

demographics, fracture etiology and characteristics, medical comorbidities, procedure characteristics, procedure-related complications, resource utilization outcomes, pain and disability outcomes, as well as quantitative measures of radiographic endpoints obtained from follow up spine CT studies. Restoration of vertebral height, as determined by the vertebral body height ratio, is the primary endpoint. Secondary endpoints include pain reduction measured by VAS score, functional improvement measured by the Oswestry Disability Index, and the rate of adjacent level fractures. Complete datasets will be collected from cases pre-operatively, as well as 1, 3, and 6 months post-operatively.

Expected Outcomes We anticipate observing that the SpineJack achieves adequate restoration of vertebral height with shorter procedure times and smaller volumes of cement relative to previously reported values for other vertebral augmentation described in the literature. We also expect to observe significant and sustained improvement in both pain and function scores at pre-determined time points up to at least 6 months post-operation compared to baseline scores measured pre-operatively.

Discussion With a strong mechanistic rationale based on the promising findings from a previous prospective study carried out in Europe, this study will provide among the first comprehensive characterizations of early experiences with the SpineJack in the United States. As with any early experiences with a novel technology, key insights that improve future use of the technology may be gleaned from rigorous analysis of thoroughly collected data.

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E-077 STEM CELL THERAPY FOR SPINAL CORD INJURY

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Spinal cord injuries (SCI) cause sensory loss and motor paralysis and are treated with physical therapy, but most patients fail to recover due to limited neural regeneration. Here we describe a strategy in which treatment with autologous adherent bone marrow cells is combined with physical therapy to improve motor and sensory functions in early-stage chronic SCI patients. In a phase I/II controlled single-blind clinical trial (clinicaltrials.gov identifier: NCT00816803), 70 chronic cervical and thoracic SCI patients with injury durations of at least 6 months were treated with either intrathecal injection(s) of autologous adherent bone marrow cells combined with physical therapy, or with physical therapy alone. Patients were evaluated with clinical examinations, electrophysiological somatosensory evoked potential, MRI imaging, and functional independence measurements. Chronic cervical and thoracic SCI patients treated with autologous adherent bone marrow cells combined with physical therapy showed functional improvements over patients in the control group treated with physical therapy alone, and there were no cell therapy-related side effects. At 18 months posttreatment, 23 of the 50 cell therapy-treated cases (46 percent) showed sustained improvement using the American Spinal Injury Association (ASIA) Impairment Scale (AIS). Compared to those patients

with cervical injuries, a higher rate of functional improvement was achieved in thoracic SCI patients with shorter durations of injury and smaller cord lesions. Therefore, when combined with physical therapy, autologous adherent bone marrow cell therapy appears to be a safe and promising therapy for patients with chronic spinal cord injuries. Randomized controlled multicenter trials are warranted.

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E-078 NEURO IR INTRANET WEBSITE IS ASSOCIATED WITH IMPROVEMENT IN STAKEHOLDER JOB FACILITATION, SELF-EFFICACY, AND SATISFACTION

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Introduction Neurointerventional radiology (NIR) provides a challenging environment for communication and performance as stakeholders come together from different teams to successfully execute NIR cases. Although success in NIR requires a high level of domain-specific expertise from the team members, there are no nurses, radiology technologists, or operating room technologists dedicated to NIR at our institution, and this arrangement is likely encountered at other hospitals. Such challenges can lead to poor confidence and low satisfaction on the job. In an effort to improve communication and support the performance of our NIR stakeholders, we developed an intranet website based on the Microsoft SharePoint platform. The website provides preference cards, links to relevant articles, device information, policies, case-specific data collection forms, and tracking for areas of improvement. The software was available to us through institutional licensing without additional cost. The website was created by a neurosurgical resident and the NIR clinical coordinator over a period of a month, and is primarily maintained by the clinical coordinator. We assessed the impact of the website on stakeholder job facilitation, self-efficacy, and satisfaction using surveys administered prior to and after the deployment of the site.

Methods We distributed a series of three anonymous internet-based surveys to 60 identified NIR stakeholders immediately prior to the deployment of the website, one month after the deployment, and four months after the deployment. We built our survey based on previously validated survey instruments from the information systems adoption literature. We included two questions on job self-efficacy, three questions on job facilitation, and three questions on job satisfaction, all of which were graded on a five-point Likert scale. Awareness of the website, frequency of website use, and recent NIR case participation were also assessed using self-reported scales. Questions addressing gender, age, and NIR role were optional due to concerns for preserving anonymity of the respondents.

Results The response rates were 52%, 34% and 35% for the pre-deployment, one-month, and four-month surveys, respectively. 77% of active NIR case participants reported recently using the website one month after deployment, and the reported rate of active use increased to 85% at four months. There was a statistically significant improvement in self-efficacy one month after website deployment ($p=0.05$), while self-rated possession of knowledge and task independence