Constant Current vs. Constant Voltage in Spinal Cord Stimulation: Patient Perceived Differences

Acknowledgments

Roni Diaz
Director, Scientific Studies

Stephanie Washburn, PhD[1], Klee Bethel, MD[2], Bernard Canlas, MD[3], Roger Catlin, MD[4], and Edward Shadid, MD[5]

1) St. Jude Medical Neuromodulation Division, Plano, TX
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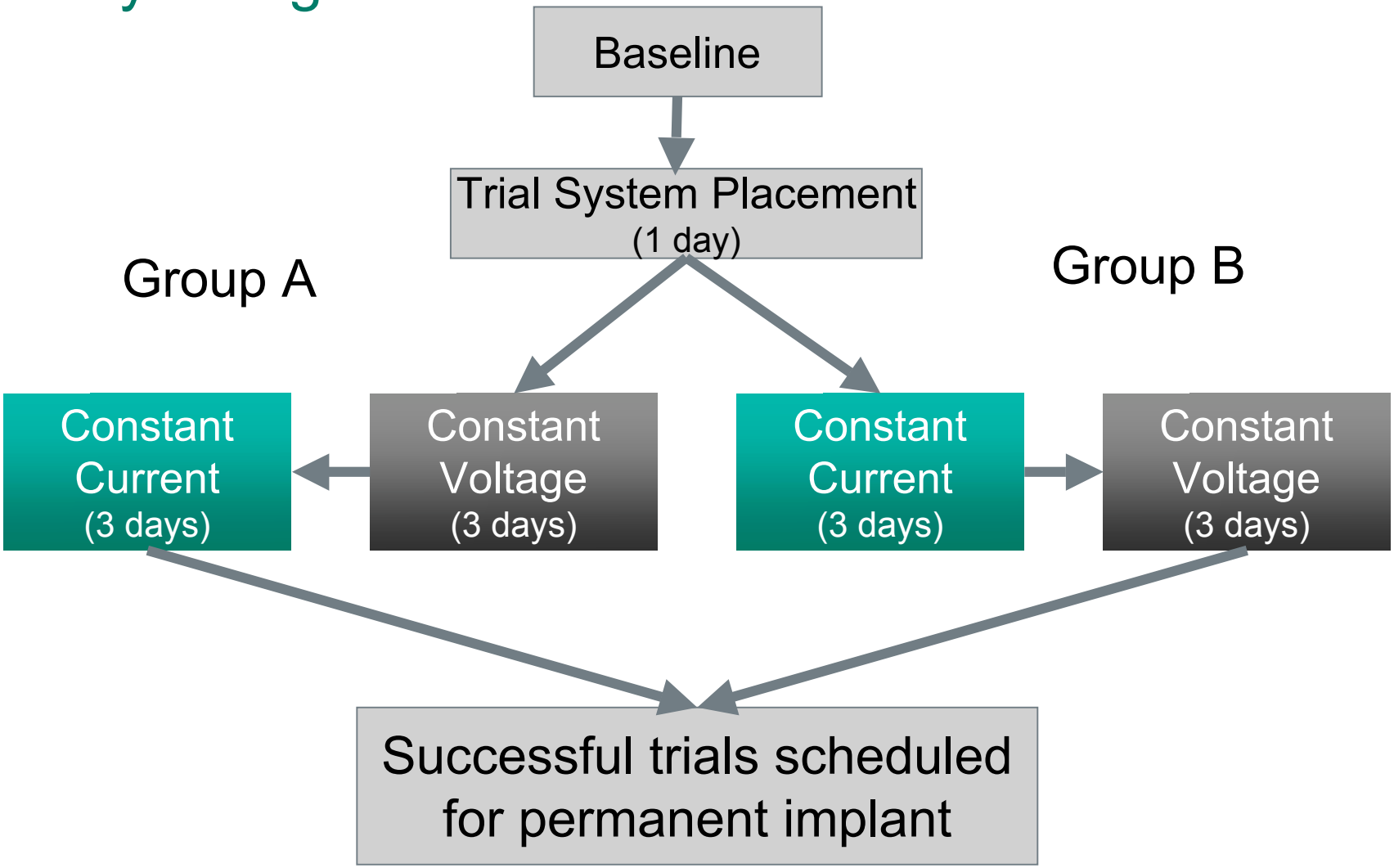
Methods

