Beyond the Knife: **Health Literacy** and Why It Matters

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Knowledge of health literacy = zero

Health literacy matters.

Share work in Alabama

Predict future
Knowledge of health literacy = zero

Health literacy matters.

Share work in Alabama

Predict future
Why is **health literacy** important?

All of this applies in surgery.
What do any of these words mean?

How do I do this again?

I don't understand anything...

I'm going home today!?

I heal with steel.

Discharge!

You need surgery.

Sign here.

Read this.

Where and how do your patients obtain, process and understand health information during the surgical journey?
National Assessment of Adult Literacy (2003 NAAL)

Health Literacy Levels

- Proficient
- Intermediate
- Basic
- Below Basic
Health literacy is a determinant of health outcomes

- Preventative services
- Medication adherence
- Emergency room visits
- Hospitalizations
- Readmissions
- Mortality

Major work on health literacy in non-surgical fields

Diabetes

CHF

HIV

ESRD

Surgery

Association of Health Literacy With Postoperative Outcomes in Patients Undergoing Major Abdominal Surgery

Jessa P. Wright, MD; Creatchan C. Edwards, MD; Kathryn Goggins, MPH; Vikram Thar, PhD; Amelia Maiga, MD, MPH; Kelvin Moses, MD, PhD; Sunil Kripalani, MD, MS; Kamran Iklees, MD, MSCI

Association Between Functional Health Literacy and Postoperative Recovery, Health Care Contacts, and Health-Related Quality of Life Among Patients Undergoing Day Surgery

Secondary Analysis of a Randomized Clinical Trial

Maria Häkleberg Nyman, PhD; Ulrica Nilsson, PhD; Karuna Dahlberg, MSc; Maria Jaensson, PhD
Current state of health literacy research in surgery
Framing an approach to **health literacy** in surgery...

1. How often do you have someone help you read hospital materials?
2. How often do you have problems learning about your medical condition because of difficulty understanding written information?
3. How often do you have a problem understanding what is told to you about your medical condition?
4. How confident are you filling out medical forms by yourself?

**REALM-SF S-TOFHLA NVS**

2017

- Max 45 seconds
- Max 7 minutes
- Max 3 minutes

**Average 7 minutes**
Low health literacy exists in IBD surgical population...

### NVS
- Limited: 20 (Black), 55 (White)
- Possible inadequate: 24 (Black), 10 (White)
- Adequate: 55 (Black), 35 (White)

### REALM
- 4-6th grade: 0 (Black), 20 (White)
- 7-8th grade: 15 (Black), 45 (White)
- >9th grade: 35 (Black), 85 (White)
Low health literacy exists in IBD surgical population...

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Literacy in surgical pts varies by race, sex and age...
These data suggest:

1. **Low health literacy exists** in IBD patients
2. **More common** in African-Americans
3. **Older African-American males** with IBD may be at particularly high-risk for low health literacy
Associations of health lit with poor surgical outcomes

These data suggest:

1. Low health literacy exists in colorectal patients
2. Associated with more post-op complications (POCs)

* p<0.05
Patients with possibly inadequate HL are at **53%** higher odds of being readmitted as compared to patients with adequate health literacy.

**Adjusted Model of Readmission**

<table>
<thead>
<tr>
<th></th>
<th>Unadjusted</th>
<th></th>
<th>Most Parsimonious*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>(95% CI)</td>
<td>p-value</td>
</tr>
<tr>
<td>Adequate</td>
<td>Ref.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possibly Inadequate</td>
<td>1.83</td>
<td>(1.23-2.73)</td>
<td>0.003</td>
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</tbody>
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* Adjusted for Charlson Comorbidity Index, Health Survey Physical Component Score and Mental Component Score at the time of discharge

*Low health literacy associated w ↑ readmissions*

K12 HS023009 AHRQ Mentored Career Development Award (2017-2019)
System-Level: Readability of surgery education material
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Percent at 6th Grade Level

- Bariatric Surgery
- Colorectal Surgery
- Pancreas Surgery
- All UAB Surgery Packet
- Neurosurgery
- Surgical Oncology
- Thoracic Surgery
- Cardiac Surgery
- Vascular Surgery
- Transplant Surgery
- Endocrine Surgery
- GI Surgery General
- ENT
- Plastic Surgery
System-Level: Readability of surgery education material

