Supplementary Appendix

Supplement to: Sorensen MD, Harper JD, Borofsky MS, et al. Removal of small, asymptomatic kidney stones and incidence of relapse. N Engl J Med 2022;387:506-13. DOI: 10.1056/NEJMoa2204253

This appendix has been provided by the authors to give readers additional information about the work.

Supplementary Appendix: Representativeness of Patient Sample

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Category	
Disease under investigation	Urinary stone relapse
Special considerations related to	
Sex and gender	Stone disease affects men more than women in the U.S. ¹ The odds of kidney stones in females is approximately two-thirds that in men. ¹
Age	Prevalence increases with age. ¹ In men and women, the weighted prevalence increases with age; these effects are observed among all racial/ethnic groups. ¹
Race or ethnic group	Stone disease affects White persons disproportionately in the U.S. ¹ The prevalence of stone disease is highest among non-Hispanic white individuals, at 10.3%. ¹ Among Hispanic individual and among black, non-Hispanic individuals, the prevalence of kidney stones is 6.4 and 4.3%, respectively. ¹
Geography	Stone disease is more prevalent in warmer climates globally. ^{2,3}
Other considerations	Stone disease is prevalent with 50% recurrence within 5 years. ^{4,5} Stone disease has some dependence on patient demographics as noted above. The dependence of relapse to an emergency visit or surgery on patient demographics is not known. However, the demographics of those with symptomatic stone disease that are likely to motivate an emergency visit or surgery are known and similar to the demographics of those reporting a history of stones. ¹ Nonetheless, different demographic groups may have different access to surgery and medical care, and as shown in the present study, surgery technique influence relapse. ⁶⁻⁸ Socioeconomic status is associated with a history of kidney stones. ¹
Overall representativeness of this trial	The participants in the present trial were recruited from subjects going to surgery and are representative of the demographics of the surgery populations. The study demographics are similar to population rates from the U.S. census weighted by prevalence rate reported in the National Health and Nutrition Examination Survey (NHANES). ¹ The study underrepresented Hispanics. The study tested 2 institutions – including one in the Veterans Affairs health care system - in the West and two in the Midwest in an effort to represent U.S. geography.

Table S1. Representativeness of Study Participants

References

- 1. Scales CD Jr, Smith AC, Hanley JM, *et al.*, Urologic Diseases in America Project. Prevalence of kidney stones in the United States. Eur Urol. 2012;62:160-5.
- 2. Kaufman, J., Vicedo-Cabrera, A.M., Tam, V. *et al.* The impact of heat on kidney stone presentations in South Carolina under two climate change scenarios. Sci Rep 2022;12:369.
- 3. Romero V, Akpinar H, Assimos DG. Kidney stones: a global picture of prevalence, incidence, and associated risk factors. Rev Urol. 2010;12:e86-96.
- Assimos D, Krambeck A, Miller NL, *et al.* Surgical management of stones: American Urological Association/Endourological Society Guideline, PART II. J Urol 2016;196:1161-1169.
- 5. EAU Guidelines. Edn. presented at the EAU Annual Congress Amsterdam 2020. ISBN 978-94-92671-07-3.
- 6. Ito K, Takahashi T, Kanno T, *et al.*, Decreased recurrence of urolithiasis after simultaneous ureteroscopic surgery for ureter and ipsilateral renal calculi: Comparison to shockwave lithotripsy for ureter calculi alone, Urology 2021;47:74–80.
- 7. Li, S., Quarrier, S., Serrell, E.C. *et al.*, Should we treat asymptomatic concurrent contralateral renal stones? A longitudinal analysis. Urolithiasis 2022;50:71-77.
- 8. Djang R, Stahl JE, Pais VM Jr., Informing the management of symptomatic nephrolithiasis: Markov decision analysis for the 1 cm renal stone, Urology Practice 2021;8:495-502.