

TABLE E-1 Demographic Characteristics, Glycemic Status, and Preoperative Data on the Study Participants (N = 829)

Characteristic	Values
Age* ( <i>yr</i> )	64.0 (18.3 to 92.2)
Sex†	
Male	347 (41.9%)
Female	482 (58.1%)
Race†	
White	591 (71.3%)
Black	186 (22.4%)
Other	52 (6.3%)
ASA risk score†	
I	85 (10.3%)
II	394 (47.5%)
III	348 (42.0%)
IV	2 (0.2%)
Body mass index* ( <i>kg/m<sup>2</sup></i> )	29.6 (16.9 to 46.1)
<25 <i>kg/m<sup>2</sup></i> †	182 (22.0%)
25 to 29 <i>kg/m<sup>2</sup></i> †	279 (33.7%)
30 to 34 <i>kg/m<sup>2</sup></i> †	219 (26.4%)
35 to 39 <i>kg/m<sup>2</sup></i> †	128 (15.4%)
≥40 <i>kg/m<sup>2</sup></i> †	21 (2.5%)
Elixhauser comorbidity index*	1.6 (0 to 9)
0†	166 (20.0%)
1†	302 (36.4%)
2†	219 (26.4%)
≥3†	142 (17.1%)
Joint†	
Knee	389 (46.9%)
Hip	440 (53.1%)
History of diabetes mellitus†	
Yes	119 (14.4%)
No	710 (85.6%)
Glycemic markers	
Fructosamine* ( <i>μmol/L</i> )	244.8 (178 to 484)
HbA1c* (%)	5.8 (4.2 to 10.1)
≥6.5%†	92 (11.1%)
5.7% to 6.4%†	308 (37.2%)
<5.7%†	429 (51.7%)
Preoperative glucose* ( <i>mg/dL</i> )	102.9 (45 to 370)
≥126 <i>mg/dL</i> †	119 (14.3%)
<126 <i>mg/dL</i> †	710 (85.6%)
Postoperative day 1 glucose* ( <i>mg/dL</i> )	119.9 (57 to 305)

\*The values are given as the mean and the range. †The values are given as the number of patients, with the percentage in parentheses.

TABLE E-2 Associations Between Postoperative Day-1 Glucose Levels and Adverse Postoperative Outcomes: Univariate and Multivariate Analysis

	OR*	P Value
Infection		
Unadjusted	1.0079 (0.9946 to 1.0215)	0.2408
Adjusted	1.0009 (0.9855 to 1.0165)	0.9136
Periprosthetic joint infection		
Unadjusted	1.0131 (0.9965 to 1.0299)	0.1228
Adjusted	1.0039 (0.9838 to 1.0244)	0.7058
Superficial		
Unadjusted	1.0016 (0.9810 to 1.0226)	0.8780
Adjusted	0.9972 (0.9742 to 1.0207)	0.8107
Medical		
Unadjusted	1.0042 (0.9936 to 1.0149)	0.4373
Adjusted	1.0023 (0.9906 to 1.0142)	0.7022
Mechanical		
Unadjusted	0.9968 (0.9792 to 1.0147)	0.7295
Adjusted	1.0023 (0.9906 to 1.0142)	0.6886
Overall		
Unadjusted	1.0028 (0.9946 to 1.0111)	0.4956
Adjusted	0.9999 (0.9909 to 1.0090)	0.9910
Reoperation		
Unadjusted	1.0057 (0.9932 to 1.0184)	0.3781
Adjusted	1.0010 (0.9868 to 1.0154)	0.8922
Readmission		
Unadjusted	1.0085 (0.9971 to 1.0201)	0.1382
Adjusted	1.0053 (0.9924 to 1.0184)	0.4185

\*The values are given as the OR per mg/dL, with the 95% CI in parentheses.

TABLE E-3 A Review of Studies Assessing the Impact of Glycemic Control (Controlled Compared with Uncontrolled) Using HbA1c as a Dichotomous Variable

Reference	Sample Size*	Joint	HbA1c Threshold	Outcome Measured	Results
Iorio <sup>13</sup> (2012)	276	Hip and knee	7%	Surgical-site infection (superficial and deep)	No significant difference
Adams <sup>14</sup> (2013)	7,567	Knee	7%	Revision, periprosthetic joint infection, deep venous thrombosis, pulmonary embolism, rehospitalization, myocardial infarction	No significant difference
Harris <sup>16</sup> (2013)	6,088	Hip and knee	7%	Threshold for complications; return to operating room, urinary tract infection, infection, sepsis, pneumonia, reintubation, acute renal failure, mortality, any	The risk linearly increases through, rather than surging at, the threshold of 7%; significantly associated with “any” complication and acute renal failure
Han <sup>19</sup> (2013)	167	Knee	8%	Wound complications and early periprosthetic joint infection	Significantly associated with superficial wound complications, not with periprosthetic joint infection
Hwang <sup>17</sup> (2015)	714	Knee	8%	Surgical-site infection (superficial and deep) and wound complications	Significantly associated with superficial infection, not with periprosthetic joint infection
Chrastil <sup>11</sup> (2015)	13,272	Hip and knee	7%	Periprosthetic joint infection and mortality	High HbA1c levels were significantly associated with mortality, not with periprosthetic joint infection
Lavernia <sup>20</sup> (2017)	120	Hip and knee	7%	Functional outcomes, length of stay, costs, short-term complications	No significant difference

\*These included only patients with HbA1c that was available.