

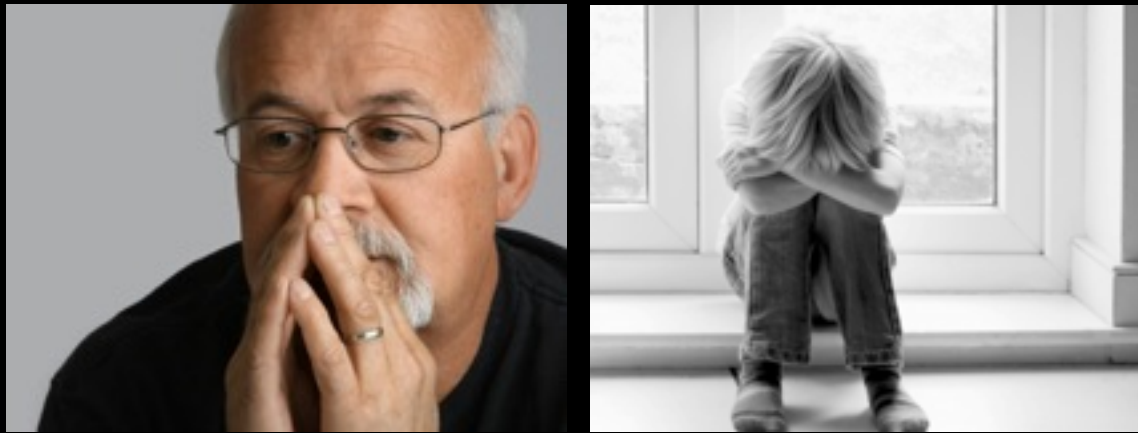


## Reducing Anxiety & Improving Outcomes

---

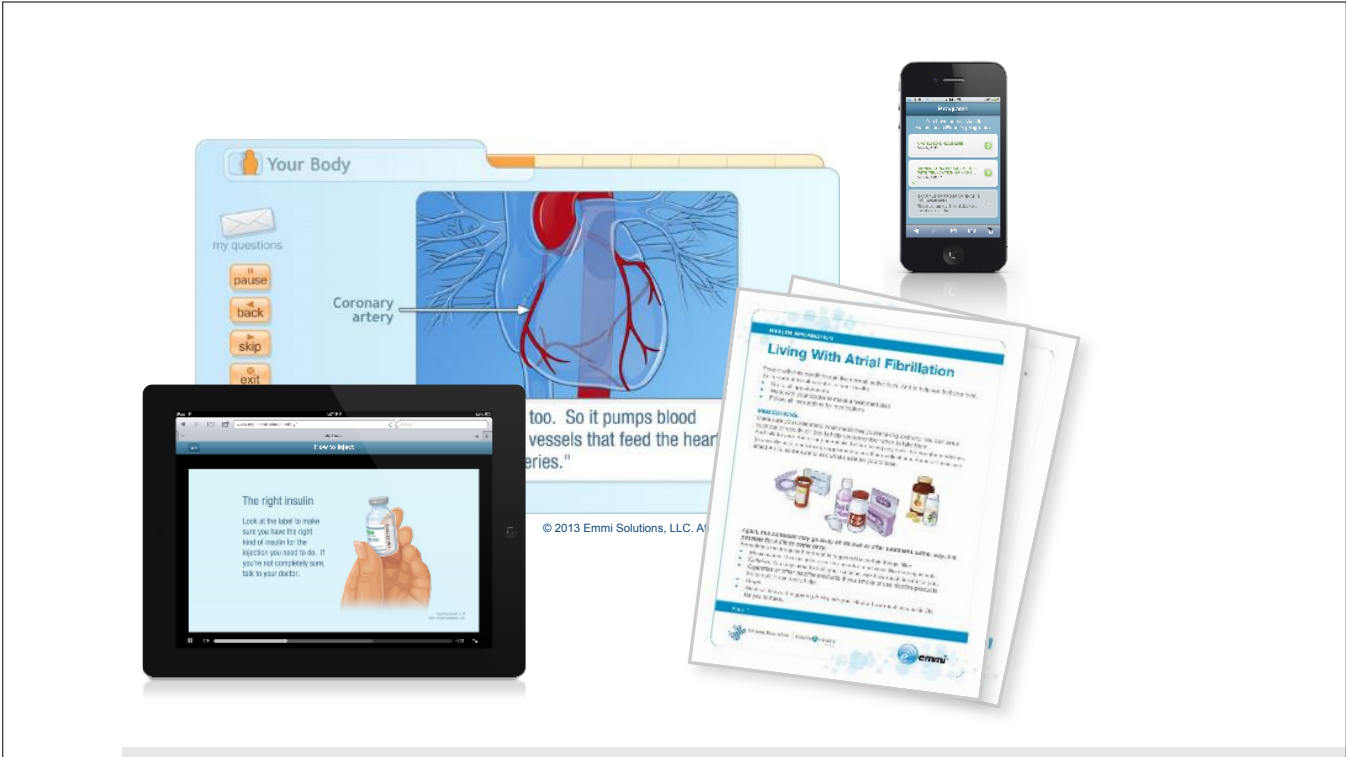
Geri Lynn Baumblatt, MA  
Executive Director of Patient Engagement  
Emmi

