

# Preventing Staff Injury and Enhancing Satisfaction: Results from use of ColoWrap® Colonoscopy Compression Device in High-Volume Endoscopy Unit

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## INTRODUCTION

Manual abdominal pressure and patient repositioning during colonoscopy are known risk factors for musculoskeletal disorders (MSDs) among endoscopy staff<sup>1</sup>. ColoWrap® (ColoWrap, LLC, Durham, NC) is an anti-looping colonoscopy compression device (CCD) that mitigates the need for manual pressure and repositioning. In a randomized-controlled trial, use of ColoWrap reduced staff-reported musculoskeletal (MSK) pain associated with supporting colonoscopy by 85%<sup>2</sup>. Barnes Jewish - West County Hospital is a 108-bed facility based in St. Louis, MO and affiliated with Washington University in St. Louis. The hospital's outpatient endoscopy unit performs approximately 6,500 colonoscopy per year and is a referral center for high BMI patients as the facility is accredited by the Joint Commission as a Bariatric Center for Excellence.

## METHODS

This was a single center observational study. In September 2020, a baseline assessment found that manual pressure and patient repositioning were being used in 50% and 20% of colonoscopies, respectively. Three staff members had undergone surgery due to work-related MSDs and 60% of endoscopy staff reported pain or injury that they attributed to manual pressure and repositioning. BJC West County adopted the following patient criteria for CCD use: BMI > 35; prior difficult/incomplete colonoscopy; abdominal hernia; or multiple prior abdominal surgeries. Procedure data, including colonoscopy completion, procedure time, and frequency of manual pressure and repositioning were tracked for each case in which a CCD was used through 05/2021. Staff completed a satisfaction survey in 06/2021. We aimed to determine if use of the CCDs would reduce the need for manual pressure and repositioning and positively impact staff safety and satisfaction.

## References:

- Biggers L. Endoscopy Staff Injury: A Serious Problem Hidden in Plain Sight. *International Journal of Safe Patient Handling & Mobility*. 2018;8(4)
- Crockett S, Dellon ES, Biggers L, Ernst DA. Use of Patient Abdominal Compression Device Reduces Staff Musculoskeletal Pain Associated With Supporting Colonoscopy: Results From a Randomized Controlled Trial. *Gastroenterol Nurs*. 2021 Mar-Apr 01 2021;44(2):136-145. doi:10.1097/SGA.0000000000000550

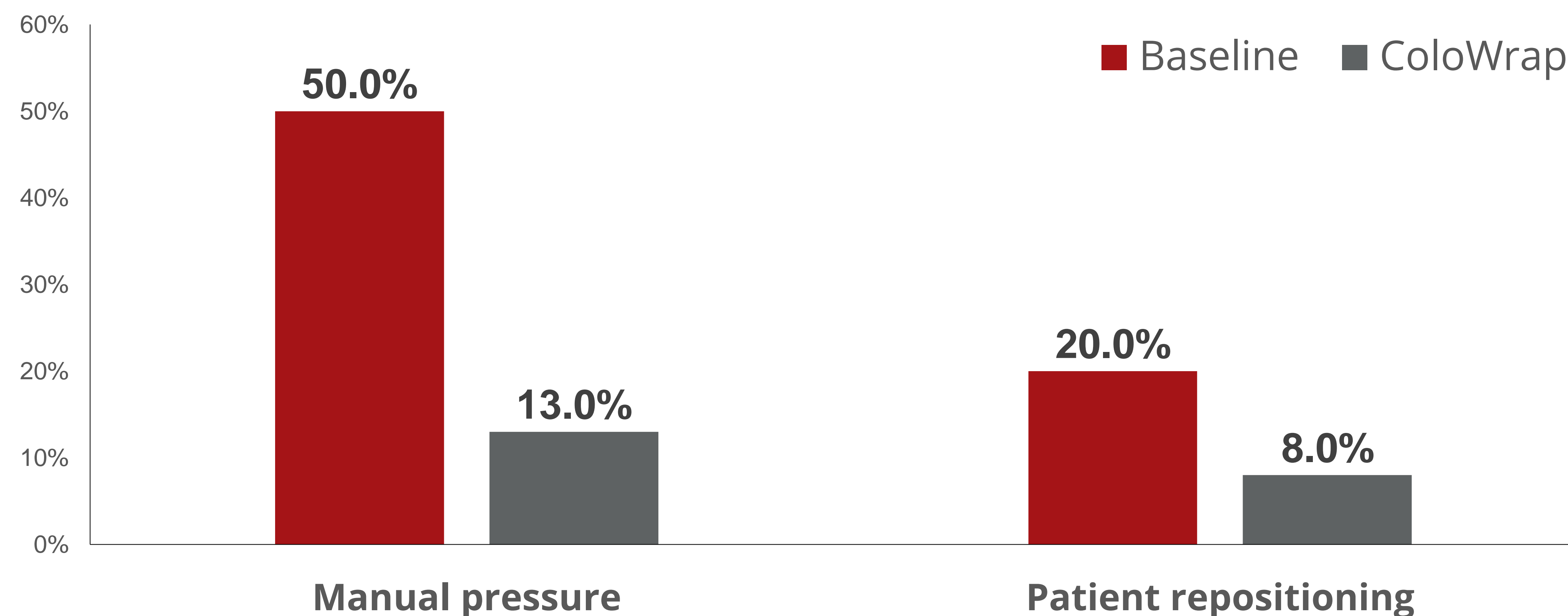
## COLOWRAP AND BJC-WEST COUNTY PATIENT USAGE CRITERIA



- BMI > 35
- Prior difficult / incomplete colonoscopy
- Abdominal hernia
- Multiple prior abdominal surgeries
- Unsedated colonoscopy

## RESULTS

CCDs were used for 271 patients. 252 (92.3%) patients were indicated for CCD use by meeting BMI criteria (> 35); 19 (6.7%) patients were indicated due to prior difficult colonoscopy, abdominal hernia, or multiple prior surgeries. Colonoscopy was completed in 266 (98.2%) patients. Overall, CCD use resulted in a 73.6% reduction in the use of manual abdominal pressure (50% vs 13.3% of procedures) and a 59.5% reduction (20% vs 8.0% of procedures) in the use of patient repositioning. 100% of endoscopy staff reported significant to very significant reductions in musculoskeletal pain, general fatigue, cecal intubation time, and frequency of prolonged procedures. All staff also reported a significant to very significant improvement in their ability to focus on other procedural duties during colonoscopy.



## STAFF SATISFACTION SURVEY RESULTS

To what extent has use of ColoWrap:

	0 - Not at all	1	2	3	4	5 - Very Significantly
Shortened time to cecum	0%	0%	0%	14.3%	42.9%	42.9%
Prevented delays	0%	0%	0%	28.6%	42.9%	28.6%
Improved patient comfort	0%	0%	0%	42.9%	42.9%	14.3%
Allowed you focus on other tasks	0%	0%	0%	0%	71.4%	28.6%
Reduced your MSK pain	0%	0%	0%	0%	57.1%	42.9%
Reduced your general fatigue level	0%	0%	0%	0%	57.1%	42.9%

## CONCLUSION

In this observational study, use of the ColoWrap Colonoscopy Compression Device in patients with BMI > 35, history of difficult colonoscopy, abdominal hernia, and/or multiple prior abdominal surgeries reduced the need for manual abdominal pressure and patient repositioning as compared to a baseline assessment. Endoscopy staff reported reductions in musculoskeletal pain, fatigue, and frequency of prolonged procedures with ColoWrap use.

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