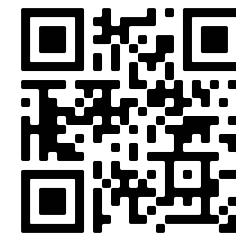


VELYS™ Robotic-Assisted Solution Improves Resection and Implant Alignment Accuracy



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1. Introduction

- The **VELYS™** Robotic-Assisted Solution for use with ATTUNE™ Knee is a new system for Total Knee Arthroplasty (TKA)



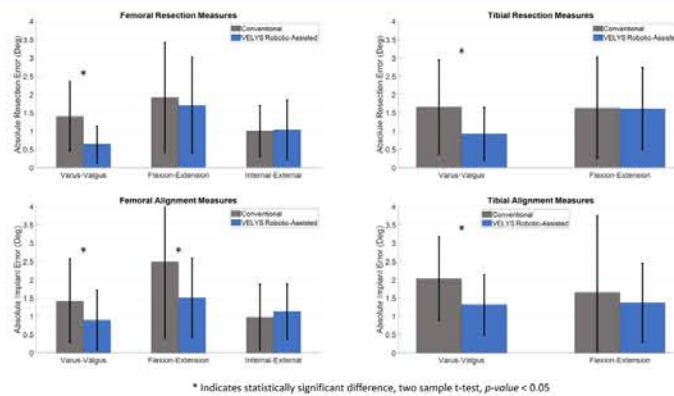
- Creating a safe & effective solution to improve surgical accuracy was a primary design goal

- Study Objective:** compare the surgical accuracy of VELYS Robotic-Assisted Solution to conventional instruments

Key features:

- Image free surgical planning, gap-balancing
- Assembles to bed rail
- Positions saw in planned resection planes
- Real-time dynamic compensation for patient motion while cutting

3. Results



Robotic-Assisted system superior or non-inferior to Conventional for all captured metrics, with a non-inferior margin of 0.5 Deg, $\alpha = 0.05$

4. Discussion

- The Robotic-Assisted system accuracy was superior or non-inferior to conventional across all alignment metrics
- Statistically significant accuracy improvements with the Robotic-Assisted system:
 - Femur/Tibia Coronal Resection Angle ($p < 0.001$)
 - Femur/Tibia Implant Coronal Alignment ($p < 0.001$)
 - Femur Implant Sagittal Alignment ($p = 0.006$)
- Improved implant sagittal alignment with robotic-assisted cohort likely attributed to increased anterior-posterior resection accuracy

2. Methods

- Study Design

- N=40 cadavers (80 knees)
- N=5 orthopaedic surgeons
- Robotic-Assisted / Conventional TKA performed on contra-lateral sides
- CR ATTUNE® Total Knee System
 - ATTUNE Knee INTUITION® Instruments
 - ATTUNE Cementless Femur
 - ATTUNE Cemented Tibia

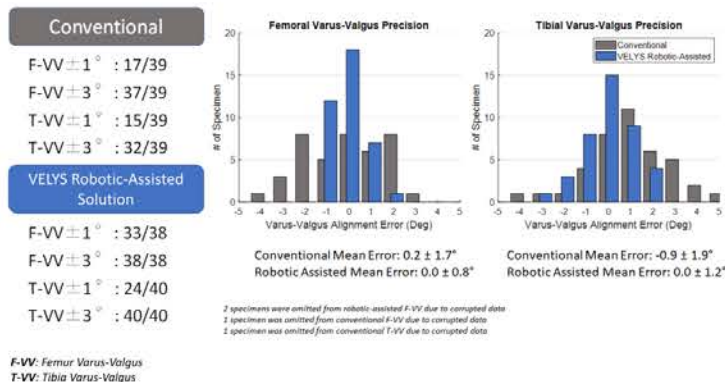


Sample Implant Alignment Measures



- Final resection angles and implant alignment independently measured using CT and White-light scan analysis
- Error to planned targets calculated
- Mean absolute error and outlier rates between both systems compared

3. Results (Cont.)



5. Significance

- Our results demonstrate the VELYS Robotic-Assisted Solution's ability to improve coronal implant alignment during TKA, helping surgeons more consistently achieve their surgical plan and reduce surgical outliers.

References

[1] Doan et al. Resection Accuracy Improved Using A Novel Concept For Robotic-assisted Total Knee Arthroplasty; ORS 2021 Annual Meeting Paper No. 0333

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Please refer to the instructions for use for a complete list of indications, contraindications, warnings, and precautions.

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