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Is Modern Bicruciate Retaining TKA Feasible?

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ABSTRACT:

Early bicruciate retaining total knee arthroplasty (TKA) designs were abandoned due to high failure rates. Twenty bicruciate TKA's were retrieved and analyzed to determine the mechanisms of failure. Failures occurred predominately on the tibial side due to fracture of the anterior tibial tray or bridge, insert dissociation, UHMWPE wear, and tibial component loosening. Modern implant designs and materials may increase the strength of the tibial baseplate, durability of the liner locking mechanism, and UHMWPE wear resistance, while better surgical techniques may improve implant fixation suggesting that bicruciate retaining TKA could be feasible. However, long term studies will be necessary to determine if the durability of modern bicruciate retaining TKA's are equivalent to contemporary CR and PS designs.

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