- Prospective, randomized, double-blinded, multi-centered, crossover study
- IRB-approved
- Four implanting physicians
- Performed over a 6-day stimulation trial
- 42 patients enrolled, 29 completed the study
  - 6 dropped to programming changes
  - 4 screen failures
  - 3 patients dropped for other reasons

Study Design



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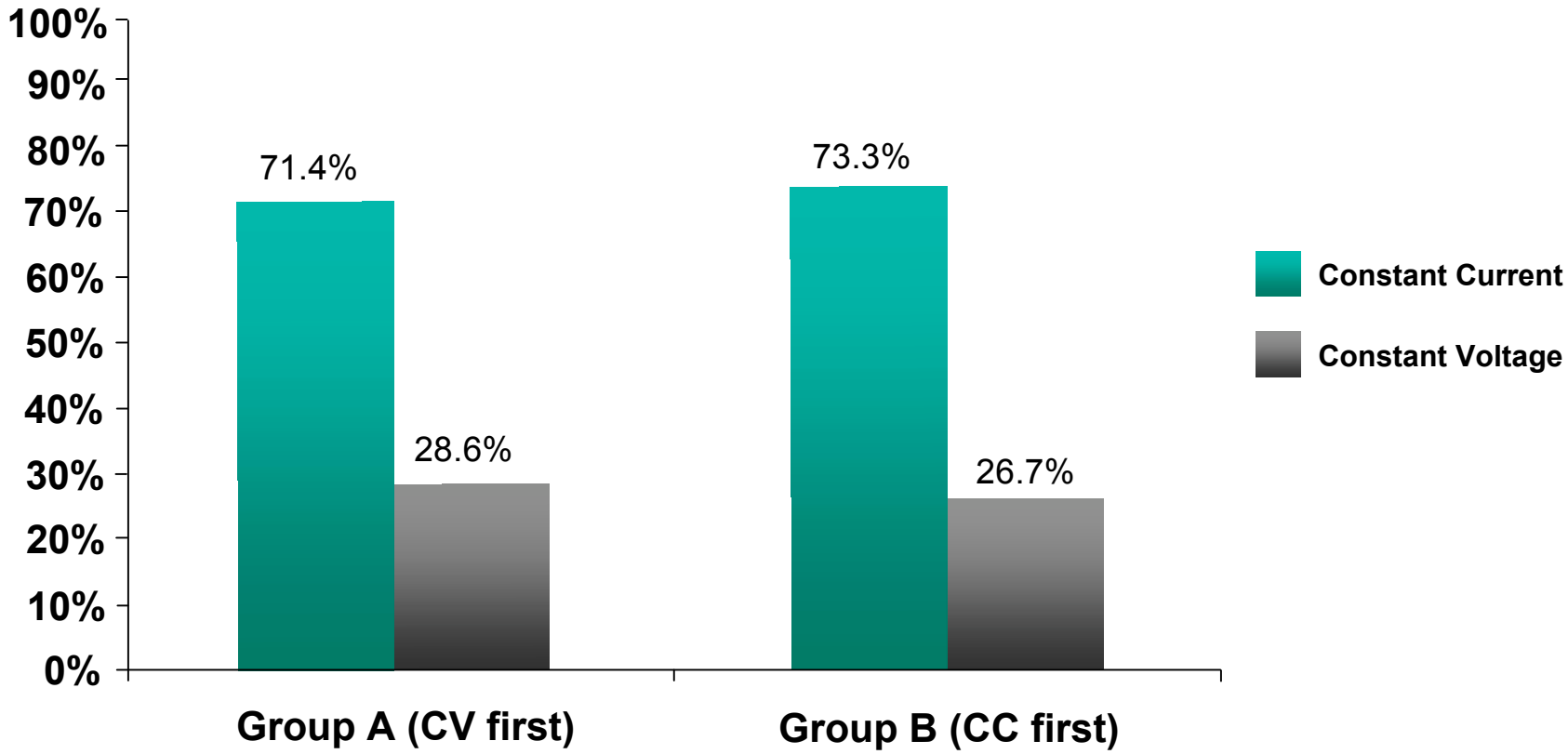
Study Results—Treatment Preference by Group



