone. This includes unborn babies and people who don't smoke. If you smoke cigarettes, cigars, or pipes, or use smokeless tobacco (/English/healthissues/conditions/tobacco/Pages/Dangers-of-Chew.aspx) like chew and snuff, quit! It's the best thing you can do for yourself and for everyone around you is quit. Smoking Harms Infants and Children When parents expose their children to smoke, or let others do so, they are putting their children's health in danger and sending a message that smoking is OK. Secondhand smoke (/English/health-issues/conditions/tobacco/Pages/Dangers-of-Secondhand-Smoke.aspx) is the smoke a smoker breathes out. It's also the smoke that comes from the tip of lit cigarettes, pipes, and cigars. It contains about 4,000 different chemicals, many of which cause cancer. Because of exposure to secondhand smoke, about 3,400 nonsmokers die from lung cancer every year and 22,000 to 69,000 nonsmokers die from heart disease every year. Breathing in smoke can cause:
Asthma
Respiratory infections (like bronchitis and pneumonia)
Lung problems

Security check - Are you human?

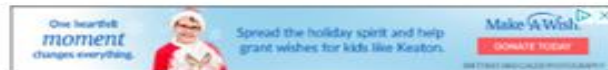


Yes. (Click the box)

Check Text Readability

Clear

(Don't forget to check the "Are you human?" box)



Our free readability formula tool will analyze your text and output the results based on these readability formulas. Our tool will also help you determine the grade level for your text.

1. **The Flesch Reading Ease formula** will output a number from 0 to 100 - a higher score indicates easier reading. **An average document has a Flesch Reading Ease score between 6 - 70.** As a rule of thumb, scores of 90-100 can be understood by an average 5th grader. 8th

[HTTP://WWW.READABILITYFORMULAS.COM/FREE-READABILITY-FORMULA-TESTS.PHP](http://www.readabilityformulas.com/free-readability-formula-tests.php)

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EXAMPLE OF USING THE CALCULATOR

Your Results:

- **Your text:** Smoking Hurts
- **Flesch Reading Ease score:** 49.5 (text scale)
Flesch Reading Ease scored your text: fairly difficult to read.
[f] [a] [r]
- **Gunning Fog:** 8.9 (text scale)
Gunning Fog scored your text: fairly easy to read.
[f] [a] [r]
- **Flesch-Kincaid Grade Level:** 9.2
Grade level: Ninth Grade.
[f] [a] [r]

- **The Coleman-Liau Index:** 14
Grade level: college
[f] [a] [r]
- **The SMOG Index:** 8
Grade level: Eighth grade
[f] [a] [r]
- **Automated Readability Index:** 9.9
Grade level: 14-15 yrs. old (Ninth to Tenth graders)
[f] [a] [r]
- **Linsear Write Formula :** 6.7
Grade level: Seventh Grade.
[f] [a] [r]



READABILITY CONSENSUS

Based on 8 readability formulas, we have scored your text:

- Grade Level: 10
- Reading Level: fairly difficult to read.
- Reader's Age: 14-15 yrs. old (Ninth to Tenth graders)



SAMPLE HANDOUTS

CDC –

- **Readability Consensus**
- Based on 8 readability formulas, we have scored your text:
- Grade Level: 7
- Reading Level: standard / average.
- Reader's Age: 11-13 yrs. old (Sixth and Seventh graders)



PLAIN LANGUAGE

- **Plain language** (also called plain writing or plain English) is communication your audience can understand the first time they read or hear it.
- The Plain Writing Act of 2010 defines plain language as:
Writing that is clear, concise, well-organized, and follows other best practices appropriate to the subject or field and intended audience
 - <https://www.plainlanguage.gov/about/definitions/>



PLAIN LANGUAGE

- Center for Plain Language
<https://centerforplainlanguage.org/>
- Plain language handouts from AAP:
<https://patiented.solutions.aap.org/handout-collection.aspx?categoryid=32035>
- But.... Can still be written at a higher literacy level
(see example handout on smoking pasted into readability checker)

