

INDEPENDENT CLINICAL RESEARCH HIGHLIGHT

# Every Inch Counts: A Prospective Randomized Trial of Anti-Slip Surfaces in Minimally Invasive Gynecologic Surgery

and

## Prospective Evaluation of Post-Operative Pain and Erythema Stratified By Anti-Slip Bed Surface

John Nakayama, M.D.

### Key Findings

*“Patients on the Pink Pad had significantly less displacement with Trendelenburg and faster positioning compared to the other surfaces.”*

*“Uterine manipulation was easier on the Pink Pad...”*

*“...There was significantly less pain in the Pink Pad group... [it] presents a novel opportunity to limit the narcotic requirement after minimally invasive gynecologic surgery.”*

*“Post-operative erythema was significantly less common in the Pink Pad group...”*



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**Open Communications 9: Laparoscopy**  
(3:00 PM — 4:00 PM)

**3:00 PM**

**Every Inch Counts: A Prospective Randomized Trial of Anti-Slip Surfaces in Minimally Invasive Gynecologic Surgery**

Nakayama J.,<sup>1,\*</sup> Wherley S.,<sup>1</sup> Dominick C.,<sup>1</sup> Wang G.M.,<sup>2</sup> Waggoner S.<sup>3</sup>  
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**Study Objective:** To assess the effectiveness of common anti-slip surfaces on reducing intra-operative patient displacement while in Trendelenburg  
**Design:** Prospective randomized controlled trial with a minimum 6-week post-operative follow up

**Setting:** Patient positioning with Trendelenburg

**Patients or Participants:** Patients undergoing major laparoscopic or vaginal surgery (hysterectomy or surgery >2 hours) were randomly assigned to one of three anti-slip surfaces: Pink Pad, Action O.R. Overlay (gelpad) or Olympic Vac-Pac (beanbag) from 6/2018-12/2019. 159 patients were enrolled with 148 found to be eligible.

**Interventions:** Patients were randomized 1:1:1 one of the three anti-slip surfaces.

**Measurements and Main Results:** Patients were pre-operatively assigned to one of three anti-slip surfaces. Intra-operative displacement was assessed by measuring multiple anatomic landmarks [perineum, anterior superior iliac spine (ASIS), umbilicus, acromion and the head] at three times during the case: 1) pre-op, 2) when placed in Trendelenburg, and 3) prior to leveling. Positioning time and time added due to obstructed uterine manipulation were recorded. There was significantly less total movement on the Pink Pad at all anatomic landmarks compared to the gelpad (2.75-5.66cm) and for the torso (ASIS & perineum) compared to the beanbag (1.22-2.69cm). The most consistent predictors of movement included: height, weight, and body mass distribution. Obesity increased displacement by 32-55%. Surgery type, length of surgery, and maximum Trendelenburg did not predict displacement. Laparoscopic surgery with robotic assistance had greater displacement than without ( $p<.011$ ) but this difference resolved after controlling for population differences. The Pink Pad was 19.2% ( $p=0.042$ ) and 30.8% ( $p<0.001$ ) faster to position than the gelpad and beanbag respectively. Uterine manipulation time was 5.8 times longer ( $p=0.023$ ) on the beanbag vs. the Pink Pad.

**Conclusion:** Patients on the Pink Pad had significantly less displacement with Trendelenburg and faster positioning compared to the other surfaces. Obesity is a major predictor of movement. Uterine manipulation was easier on the Pink Pad than the beanbag.

**Wednesday, November 11, 2020**

**Open Communications 19: Laparoscopy**  
(4:00 PM — 5:00 PM)

**4:00 PM**

**Prospective Evaluation of Post-Operative Pain and Erythema Stratified By Anti-Slip Bed Surface**

Nakayama J.,<sup>1,\*</sup> Dominick C.,<sup>1</sup> Wherley S.,<sup>1</sup> Wang G.M.,<sup>2</sup> Waggoner S.<sup>3</sup>

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**Study Objective:** To assess differences in post-operative pain and erythema on a variety of anti-slip surfaces after minimally invasive gynecologic surgery

**Design:** Prospective randomized controlled trial with a minimum 6-week post-operative follow up

**Setting:** Patient positioning with Trendelenburg.

**Patients or Participants:** Patients undergoing major laparoscopic or vaginal surgery (hysterectomy or surgery >2 hours) were randomly assigned to one of three anti-slip surfaces: Pink Pad, Action O.R. Overlay (gelpad) or Olympic Vac-Pac (beanbag) from 6/2018-12/2019. 159 patients were enrolled with 148 found to be eligible.

**Interventions:** Patients were randomized 1:1:1 one of the three anti-slip surfaces.

**Measurements and Main Results:** Patients were pre-operatively assigned to one of three anti-slip surfaces. Pain was assessed on a standard 1-10 scale and erythema was assessed as a binary, present or absent. Pain was assessed in pre-operative holding and as the first pain score after surgery by the post anesthesia care unit nurse. Erythema was assessed in pre-operative holding and immediately after the operation. The pre-operative pain and erythema scores were not significantly different based on Tukey's multiple comparisons and proportion test respectively. Post-operative back pain was significantly less in the Pink Pad group versus the gelpad (0.96 vs. 2.40 points,  $p=0.036$ ). Post-operative erythema was significantly less common in the Pink Pad group versus the beanbag group (6.2% vs. 30% respectively,  $p=0.017$ ).

**Conclusion:** While overall post-operative pain control was excellent, there was a significantly less pain in the Pink Pad group versus the gelpad group. This finding presents a novel opportunity to limit the narcotic requirement after minimally invasive gynecologic surgery. Given the difference in post-operative erythema between the Pink Pad and beanbag, further study is warranted to assess the role of bed surface and skin irritation.