

## **COLOWRAP® COLONOSCOPY COMPRESSION DEVICE SHORTENS PROCEDURE TIME AND INCREASES PHYSICIAN AND STAFF**

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**Background:** Manual abdominal pressure and patient repositioning are two widely used techniques to address looping during colonoscopy. These measures are variably effective yet can cause musculoskeletal disorders (MSDs) among endoscopy personnel. Northfield Hospital is a 38-bed acute care hospital in Northfield, MN with an on-premises surgery center that performs approximately 1,200 colonoscopies per year. In a baseline assessment, 60% of endoscopy staff reported experiencing injuries, strains, or musculoskeletal (MSK) pain that they attributed specifically to applying pressure and repositioning patients during colonoscopy; 20% said they experienced daily MSK pain due to these tasks. ColoWrap is an anti-looping colonoscopy compression device (CCD) applied to the patient to decrease cecal intubation time and reduce the need for manual pressure and patient repositioning. In a randomized controlled trial, CCD use significantly reduced staff reported MSK pain associated with supporting colonoscopy.

**Methods:** In August 2020, rates of manual abdominal pressure and patient repositioning, as well as endoscopist and staff musculoskeletal strain were assessed using a survey instrument. In September 2020, Northfield Hospital adopted the use of CCDs (ColoWrap, LLC). Patient selection criteria were developed based on patient characteristics and physician preferences. Data on device usage and the frequency of manual abdominal pressure and patient repositioning were tracked over the first 90 days of ColoWrap use. Physician and staff satisfaction were assessed 6 months after adoption. Average cecal intubation time and procedure times for the 8-month period before and after CCD adoption were compared.

**Outcomes:** CCDs were used in 55.6% percent of colonoscopies. In procedures in which CCDs were used, there was a 48% reduction in manual pressure and a 79% reduction in patient repositioning relative to baseline rates. Physicians and endoscopy staff indicated high levels of satisfaction with the intervention. Physicians reported moderate reductions in looping and personal physical strain, and improved patient comfort. 100% of staff members reported moderate to very significant reductions in musculoskeletal pain and general fatigue. 83% percent of staff reported a significant increase in their ability to focus on other procedural responsibilities during colonoscopy. On average, ColoWrap use reduced cecal intubation time by 3.6 min per case (12 min vs. 8.4 min;  $p=0.05$ ) and procedure time by 5 min per case (33 min vs. 28 min).