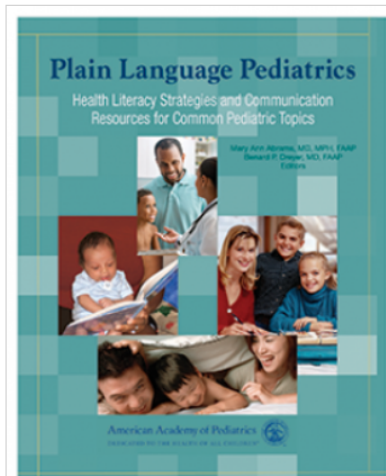


AAP Resources



Books ▾

[Advanced Search](#)



Plain Language Pediatrics Health Literacy Strategies and Communication Resources for Common Pediatric Topics

By Mary Ann Abrams, MD, MPH, FAAP and Benard P. Dreyer, MD, FAAP

An essential tool to help improve communication between pediatrician and patient or family, Plain Language Pediatrics offers a framework for implementing a plain language approach to communication in your office, and provides specific steps you can take to ensure the information you present to patients and their parents is clearly understood. Included are 25 reproducible plain language patient education handouts in English and Spanish.

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PLAIN LANGUAGE

- Is anyone using AAP plain language handouts?
- Tricks for writing your own handouts (perhaps information on your website or EHR portal)
- Microsoft Word has a “readability” tool
 - Under “review” tab (where you track word count, use thesaurus)




PLAIN LANGUAGE AND STANDARD ASTHMA ACTION PLANS

Date: 6/17/12

Asthma Medicine for Jason

Everyday Keep your child healthy.
Give **everyday medicine** when healthy or sick.




Your child is feeling good:

- No trouble breathing
- No cough or wheeze
- Sleeps well
- Can play as usual


Morning

Flovent
2 puffs with spacer



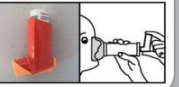
Night

Singular
1 chewable tablet



and

Flovent
2 puffs with spacer



Sick Give sick medicine **and** add everyday medicine.
If not feeling better in 1 day, call your doctor.



Your child has **any** of these:

- Some trouble breathing
- Cough in the day or night
- Mild wheeze
- Feels tightness in chest

Albuterol
2 puffs with spacer



If needed, give every 4 hours

Everyday

Morning

Flovent
2 puffs with spacer



Night

Singular
1 chewable tablet



and

Flovent
2 puffs with spacer



Very sick The asthma is getting worse.
Give sick medicine. **Get help now!**



Your child has any of these:

- Breathing is hard and fast
- Can't stop coughing
- Ribs show when breathing
- Neck pulls in
- Can't talk or walk well

Albuterol
2 puffs with spacer



Call a doctor or 911
Go to the hospital



Asthma Action Plan, for Children 6 Years or Older

Name _____
DOB _____
Record # _____

Health Care Provider's Name _____

Health Care Provider's Phone Number _____ Completed by _____ Date _____

Long-Term Control Medicines (Use every day to stay healthy)	How Much To Take	How Often	Other Instructions (such as spacers/masks, nebulizers)
		_____ times per day EVERY DAY	
		_____ times per day EVERY DAY	
		_____ times per day EVERY DAY	
		_____ times per day EVERY DAY	

Quick-Relief Medicines	How Much To Take	How Often	Other Instructions
			Take ONLY as needed

NOTE: If this medicine is needed frequently, call physician to consider increasing long-term-control medications.

Special instructions when I feel **good** (green), **not good** (yellow), and **awful** (red).

I feel good.
(My peak flow is in the GREEN zone.)

GREEN
Peak Flow
My Personal Best

I do not feel good.
(My peak flow is in the YELLOW zone.)
My symptoms may include one or more of the following:

- Wheeze
- Tight chest
- Cough
- Shortness of breath
- Waking up at night with asthma symptoms
- Decreased ability to do usual activities

Prevent asthma symptoms everyday

- Take my long-term-control medicines (above) every day
- Before exercise, take _____ puffs of _____
- Avoid things that make my asthma worse like: _____

CAUTION: I should continue taking my long-term-control asthma medicines every day AND:

- Take _____

If I do not feel good, or my peak flow is not in the Green Zone within 1 hour, then I should:

- Increase _____
- Add _____
- Call _____

I feel awful.
(My peak flow is in the RED zone.)
Warning signs may include one or more of the following:

- It's getting harder and harder to breathe.
- Unable to sleep or do usual activities because of trouble breathing.

DANGER!
Get help immediately!

RED
Peak Flow
Meter

MEDICAL ALERT! Get help!