Significantly more patients preferred CC over CV stimulation (one sample *z*-test, *p*=0.02)

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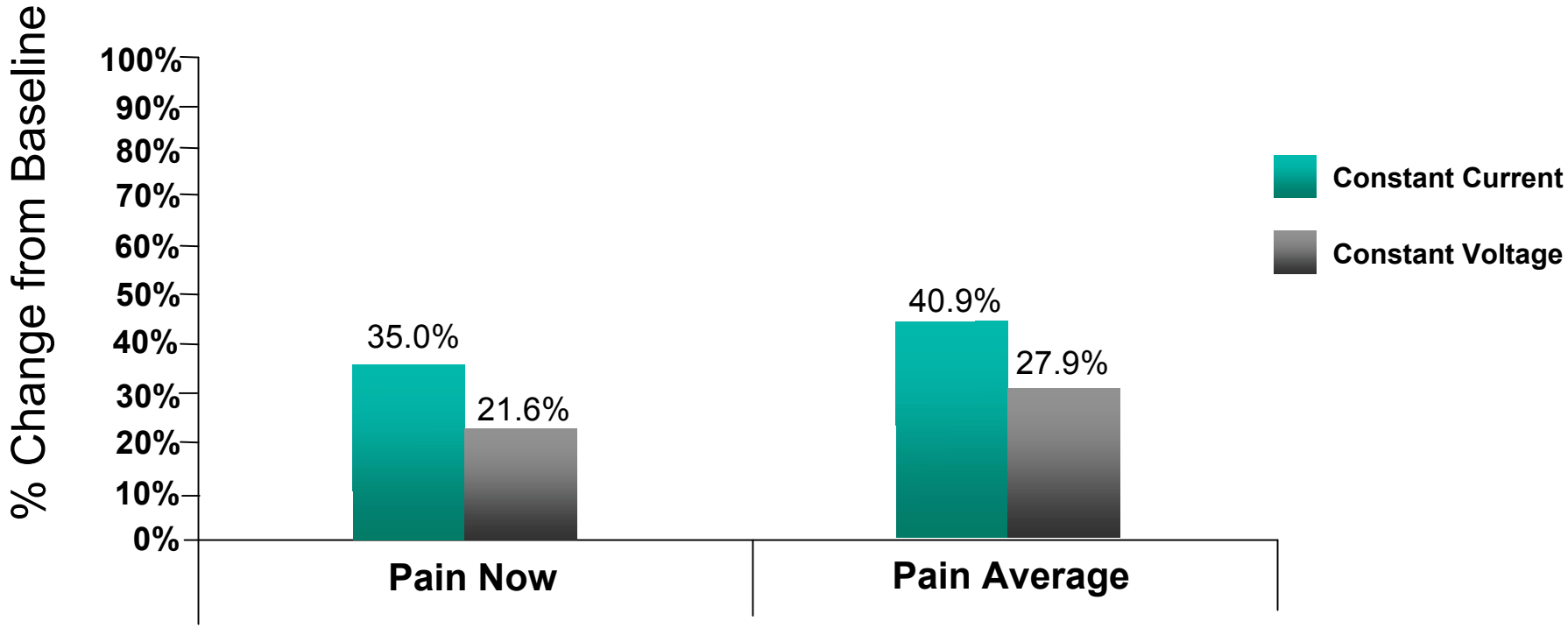
Study Results—Pain Relief by Treatment



