# Pillow Use for Hands-Free Abdominal Compression during Endoscopy

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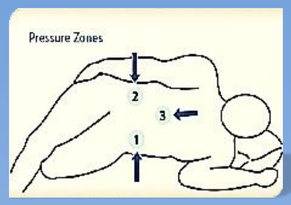
**PICOT Question:**

- ***Does use of a hands-free compression device during endoscopy affect cecal intubation rates and reduce injuries to endoscopy staff?***




## METHODS:

**All colonoscopy patients of participating physicians who were age 18+ were eligible, unless they: a) were undergoing a double procedure (EGD and Colonoscopy), or b) had experienced a prior colon resection. Pre- and post-data were collected on 100 consecutive patients of each participating physician. Endo Suite staff were trained on use of the device and invited to participate in the staff outcomes portion of the study.**

## MEASURES:

***Cecal intubation times obtained from the computerized procedure documentation system.**

***Staff symptomatology measured with the Quick-DASH Outcome Measure™, administered prior to start of study, then again 6-8 months after use established, along with staff injury reports.**

***Staff satisfaction with use of the pillow**

## FINDINGS:

**Group Statistics**

| Phase | N | Age | Mean Age | Gender |
|---|---|---|---|---|
| 1 *Without pillow* | 1649 | 14-94 | 60.58 | 907 (F) 742 (M) |
| 2 *With Pillow* | 806 | 18-90 | 60.77 | 412 (F) 394 (M) |

When comparing Phase 1 and Phase 2, there was **no significant difference** in age (t=.226, p=.821)

**Mean Time to Cecum**

| | |
|---|---|
| **Phase 1** | 6.56 |
| **Phase 2** | 6.71 |

There was **no significant difference** in time (t=.522, p=.60) when comparing all patients in Phase 1 vs 2.

**Phase 2 Analysis by BMI and times to Cecum**

| BMI | Time to Cecum |
|---|---|
| Underweight/Normal | 6.9 |
| Overweight | 6.52 |
| Obese/Extremely obese | 6.73 |

Oneway ANOVA found no difference among the three means (F=.18; p=.83)

**Quick Dash™ Data for Endoscopy Staff**

| | N (Participants/ Role) | *Work* DASH Mean(SD) | *Total* Dash Mean(SD) |
|---|---|---|---|
| Pre | 23 (19-RN) (4-Tech)* | 9.23 (13.44) | 13.53(11.19) |
| Post | 15 (14-RN) (1-Tech)* | 10.26(12.88) | 12.98(10.82) |
| T-Test | | -.23 | .14 |

No Significant Difference between Pre and Post Pillow use
(*Note small numbers for groups and Pre/Post groups not matched)

**Reported upper body Injuries to Endoscopy staff**

| Year | Back | Sprain/Strain | Neck/Shoulder |
|---|---|---|---|
| 2011 | 1 | 2 | 1 |
| 2012 | 2 | 1 | 1 |
| 2013 | 1 | 1 | 0 |
| 2014 | 1 | 2 | 0 |
| 2015 | 0 | 0 | 0 |
| 5 Year Total | 5 | 6 | 2 |

## CONCLUSIONS:

- **Use of the pillow did not impact time to cecum. However, using the pillow didn't delay or extend intervention time, and did reduce staff injuries.**
- **While intubation times did not differ by BMI category, most users felt the pillow was more effective with patients of normal BMI. Repositioning of the pillow to different pressure zones may enhance effectiveness in patients with higher BMIs.**
- **It is important to actively observe scope advancement during the procedure (and recommend pillow adjustment, as needed) in order to realize maximum effectiveness.**