

Pulsed Shortwave (Radiofrequency) Therapy with a Noninvasive, Wearable Device: A Randomized, Masked, Sham-Controlled Pilot Study

Nathan Lau BS, Baharin Abdullah MD, John Finneran MD, Engy Said MD, Scott Ball MD, Bryan Sandler MD, Ryan Broderick MD, Francis Gonzales MD, Adam Schaar MD, Brian Ilfeld MD MS

INTRODUCTION

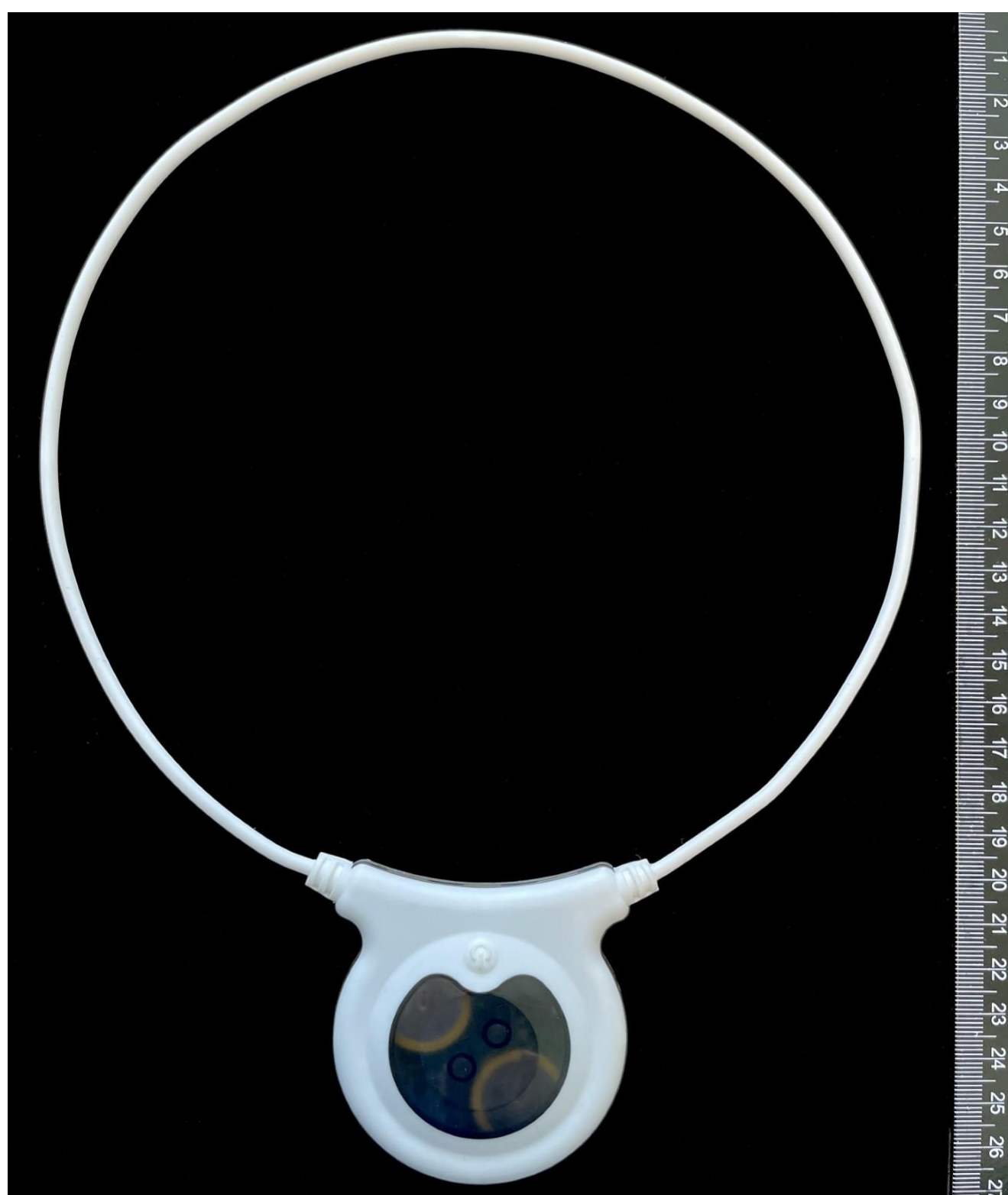
- Pulsed shortwave therapy (PSWT) is a nonpharmacologic and noninvasive analgesic tool without notable side effects or misuse potential.¹
- Recent improvements to the technology have improved affordability and portability.²
- Existing data suggests that PSWT may reduce acute and chronic pain as well as opiate load.³⁻⁵

Aim: To assess the feasibility of a PSWT protocol and provide an estimate of its potential treatment effects.