CC produced a larger decrease in pain scores

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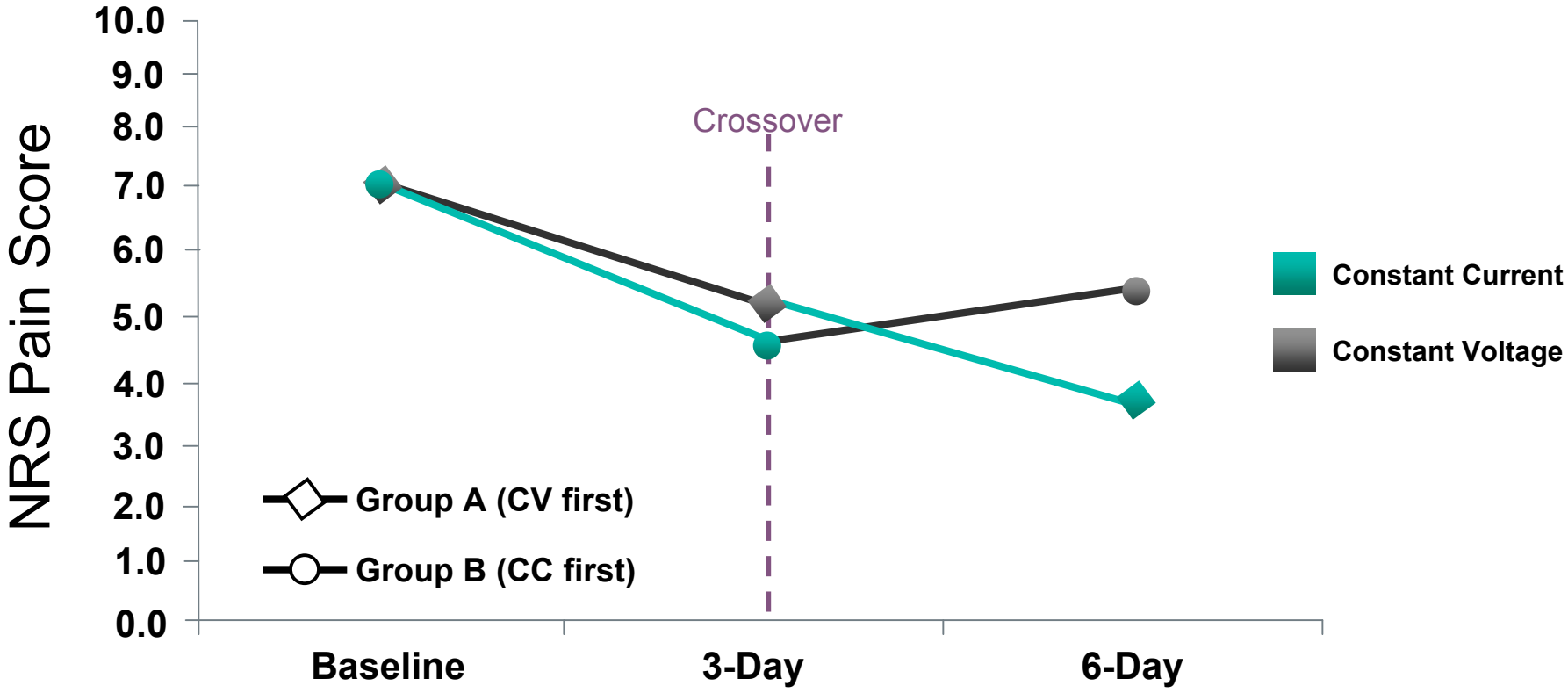
Study Results—Pain Scores Over Time by Group



Patients who initially received CC experienced increased pain when switched to CV

