

# What Are the Key Contributors to Patient Satisfaction after Traumatic Brachial Plexus Injury?

Christopher Dy, MD MPH FACS<sup>1</sup>, David M Brogan, MD, MSc<sup>1</sup>, Wilson Z Ray, MD<sup>1</sup>, Liz Rolf, BLS<sup>1</sup>, Anna Van Voorhis, OT, CHT<sup>1</sup>, Scott W Wolfe, MD<sup>2</sup> and Aimee S James, PhD MPH<sup>1</sup>

(1) Washington University School of Medicine, St. Louis, MO (2) Hand and Upper Extremity Service, Hospital for Special Surgery, New York, NY

## INTRODUCTION

Satisfaction and treatment outcomes after traumatic brachial plexus injury (BPI) patients varies tremendously. While much of this variation may be related to the severity of injury and available functional reconstruction options, one common thread among BPI patients is the psychological impact of the condition. These aspects of recovery can affect patient satisfaction, influence adherence with postoperative therapy, and impact willingness to endure a prolonged reconstructive process. Our objective was to understand how emotional and psychological factors may impact outcomes after BPI reconstruction.

## METHODS

We conducted semi-structured qualitative interviews with 15 BPI patients recruited from a single site's patient population. Participants were ≥16 years old and 6+ months post-surgical reconstruction. Interviews were conducted by a trained interviewer and a designated field note-taker, neither of whom were associated with the participants' clinical care. The interview guide invited patients to discuss their BPI experience and any impact it had on their social interactions, career path, self-perception, future plans, and life in general, from the initial injury to their interview date. Inductive and deductive thematic analysis was used for the qualitative data to identify themes and knowledge gaps.

*Our lab:* [nerveresearch.wustl.edu](http://nerveresearch.wustl.edu)  
[dyc@wustl.edu](mailto:dyc@wustl.edu)  [@ChrisDyMD](https://twitter.com/ChrisDyMD)

**“There’s days when I feel like [my family are] right beside me, and then there’s days when I feel like they’re not. It’s been kind of a roller coaster ride, and it’s been tough. I have thought that they [kind of] have distanced themselves from me, but this has been really hard on them, too.”**

**“It’s been less of a challenge because of the family support...and the understanding of all my friends and relatives and co-workers.”**

**“I think because of how my injury occurred...my husband did this to me... It was like a big "fuck you" to him. [...] it was kind of like anything that I can't do, I feel like he's won. Even though I know he hasn't. [...] But it's like I'm not letting him take those things away.”**

**“It wasn't just explaining the limitations with the injury [to friends and family] that was hard. It was everything else that came with it, too.”**

**“...[my wife] could've really taken a huge interest and been right there beside me every day—every step of the way, but she didn't. [Because] there was a [lot of] times when I really felt alone. I begged her over and over again to help me. And she was so in over her head with everything else going on that she really didn't have the time. [...] I just wanted my family...”**

## RESULTS

Patients spent a great deal of time discussing who they were before their injury, and how their lives have changed since. Patients described varying levels of a sense of purpose during and after recovery. These levels were largely independent of the degree of function gained from surgery. Patients with close connections to family or friends, supportive employers, or treasured hobbies were more likely to positively describe their BPI care experience and feel satisfied with their progress, regardless of degree of functional recovery. Patients who lost careers, felt disconnected from friends or the wider world, or felt abandoned by family expressed higher dissatisfaction with their care and their recovery. Some patients with notable levels of grief and a sense of alienation from their former social circle seemed less engaged in their healthcare, and displayed higher rates of treatment noncompliance.

## CONCLUSION

How patients perceive their BPI treatment and recovery varies widely, and is not directly linked to their functional outcome. Patients with stronger social circles and activities that give them a sense of fulfillment were more likely to be satisfied with their current status and were more likely to comply with ongoing treatment recommendations. Evaluating a patient's social network, goals, and potential supportive adaptations early in the treatment timeline through coordinated multidisciplinary care can improve treatment compliance. Our work indicates that this can lead to more positive patient outcomes and a greater sense of mental well-being.