

# Diverse Leadership in Hand Surgery

## Foundation on the Shoulder of Giants



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### KEYWORDS

• Diversity • Equity • Leadership • Success • Hand surgery

### KEY POINTS

- Defining success is different for each individual and is defined in different areas of life.
- Being successful is not just talent, but encompasses passion and perseverance for long-term goals (ie, grit).
- Leadership of position, leadership of innovation, and academic leadership are the types of leadership held by our diverse giants in Hand Surgery.
- Diversification of our leaders will follow efforts to increase diversity within our field.

### BACKGROUND

Leaders in the field of surgery exhibit unique characteristics that qualify them to impact and innovate their respective fields. James McGregor Burns wrote in 1978 that “*leadership is one of the most observed and least understood phenomena on earth.*”<sup>1</sup> Evolutionarily, a leader-follower relationship naturally develops when a group of people come together, recognizing leadership as a universal human behavior.<sup>2,3</sup> Goleman, Boyatzis, and McKee<sup>4</sup> described followership as the mirror image of leadership, and it is widely recognized that one does not exist without the other. Traditionally, positions of leadership have not been diverse. In medicine, like most disciplines, leadership opportunities have been fulfilled by White men.<sup>5,6</sup> This fact is neither to diminish the importance of such leaders nor take away their success, but allows us to examine our own specialty and identify trends. More importantly, we aimed to look at those few diverse leaders that have arisen in Hand Surgery and to try to identify commonalities among them (Fig. 1).

With 19% of women, Hand Surgery represents one of the highest female rates among plastic and orthopedic surgery subspecialties.<sup>7</sup> Although this percentage has been increasing in medicine, representation of women in leadership positions has been lagging, a phenomenon called “the leaky pipeline.”<sup>8,9</sup> From 2012 to 2021, surgical society presidents were found to be predominantly White (87.6%) and male (83.4%).<sup>6</sup> Only 2 of the 121 combined presidents of American Association for Hand Surgery (AAHS) and American Society for Surgery of the Hand (ASSH) (1.7%) have been female (ie, Susan Mackinnon and Marybeth Ezaki, respectively) and women have held only 12 of 96 (12.5%) of council positions.<sup>10</sup> Similarly, there has been a marked increase in the diversity of the US population without this being reflected in the field of Hand Surgery. An increase in representation of less than 1% per year has been reported for African Americans, Hispanics, Asians, and females in Hand Surgery, and there is still an underrepresentation among all trainees.<sup>11</sup>

Despite the disparities found within Hand Surgery leadership, our field has had multiple diverse

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**Fig. 1.** Our diverse leaders in Hand Surgery. From left to right (in alphabetical order): Dr Milton Armstrong, Dr James Chang, Dr Kevin Chung, Dr Marybeth Ezaki, Dr Lisa Lattanza, Dr W.P. Andrew Lee, Dr Susan E. Mackinnon, Dr Amy M. Moore, Dr Jorge L. Orbay, Dr Ghazi M. Rayan, Dr Luis Schecker, Dr Alexander Shin, Dr Erica Taylor, Dr Jennifer M. Wolf, and Dr Kerri Woodberry.

leaders who have had significant success and provide a face for the future. This article recognizes areas of leadership success including leadership of position, leadership of innovation, and academic leadership. Although not all inclusive, the article provides examples of how a diverse climate can lead to leadership success by highlighting a few stories of diverse giants in Hand Surgery.

### ***How to Define Success***

Many, including Maya Angelou, believe that “success” is about enjoying your work. As an American poet and civil rights activist, Angelou mentions that “*success is liking yourself, liking what you do, and liking how you do it.*” In a society that is driven by numbers, it is nearly impossible to not have a set definition of success. Are you successful when having published 100 papers or received 5 grants or do we define success by having achieved a leadership position? Defining “success” is different for each individual and defined in different areas of life (ie, emotional success, financial success, professional success). Many agree that success as a general term is “the achievement of a desired goal.” Dr Susan Mackinnon, a pioneer in nerve surgery and the first female president of the AAHS, defines professional success as “leading a purposeful and powerful life” and personal success as “loving others and being loved.” Success is achieved by perseverance in failure, beautifully captured by the Japanese proverb “Fall down seven times, stand up eight.”

The concept of resilience and embracing failure is recognized by many leaders in our field of Hand Surgery, including Dr Alexander Shin, an orthopedic brachial plexus and hand surgeon who served as the hand fellowship director for 9 years at Mayo Clinic (2008–2017, Rochester, MN, USA). He reports that experiencing failure pushes you to find other routes that lead to your desired goal; this eventually leads to success. Dr Mackinnon also recognizes failure as one of the factors to become successful. “Failure must be identified, embraced and we must learn from it.” Other factors contributing to success that have been mentioned in her 2013 TEDx talk are having good mentors and collaborators, serendipity, and working hard for a long period.