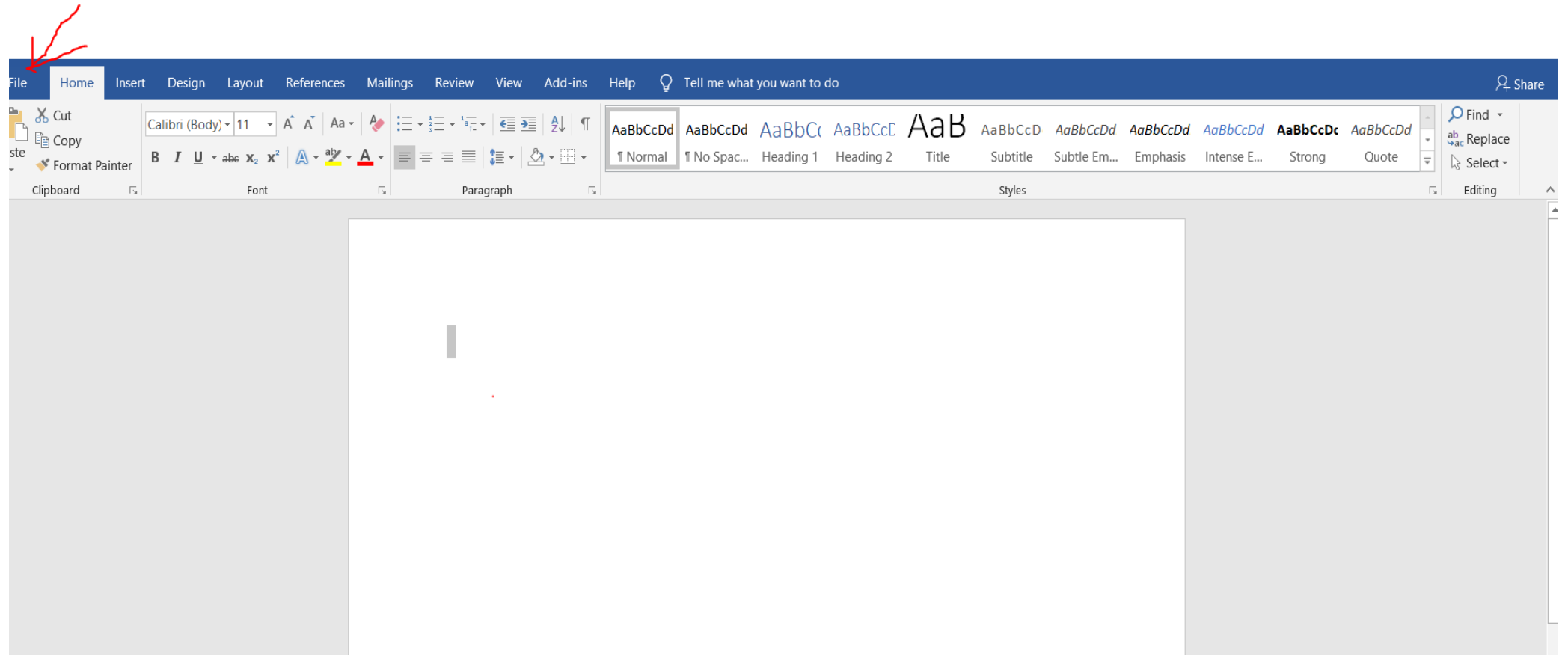
- Take _____ until I get help immediately!
- Take _____
- Call _____

Call 9-1-1 if you have trouble walking or talking due to shortness of breath or lips or fingernails are gray or blue.

