



EDUCATION NEWS

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Hippocrates to Nightingale: Converging or Diverging Concepts in Patient Management and Decision Making

Although medicine and nursing are complementary and equally important, paradoxically the relationship can appear adversarial at times. Physicians and nurses work concurrently and conjointly in hospitals where patients are admitted for round-the-clock nursing care to help cure or attenuate diseases. Roles are further obscured for advanced practice nurses and physicians when they perform the same function, such as in the practice of anesthesia. Regarding physician-nurse relationships, the following questions become apparent:

Why do these professions compete over the right to take care of patients? Where and when did this conflict originate? Answers are complicated and multifactorial. This commentary briefly reviews the history of the establishment of medicine and nursing, discusses gender roles, and summarizes differences in education and training between the two disciplines.

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Healthcare and health maintenance are achieved through the implementation of two main disciplines: medicine and nursing. Although these disciplines are complementary and equally important, paradoxically the relationship can appear adversarial at times. Physicians and nurses work concurrently and conjointly in hospitals where patients are admitted for round-the-clock nursing care to help cure or attenuate diseases. Roles are further obscured for advanced practice nurses and physicians when they perform the same function, such as in the practice of anesthesia. Regarding physician-nurse relationships, some questions become apparent. Why do these two professions compete over the right to take care of patients? Where and when did this conflict originate? Answers are multifactorial and complicated.

Historical Perspective

It might be helpful to look at the

past to understand the present. Hippocrates is referred to as the father of Western medicine and is credited with establishing medicine as a profession. Considered the first true medical scientist, Hippocrates described the art of clinical inspection and observation and rejected the idea that diseases were caused by Olympian interventions or biologically implausible superstitions. Hippocrates postulated that illness was a natural phenomenon.

Much like Hippocrates, Florence Nightingale was a statistician who used probabilistic observation to improve clinical practice. Notable improvements included a decreased mortality due to handwashing and lower infection rates. Nightingale was an early proponent of the germ theory of infection, and as a social reformer and the founder of modern nursing, she established a system of evaluation, inspection, and interpretation in the Hippocratic

mold. Florence Nightingale and Hippocrates are similar methodologically but are separated by a gender gap.

Gender Roles

Traditional gender roles profoundly influenced the relationship between modern medicine and nursing. Nurses historically were relegated to handmaiden roles, even sometimes standing and giving up their seats to their male physician colleagues. Nurses were delegated tasks which their physician counterparts did not prefer to do, thus inculcating a feeling of inferiority. Freire¹ was the first to describe oppressed group behavior in 1970, which was applied to nursing by Roberts in 1983.²

Gender roles, however, are changing as more men enter nursing and more women enter medical schools. Rothstein and Hannum³ surveyed 125 advanced practice nurses in 2007 and found gender roles did not exert

as much influence on their relationships with physicians as professional responsibility did.

Group Behaviors

A consequence of marginalization is a desire for assimilation into the dominant group. Advanced practice nurses such as the Certified Registered Nurse Anesthetist (CRNA) are at particular risk of marginalization because they are often rewarded for looking and acting like physicians.⁴ Because CRNAs do not belong to any large social group being neither physician nor traditional nurse, a sense of alienation can be particularly acute.

An apparently contradictory but commonly observed risk of marginalized individuals is the mimetic development of the dominant group's triumphalism. CRNAs often experience domination as students and sometimes as professionals. This may lead to horizontal dominance toward other allied health providers, students, residents, and anesthesia assistants (AAs). Educating student registered nurse anesthetists to develop collaborative relationships seems to be an important deterrent against this behavior pattern.

Differences in Education and Training

Quantitative and qualitative differences in nursing education vs physician education are important obstacles to the working relationship between CRNAs and anesthesiologists. Anesthesiologists earn a 4-year bachelor's degree, including a core curriculum of basic science courses (with no patient contact) before completing 4 years of medical school. This is followed by a 4-year residency program for a total of 12 years of education, only 8 of which are specific to their medical specialty.

Nurse anesthetists typically earn a 4-year bachelor degree in nursing, including a core curriculum emphasizing the basic sciences plus 2-year nursing practicums with hands-on

patient care before entering a 24- to 42-month nurse anesthesia educational program, for a total of 7 to 8½ years of education. The quantitative difference has been argued to be ameliorated by the nurses' critical care experience before entry into a nurse anesthesia educational program: 1 year is required, but the average is 2.9 years or 6,032 hours in direct patient care.⁵ The Council on Accreditation of Nurse Anesthesia Educational Programs (COA) for nurse anesthetists mandates no more than 64 hours per week inclusive of clinical and didactic time with at least 10 hours of rest between clinical days. Most CRNAs graduate with an average of 2,500 to 2,600 clinical hours⁵ and more than 859 anesthesia cases attained during their nurse anesthesia educational program. An argument can be made that the average of 6,032 hours of on-the-job critical care training should be added to the 2,600 clinical hours of nurse anesthesia training, for a total of more than 8,600 hours.

The Accreditation Council for Graduate Medical Education standards sets guidelines for anesthesiology residency training mandating no more than 80 hours per week averaged over 4 weeks and no more than 24 hours of continuous patient care. Physician anesthesiologists finish their residency with an average of 12,000 hours.

Gaining Expertise

It has been said that experience is the best education, that is, the more we see, the more we do, the better we are. Malcom Gladwell's⁶ book *Outliers* outlines that becoming an expert in a chosen field requires approximately 10,000 hours. *Experts* are defined as having or showing special skills or knowledge because of what has been learned or experienced. Gladwell describes a specialist as a person who has knowledge and skill relating to a particular job or area of study. It is apparent that

anesthesiologists receive more training and complete more clinical hours than do nurse anesthetists.

However, the pathway to 10,000 accrued clinical hours following graduation and entry into active practice might be of greater relevance.⁵ Physician anesthesiologists have a head start, but unless they practice as a solo physician, they often will not perform their own cases; instead they will supervise nurse anesthetists or anesthesia assistants. Does a supervising anesthesiologist accrue knowledge at the same rate as the operational anesthesia provider? Does the medical direction of 3 or 4 rooms build the clinical judgment and body of facts implicit in the term *expert*?

Five years into practice, both the nurse anesthetist and the anesthesiologist have the 10,000 hours associated with the expert level; they are both well qualified to perform anesthesia. What is the relative importance of a more intense emphasis on medical physiology and pharmacology in enhancing the experience-based learning process? As in any other endeavor, the answers to these questions are affected by individual motivational, environmental, and altitudinal factors associated with, but not determined by, specific educational backgrounds. Regardless of clinical experience and on-the-job training, what both anesthesia providers bring to the table is invaluable once the novice clinician progresses to an expert.

Conclusion

Where do AAs fit into the equation? Perhaps it is time that nursing and medicine looked less at titles and more at individual capabilities and experience. Perhaps the identification badges healthcare professionals wear should be more relevant to patients than to colleagues.

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DISCLOSURES

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