

## **An Educational Challenge: An Anesthesiology Rotation for a Blind Medical Student**

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### **Introduction**

The University of Wisconsin Department of Anesthesiology is proud to have maintained the highest rated clinical rotation in the Medical School for years. This reputation was both honored and tested recently when we were asked to provide the first operating room rotation for a blind medical student. The student lost his vision during childhood, yet his accomplishments are remarkable: water skier; canoeist; black belt in ju-jitsu and tae kwon do; and class valedictorian at Notre Dame.<sup>1</sup> In the end, the rotation was a valuable learning experience for both the student and the Department.

### **Methods**

Open discussion with the Medical School began well before the scheduled rotation, including clarification of the School's policy that from the standpoint of consent he be treated like any other student. Two experienced anesthesiologists were chosen to act as mentors to provide consistency throughout the rotation. These mentors worked closely with the student's "sight guides", individuals (two registered nurses and a paramedic) provided by the Medical School to accompany the student throughout his clinical rotations. Orientation began the weekend before when his mentors guided him on a unique tour of an operating room, enabling him to acquaint himself with the surroundings and explore an anesthesia machine through feel. He then proceeded to the Simulation Lab, where he was able to further familiarize himself with the equipment and develop bag-mask and laryngeal mask airway skills. He performed thorough preoperative evaluations with the aid of his sight guides and a scanning Braille converter. His function in the operating room was not unlike other students - placing monitors, performing bag-mask ventilation, inserting laryngeal mask airways, and even successfully intubating with an intubating LMA. Intubation was confirmed by auscultation and conversion of the monitor to provide an auditory version of the capnogram. Neuromuscular blockade was tracked by feel, and vital signs and patient appearance were conveyed by the mentors and sight guides. Outside of the operating room he participated fully, with the aid of his guide dog Electra, in acute pain rounds and the anesthesia preoperative clinic. He was actively involved in lectures, and read extensively with the aid of a device that converted text to digital audio files, read by his computer at the rate of 500 words per minute.

### **Results**

The student's performance surpassed our expectations and made a believer of skeptics within the Department. He achieved a final exam grade of 98% [mean score is 89%], and his clinical performance was universally described as excellent. Comments included: "Learns quickly and once oriented functions better than many Med 3's. Many in peripheral contact with him and even those taking reports from him [in the OR] did not realize he was visually impaired", "His ability to recall explanations, locations, equipment etc. is astounding", "He has an amazing mind for detail and communicates very well with patients and staff. He competently performs fast-track intubations and assesses patient response to anesthesia", and "Probably one of the most motivated M3 students that I've worked with. Very well prepared and willing to try anything." Interestingly, the only significant unexpected challenge was finding a place for his dog while he was in the operating room, and the dog's obviously "lonely" response to his absence.

### **Discussion**

Confronting adversity has been the norm for this student, perhaps leaving him with less anxiety about this rotation than was present in those planning for it. His accomplishments are remarkable considering 70% of the nation's working-age blind are unemployed, and 30% of those employed are underemployed in relation to their qualifications.<sup>2</sup> The student is enrolled in the MD/PhD program and plans to practice in a subspecialty of internal medicine. A quick search reveals a number of blind individuals

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currently practicing medicine.<sup>3</sup> Stanley K. Yarnell, MD is medical director of rehabilitation medicine services at St. Mary's Medical Center in San Francisco, California. Blind since early childhood, David W. Hartman, MD practices as a psychiatrist in Virginia. Stanley Wainapel, MD has been blind since the age of eight and is Clinical Director of Rehabilitation Medicine at Albert Einstein College of Medicine and Columbia University's College of Physicians and Surgeons.

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