Can we infuse technology with empathy and more emotional intelligence to help build confidence and change behavior? And in doing so, affect the health and well-being of whole populations?



Impression management: We are less likely to truly emote in person: e.g. express sadness  
1 in 4 women diagnosed with breast cancer experience PTSD

With a virtual interviewer people display more intense expressions of sadness





This blood is flowing at high pressure, kind of like water gushing from a faucet through a garden hose.

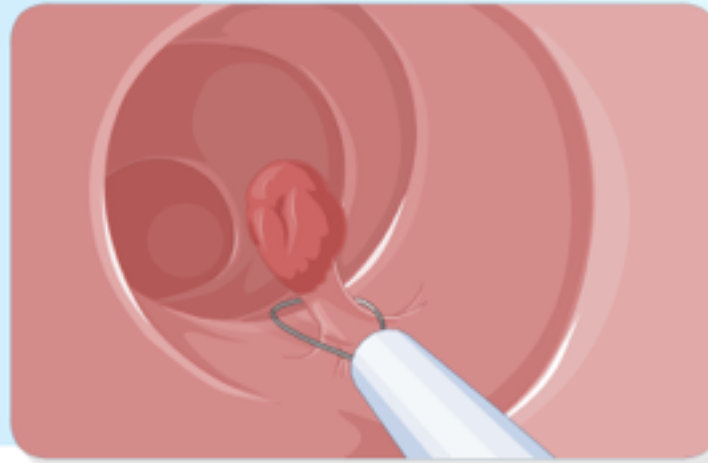
Over 10 million patient experiences

What causes no-shows?



Cognitive-emotional factors: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490266/>

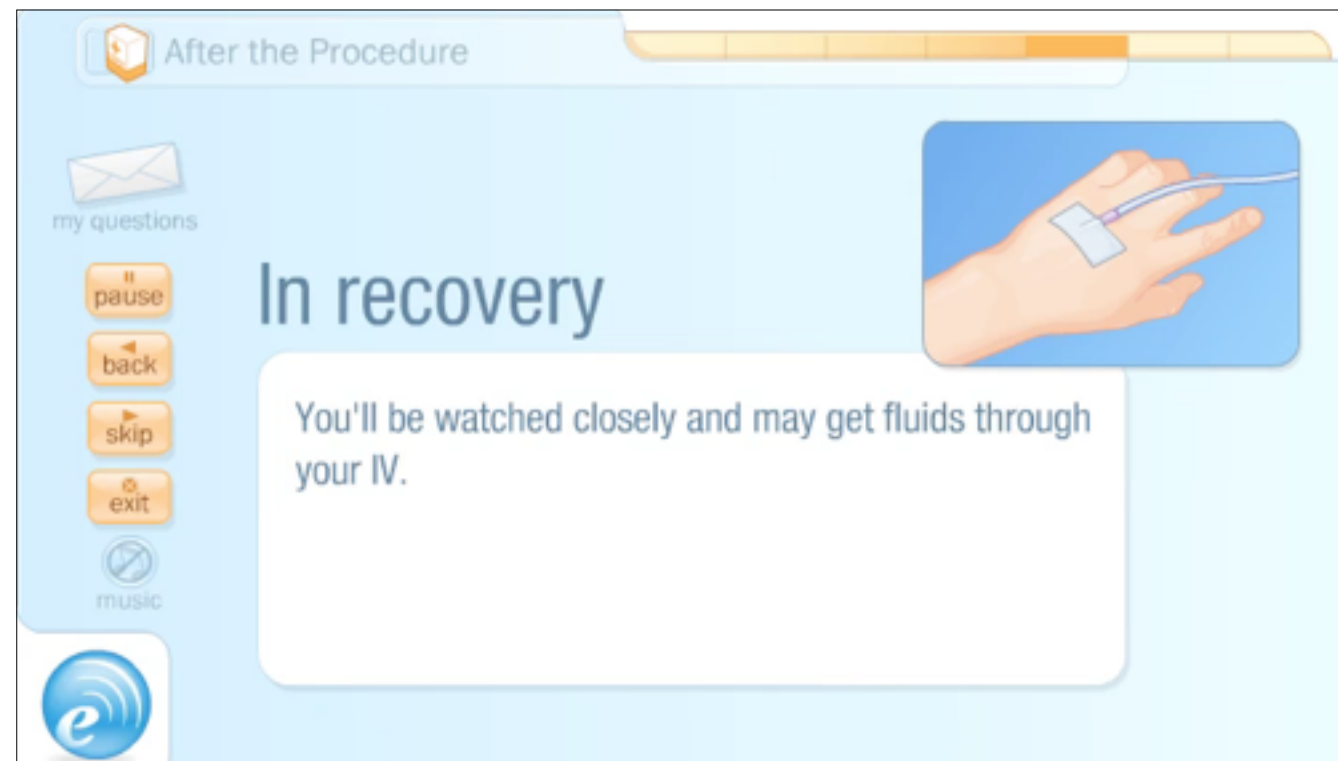
- lack of perceived risk for cancer
- fear of pain
- concerns about modesty
- the bowel preparation



