

## Introduction

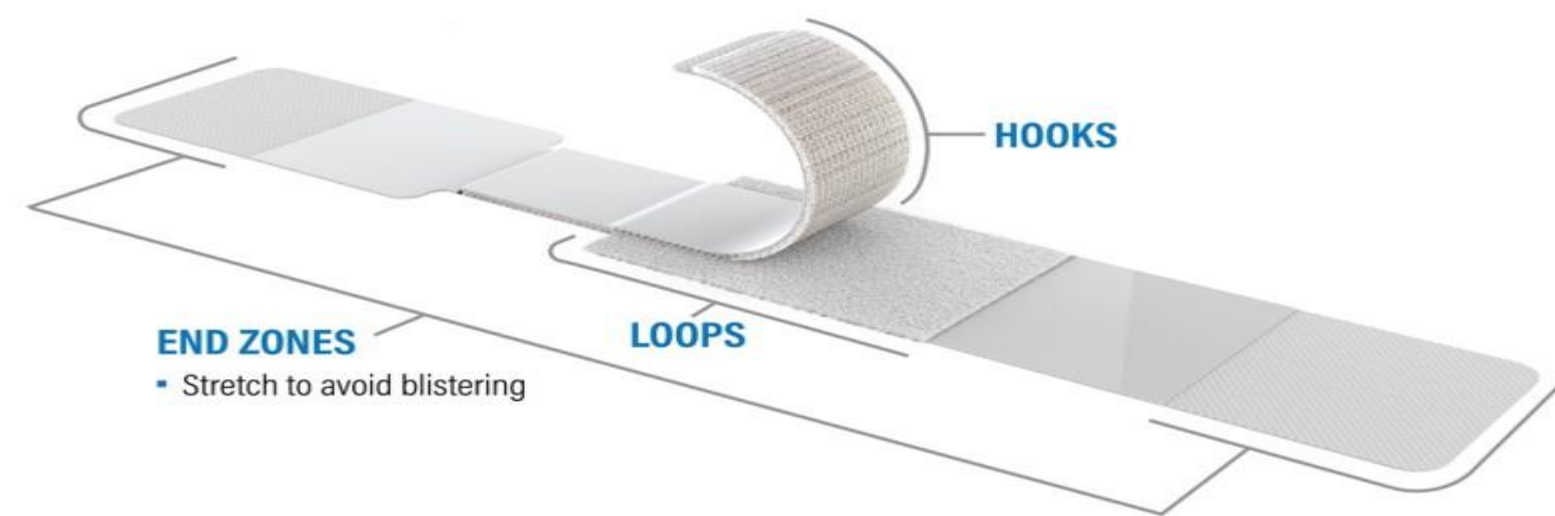
- Controlling hospital costs is a critical component of value-based care.
- In the traditional fee-for-service model, more services equate to more revenue.
- However, with new reimbursement models, such as bundled payments seen in value-based care, hospital reimbursement will have a set amount for the surgical episode.
- Capitated reimbursement therefore focuses on cost control, shifting the burden of cost minimization away from insurers and onto clinicians and administrators.
- One of the most scrutinized areas for cost reduction is in the operating room.
- Studies have shown that the mean cost of OR time is roughly \$36-\$62 per minute, with minimal variation by setting or institution.

## Methods

- This is a prospective study comparing the timing of two surgical closure methods in 6 cm linear incisions.
- Four surgeons, trained in the use of an Adhesive Adjustable Interlocking Device (AAID), were timed by an independent party via stopwatch.
- Each surgeon closed 5 incisions with 3-0 nylon horizontal mattress stitch and 5 incisions were closed using the AAID.
- Study (N=20).



