

Which technique is better for TKA: custom-made cutting guides, navigation or conventional?

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Recently, a new technique of custom-made cutting guides for TKA is introduced to clinical practice. The author was the first to report the novel technique of patient-specific templating for TKA, using CT-based preoperative planning to produce 2 cutting guides replacing conventional instrumentation. Now the technique is released to clinical practice. However, no published data yet on the comparison between this new technique against both navigation and conventional techniques.

The author prospectively compared between custom-made cutting guides, navigation and conventional techniques. A total number of 60 cases were included in this study with 20 consecutive cases for each technique.

The alignment in all cases was within 3 degrees of errors with no statistically significant difference between all techniques. No complications on short term follow up. The conventional technique had the advantage of being the default technique that all staff involved in the surgical procedure was familiar with. Navigational technique had accurate and comprehensive documentation of intraoperative details and measurements.

This clinical study showed the superiority of custom-made cutting guides over conventional instrumentation. It eliminated medullary guides, reduced operative time, and provided better accuracy. It was a simple, less expensive technique with no need for registration or tracking, thus it was better than navigation for TKA. The technique was used in straightforward TKA and in complex cases of extra-articular deformities and unfit patients such as haemophilia, cases with previous history of DVT and Pulmonary embolism.

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