A tool is used to lasso a polyp. Then it's removed through the scope. This shouldn't hurt. As I mentioned, the colon doesn't feel or sense pain.

We explain there aren't nerves in the colon.

If I have any hemorrhoids,  
will they hurt during the  
colonoscopy?



- Our work with patients revealed other concerns they weren't voicing...



# RISK

There is a risk of bleeding both during and after the procedure. In very rare cases, this may require surgery or other treatments.

Would you like more information about this risk or shall I go on?

more info

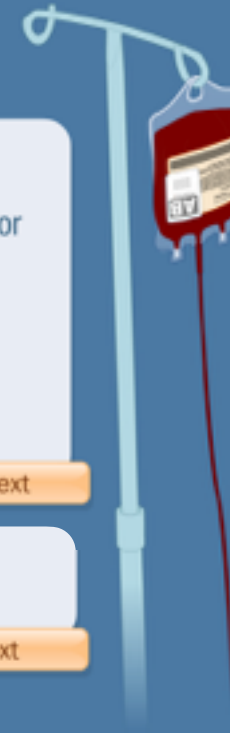
next

Would you like to flag this risk?



flag this risk

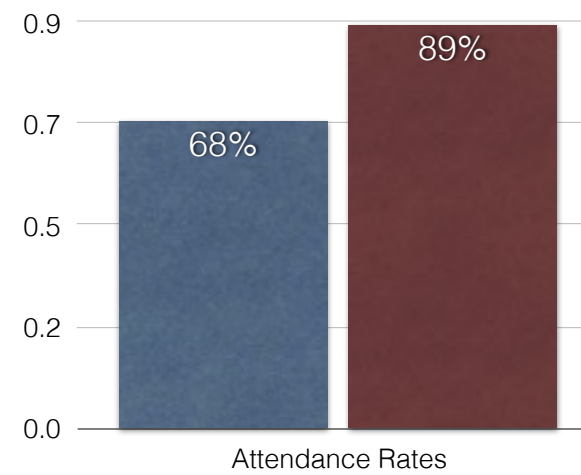
next



## Improved Colonoscopy Attendance



People are 30% more likely to attend their procedure

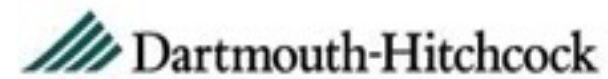


reassuring  
embarrass Afraid  
comfort  
confident overwhelm  
empower Anxious  
relax calm Stress  
Relieved scared  
soothing Nervous  
ease

***“This confirmed the merit of this procedure for my circumstances; allayed fears and gave me vital instructions.”***

*“I’m very nervous about this procedure  
and **viewing this has allowed me not  
to be as stressed** about it.”*

*“Helped reduce my anxiety knowing more about the colonoscopy and what to expect.”*



**PROBLEM**

Patients arrive for colonoscopy with significant anxiety about the procedure itself and possible findings.

