

Phase I recovery opioid consumption following unilateral total knee arthroplasty stratified by race: a single center study

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Introduction

- Total knee arthroplasty (TKA) is a common orthopedic procedure that is associated with higher levels of pain and opioid use in the immediate postoperative period than other joint arthroplasties.
- Worse pain and symptoms for racial minorities compared to White patients have been reported postoperatively for TKA.
- We hypothesize that racial disparities exist in the morphine milligram equivalent (MME) consumption during Phase I recovery following unilateral TKA.

Methods

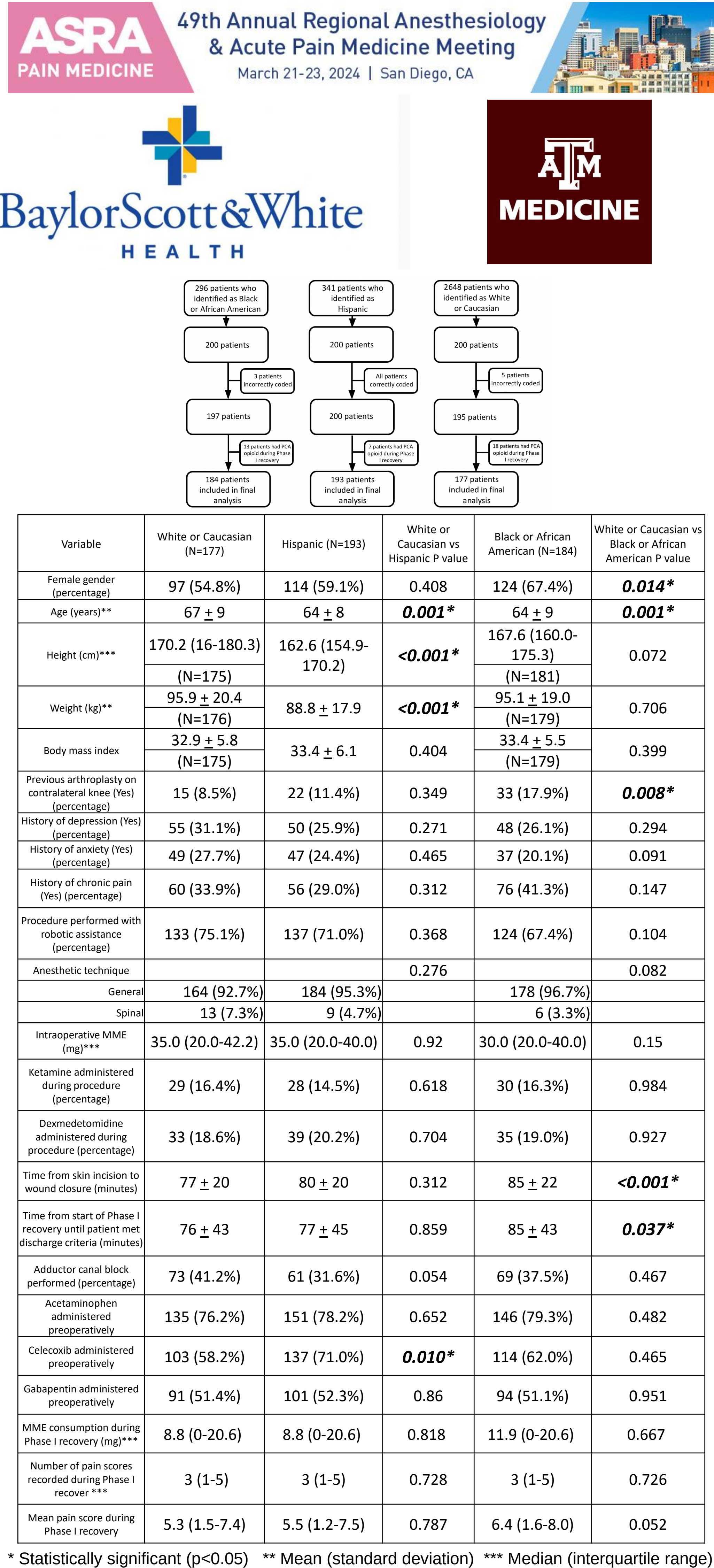
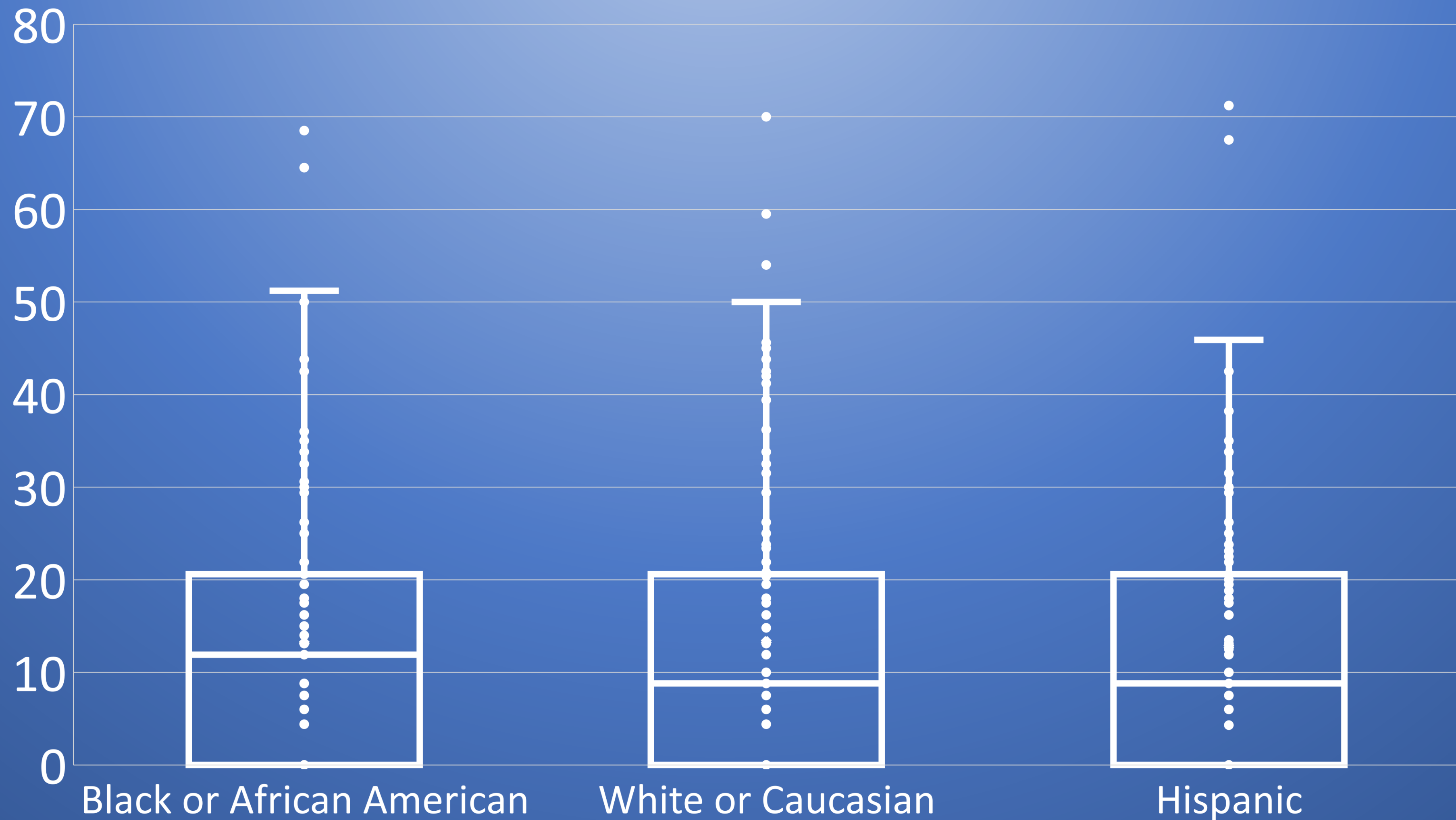
- Included patients who underwent unilateral TKA from January 1, 2018 to December 31, 2022 who identified as White or Caucasian (N=177), Black or African American (N=184), or Hispanic (N=193) at Baylor Scott and White - Temple.
- Phase I recovery time was defined as the time from when Phase I recovery started until the time the patients met discharge criteria
- Morphine milligram equivalent (MME) was calculated using the criteria described by Nielsen et al.