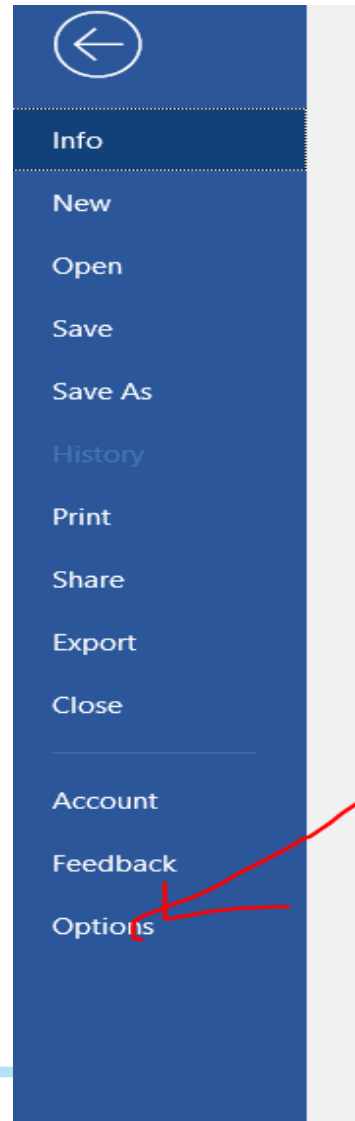
Source: Adapted and reprinted with permission from the Regional Asthma Management and Prevention (RAMMP) initiative, a program of the Public Health Institute. <http://www.calasthma.org/uploads/resources/actionplangrid.pdf>. San Francisco Bay Area Regional Asthma Management Plan.
Source: <http://www.calasthma.org/uploads/resources/actionplangrid.pdf>. San Francisco Bay Area Regional Asthma Management Plan. <http://www.rampasthma.org>.
Source: National Heart, Lung, and Blood Institute National Asthma Education and Prevention. Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma; Full Report 2007. Bethesda, MD: NHLBI; 2007:117.

