Editorial

Pediatric neurosurgery

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In their article on perceived benefits and barriers to a career in neurosurgery,1 Dias and colleagues present timely and important research relevant to the future of our field. It also forces readers to frame their own long-ago decisions in the context of its findings. Why did we choose pediatric neurosurgery (PNS)? Who did we identify with early on? What influenced our own decision? How do we reflect our field to others? Can we do this better individually? As a subspecialty? Nearly 500 US and Canadian neurosurgical residents were surveyed in 2008–2009 via an online survey designed by the authors. Basic demographics were obtained as well as information about the educational environment in medical school and residency in terms of pediatric neurosurgery exposure and mentors. The meat of this paper for our specialty is served when the career plans are discussed, particularly the perceptions about how 40 vetted factors might influence the decision to choose pediatric neurosurgery subspecialty training.1 The article has much to consider, but these comments will concentrate on the 2 most relevant aspects in my opinion: perceptions and mentoring.

“When asked what they perceived overall as the single greatest obstacle to recruiting residents into a career in PNS [pediatric neurosurgery], respondents identified the intrinsic nature or practice of PNS (46%) as the most common issue.”

The surveyors do not stop there. They drilled down deeper to define this intrinsic nature as “complex hydrocephalus, shunt complications, and the interpersonal challenges of interacting with parents and other pediatric healthcare providers”. The reality is that pediatric neurosurgery indirectly became a subspecialty because of the invention of the ventricular shunt. Hydrocephalus is either a disease that you enjoy/handle/tolerate by rolling up your sleeves, or not. Residents, however, notice how we act towards it, treat patients with it, and handle our pediatric colleagues who call with questions about it. Certainly, participation in quality improvement projects (such as the Pediatric National Surgical Quality Improvement Program [Peds-NSQIP] and the National Neurosurgery Quality and Outcomes Database (N²QOD)), multicenter clinical research networks (such as the Hydrocephalus Clinical Research Network [HCRN]), and other efforts go a long way in better defining outcomes and complication reduction. The issue of the child-focused environment of a pediatric hospital, though, is one to consider from all perspectives. Think to those times when the resident accustomed to adult care and adult nursing colleagues is taken aback by protective pediatric nurses who feel strongly about the care of their patients and question their decision making, or the resident, tired and edgy from a night on call handling many life-or-death issues, who is repeatedly paged by the nurse for the computerized discharge instructions to be just so. Then we act, to head off the wounded pride or the interpersonal issues, when in reality the far better approach would be to create the environment of mutual respect or of workload support. Why in the world would we not? But this takes raising the exposure of the subspecialty at the children’s hospital (or pediatric wards) through giving grand rounds on a relevant pediatric neurosurgery topic, or educating the recovery room staff on hydrocephalus, or rolling out a quality improvement initiative in the operating room and engaging the neuroteam to lead it. All designed to not only improve the care of children, but also to connect the subspecialty to the hospital and to transform perceptions. It is heady work, but required of our field if we are to inform the environment in which our residents train.

“…only 7.4% identified a [pediatric neurosurgery] faculty mentor during medical school…”

What is the role of the mentor? How does it evolve over time? It is an obvious statement that the 3rd-year medical student who nervously enters your office because the vice dean recommended that he do so in order to discuss neurosurgery as a career is not mentored the same way as the 4th year of postgraduate training (PGY-4) neurosurgical resident well skilled in the removal of a fourth-ventricle brain tumor who is now interested in outcomes research in pediatric disease processes. What if this person is one and the same over time? How do we evolve in our approach and attitude towards them? Nearly half of the residents that responded considered pediatric neurosurgery at the time of the survey. What is concerning is how that ultimately translates into the handful that will declare themselves for the pediatric neurosurgery match each year and what it is that drives that number down. In response, we must create opportunities for residents to see our field at its very best. Certainly, opportunities to attend and present at pediatric
neurosurgery–focused national section meetings are important, but what about daily or weekly teaching rounds and morning reports? These are often excellent environments to demonstrate efficient care delivery (if we are capable of such things!) and education in action. Structuring clinics for shadowing and exposure to well children for residents is critical to show the broader picture rather than only the labor-intensive patients who present to the emergency department or reside on the wards. Mastery of patient care skills is critical to the success of the service, but there is a strong force encountered when interviewing the well patient or grateful parent. Much is conveyed in the little league baseball photographs with bat in hand or the graduation announcements that signal victory over some long-ago diagnosis of fear. No one will experience even a portion of that if they are not given the opportunity. Will these experiences draw in every resident? Of course not, but we all should know the phenotype who would respond, who would consider that differentiation into a pediatric subspecialty, and we should only work to increase those opportunities around us.

