



Health literacy for science communication

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Why does health literacy matter for science communication?

It can help bridge the communication gap between those who write science or health materials, and the patients and public who read them.

Use health literacy strategies to create clear science materials

- Tailor your message to your purpose and audience
- Make it actionable
- Make your content easy to navigate
- Use clear design
- Use clear, direct language

Before and after of a consent form for pregnant women:

Induction Consent form

Medical Center logo
Address
Department

Patient ID

YOUR LABOR INDUCTION

Labor induction is usually done with a medication called Oxytocin or Pitocin®. With your practitioner's orders, our staff will start the medication as a standard dose and increase it over time to achieve labor progress. While you are getting the medication, we will closely monitor the baby's heart rate and your contractions. The length of labor depends on how dilated or "ripe" your cervix is at the start of the induction. In general the more dilated you are, the quicker your labor. Also, if this is not your first birth, labor may be faster for you.

If your cervix is already fairly dilated, your practitioner may start your induction by breaking the bag of water. If your cervix is closed and not shortening, we may schedule cervical ripening the day before your induction. This procedure will soften and begin to dilate your cervix. Ripening will make the Oxytocin more effective when it is begun. Sometimes, the ripening process will trigger the onset of your labor.

WHY ARE LABOR INDUCTIONS PERFORMED?

Labor inductions are performed for many reasons. Clearly, some reasons are more urgent than others. Here are just a few examples:

- ❖ A woman is well past her due date.
- ❖ A woman is experiencing medical problems that place her or her baby at risk, such as high blood pressure, diabetes, rupture of the bag of water, etc.
- ❖ The baby or babies may be small or the amniotic fluid too low
- ❖ **Though less common, elective labor induction may be done after 39 weeks gestation with approval from your provider.**

WHAT ARE THE POTENTIAL RISKS AND BENEFITS OF LABOR INDUCTION?

It is always important to consider the potential benefits and risks of any procedure. The risks include, but are not limited to, the following:

- ❖ Labor inductions may carry a greater risk of cesarean birth delivery than do labors that start on their own, especially with an "unripe" cervix.
- ❖ Induction usually results in longer labors and may lead to a higher chance of vacuum or forceps delivery.
- ❖ All medications have possible side effects or unintended adverse reactions. For example, it is possible to cause contractions that are too frequent and may affect the baby's heart rate. This is why careful monitoring of your baby's heart rate is necessary during labor induction.

If you are considering an elective induction, the risks may outweigh the possible benefits, especially if this is a first time labor. Risks of elective induction prior to 39 weeks gestation may include complications for the newborn including difficulty breathing that may require treatment in a Neonatal Intensive Care Unit, and may result in bloodstream infections, trouble feeding, and other complications.

CONSENT FOR LABOR INDUCTION

Indication for induction _____

I have read the above information and I have had the chance to ask my practitioner questions. All of my questions have been answered to my satisfaction. I wish to proceed with the induction.

Patient Signature _____ Date _____

Witness Signature _____ Date _____

Before: lots of jargon, purpose isn't clear

This will help you decide if you should induce your labor. (Logo/Contact)

What is induced labor?
Induced labor, also called "induction," is the process of starting your labor rather than waiting for it to begin on its own.

How does it work?
Your doctor will choose the best way for you:

- Medicine. Often with Oxytocin or Pitocin®. We will increase the dose over time to progress your labor. We will closely check your baby's heart rate and your contractions.
- Breaking your water. This may be called breaking your 'bag of water' or 'amniotic sac.' If your cervix is dilated, your doctor may choose this way.

What are the risks of being induced?
You may have a higher chance of these and other risks:

- C-section, mainly if your cervix is not dilated. (A cesarean birth)
- A longer labor
- Use of vacuum or forceps during birth
- Side effects or other results from the medicine, such as contractions that are too frequent and may affect your baby's heart rate. This is why we watch your baby's heart rate.

Should I be induced?
Some women choose to be induced for health reasons:

- You are well past your due date.
- You have a health issue that places you or your baby at risk, such as high blood pressure, diabetes, or rupture of the bag of water.
- Your baby may be small or the amniotic fluid too low.

Some women choose to be induced for non-health reasons after 39 weeks. This may occur with your doctor's consent.

