

RESIDENT'S FORUM

Surgical Mentorship From Mentee to Mentor

Lessons From the Life of Alfred Blalock, MD

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Mentorship is a dynamic relationship between 2 individuals aimed at fostering the development of the less experienced person. Mentorship is a vital component of success in complex endeavors in which confidence and experience are integral to the process. Mentorship is especially critical for surgical residents.

A systematic review by Sambunjak et al¹ examining the evidence supporting mentorship in medicine showed a correlation to career choice, career progression, and productivity. Furthermore, 40% of graduates from general surgery programs identified mentor guidance as an important component in personal development, research productivity, and success.¹ While surveys bring attention to the importance of mentorship, surgical history also provides salient examples of the benefits of establishing meaningful relationships early in training. To gain perspective on the importance of productive mentoring relationships, we describe how mentorship influenced and defined the successful career of Alfred Blalock, MD.

Blalock's early career while in surgical training at Johns Hopkins School of Medicine benefited greatly from strong mentorship. After graduating from Johns Hopkins in 1922, he pursued his interest in surgery through an internship in urologic medicine followed by a general surgery position under William Stewart Halsted, MD. However, Blalock's career aspirations were put on hold when he did not get reappointed to the program after an unfortunate series of events following his second year of residency. More important, this potentially career-limiting setback intensified Blalock's dedication and work ethic and fostered a pivotal ability to overcome adversity.

Owing to favorable interactions with Samuel Crowe, MD, chief of otolaryngology during his first 2 years of residency, Blalock gained an appointment as an extern in the otolaryngology department. Under the mentorship of Crowe, Blalock's surgical training continued. In appreciation for Crowe and the opportunity, Blalock wrote, "I would like to express my gratitude for a profitable year in laboratory and clinical work in association with him."^{2(p vi)} Following his externship, Blalock received Crowe's strong support in acquiring a general surgical residency position at Vanderbilt University in 1925. In a letter to Barney Brooks, MD, then chief of surgery at Vanderbilt, Crowe asserts:

Personally, I think Dr Blalock is one of the best men with whom I have come in contact for several years. He is deeply interested in investigative problems and has enough energy to carry them through to completion...I personally think that he has a brilliant future.^{3(p2369)}

Despite Blalock's initial struggles, Crowe's efforts in developing and promoting his work were instrumental in Blalock's ultimate placement and career progression.

At Vanderbilt, Brooks served as a valuable mentor to Blalock. There was not a significant amount of clinical work at the newly opened hospital in Nashville, Tennessee, in 1925, so Blalock's research and later faculty work focused largely on his research in the treatment of hemorrhagic shock and fluid resuscitation. Independence was key to Brooks' mentorship approach. Referring to the latitude in research afforded him during that period, Blalock wrote, "My chief, Dr Barney Brooks, gave me every opportunity to pursue my interest."^{3(p2370)} Brooks also advanced Blalock's career by offering support and recommendations for surgical societies at the beginning of his career.⁴ These actions highlight the significance of mentorship in providing support and guidance for earlier academic advancement.

Blalock's early experiences at Johns Hopkins and Vanderbilt informed his later views on the importance of early career development and the value of collaboration. Even with Blalock's advancement to chairman of surgery at Johns Hopkins, he was willing to accept ideas and help in his work from a variety of sources. A famous example is Blalock's relationship with Helen Taussig, MD, a pioneer in pediatric cardiologic medicine at Johns Hopkins, who urged Blalock to consider the possibility of an operative option to improve the pathophysiologic features associated with tetralogy of Fallot. The collaborative efforts of Taussig and Blalock introduced a new era in cardiac surgery. In Blalock's posthumous 1966 article, he states:

In 1942...Dr Taussig asked if I could devise a method for increasing the blood flow to the lungs in patients with pulmonic stenosis. Vivien Thomas, my superb technician, and I performed many experiments with this end in view.^{3(p2372)}

Demonstrating his willingness to use all available talent, even when it was outside the social norm of the day, Blalock expressly asked that Thomas guide his surgical technique during the first systemic to pulmonary arterial shunt operation. His relationships with Taussig and Thomas illustrate the rewards of openness to others' suggestions, which fosters a team environment and produces meaningful results.