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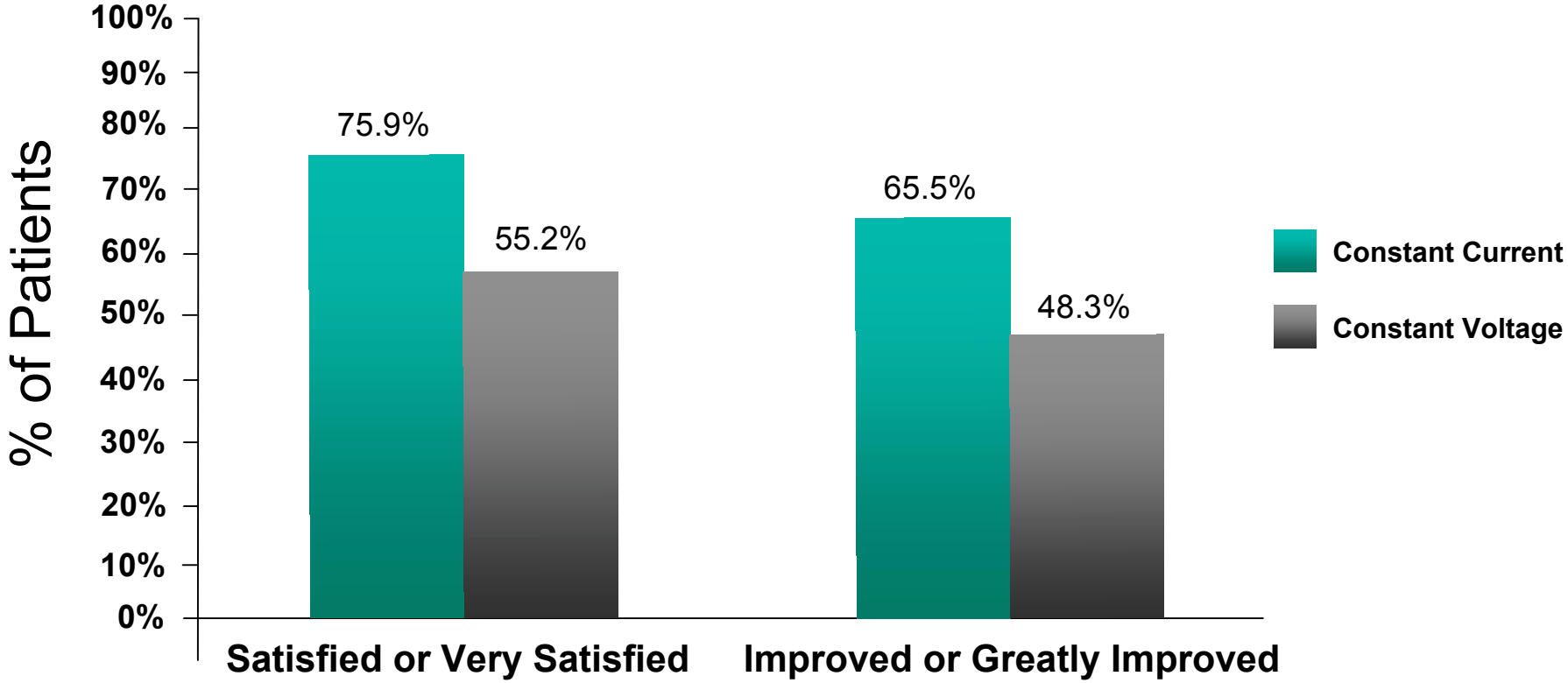
Study Results—Patient Satisfaction and Quality of Life



Patients experienced greater satisfaction and Improvement in quality of life during CC