The Patient Education Materials Assessment Tool (PEMAT) and User’s Guide
An Instrument To Assess the Understandability and Actionability of Print and Audiovisual Education Materials

Understandability

Actionability
Identify | Understand | Intervene

Health Literacy

Demographics
- Race/Ethnicity
- Age
- Sex

Social Determinants of Health
- Education
- Occupation
- Employment
- Income
- Social Support
- Culture
- Language

Identify | Understand / Addressing

Modifying Factors

Healthcare System
- Health Education / Readability
- Support Technologies
- Mass Media

Provider
- Communication Skills
- Teaching Ability
- Time spent at each encounter

Patient
- Self-Efficacy and Motivation
- Navigation Skills

K12 HS023009 AHRQ Mentored Career Development Award (2017-2019)

Exploring Barriers to Health Literacy using QUAL

Sequential explanatory mixed-methods design (QUANT → QUAL)

IBD Advisory Panel → 6-8 focus groups Patients with IBD → White, Black → > 10 stakeholders

Analysis
1. Grounded Theory
2. Identify Themes
3. Achieve Thematic Saturation
4. Develop Better Understanding
5. Inform next steps

Potential Difficulties
- Recruitment
- Logistics
"On the internet. I would just constantly just look it up and look at pictures and all kinds of things. It was the only way I could learn."

"We're all experienced at different things, and the majority of individuals don't know medical terminology very well.

"Doctors talk fast. They say things you don’t necessarily understand, especially if it’s new information. I would take notes."

Exploring Barriers to Health Literacy using QUAL
Exploring Barriers to Health Literacy using QUAL

Use visual aids  Keep it simple  Slow down  Engage family

**Providers** are important barriers/facilitators to understanding.
Identify | Understand | Intervene

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Outcomes


K12 HS023009 AHRQ Mentored Career Development Award (2017-2019)
System-Level: Intervening on Health Ed/Readability

“Strenuous” 21 FKGL
- Instead try: Hard (3.4), Heavy lifting (8.4)

“Anesthesia” 26 FKGL
- Instead try: Put you to sleep (2.2)

“Narcotic” 22 FKGL
- Instead try: Pain meds (3)

“Incision” 17 FKGL
- Instead try: Scar (2)
College reading level
With the onset of nausea, diarrhea or other gastrointestinal disturbances, consult your physician immediately.

12th Grade reading level
If you experience nausea, diarrhea or other stomach or bowel problems, call your physician immediately.

8th Grade reading level
If you start having nausea, loose bowel movements or other stomach problems, call your doctor immediately.

4th Grade reading level
If you start having an upset stomach, loose bowel movements, or other problems, call your doctor right away.

Best – 3rd grade
Call your doctor right away if you have:
- Upset stomach
- Loose bowel movements
- Other stomach problems.
System-Level: Intervening on Health Ed/Readability

The Patient Education Materials Assessment Tool (PEMAT) and User's Guide
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Print Communication Rating (PCR)

New York Times

Average Polling of Normal

Average 9 year old classmates: 90 to 94 bed at 11:30 PM

Polling of Daniel Chu, also known as "Dad" on

HELP WANTED!

Oriously, pollings are from "Dad" awful victims, Nausicaa and Rikou. "Dad" forces innocent children to go to bed at 8:00 PM!
System-Level: Intervening on Health Ed/Readability

- Use **visual aids**
- At least 12-point font
- Keep words short (<2 syllables)
- Layout (include white space)
- Keep stem short, petals simple (bullets)
- Include blanks, check-lists
- Get patients to **use** rather than read it
ENHANCED RECOVERY AFTER SURGERY

PATIENT EDUCATION

Enhanced Recovery After Surgery (ERAS) is a clinically proven pathway that helps you recover quickly after major surgery. ERAS uses best medical and surgical practices to reduce post-surgery pain, increase early physical activity, and promote bowel function. ERAS has been shown to significantly reduce complications and hospital stay in many institutions across Europe and the United States. ERAS is effective, safe, and beneficial for patients like you who will be undergoing major surgery. We will discuss with you the pre-surgery preparations, surgical techniques, and post-surgery expectations that are involved in ERAS.

What should you expect?