**HYPOTHESIS**

Better pre-procedure education would decrease anxiety and perhaps have other effects.

**TOOL**

A web-based program was an ideal and efficient format.

We explored the impact of an interactive web-based multimedia patient engagement program on patient anxiety, perception and knowledge about colonoscopy in addition to procedure outcomes.

51 patients  
standard print packet



52 patients  
multimedia program



Siddhartha Parker, MD, MA, Jonathan Zipursky, MD, Helen MA, MD, Corey A. Siegel, MD, MS, 2013 American College of Gastroenterology Annual Scientific Meeting.

Patients over 18 scheduled for first-time colonoscopy (elective outpatient)

Intervention arm was contacted prior to the procedure first by letter and then by telephone to obtain consent and an email address to facilitate dissemination of the multimedia tool.



## Day of Colonoscopy

- Survey to assess knowledge and perception of procedure
- STAI: validated assessment of anxiety (6th grade reading level)



## State Trait Anxiety Inventory

### **State Anxiety**

- I am tense
- I am worried
- I feel calm
- I feel secure

### **Trait Anxiety**

- I worry too much over something that really doesn't matter
- I am content
- I am a steady person

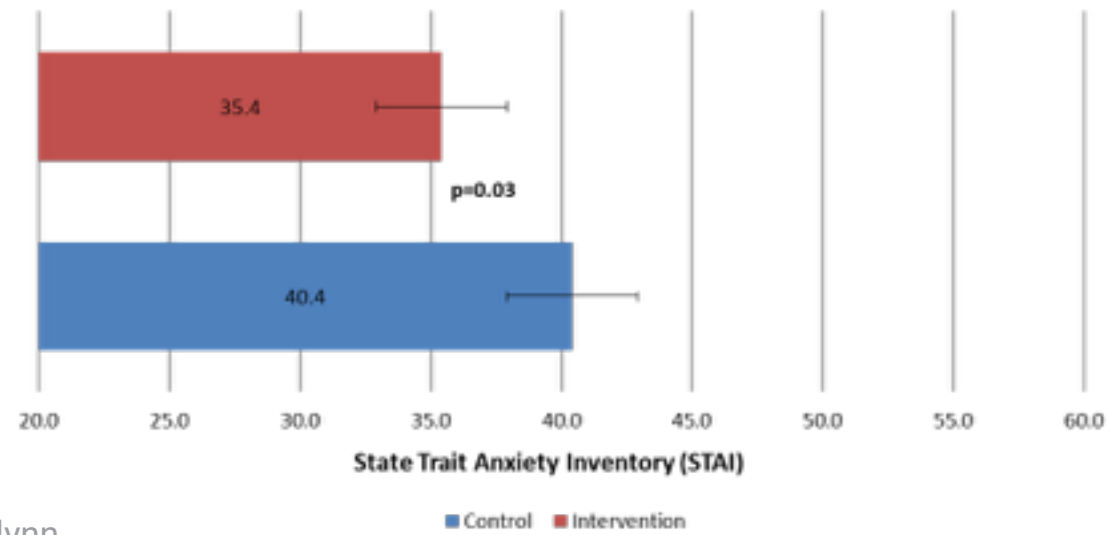
4-point scale from “Almost Never” to “Almost Always”

Form Y has 20 items for assessing trait anxiety and 20 for state anxiety.

Internal consistency coefficients for the scale have ranged from .86 to .95; test-retest reliability coefficients have ranged from .65 to .75 over a 2-month interval (Spielberger et al., 1983). Test-retest coefficients for this measure in the present study ranged from .69 to .89. Considerable evidence attests to the construct and concurrent validity of the scale (Spielberger, 1989).