## Adhesive Adjustable Interlocking Device (AAID)

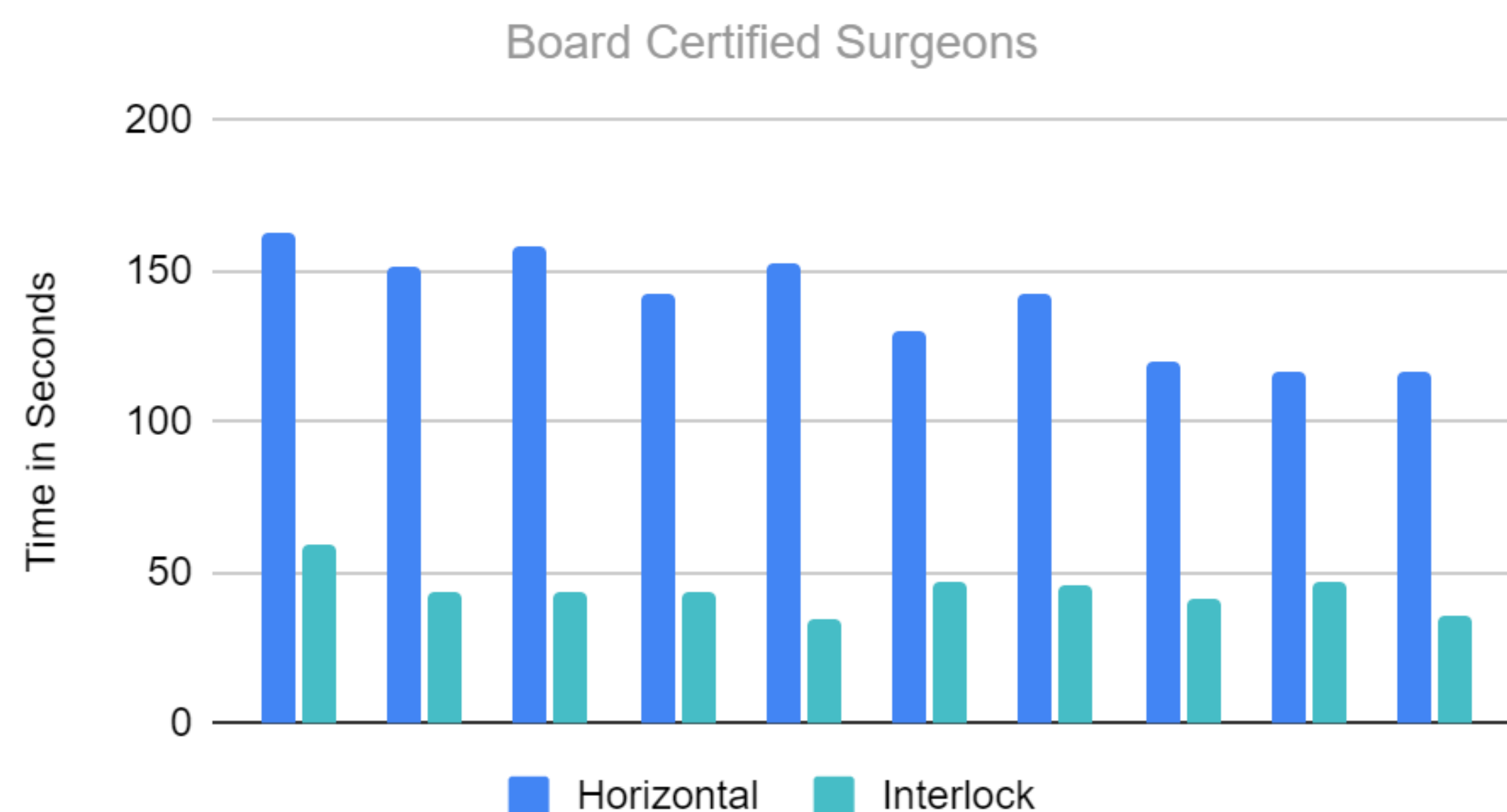


- The AAID has two pieces: a piece with loops facing away from the adhesive side and a second piece with a strap that has hooks facing the direction of the adhesion.
- Each piece has graduated stiffness with the highest stiffness closest to the wound and lowest stiffness at the trailing edge.
- The adhesive portions are placed so that the strap covers the closure and interlocks with the loops of the piece adhered to the other side.
- The AAID can be left in place for up to three weeks after surgery.

