

University of Massachusetts Medical School

eScholarship@UMMS

UMass Center for Clinical and Translational
Science Research Retreat

2017 UMass Center for Clinical and
Translational Science Research Retreat

May 16th, 1:45 PM

Racial Differences in the Effectiveness of Total Knee Arthroplasty (TKA) on Postoperative Pain and Function

Uyen-Sa D. T. Nguyen

University of Massachusetts Medical School

Et al.

Let us know how access to this document benefits you.

Follow this and additional works at: https://escholarship.umassmed.edu/cts_retreat



Part of the [Orthopedics Commons](#), and the [Translational Medical Research Commons](#)

Repository Citation

Nguyen UD, Porter A, Li W, Yang W, Ayers DC, Franklin PD. (2017). Racial Differences in the Effectiveness of Total Knee Arthroplasty (TKA) on Postoperative Pain and Function. UMass Center for Clinical and Translational Science Research Retreat. <https://doi.org/10.13028/h880-p219>. Retrieved from https://escholarship.umassmed.edu/cts_retreat/2017/posters/58

Creative Commons License



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 License](#).

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.

RACIAL DIFFERENCES IN THE EFFECTIVENESS OF TOTAL KNEE ARTHROPLASTY (TKA) ON POSTOPERATIVE PAIN AND FUNCTION

Uyen-Sa D. T. Nguyen, DSc, MPH, Anthony Porter, MD, Wenjun Li, PhD, Wenyun Yang, MS, David C. Ayers, MD, and Patricia D. Franklin, MD MBA MPH
Department of Orthopedics and Physical Rehabilitation, University of Massachusetts Medical School

Objective: African Americans are less likely than Caucasians to perceive TKA as an effective treatment option. We examined post-TKA pain and function by race, with and without adjusting for demographic and clinical factors on determining racial differences.

Methods: We analyzed data from FORCE-TJR, a national cohort of TJR patients. Patients had primary and unilateral TKA surgeries 07/01/2011-12/31/2014, and completed surveys on demographic and clinical information, including a pre- and 6-month postoperative Knee Injury and Osteoarthritis Outcome Score (KOOS). The KOOS pain and function scores ranged from 0-100 (higher=better). We examined baseline, 6-month, and 6-month change in pain and function by race, and estimated the association between race and outcomes, adjusting for demographic and clinical factors.

Results: Analyses included 5028 white (63% female, 65% income>45k; mean age of 67, BMI of 31) and 270 black patients (80% female, 39% income>45k; mean age of 63, BMI of 34). At baseline, black compared with white patients reported worse knee pain (mean: 39vs.48), and poorer function (mean: 46vs.54). While all patients reported significant gains at 6-month post-surgery, black patients had lower postoperative pain (mean: 71vs.82) and function scores (mean: 73vs.84) than white patients. Although not statistically significant, black patients on average had lower 6-month change than white patients in pain -1.9 (95%CI: -4.4, 0.6) and function -1.6 (95%CI: -3.9, 0.7). Adjusting for covariates, racial differences were significantly more pronounced in change in pain -5.5 (95%CI: -8.3, -2.7) and function -5.6 (95%CI: -8.2, -3.0).

Conclusions: TKAs were as effective in reducing pain and improving functions in blacks as in whites. Adjusting for certain demographic and clinical factors can impact assessment of racial differences and the effectiveness of TKA on postoperative outcomes, as black patients were very different from white patients on these important factors.

Contact:

Uyen-Sa D. T. Nguyen, DSc, MPH
Assistant Professor
Department of Orthopedics and Physical Rehabilitation
University of Massachusetts Medical School
UyenSa.Nguyen@umassmed.edu