ISAKOS CONGRESS 2025 | MUNICH GERMANY June 8–11

Reducing our carbon footprint by using reusable navigation in RTSA. First study comparing the accuracy of freehand navigation with reusable navigation.

Drs. J.R.W. Crutsen, Dr. F. Hollman, Dr. F.O. Lambers Heerspink, Dr. E.R.C. Janssen

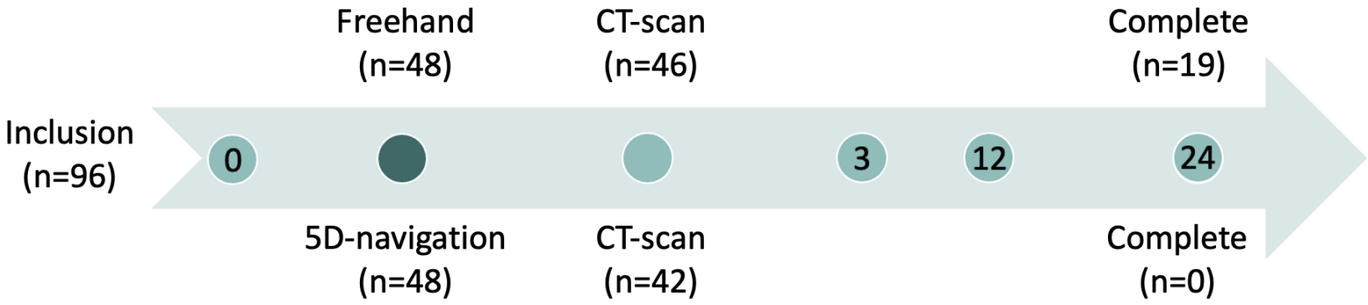
Department of Orthopedics, VieCuri MC
Venlo, The Netherlands

Faculty Disclosure Information

Research Support: Arthrex , Inc.

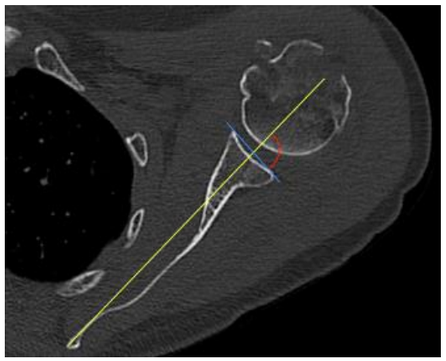
Methods

This case-control study (METC20-093) investigates the accuracy of implants positioning amongst patients undergoing RTSA performed by two fellowship trained shoulder subspecialists. All patient who underwent RTSA are eligible for inclusion. Exclusion criteria are: proximal humerus fracture; loosening of the glenoid component; or inability to understand the Dutch language.

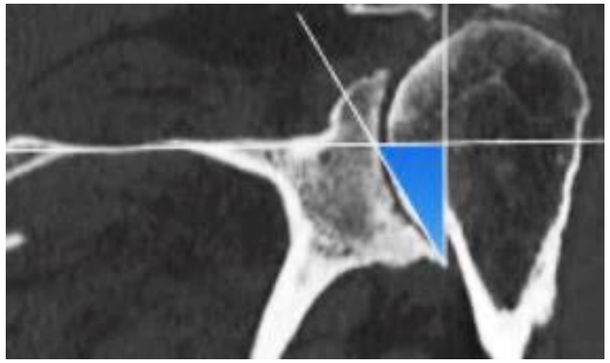


Methods

The primary outcome measurement is the **accuracy** of the positioning of the glenoid component. Glenoid positioning was assessed using pre- and postoperative CT scans. The glenoid component positioning accuracy, defined by **version** and **inclination** were measured.



Version according to Friedman's line



Inclination according to the RSA angel

Results

	Median	IQR	P-value
Retroversion			
Freehand (n=46)	7.8°	4.0°	0.000
5D-navigation (n=39)	2.3°	3.5°	
Inclination (RSA)			
Freehand (n=46)	3.8°	7.7°	0.225
5D-navigation (n=39)	2.7°	4.0°	

Conclusion

The 5D calibrator significantly improves the retroversion accuracy in RSA compared to the freehand method. Although inclination accuracy did not differ significantly, the 5D group showed less variability in both metrics.

This suggests that the 5D calibrator may enhance the accuracy of glenoid component placement in RSA, potentially leading to better postoperative outcomes.