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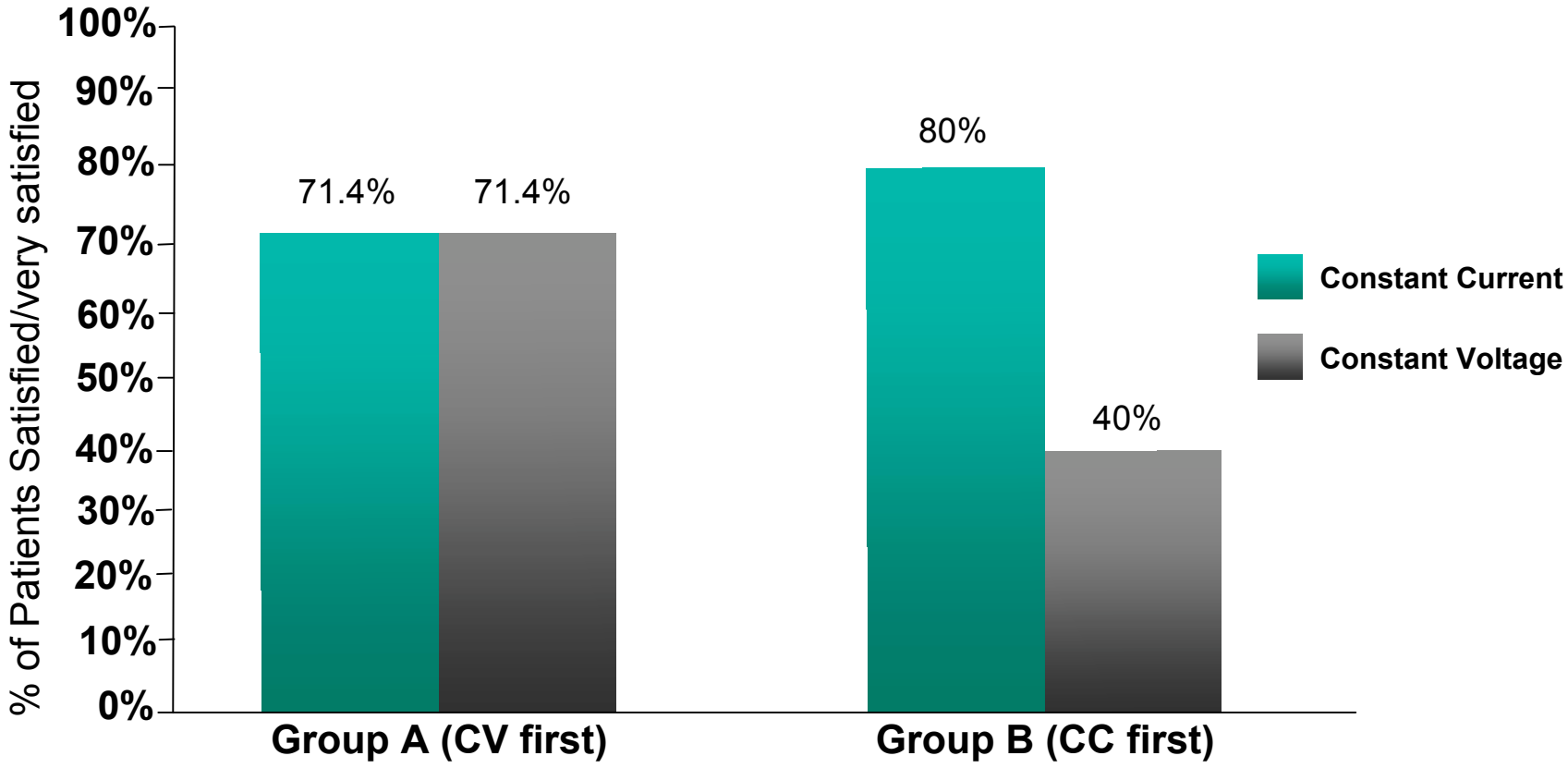
Study Results—Patient Satisfaction by Group