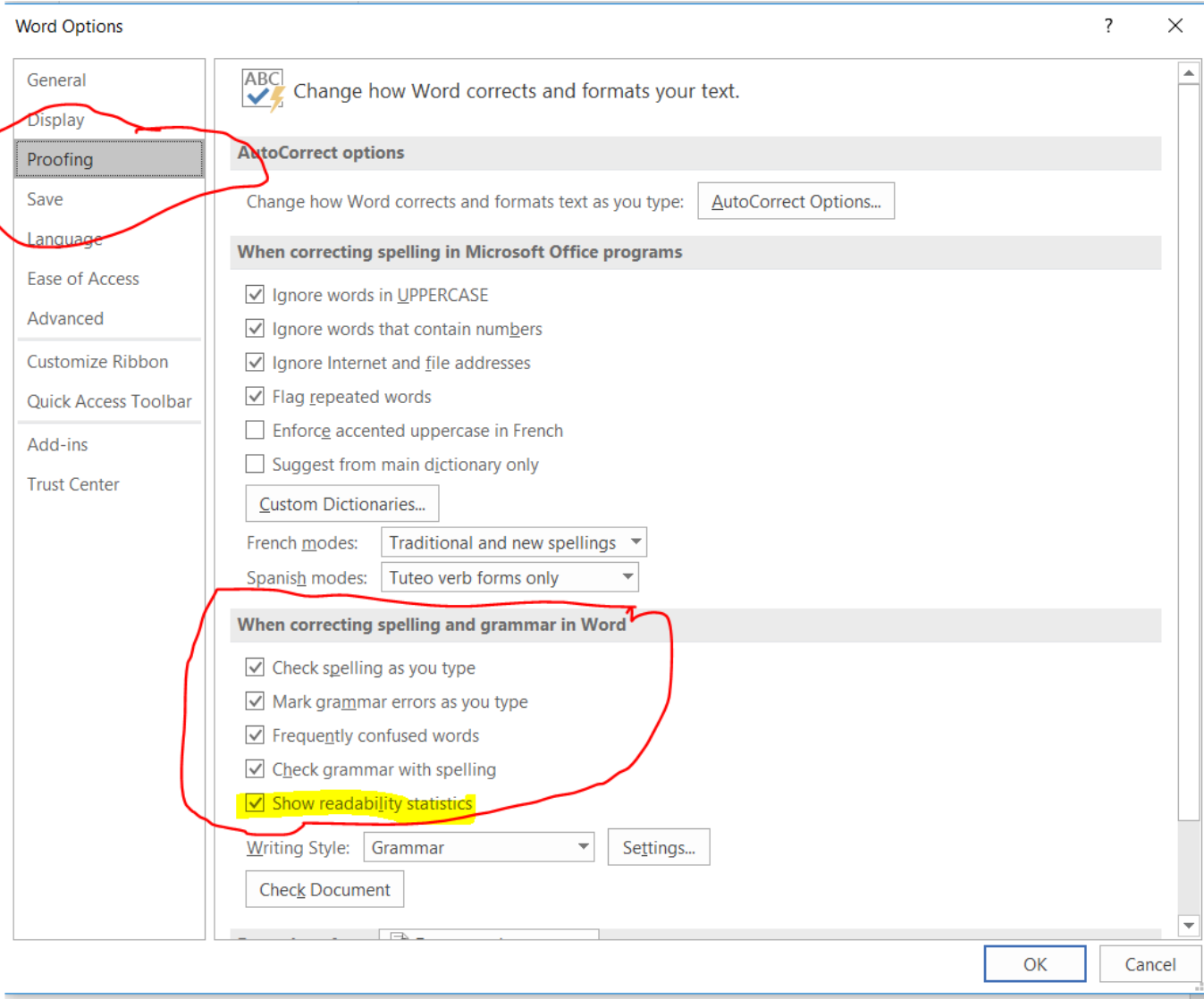


MICROSOFT WORD TOOL



MICROSOFT –CLICK “OPTIONS”





Microsoft Word-results of readability review

Readability Statistics

Counts	
Words	789
Characters	4,616
Paragraphs	25
Sentences	24

Averages	
Sentences per Paragraph	2.4
Words per Sentence	25.6
Characters per Word	5.6

Readability	
Flesch Reading Ease	21.6
Flesch-Kincaid Grade Level	16.3
Passive Sentences	0.0%

OK

AHRQ LITERACY TOOLKIT

https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/index.html

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Clinicians & Providers
Education & Training
Hospitals & Health Systems
Prevention & Chronic Care
Quality & Patient Safety
▶ AHRQ's Healthcare-Associated Infection Program
▶ Hospital Survey on Patient Safety Culture
▶ AHRQuality Indicators™
▶ Nursing Home Survey on Patient Safety Culture
▶ Consumer Assessment of Healthcare Providers and Systems (CAHPS)

AHRQ Health Literacy Universal Precautions Toolkit

2nd edition

The AHRQ Health Literacy Universal Precautions Toolkit, 2nd edition, can help primary care practices reduce the complexity of health care, increase patient understanding of health information, and enhance support for patients of all health literacy levels.

What Are Health Literacy Universal Precautions?

Health literacy universal precautions are the steps that practices take when they assume that all patients may have difficulty comprehending health information and accessing health services. Health literacy universal precautions are aimed at—

- Simplifying communication with and confirming comprehension for all patients, so that the risk of miscommunication is minimized.
- Making the office environment and health care system easier to navigate.
- Supporting patients' efforts to improve their health.

Why Should Practices Implement Health Literacy Universal Precautions?

Source: <https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/index.html>



TEACH-BACK

- Regardless of a patient's health literacy level, it is important that clinic staff ensure that patients understand the information they have been given.
- The teach-back method is a way of checking understanding by asking patients to state in their own words what they need to know or do about their health.
- It is a way to confirm that you have explained things in a manner your patients understand.
- The related show-me method allows staff to confirm that patients are able to follow specific instructions (e.g., how to use an inhaler).



PRACTICE EXPERIENCES

"I decided to do teach-back on five patients. With one mother and her child, I concluded the visit by saying 'so tell me what you are going to do when you get home.'...She could not tell me what instructions I had just given her. I explained the instructions again and then she was able to teach them back to me... I had no idea she did not understand... I was so wrapped up in delivering the message that I did not realize it wasn't being received".

—Pediatric office



Ask for Teach-Back in a Non-shaming Way

Examples:

- I want to be sure I explained everything clearly. Can you explain it back to me so I can be sure I did?
- What will you tell your husband about the changes we made to your medicines today?
- We've gone over a lot of information. In your own words, please review with me what we talked about



EXERCISE

- Using the handout that you have just used for the readability checker, role play “teach back” after letting a partner read the handout briefly.



NUMERACY

- Definition

<https://www.nationalnumeracy.org.uk/what-numeracy>

...the ability to use mathematics in everyday life



BEING NUMERATE

...means having the confidence and skill to use numbers and mathematical approaches in all aspects of life

- at work,
- at home and beyond,
- as consumers, in managing our finances,
- as parents helping our children learn,
- as patients making sense of health information,
- as citizens understanding the world about us.