Being successful is not just talent, but encompasses passion and perseverance for long-term goals, or termed “grit” by Angela Duckworth. Grit is defined by 5 characteristics: courage, conscientiousness, perseverance, resilience, and passion.<sup>12</sup> Interestingly, grit does not correlate with intelligence quotient (IQ). Incremental predictive validity of success measures over and beyond IQ

and conscientiousness. Collectively, it was found that the achievement of difficult goals entails not only entail talent but also a sustained and focused application of talent over a long period.<sup>12</sup> The senior author is a firm believer of this concept and attributes “grit” to her success. Achieving the position of Chair and Professor in Plastic Surgery (The Ohio State University, Columbus, OH, USA) within 10 years of completing residency, Dr Moore mentions that “the definition of success can vary on a daily basis, but must be defined by oneself - not by others.” Success for Dr Moore is ever-changing. It is “curing someone’s pain with a surgical procedure, getting the next grant funded, hiring the next new faculty, retaining her current faculty, making it to her children’s activities and remembering her loved ones’ birthdays.” We encourage the next generation, our future leaders, to focus on what brings you joy because we believe “if you love what you do, and do what you love, success will follow.”

### ***How a Diverse Climate Would Benefit Success***

Diversity serves as an umbrella term to characterize various dimensions of heterogeneity, that is, gender, nationality, ethnic origin, religion or worldview, disability, age, sexual orientation, and identity.<sup>13</sup> Having a diverse team allows for increased sets of skills compared with homogeneous groups, aiding in enhanced ability to problem solving. A causative link has been found between the innovation of a company and their diverse workforce.<sup>14</sup> It has been suggested that innovation comes from freedom of thought and interaction with others, a factor that is supported in a diverse environment. Dr Milton Armstrong, hand surgeon and Chief of Plastic Surgery at the Medical University of South Carolina in Charleston, is an accomplished leader and educator. He came from humble origins and was the first of his family to pursue a career in medicine. Despite the difficulties he encountered, he completed his general surgery residency, plastic and reconstructive surgery residency, and Hand Surgery fellowship. Perhaps the constant work, motivation (ie, grit), and having great support made the difference in succeeding. As Chief, Dr Armstrong is committed to providing strong leadership, guidance, and an innovative vision to the field.<sup>15</sup> He advocates for normalizing diversity in medicine. He believes that “diversity and inclusion are two different terms. Although Black physicians are hired and represent diversity in a Department, they have to be included as well. It is of utmost importance for them to be part of the conversation for change and to be listened to; they have to be in positions

**Table 1**  
**Type of leadership among diverse American Society for Surgery of the Hand and American Association for Hand Surgery presidents**

Hand Surgeon	Organization	Period	Type of Leader
Dr Martin A. Entin	ASSH	1973–74	Academic and Society leader, Immigrant
Dr Adrian E. Flatt	ASSH	1975–76	Academic and Society leader, Immigrant
Dr Julio Taleisnik	ASSH	1993–94	Academic and Society leader, Immigrant
Dr Graham Lister	ASSH	1994–95	Academic and Society leader, Immigrant
Dr Marybeth Ezaki	ASSH	2001–02	Academic and Society leader
Dr W.P. Andrew Lee	ASSH AAHS	2011–12 2019–20	Academic, Society, and Innovative leader, Immigrant
Dr Susan E. Mackinnon	AAHS	2005–06	Academic, Society, and Innovative leader
Dr Neil F. Jones	ASSH	2015–16	Academic and Society leader, Immigrant
Dr Ghazi M. Rayan	ASSH	2016–17	Academic, Society leader, Immigrant
Dr James Chang	ASSH	2017–18	Academic, Society, and Innovative leader
Dr Kevin Chung	ASSH	2020–21	Academic, Society and Innovative leader, Immigrant.
Dr Jennifer M. Wolf	ASSH	2022–23	Academic and Society leader

