

Short-Term Clinical Outcomes Between Two Different Posterior Stabilized Implant Design In Total Knee Arthroplasty

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PURPOSE:

Research and development of TKA implant design aiming to mimic normal knee kinematic. Introduction of anatomically accurate implant design would better restore native knee kinematic to provide normal knee sensation. The aim of this study was to compare early clinical outcome between anatomically realistic implant design using Persona PS versus non-anatomical implant design by using Nexgen PS and to assess the improvement within the implant group.

MATERIALS AND METHODS:

A prospective, randomized study was conducted among 58 patients who underwent primary total knee arthroplasty for primary knee osteoarthritis. Eighteen patients received non-anatomical design and 40 received anatomical design. All patients were followed up for total of 6 months. Patient's ROM and Knee Injuries and Osteoarthritis Outcome Score (KOOS) were assessed at preoperative, 3-months and 6-months postoperative and compared.

RESULTS AND DISCUSSION:

There was no significance difference between the two types of implants for KOOS subscales: symptoms ($p = 0.261$), pain ($p = 0.174$), ADL ($p = 0.15$), QOL ($p = 0.598$) and patient ROM ($p = 0.121$) at preoperative, 3 months and 6 months, except in KOOS subscale sport ($p = 0.032$). There was significant improvement ($p < 0.0005$) in ROM and all KOOS subscales within both implant groups with greater improvement were seen in anatomical design group with significant clinical improvement.

CONCLUSION:

Both implants design is capable to significantly alleviate pain and improve patient's functions. Anatomical accurate implant showed slight better improvement with significant clinical

improvement but neither of implant are significantly superior to another.

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