NUMERACY COMPLEMENTS LITERACY AND IS SOMETIMES CALLED 'MATHEMATICAL LITERACY'

- Being numerate is as much about thinking and reasoning logically as about 'doing sums'.
- It means being able to:
 - Interpret data, charts and diagrams
 - Process information
 - Solve problems
 - Check answers
 - Understand and explain solutions
 - Make decisions based on logical thinking and reasoning.
 - Numeracy involves skills that are sometimes not adequately learnt in the classroom – the ability to use numbers and solve problems in real life
- In asthma care:
 - Using metered dose inhaler with or without a dose counter
 - Using a peak flow meter or interpreting, with help, a spirometry report
 - Communicating doses of inhaler use or peak flow meter readings from health care provider to other family members and to school/coach, etc. in both directions
 - Using the Asthma Control tool to report numbers of days of symptoms
 - Use Asthma Management Plan



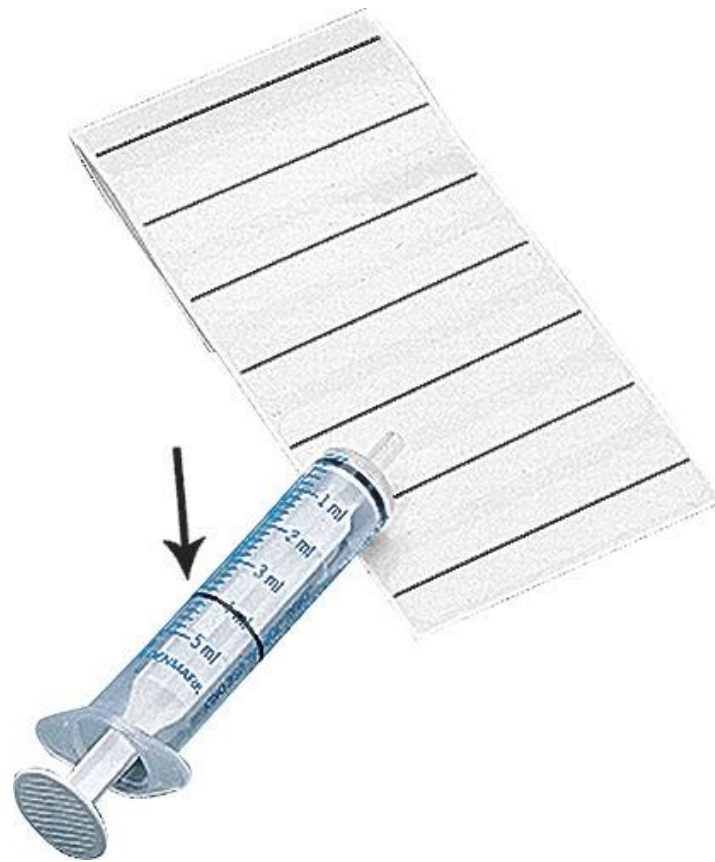
ROTHMAN, ET. AL

Why is numeracy important in health care?

- Patients with low numeracy may have trouble:
 - Understanding dosages of medications
 - Understanding the timing of when to take medications or have them refilled
 - Interpreting nutritional information
 - Understanding volume status
 - Interpreting blood sugars, adjusting insulin
 - Understanding risks and probability



WHAT STRATEGIES HAVE YOU USED IN YOUR PRACTICE TO SUPPORT PARENTS FOR WHOM YOU HAVE CONCERNS?



CULTURAL CONSIDERATIONS

- Perceptions of role of physician vs role of patient in care management
- Shared decision-making vs. physician as authority
- Shame in terms of educational level



FURTHER READING/RESOURCES

- AHRQ toolkit
- Plain language
- CDC
- Health.gov



SUGGESTED READING FOR MORE INFORMATION

- Huizinga, M. M., Pont, S., Rothman, R. L., Perrin, E., Sanders, L., & Beech, B. (2008). ABC's and 123's: Parental Literacy, Numeracy, and Childhood Obesity. *Obesity management*, 4(3), 98-103.
- Rosas-Salazar, C., Ramratnam, S. K., Brehm, J. M., Han, Y. Y., Acosta-Pérez, E., Alvarez, M., ... & Celedón, J. C. (2013). Parental numeracy and asthma exacerbations in Puerto Rican children. *Chest*, 144(1), 92-98.
- Schapira, M. M., Mozal, C., Shofer, F. S., Gonzalez, R., & Apter, A. J. (2017). Alignment of patient health numeracy with asthma care instructions in the patient portal. *HLRP: Health Literacy Research and Practice*, 1(1), e1-e10.



QUESTIONS?

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