The precision of two CT-based Radiostereometric Analysis systems (V3MA and CTMA) is comparable

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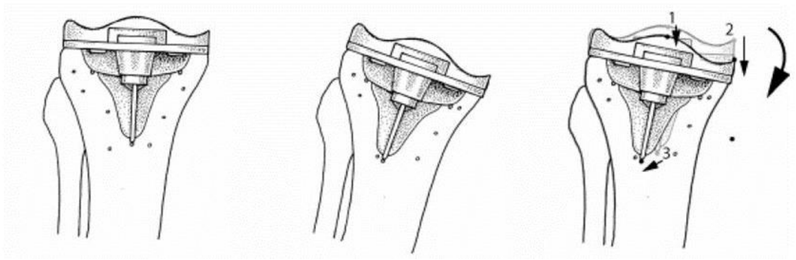
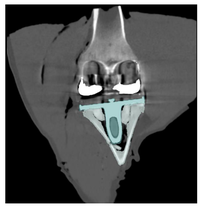
Introduction

Radiostereometric analysis (RSA) → monitoring of micromotion





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Accuracy	Marker placement
Precision	Specialized equipment
	Obscured markers

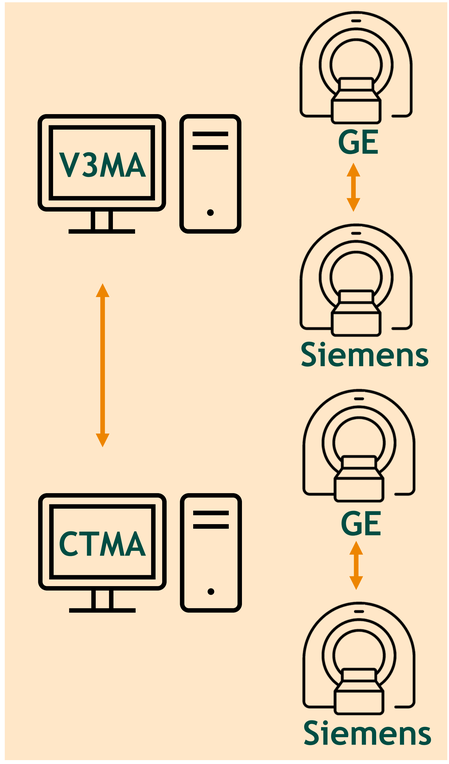
→CT-based RSA: no markers needed

The availability of multiple CT-RSA software options can stimulate innovation, expand user choice and improve quality and reliability

*Evaluate the **precision** of **V3MA** for assessing tibial implant migration compared to **CTMA**, while also examining the impact of **CT scanner type** on software performance*

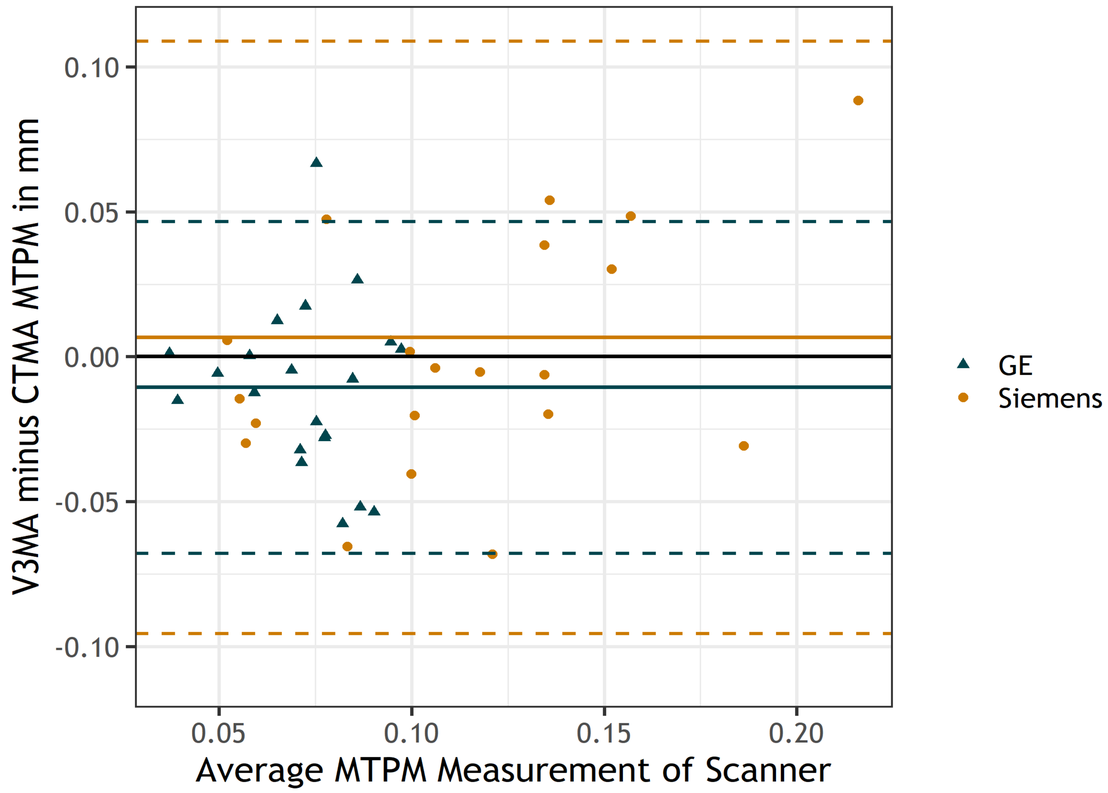
Methods

- Porcine cadaver
- 7 different positions
- 2 different scanners
- Zero-motion
- Comparison between exposures
- Maximum Total Point Motion (MTPM)
- Precision: ± 1.96*SD



Results

	V3MA GE	V3MA Siemens	V3MA GE minus CTMA GE	V3MA Siemens minus CTMA Siemens
MTPM, mm	0.07 (0.03-0.11)	0.12 (0.00-0.24)	-0.011 (-0.024;0.003)	0.007 (-0.017;0.030)



Conclusion

Precision of V3MA is comparable to that of CTMA; Small inter-scanner differences in precision exist

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