Results

- No statistically significant racial disparities in MME consumption during Phase I recovery between White or Caucasian, Hispanic, and Black or African American patients (median 8.8 mg vs 8.8 mg vs 11.9 mg; p=0.818 between White or Caucasian and Hispanic and p=0.667 between White or Caucasian and Black or African American)
- Hispanic patients were significantly more likely than White or Caucasian patients to have had celecoxib administered preoperatively (71.0% vs 58.2% p=0.01)
- Black or African American patients were more likely than White or Caucasian patients to have a longer time from skin incision to would closure (85 ± 22 minutes, p<0.001) and longer time from start of Phase I recovery until patient met discharge criteria (85 ± 43 minutes, p=0.037).
- African American patients were more likely than White or Caucasian patients to be female (67.4% p=0.014), younger (64 ± 9 years p=0.001), and have had previous arthroplasty on the contralateral knee (17.9% p=0.008).
- Hispanic patients were more likely than White or Caucasian patients to be younger (64 ± 8 years p=0.001), shorter (median 162.6 cm p<0.001), and weigh less (88.8 ± 17.9 kg).

There were **NO racial disparities** in **opioid** consumption during **phase I recovery** following unilateral **TKA**

Phase I MME consumption (mg)



* Statistically significant (p<0.05) ** Mean (standard deviation) *** Median (interquartile range)

Discussion

- No difference in MME consumption in Phase I recovery between racial groups
- Black or African American patients had a significantly longer operating time and Phase I recovery time compared to White or Caucasian patients.
- Hispanic patients were more likely to have had celecoxib administered preoperatively.