By recognizing and developing talent, Blalock generated a successful collaborative environment and motivated others to achieve. William Longmire Jr, MD, a surgical resident at Johns Hopkins who eventually became

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the first chairman of surgery at the University of California, Los Angeles, commented:

He had the uncanny knack of recognizing talent...and of attracting the most promising to become identified with him in some way... The stimulation of and confidence in them encouraged many of those associated with him to rise to heights that they might otherwise never have achieved.... He was a master at working with people and making them productive. He stimulated productivity to a large degree by his personal example of hard work, and by his careful planning and directing.^{5(pp56-58)}

Blalock was successful not only because he could identify talent but because he had the confidence to let it flourish.

Leading by example is a vital quality of a strong mentor. Throughout his life, Blalock was able to overcome obstacles, such as not retaining a general surgical residency at Johns Hopkins, an unconventional course of training in the otolaryngology department, and poor health related to a near-fatal bout of tuberculosis. Blalock's determination to overcome obstacles during times of immense uncertainty and personal struggle helped inspire his residents to handle adversity throughout their careers.

Furthermore, Blalock pushed others as a result of high expectations that stemmed from his own tireless work ethic, unbending ambitions, and ability to overcome hardships. Mark M. Ravitch, MD, one of Blalock's residents and, subsequently, professor of pediatric surgery at the University of Pittsburgh, stated:

[Blalock] had remarkable capacity for selecting men who then and later devoted themselves to their work with an intensity and productivity, which was more remarkable because it seemed to stem only from the fact that he expected it. He never ordered or instructed, and for that matter, rarely made specific suggestions.^{3(p2372)}

Blalock's leadership provided an environment that fostered professional development that encouraged his residents to achieve success, which is an essential quality of a successful mentor.

With his influence, Blalock prepared his residents for future opportunities, but he never overextended his reach. Blalock's personal humility was such that he gave residents a significant

amount of autonomy in the operating room and on the wards, aiding their surgical development. To illustrate his approach to mentorship and commitment to advancing his mentee's careers, Blalock stated:

Up to a certain point, I can help him. I can recommend him and help him receive the minor appointments and recognition, but for the major appointments, the man must stand or fall on his own accomplishments. Good appointments come only with a lot of luck and favorable circumstances beyond one's control, but the lucky break rarely comes to the man whose accomplishments have not prepared him to be ready for the break if and when it comes.^{5(p167)}

Under his guidance, Blalock's residents developed into national surgical leaders. His trainees who were elected president of the American Surgical Association include Longmire, William Scott, MD, William Muller, MD, David Sabiston, MD, Rollins Hanlon, MD, Frank Spencer, MD, and Ravitch. Further demonstrating his wide-reaching influence are the significant number of trainees who became chiefs of surgery at academic programs across the country, including surgical luminaries such as Hank Bahnsen, MD, Denton Cooley, MD, and Alex Haller, MD. Blalock helped promote the careers of his residents by understanding the important balance between paternalism and autonomy.

Finding strong mentorship is paramount during surgical training. Productive mentoring relationships can influence one's work ethic, academic interests, and reaction to adversity. Mentorship is invaluable in career development because it allows for an introduction to key people, maintains productivity, and helps provide a framework for advice regarding career decisions and goals, which helps surgeons establish clinical and research priorities. Relationships throughout Blalock's career show the value of strong mentorship, something that should not be overlooked during modern surgical training. His career provides a historical perspective on the progression of a receptive mentee who became the quintessential mentor, helping to shape the careers of a generation of residents. Blalock's life illustrates that mentorship should be actively pursued through all stages of a surgeon's career, especially during the early years of modern surgical training.

ARTICLE INFORMATION

Accepted for Publication: July 14, 2014.

Published Online: December 17, 2014.
doi:10.1001/jamasurg.2014.2068.

Conflict of Interest Disclosures: None reported.

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