Patients who initially received CC were less likely to be satisfied w/CV

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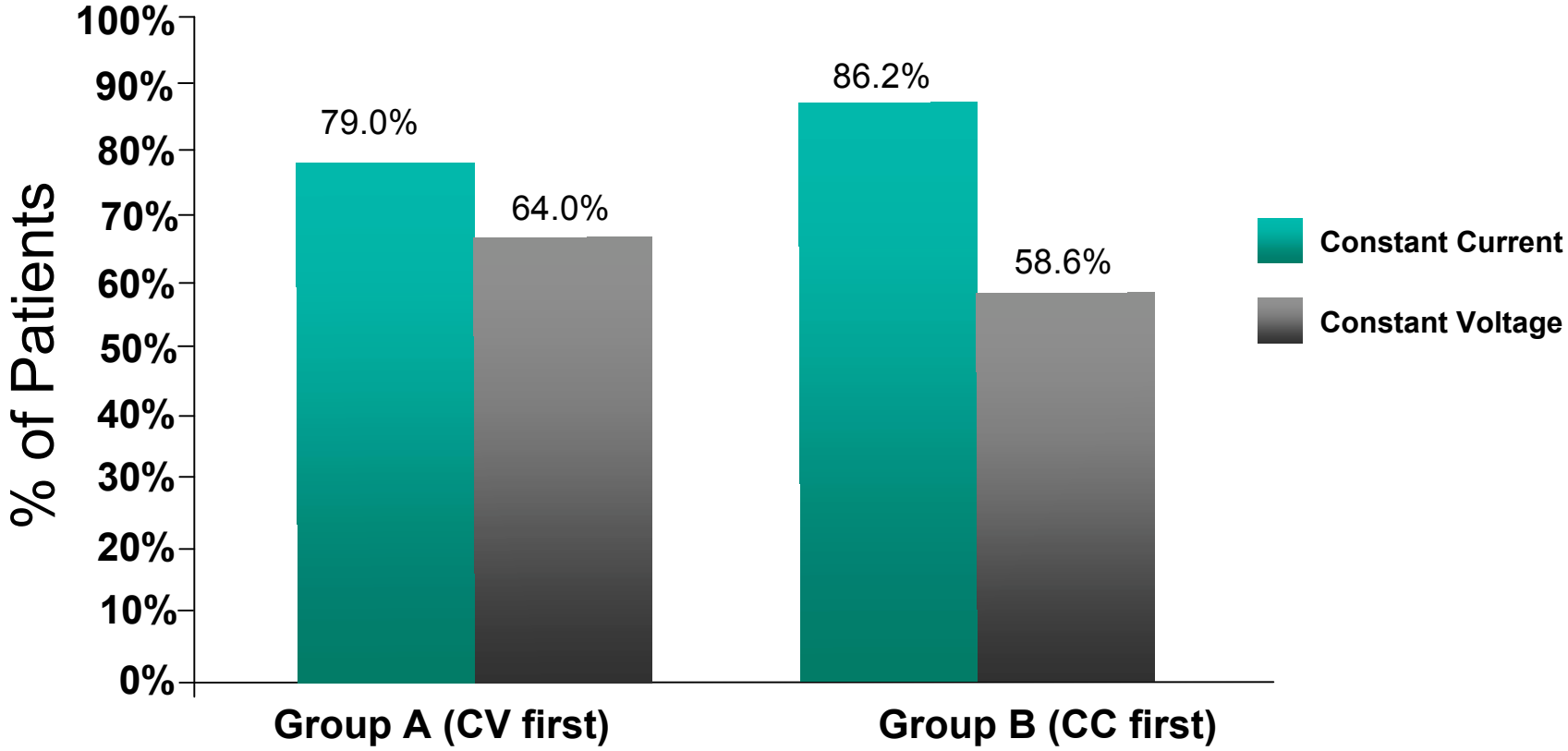
Study Results—Stimulation Reported as "Soothing" by Group



Soothing was used more often to describe constant current stimulation

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Summary of Results

- Significantly more patients (72.4%) preferred CC over CV (one sample *z*-test, p=0.02).
- Constant current stimulation produced a larger decrease in pain scores, and patients who initially received constant current stimulation experienced an increase in pain when switched to constant voltage stimulation.
- Patients experienced greater satisfaction and improvement in quality of life during constant current stimulation.
  - Interestingly, patients initially exposed to constant current stimulation were less likely to be satisfied with constant voltage stimulation.

Thank you