

University of Texas Rio Grande Valley

**ScholarWorks @ UTRGV**

---

Research Colloquium

Research Colloquium 2024

---

## Cultural and Socioeconomic Determinants of Hip and Knee Arthroplasty in the Rio Grande Valley Community

Blake Martin

*The University of Texas Rio Grande Valley*, blake.martin01@utrgv.edu

John M. Gaddis

*The University of Texas Rio Grande Valley*, john.gaddis01@utrgv.edu

Jared Hensley

*The University of Texas Rio Grande Valley*, jared.hensley01@utrgv.edu

Juan Lopez Alvarenga

*The University of Texas Rio Grande Valley*, juan.lopezalvarenga@utrgv.edu

Kelsey Baker

*The University of Texas Rio Grande Valley*, kelsey.baker@utrgv.edu

Follow this and additional works at: <https://scholarworks.utrgv.edu/colloquium>



Part of the [Orthopedics Commons](#)

---

### Recommended Citation

Martin, Blake; Gaddis, John M.; Hensley, Jared; Lopez Alvarenga, Juan; and Baker, Kelsey, "Cultural and Socioeconomic Determinants of Hip and Knee Arthroplasty in the Rio Grande Valley Community" (2024). *Research Colloquium*. 21.

<https://scholarworks.utrgv.edu/colloquium/2024/posters/21>

This Poster is brought to you for free and open access by the School of Medicine at ScholarWorks @ UTRGV. It has been accepted for inclusion in Research Colloquium by an authorized administrator of ScholarWorks @ UTRGV. For more information, please contact [justin.white@utrgv.edu](mailto:justin.white@utrgv.edu), [william.flores01@utrgv.edu](mailto:william.flores01@utrgv.edu).

# Cultural and Socioeconomic Determinants of Hip and Knee Arthroplasty in the Rio Grande Valley Community

Authors: Blake C Martin<sup>1</sup>, John Gaddis<sup>1</sup>, Jared Hensley<sup>1</sup>, Juan Lopez Alvarenga<sup>2</sup>, Kelsey Baker<sup>1</sup>

<sup>1</sup> University of Texas Rio Grande Valley School of Medicine, Edinburg, Texas 78539, United States

<sup>2</sup> University of Texas Rio Grande Valley, Department of Mathematics and Statistics, Edinburg, Texas 78539, United States

## Abstract

*Background:* Joint arthroplasty is one of the most common procedures performed worldwide and the volume of these operations are on the rise. In this study we aimed to discover if there were differences in the demographics and social factors associated with individuals undergoing total knee arthroplasty (TKA) and total hip arthroplasty (THA) in the Rio Grande Valley. We hypothesized that women would have increased risk of THA whereas individuals who are older and have higher BMI would have increased risk of TKA.

*Methods:* We conducted a retrospective chart review using the UTRGV UTHealth electronic database from January 1, 2018 through July 1, 2024. Age, sex, BMI, county of residence, race/ethnicity, and marital status were collected and analyzed for all patients. Individuals were selected using Current Procedural Terminology codes for any patients with TKA or THA. Various statistical analyses were performed, including logistic regression to calculate the OR (95% CI) and the adjusted probabilities.

*Results:* We analyzed 780 participants, 252 with THA and 528 with TKA. The mean age at the procedure was 69.9 (SD 9.7) years, with a mean BMI of 31.8 (SD 6.25). TKA was associated with higher BMI and was 20% more common in Hispanics than non-Hispanic patients [OR 2 (95%CI: 1.4, 3.3)  $p=0.004$ ]. Factors associated with TKA compared with THA were age greater than 55 years old, increased BMI, the use of public insurance, and Hispanic individuals. The probability of having TKA increased with BMI.

*Conclusion:* This study demonstrated the influence of unique cultural and socioeconomic conditions in the Rio Grande Valley (RGV) in the context of elective surgeries such as TKA and THA. This finding suggests the need for policy interventions and continuing research to analyze new policies and strategies to cope with the disparities observed in this community as well as other underserved communities.