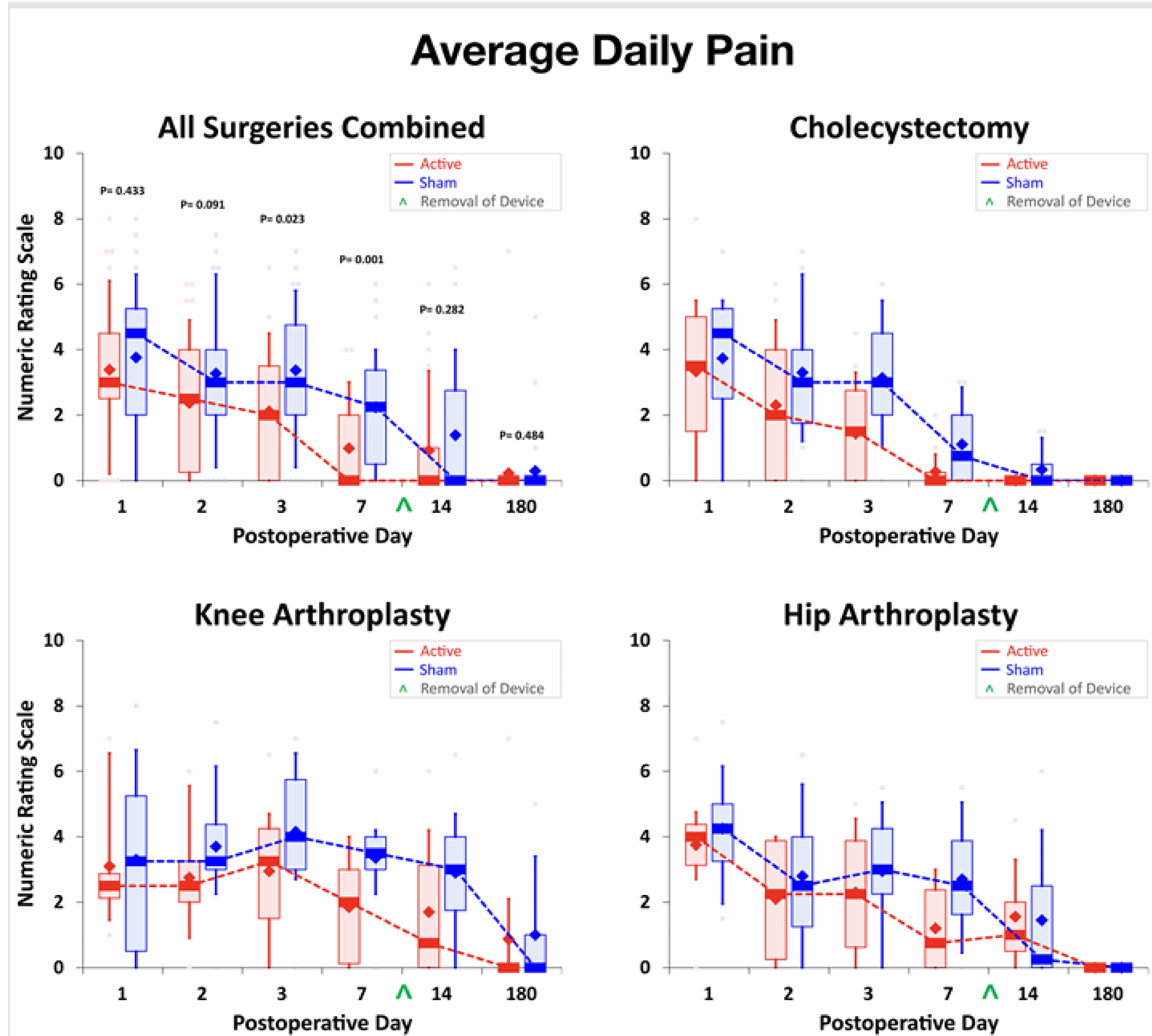
METHODS

- Randomized, masked, sham-controlled study involving surgical patients who underwent unilateral total hip or knee arthroplasty (n=40) or cholecystectomy (n=30)
- Patients provided with 8 days of PSWT (below) or sham device fixed postoperatively to surgical site

- Primary end point was sum of the average and worst (maximum) daily pain intensity measured with numeric rating scale collected over the first seven postoperative days



RESULTS



During the first 7 postoperative days the sum of the daily pain intensity scores in the active group was a mean (SD) of 28 (11) versus 34 (14) in sham (P=0.032).

Average daily pain was significantly reduced on postoperative days 3 (P=0.023) and 7 (P=0.001) when considering all surgeries combined.

RESULTS (cont.)

- Six months postoperatively, 3% (n=1) of patients in the active treatment group were experiencing persistent post-surgical pain, versus 15% (n=5) in the sham group (P=0.104).

CONCLUSIONS

- PSWT is feasible for both inpatients and outpatients due to portability and safety of the device and reduced pain intensity over the first week following surgery.**

FUTURE DIRECTIONS

- These results are preliminary and should be replicated with a subsequent study before being deemed definitive.
- Results from this pilot study can be used to guide future trials.

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