As a field, if we allow others to define who we are because either we don’t care to change the perception or feel that we are too busy, then we should not expect negative stereotypes to ever change. If we do not actively engage in resident mentoring, then we should not be surprised when the very best choose other fields. Involvement in general neurosurgical morbidity, mortality, and improvement (MM & I) conferences or departmental leadership is crucial. Support of involved chairmen, program directors, and colleagues even more so. Do we write off those residents who have differentiated into nonpediatric fields? Of course not. We still take them to the cadaver laboratory, engage them in decision-making exercises, and help them practice their talks before formal presentations. When they struggle interacting with their peers, we don’t give up on them as not understanding what it takes to do our pediatric work but we double down. Over time, we solidify their trust, and the respect of colleagues, and eventually many of the negative perceptions change or evolve. I appreciate the authors’ work on these issues. I encourage the reader to dig into the article. There are several other points to consider that are best left for subsequent conversations. In truth, if this article does not stimulate discussion and action at an individual and section level, then the authors have not achieved their purpose and we have failed to take the opportunity to define who we are as a subspecialty and how we intend to affect the future of our field by drawing the right people toward it. (http://theonjs.org/doi/abs/10.3171/2013.5.PEDS13200)

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Reference

Response

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I greatly appreciate Dr. Wellons’ thoughtful and insightful commentary. He is absolutely correct in his conclusions that not all residents will be interested in pediatric neurosurgery as a career choice. In fact, we were quite surprised that residents who were seriously considering a pediatric neurosurgical career differed so significantly from the other respondents on virtually every one of the factors we considered. Perhaps identifying the “pediatric neurosurgical phenotype” early in the process—among medical students or residency applicants—would increase the number who, at the end of their training, choose a pediatric neurosurgical career.

Dr. Wellons is also correct that we need to become and remain engaged in the training of these individuals, finding ways to incorporate them into the culture and environment of our service and of the children’s hospital in all the ways he described. We also absolutely need to create a welcoming culture within the children’s hospital and with our pediatric colleagues. I recently led a discussion among residents attending an AANS-sponsored pediatric neurosurgical educational course, and their comments were enlightening. Some participants came from hospitals where they felt welcomed, whereas others sensed a definite aura of antagonism. One of the common themes from those having a positive experience was that children at their hospital were co-managed by neurosurgery and a pediatric hospitalist team. This was surprising to me—I have resisted this scheme, feeling that it ultimately would lead to disengagement, miscommunication (between provider teams and with parents), and mass confusion. Those who had experienced this co-management approach, however, felt that it led to better communication with parents and families, greater interactions with (and engagement by) both teams, greater parent and family satisfaction, and better care. Such an arrangement would also inevitably increase the day-to-day interactions between residents and children’s hospital staff, elevate the knowledge base and experience of both neurosurgical and pediatric trainees, and hopefully generate mutual respect. I will have to seriously reconsider my stance on this subject.

We also need to both earn and demand the respect of our other neurosurgical colleagues. We are an integral part of any academic or community practice, no more and no less than any other subspecialty within neurosurgery. Although a few residents have perceived a subtle “disrespect” for pediatric neurosurgeons within their departments, most of the residents with whom I’ve interacted view the pediatric neurosurgeon as the last remaining “jack of all trades” who treats a broad spectrum of disease—developmental, neoplastic, traumatic, infectious, vascular, and functional—involving the cranium, spine, and peripheral nerves. That having been said, we also need to recognize that there are conditions that occur in-
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frequently enough in children that most of us have little day-to-day experience with them—aneurysms and spine conditions requiring placement of instrumentation being the two most obvious. A closer collaboration with our “adult colleagues” in the management of these children is not only in the best interest of patient care, but also brings us closer together and again hopefully generates mutual respect. Many pediatric neurosurgeons also feel that we should be more involved in the management of neurodevelopmental disorders across the life spectrum; dysraphic malformations, Chiari malformations, spasticity, endoscopy, and even complex hydrocephalus are areas where we can contribute positively to adult neurosurgical care. Finally, although sharing adult and pediatric call is anathema to many pediatric neurosurgeons, this may provide an opportunity to better balance our professional and personal lives. Obviously this would vary depending upon the abilities and interest of one’s coworkers; however, after more than a decade of every other night/every other weekend call, I now share adult and pediatric call with my very capable adult partners. I am almost always available to them by pager or cell phone for concerns, and the care for all patients is redistributed to the adult and pediatric services the following morning. A call schedule that now averages 2 weeknights of call per month and a weekend of call every other month has led to a huge improvement in my professional and personal satisfaction, rekindled my interest in (and experience with) adult neurosurgical disease, and enhanced my partners’ experience with (and I hope respect for) pediatric neurosurgical practice, all without any demonstrable decline in quality of care.

Attracting quality applicants also depends upon working with others in pediatrics on regional, state, and national levels to ensure that the quality of children’s care remains the best that it can be. Participating in national quality initiatives such as Peds-NSQIP and N²QOD is vital to improve surgical quality. We also need to ensure that those who provide pediatric neurosurgical care are adequately compensated. It is widely believed that pediatric neurosurgical procedures are undervalued in terms of the relative value units (RVUs)—and therefore reimbursement—compared with many common “adult” procedures, such as placement of spine instrumentation. Pediatric neurosurgeons should work both within organized neurosurgery and more broadly with other pediatric care providers within the American Academy of Pediatrics to lobby for parity in reimbursement for pediatric neurosurgical procedures.

The past decades have seen a considerable maturation of pediatric neurosurgery as a subspecialty. Accreditation of fellowship training programs and certification of individuals with postgraduate fellowship training have been important steps in this process, and virtually all children’s hospitals in the US now require or strongly desire this additional training and certification. Although some respondents in our survey would appreciate an enfolded training experience during residency, organized pediatric neurosurgery has rightly dismissed this as a substitute for postgraduate fellowships. We should continue to push for increased recognition for both accreditation and credentialing and demand that any “substitute” for this training, such as CAST (Committee on Accreditation of Specialty Training) fellowship, be rigorously critiqued before considering it as an alternative to a postgraduate pediatric neurosurgical fellowship.

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