BEFORE surgery

- A well-described surgical plan with specific education
- Online educational videos from Emmi
- A bowel preparation to be taken the day before surgery
- Chlorhexidine/CHG washes (2 days before, 1 day before, morning of surgery)
- Drink clear liquids up to 2 hours before surgery
- Do not eat any solid food after midnight.
- If you are a patient with diabetes, medication instructions will be given to you so that you will know which medications to take and which to hold

DAY of surgery

- An electrolyte enriched drink or juice (apple, cranberry, or grape) 2 hours before surgery
  - If you are a patient with diabetes, you may have sips of water instead of an electrolyte enriched drink up to 2 hours before surgery
- Special preparations to help reduce post-surgery pain including:
  - A spinal injection or other regional block by the UAB Pain Service
  - Taking several pills by mouth including Gabapentin, Celebrex and Tylenol

AFTER surgery

- Immediately after your surgery, you will be monitored in the Post-Anesthesia Care Unit (PACU). There will be given medications as needed for pain or nausea before transferring to a regular hospital room, where you will be monitored overnight. There may be a sign on the door indicating that you are part of the ERAS protocol. Your recovery will continue under the care of the surgical team with assistance of the UAB Pain Service.
- Optimal pain control tailored to your unique needs with minimal narcotic usage
- Eating a regular diet, as tolerated, on the same day of surgery
  - If you are a patient with an ostomy after surgery, you will be provided a low fiber diet
- If you are a patient with diabetes, you will be placed on insulin while in the hospital; even if you take oral medications at home
- Walking in the hall on the same day of surgery
- The day following your surgery, you will be asked to walk 3-5 times in the hall and obtain your weight by 10 AM
- Early removal of urinary catheter on the day after surgery (except in special circumstances)
- Continued education on diet, wound, drain, or stoma care, if applicable
- You will be ready for discharge when you are tolerating a diet with bowel function, your pain is controlled, you are out of bed or walking, and all unique management needs are met
- If you are a patient with diabetes, you can likely go home on the same medications that you were taking for diabetes before surgery. Your doctor will determine if changes to your diabetes medications are needed while you are in the hospital
The Most Robust Platform For Value-Based Care

Leading health systems partner with SeamlessMD to deliver a number of solutions:

- Enhanced Recovery After Surgery
- Remote Patient Monitoring
- Patient Education
- Collect Patient Reported Outcomes
- CABG Bundled Payments
- CJR Bundled Payments
- Perioperative Surgical Home
- Prehabilitation & Preoperative Optimization

SEE ALL SOLUTIONS
System-Level: Intervening with Support Technology

Real-time
Engaging
Records PROs
Why do I need to empty my colon before surgery?
This is for your safety. Your waste (poo) carries germs. So, it is safer if your surgery area is not full of poo during surgery.

How do I drink Miralax®?

Step 1. Pour the Gatorade® into a jug.
Step 2. Pour the entire bottle of Miralax® into the jug.
Step 3. Stir the Gatorade® and Miralax®.
Step 4. Drink 1/4 of the mixture every 30 minutes.
Step 5. Keep drinking until you have finished the whole jug. You will have diarrhea (watery poo) for a few hours after drinking this.

How to empty your pouch

When do I empty the pouch?
Empty your pouch when it is 1/2 to 1/2 full. A full pouch will pull loose on your skin. This will help prevent your pouch from leaking.

How to empty your pouch:
The instructions below are for your 1-piece clip close pouch. If you use a different pouch, follow the directions that came with your pouch.

Step 1: Raise the end of the pouch up.
Step 2: Release the clip.
Step 3: Unroll the end of the pouch.
Step 4: Lower the end of the pouch over the measuring cap. Slide your hands down the bag to push the waste (poo) out. Record the volume of your output.
Step 5: Fold the end of the pouch over the clip.
Step 6: Empty your measuring cup over the toilet.
Step 7: Close the clip over the end of the pouch.
Step 8: Use toilet paper to wipe the end of the pouch. Wipe inside and outside.
1. Patients with low health literacy use apps.
2. May provide a platform for engagement and education.
Teach-back or show-back
  • Tell me your understanding
  • How will you describe this to your family?

Ask Me 3 ® (aim to answer these questions)
  • What is my main problem? [diagnosis]
  • What do I need to do? [treatment]
  • Why is it important that I do this? [benefits/context]

Slow down

Use plain language, pictures and teaching tools

Avoid asking
Do you understand?
Do you have any questions?
Identify | Understand | Intervene

**Health Literacy**

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Health literacy **matters** in surgery and opportunities exist to make surgical care **more health literate**.