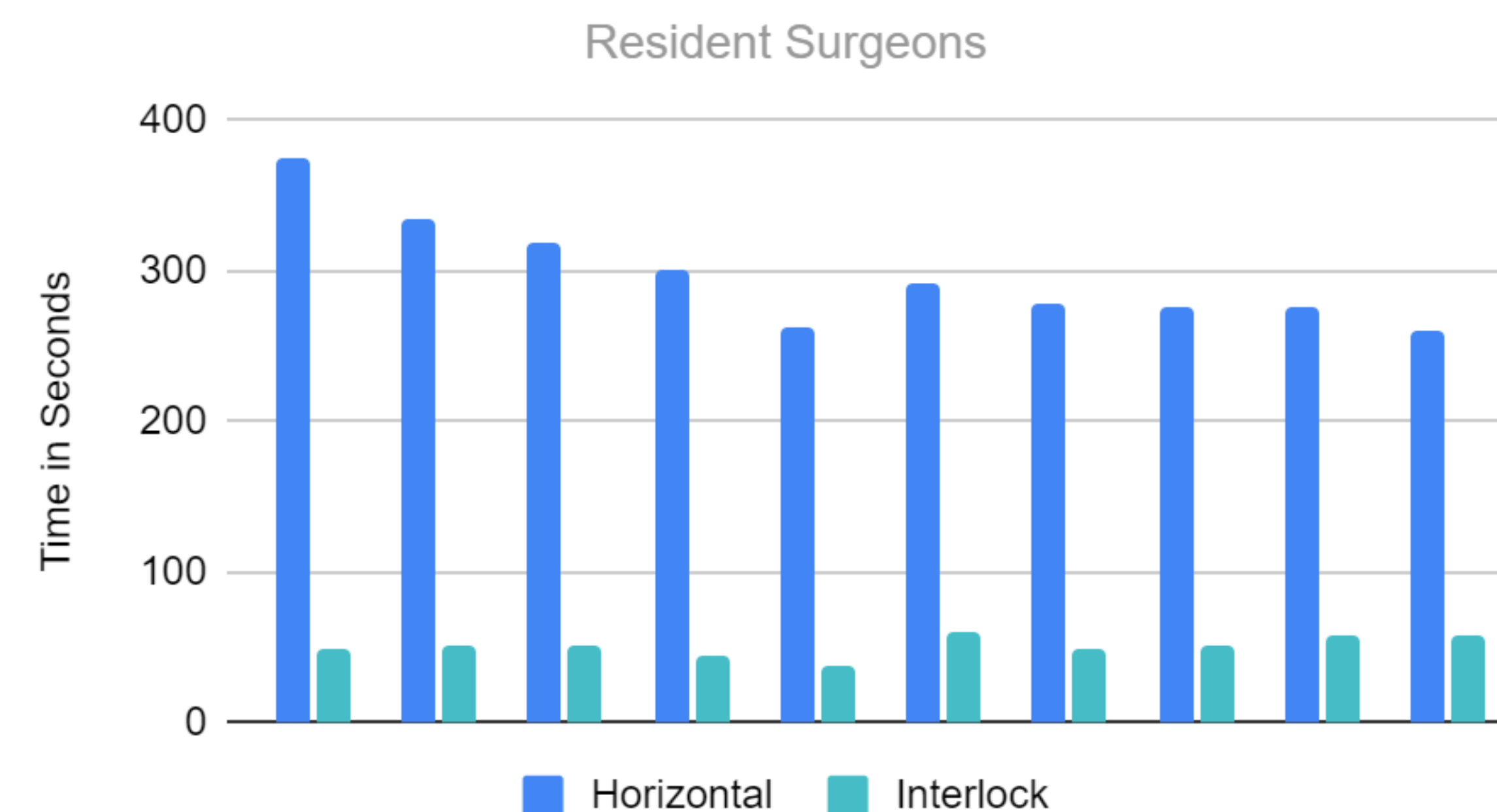
## Results

Utilization of the AAID was associated with a significantly faster time to incision closure ( $p < 0.001$ ) using unpaired t-tests. The mean time for suture placement was 199.0 seconds whereas the ISCS group mean was 44.7 seconds.

### Horizontal Mattress vs. Interlock Closure



### Horizontal Mattress vs. Interlock Closure



## Conclusion

- Utilization of the AAID device decreased surgical incision closure time.
- The 154.3 second time improvement found using the AAID device translates to a potential \$93 to \$159 of cost savings in OR time for a 6cm incision.
- Time and cost savings will vary based on incision length.

## Discussion

- Saving time in the operating room not only saves money but also increases patient safety and satisfaction, and hospitals are honing-in on ways to do that.
- Surgeons can adapt by making modifications in practice that will lead to improved patient- and system-level results.
- Surgical procedure times can be compromised because of prolonged incision closure.
- Optimizing surgical wound closures can reduce OR time, physical strain, and patient anesthesia exposure reducing costs and increase operating room efficiency.

## Reference

- Childers CP, Maggard-Gibbons M. Understanding Costs of Care in the Operating Room. *JAMA Surg.* 2018;153(4):e176233.
- Shippert RD. A Study of Time-Dependent Operating Room Fees and How to save \$100,000 by Using Time-Saving Products. *Am J Cosm Surg* 2005;22(1):25-34.

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\*Study Device: Interlock®; SUTUREGARD Medical, Inc; Portland