Studies also have shown it's a sensitive predictor of caregiver distress over time, and that it can vary with changes in support systems, health, and other individual characteristics (Elliott, Shewchuk, & Richards, 2001; Shewchuk, Richards & Elliott, 1998). <http://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/trait-state.aspx>

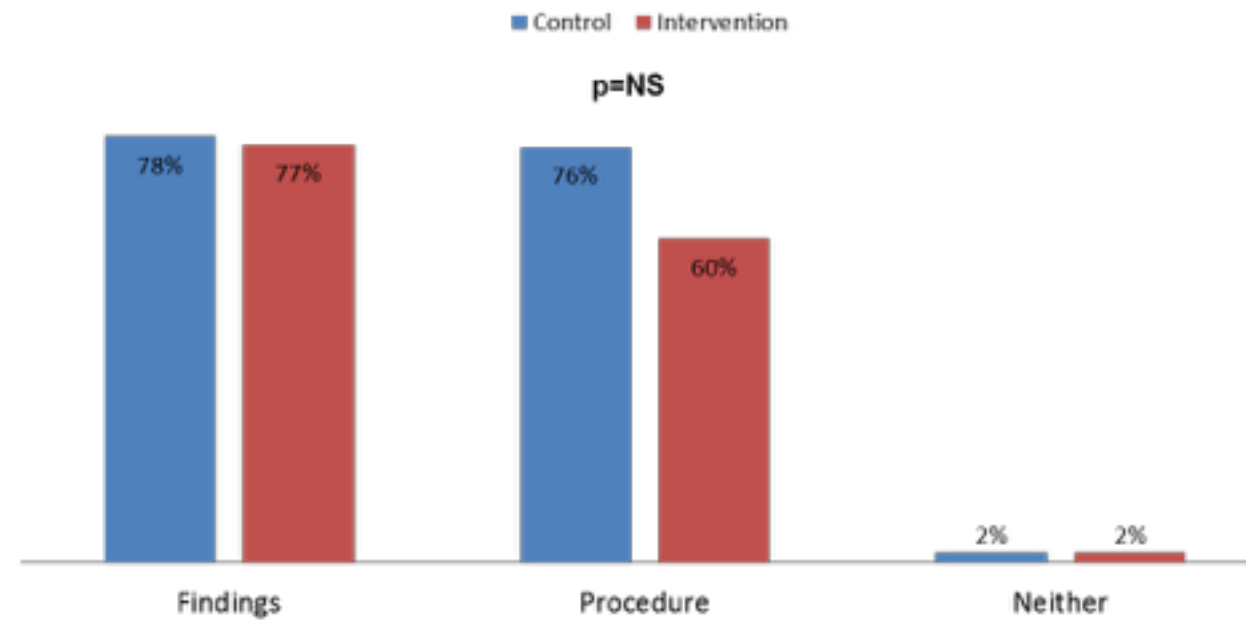
## STAI Score Prior to Colonoscopy



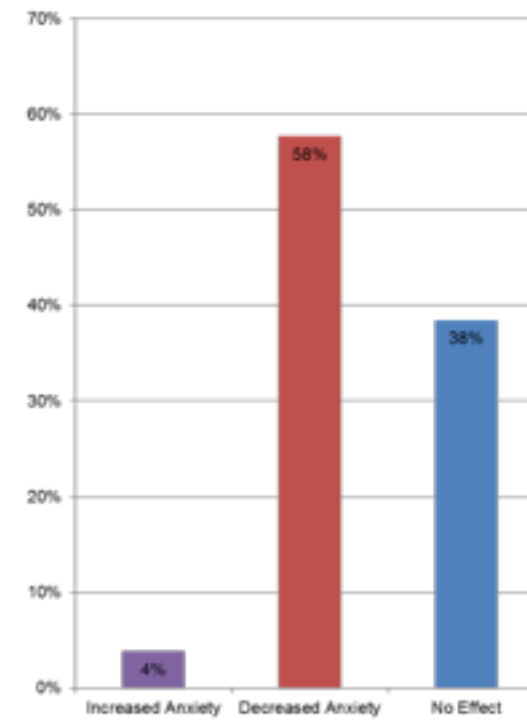
@gerilynn

The STAI anxiety score was significantly lower in the experimental group (35.4) compared to the control group (40.4),  $p = 0.026$ .

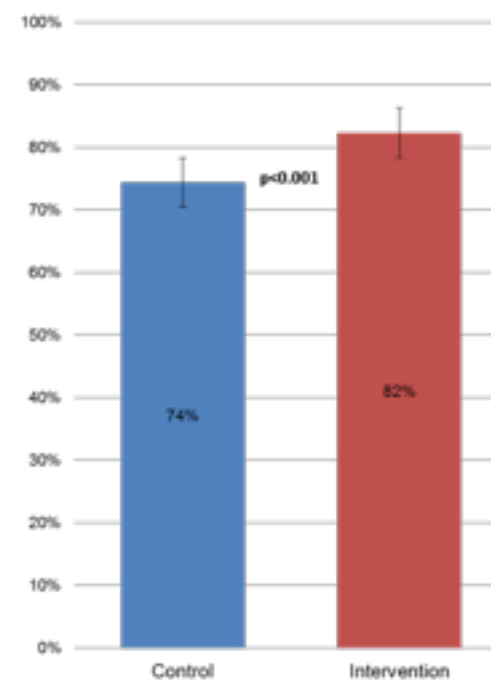
## What did patients report as their greatest concern?