Talk with your doctor about whether or not you should be induced.

A note about being induced for non-health reasons
The risks may outweigh the benefits, mostly if this is your first labor. Choosing to be induced before 39 weeks may harm your baby. Problems include trouble breathing that may require treatment in a Neonatal Intensive Care Unit. This may result in bloodstream infections, trouble feeding, and other problems.

What do 'dilate' and 'ripe' mean?
This means how open your cervix is.

What is cervical ripening?
This is a way to soften and dilate your cervix. If your cervix is closed and not getting shorter, we may schedule it the day before you are induced. It will make the medicine work better. Sometimes, this will trigger your labor to start.

How long will my labor take?
The length of your labor depends on how dilated your cervix is. The more open, the quicker your labor. Also, if this is not your first birth, your labor may be faster.

Sign here if you give your consent to induce your labor
"I've read this sheet and asked all of my questions. My doctor answered my questions. I wish to be induced."

Patient Signature _____ Date _____

Witness Signature _____ Date _____

Patient ID: _____

Reason: _____

After: clear language, shows purpose and audience

Help readers understand numbers

Only use numbers that are necessary

- Example: On an informed consent document, “1 in 100 people will bleed after a growth is removed”

Avoid mathematical jargon

- Replace jargon with more common words:
 - Mean > average
 - Increased > higher, went up
 - Range > between x and x

Do the math for your readers

- Calculate or convert numbers – readers are unlikely to do even basic math

Give numbers meaning and context

- Example: Use labels such as “Low,” “Normal,” and “High” on a blood pressure chart
- Tie large numbers to familiar concepts, such as: “60 million people in the U.S. have allergies – more than twice the number of people living in California”
- When you use a percentage, also give the natural frequency. Example: “30% of people will have cancer during their lifetime, which means 1 out of 3 people have this health issue”

Use visuals to support numbers

- Example: To illustrate 20%, show an icon array that shows 100 people with 20 of them shaded

Clearly present risk

Usual way to present risk:

“The surgery carries a 15 percent risk of complication. This risk increases to 25 percent if the patient smokes or is overweight.”

A person with low numeracy may ask:

- What does “percent” mean?
- What does “risk” mean?
- What does “increase in risk” mean?

Health-literate translation:

“We do this surgery enough to know how well it turns out for most patients.

Most patients do well, and the surgery goes as planned, and nothing happens afterwards that we do not want to happen, like bleeding or infection. But some patients do have things happen that are not good, like bleeding and infection.

Out of every 100 patients who have this surgery, 15 patients have one of these problems afterwards. If a patient smokes or is overweight, they are more likely to have bleeding or infection after this surgery than a patient who does not smoke or have too much body weight.”

Strategies to communicate uncertainty

Manage expectations

- Be open and honest about what you don't know – this will help establish trust with your audience

Focus on the “need-to-know”

- When there is information overload and changing recommendations, the message needs to narrow
- Ask yourself: “What does my audience really need to know to make decisions that feel safe and healthy for them?”

Focus on the facts

- Clearly state the established facts
- Cite your sources to raise the credibility of your information
- Offer links to learn more

Make it patient- or consumer-focused

- Give real-life examples of how a scientific concept, rule, or guideline might affect people

Simple message that clearly states an established fact

Real-life example of how following this rule will affect people

Mask use in schools is an important strategy to prevent spread of COVID-19

All students, staff, faculty, and visitors in K-12 schools should:

Wear a mask indoors

Get vaccinated if eligible

Safer schools protect students and staff AND keep schools open

bit.ly/MMWR_COVID19

CDC

MMWR

Offers a link to learn more

Resources

Use online health literacy resources

- Program for Readability In Science & Medicine (PRISM)
<https://www.kpwashingtongresearch.org/about-us/capabilities/research-communications/prism/>
- CDC Understanding Health Literacy & Numeracy
<https://www.cdc.gov/healthliteracy/learn/UnderstandingLiteracy.html>
- IconArray.com
<http://iconarray.com/>
- Usability.gov
<https://www.usability.gov/>
- CDC Health Equity Guiding Principles for Inclusive Communication
https://www.cdc.gov/healthcommunication/Health_Equity.html
- De Beaumont foundation
Language to use to improve vaccine acceptance (can be used for positive science communication overall): Poll: The Language of Vaccine Acceptance - de Beaumont Foundation
<https://debeaumont.org/changing-the-covid-conversation/vaccineacceptance/>

