increased screw accuracy to 94.5% from 91.5% using conventional techniques. Other retrospective reports have shown even higher accuracy with Devito et al reporting a 98.3% good placement (Gertzbein Robbins A and B) in 646 screws. Interestingly they also reported a successful “execution rate” of the robot only ranging from 83% to 90% depending on where in the learning curve the cases were performed.

The authors of the current study also highlight limitations of the system that may help explain the low accuracy provided by robotic assistance in this study. First, there are several techniques available to fixate the robot to the patient. In this study the authors utilized the “bed mount” option where the robot is only attached to the patient by a single K-wire which they speculate may allow for movement of the system relative to the patient. Furthermore all screws were placed through a paramedian, Wiltse-type approach with blunt perforation of the paraspinal musculature by the cannula. The authors note that with this technique any firm muscle bundles could lead to deflection of the cannula. Likewise facet joint hypertrophy with a steep facet can give rise to lateral slidding of the cannula at the pedicle screw entrance point. All of these factors may influence the accuracy of the system and should be considered when utilizing the system.

In conclusion, the use of robotic assistance for pedicle screw placement has been gaining clinical acceptance in select sites throughout the United States and Europe. With this increased utilization the generation of outcome data has also been accumulating, albeit slowly. The study by Ringel is the first prospective randomized trial of the technology and indicates that, using the techniques employed in this trial, the robotic assistance led to significantly decreased pedicle screw placement accuracy.

K.S. Cahill
M.Y. Wang

REFERENCES

HCAHPS Replaces Press Ganey Survey as Quality Measure for Patient Hospital Experience

Beginning in just a few months, hospital patient satisfaction scores will have a direct impact on the bottom line for health care reimbursement. In October 2012, the Center for Medicare and Medicaid Services (CMS) is reducing by 1% the base operating diagnosis-related group (DRG) payments to hospitals to create an incentive fund, estimated at $850 million. How this money is distributed to hospitals will depend on their performance on several “quality” measures, 30% of which will be based on how patients rate their hospital experience on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient satisfaction survey. The component of payment to hospitals, which is variable and based on performance measures, is expected to gradually increase over the next several years, and private payers are likely to follow suit.

This so-called value-based purchasing initiative is now required under the Patient Protection and Affordable Care Act, the 2010 national health-care reform legislation. The patient satisfaction survey tool selected for value-based purchasing, HCAHPS, is available for distribution through many authorized vendors including Press Ganey Associates, Inc., which previously distributed its own proprietary survey to 40% of United States hospitals. The HCAHPS survey is designed to allow consumers to rate their inpatient experiences and perception of care and is anticipated to be an improvement over the highly criticized Press Ganey Patient Satisfaction Survey. Because HCAHPS has been selected by CMS as the validated and transparent national survey tool with publicly available results at the Hospital Compare website, (www.hospitalcompare.hhs.gov) these data can then be used to evaluate hospitals, improve patient decision-making and increase...
concerns included allergic reactions to medications, resistant bacterial infections, kidney damage and medication overdose. These authors go on to theorize that hospital liability could increase from the effects of these scores. “If adverse patient outcomes due to unnecessary medical treatment can be tied to pressures that hospitals place on the medical staff to improve patient satisfaction scores, civil liability to the hospital could result.”

By examining the flaws in Press Ganey’s approach to patient satisfaction measurement and reporting, physicians and hospitals can be more informed users of HCAHPS. For example, according to Press Ganey, a minimum of 30 survey responses collected over the designated time period is necessary to draw meaningful conclusions of the data for a specific individual, program or hospital. Despite this requirement to achieve statistical significance, Sullivan and DeLucia found that the firm often provides comparative data about hospital departments and individual physicians based on a smaller sample size that may create an unacceptably large margin of error. Sullivan, for example, said his department may have 8 to 10 Press Ganey survey responses per month and yet still receives monthly reports from the company analyzing the data. Because of the small sample size, 1 month his department ranked in the first percentile and 2 months later it ranked in the 99th percentile.

The authors further point out that emergency patients who are admitted—those most in need of emergency care—do not receive Press Ganey surveys about their ER experience of care. These are the patients who likely had the most thorough evaluation and possibly, the most heroic and excellent care. Those who are treated in the ER and discharged, and may have had to wait longer because of triaging protocols, are likely those to have the least satisfactory experiences. But only the individuals who are not admitted to the hospital are evaluated on Press Ganey Surveys for ER.

Whether patient satisfaction surveys actually measure satisfaction has been questioned. Patient motivation to fill out a survey can skew results, since it may be those who had an extreme experience—either superb or terrible—who are likely to bother. How a survey is administered can also affect the patient’s evaluation.

In a study funded by CMS, researchers found that patients randomized to the telephone and active interactive voice response modes provided more positive evaluations than patients randomized to mail and mixed-mailed survey with phone call follow up. Patient satisfaction scores are being used to measure quality of care, but patients may not be
in the best position to evaluate their care, and hospitals may not be able to improve health-care delivery based on results of patient surveys. Geographical, cultural and racial differences can affect a patient’s perspective about their medical or hospital experiences. Research aimed specifically at identifying biases in the HCAHPS reporting system has already found that hospital rankings vary substantially by patient health status and ethnicity/language and moderately by patient education and age (P < .05). Because HCAHPS largely rates patients’ perception of their hospital care, there is concern regarding higher scores in more affluent communities where supplemental services and philanthropy dollars may be available to improve the patient experience. One Cleveland Clinic study evaluating bias in HCAHPS reporting, found that “no hospital in the nation with 500 or more beds has scored in the 90th percentile for such basic measures as physician or nurse communication.” Vinski et al identified yet another variable potentially, out of our control to change, which lowers patient satisfaction scores—whether a patient is in isolation for infection. Research has described how patients’ opinions of the care they receive can be different from the actual quality of the medical care they receive, and that opinions and experiences vary by race. In a randomized controlled trial, researchers from Mount Sinai school of Medicine and Columbia University Medical Center surveyed inner-city women with newly diagnosed and surgically treated early-stage breast cancer for their perceived quality of care and the process of getting care including referrals, test results, and treatments. They compared the responses to patient records to determine the actual quality of care. Of the 374 women who had received treatment for early stage breast cancer, 55% said they received “excellent care,” but most—88%—actually got care that was in line with the best current treatment guidelines. Among the other findings: African-American women were less likely to report excellent care than Caucasian or Hispanic women, less likely to trust their doctor, and more likely to say they received the biases inherent with any patient satisfaction survey methodology. With this knowledge, strategies can be developed to avoid the same misleading analyses with the new HCAHPS survey so that physician pay, institutional reimbursement and hiring and firing of managers are based on real and meaningful changes in patients’ perception of their health-care experience, and the quality of care provided.

**Deep Brain Stimulation of Entorhinal Cortex Shows Early Promise for Enhancement of Memory Function**

Memory loss and the inability to form new memories properly is a prominent and devastating feature of many widespread neurological conditions, particularly Alzheimer’s disease and other forms of dementia. Memory function is supported by the limbic system, and more specifically the ability to remember recent events requires the hippocampus and associated structures including the entorhinal, perirhinal, and parahippocampal cortices. In rodent models, scientists have found that direct electrical stimulation of the perforant pathway, which arises from the entorhinal cortex in the medial temporal lobe and projects to the hippocampus, results in the cellular enhancement of memory function.

**REFERENCES**