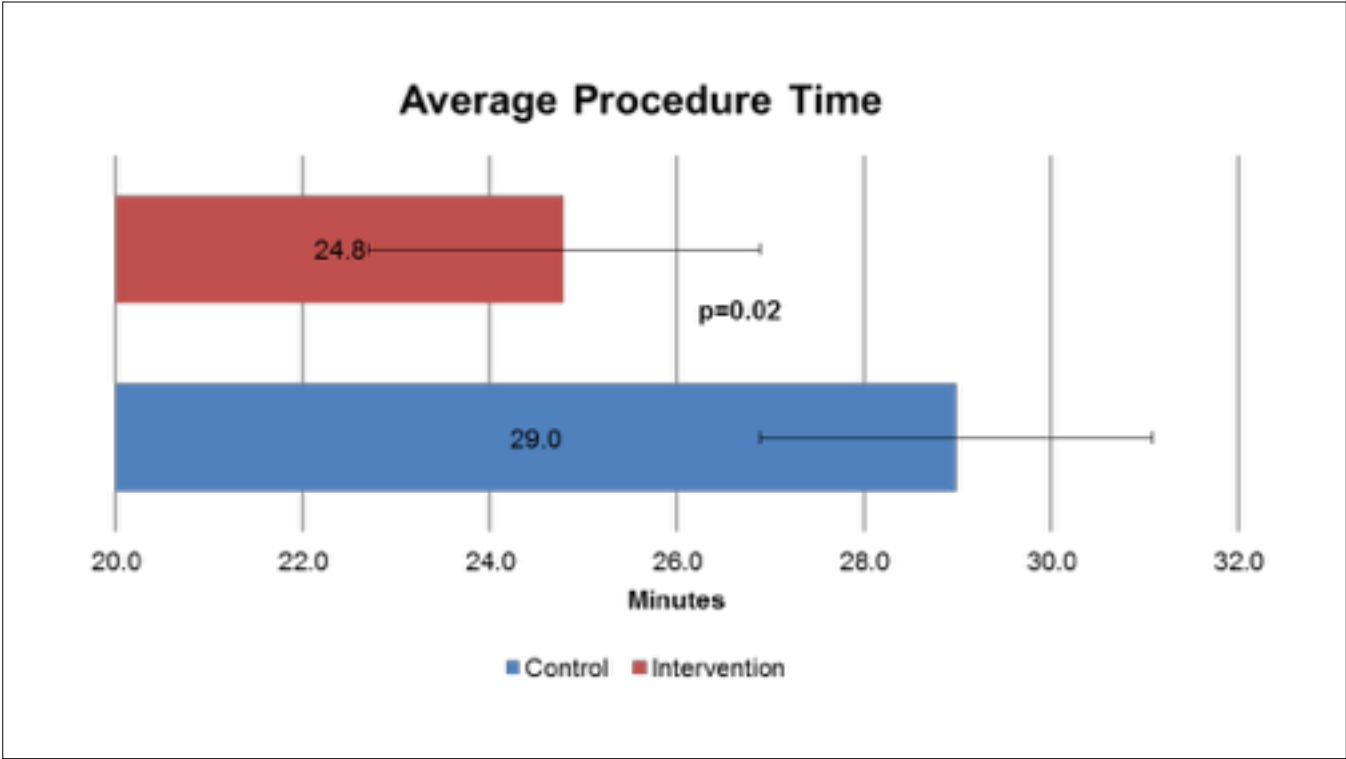


## Patient Perception of the Effect on Anxiety

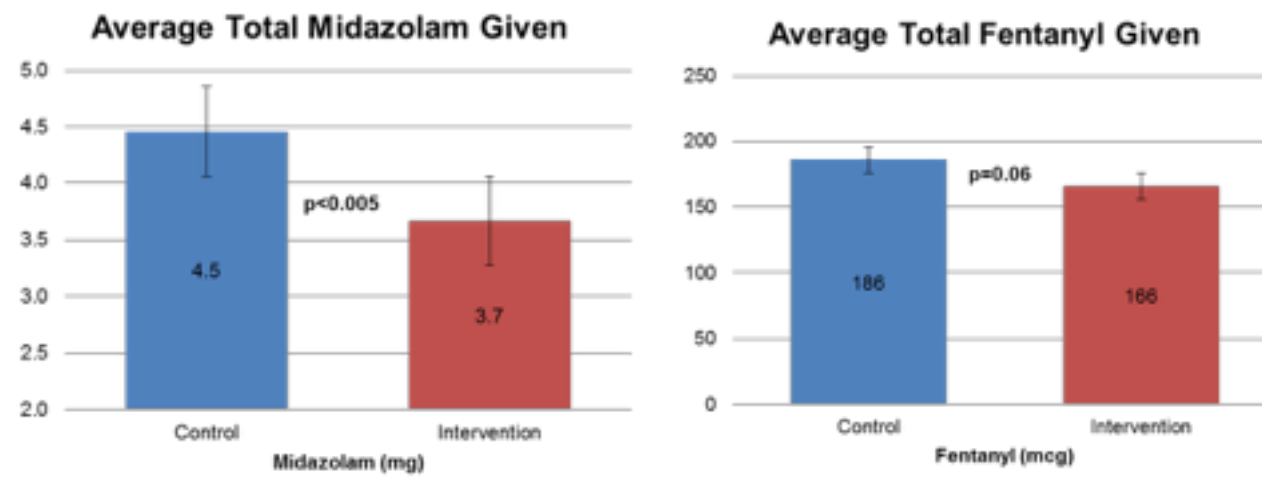


## Effect of intervention on patient knowledge about colonoscopy

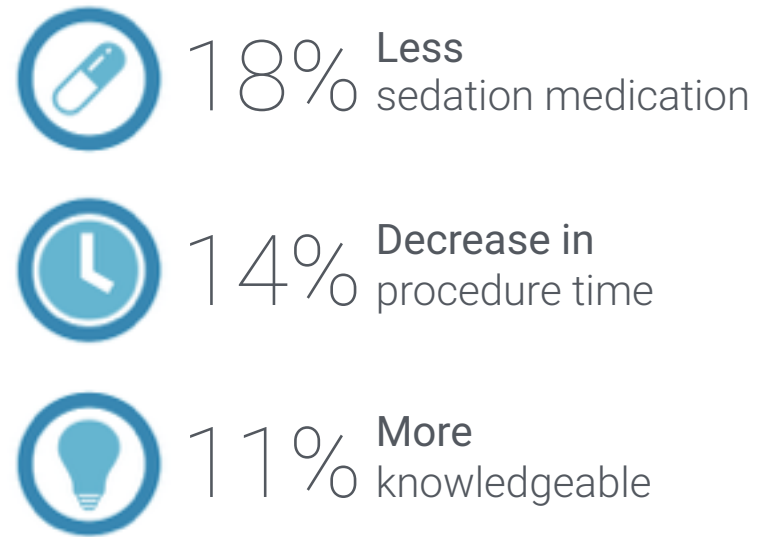




## Total sedation dose given







A web-based multimedia patient engagement program watched prior to colonoscopy significantly decreased patient anxiety, sedation medication requirements and procedure time while increasing knowledge. This easy intervention could not only help patients understand and feel more comfortable about colonoscopy, but increase efficiency and decrease cost by saving time and using lower doses of sedative medications.

## The Effectiveness of Health Animations in Audiences With Different Health Literacy Levels: An Experimental Study



Corine S Meppelink<sup>1</sup>, MSc ; Julia CM van Weert<sup>1</sup>, PhD ; Carola J Haven<sup>2</sup>, MD, PhD ; Edith G Smit<sup>1</sup>, PhD

- People remember narrated info better
- Narrated: better attitudes to the info, especially when limited health literacy
- Text & narrated animation better recalled and evaluated by people with limited health literacy

*“The speaker’s voice was very comforting to hear — soothing.*

Actually made my anxiety disappear.”

*“Makes me feel like the few questions I have left won’t seem as out of place or ‘stupid’ to nurses or doctors since some were already addressed in this program.”*

*Hysterectomy viewer*

Clarity is Power!



[emmisolutions.com/blog](http://emmisolutions.com/blog)