Use a health literacy or plain language thesaurus

- CDC's Everyday Words for Public Health Communication
<https://www.cdc.gov/other/pdf/everydaywordsforpublichealthcommunication.pdf>
- Health Research for Action's Plain Language Word List
<https://multco.us/file/46697/download>
- University of Michigan Plain Language Medical Dictionary
<https://www.lib.umich.edu/taubman-health-sciences-library/plain-language-medical-dictionary>

Health literacy cheat sheet

Use this cheat sheet to see if your material follows the main principles of health literacy.

Purpose and audience

Make your purpose and intended audience clear at first glance to help build trust with your readers.

Purpose

Think about your purpose. What is your topic? Are you trying to educate, motivate, or change attitudes or behaviors? Describe your purpose as specifically as you can:

Audience

Think about your audience. Keep them in mind as you develop the material: their age, gender, ethnicity, reading level, and cultural beliefs. What questions might they have? Describe your intended audience as specifically as you can:

- State or imply the purpose in the title.
- Add a table of contents if material is 4 pages or longer.
- State or imply the audience in the title.
- Match visuals to the audience's physical appearance and life experience.
- Test your material with 3-5 people in your audience to see if it meets their needs.

Structure

Structure your material so readers can easily find what they need.

- Place the content in this order:
 - Most important information first – the core message or what patients **need** to know to take action
 - Supporting info second
 - Background info last – history or data

- Include only “need to know” not “nice to know” information, such as prevalence data.
- Stick to 1 main message supported by 3-5 points that tie directly to your purpose. Write short sentences (15 words or fewer) and paragraphs (3-5 sentences).
- Delete extra words that muddy sentences, such as “Please be advised...”
- Place related items together – make sure the same point doesn't appear in multiple places (one exception is action steps, which are okay to summarize or repeat).
- Use headings that accurately represent the content that follows.
- Write headings that put the reader in an active role: “Ways to keep your heart healthy” instead of “Cardiovascular health.”

Content

- Make your words and numbers easier to understand by saying what you mean and nothing more.
- Replace jargon (complex words) with common words when possible.
- If you need to use a complex word that can't be replaced, define it in the text: “Foot doctor, called a podiatrist.”
- Write sentences in active voice so the subject performs the action: “The boy took his medicine” instead of “The medicine was taken by the boy.”
- Use a conversational style. Try 1st person questions in headings and 2nd person answers in the body text.
- Use consistent terms rather than varying them. If you choose “doctor,” stick with it throughout the material.

Behaviors

- Clearly tell your readers what you want them to do.
- Make the desired actions clear by highlighting and concretely explaining behaviors.
- If actions should be done in a certain order, put them in a numbered list.
- Engage readers with interactive elements such as a checklist, quiz, or a place where they can write notes

Design

- Make your material appealing and easy to read through clear layout and graphics.
- Make it easy to read:
 - Include 20%-30% white space
 - Break content into chunks
 - Make headings distinct from body copy with more space above than below through bolding or using a different font
 - Left-align the text
 - Use dark text on a light background
- Aim for a line length of 3-5 inches.
- Limit bulleted lists to 2-7 items.

Graphics

- Choose graphics that are highly related to the purpose and that describe action steps – consider picture-based instructions to describe a process.
- Use clear graphics:
 - Simple black and white line drawings
 - No distracting backgrounds
 - Explain through captions
- Use simple tables with around 3 rows and 3 columns.

Fonts

- Use clear fonts:
 - Sans serif
 - 12-point or larger
 - Use **bold** to highlight an important word or phrase
- Avoid ALL CAPS, underlining, *italics*, and novelty fonts

Resources

Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. (2013). ***CDC Clear communication index: a tool for developing and assessing CDC public communication products***, <http://www.cdc.gov/ccindex/>

Doak, C., Doak, L., & Root, J. (1996). ***Teaching patients with low literacy skills*** (2nd ed.). Philadelphia: J.B. Lippincott.