Dr Martin A. Entin was born in the Crimea and immigrated to Canada. Dr Adrian E. Flatt was born in Frinton, England. Dr Julio Taleisnik was born in Argentina. Dr Graham Lister was born in Glasgow, Scotland, with a renowned career. Dr Marybeth Ezaki became the first female president of the ASSH in 2001 and is an expert in congenital hand surgery and brachial plexus birth palsies. Dr Susan E. Mackinnon was the first female president of the AAHS in 2005 and is a peripheral nerve leader and innovator. Dr W.P. Andrew Lee became a leader in hand transplantation and led the surgical team that performed the first double hand transplant and the first above-elbow transplant in the United States. Dr Neil Jones received his medical degree from Oxford University Medical School and trained in general surgery, neurosurgery, and orthopedic surgery in England, becoming a Fellow of the Royal College of Surgeons (FRCS) before his training in the United States. Dr Ghazi Rayan graduated from medical school in Egypt and immigrated to the United States to complete a general surgery internship and orthopedic surgery residency, obtaining prodigious teaching and research experience before becoming president of the ASSH. Dr James Chang, whose parents came from Taiwan, has devoted significant time to advancing the surgical treatment and classification of scleroderma and is currently the Chief of the Division of Plastic and Reconstructive Surgery at Stanford University and became president of ASSH in 2017. Dr Kevin Chung, born in Taiwan, is a true academic leader, developed the Michigan Hand Outcomes Questionnaire, and is also a Society leader. Dr Jennifer Wolf will be the second female ASSH president this upcoming year.

of power to make a difference.”<sup>15</sup> He said “in many cases, you need longevity in a Department for this to occur. One needs to obtain tenure.”<sup>15</sup>

### **Types of Leaders**

Many categories of leaders have been recognized in the literature; however, in this article we define 3 types of leadership: leadership of position, leadership of innovation, and academic leadership to highlight the great diverse leadership present in Hand Surgery. Noteworthy, many of our giants have practiced one or more of these leadership styles along their professional careers.

### **Leadership of Position**

Leadership positions in Hand Surgery are recognized as presidents of the AAHS and the ASSH, fellowship directors, members of the board and council, journal section editors, and Chairs/Chiefs of Departments, Divisions, or Sections. An overview of our diverse ASSH and AAHS (past and future) presidents has been provided in [Table 1](#).

As mentioned before, women represent fewer positions in leadership when compared with men (approximately 15% are female); this is fewer than expected based on Hand Surgery fellowship demographic data, in which 25.7% have been female.<sup>10</sup> Gender diversity benefits have been well recognized and include increased sales revenue and innovation.<sup>10</sup> Barriers to diverse leadership include the “glass ceiling phenomenon”; this is where people can rise to a certain level of leadership; however, they cannot seem to break through the highest echelon. Since the foundation of ASSH in 1946, Dr Marybeth Ezaki remains the only female president (served in 2001–02) of this organization until today. Dr Ezaki says that “the society has changed tremendously since then due to the technology in the field of Hand Surgery and medical industrialization in Hand Surgery and believes that the diversity aspect is also gradually changing.” It has been recognized by the ASSH that diversity in the field of Hand Surgery is of paramount importance, and efforts have been invested to increase diversity in this field and



leadership positions.<sup>16</sup> Dr Ezaki mentions that “you need people to advocate for you and bring you to this next level. If you are doing a good job at your committee, you will likely be asked to move up.”

Dr Susan E. Mackinnon, another excellent representative of this category, is the current distinguished Minot Packer Fryer Professor of Plastic Surgery at Washington University School of Medicine in Saint Louis, Missouri. She obtained her medical degree and completed her plastic surgery residency in Canada. Later, she completed her research fellowship in neurologic surgery at the University of Toronto and Hand Surgery fellowship at the Raymond Curtis Hand Center in Baltimore. In 1988, she performed the first nerve allotransplantation using nerves from a cadaver to restore sensation and motor function in a patient with lower extremity nerve injury. Given her well-known expertise in peripheral nerve surgery and her background in basic science research, she has been awarded multiple times and held many leadership positions as President of the American Association of Plastic Surgeons (2008–09), the Plastic Surgery Research Council (1996–97), and the AAHS (2005–06). Despite the difficulties she encountered as a woman in surgery throughout her career, Dr Mackinnon has inspired many women in surgery and has been a strong women’s advocate. She said “I hope I have not just broken through the glass ceiling for women, but opened the door and held the door open for them as well.” Leadership positions also include being an Editor for *Hand Clinics* and the Editor-in-Chief of *Plastic and Reconstructive Surgery Journal*, held by Kevin Chung. He is currently a Professor of Surgery, Plastic Surgery and Orthopedic Surgery at the University of Michigan, Chief of Hand Surgery for Michigan Medicine, and Director of the Comprehensive Hand Center. Not only is he involved in academic leadership but also is actively involved in many other programs such as Global REACH, a global health program that aims to improve health and reduce inequities locally and globally.

Dr Jennifer Wolf, a distinguished orthopedic hand surgeon at the University of Chicago Medical Center, is the next female slated to be president of ASSH from 2022 to 2023. She states that “it is important to diversify Hand Surgery because, similar to other fields, we make better decisions and take better care of patients when we are in an environment that prioritizes diverse backgrounds and points of view.” She mentions to her patients and trainees, that residents, fellows and medical students make her better, because “they challenge the thought process, by asking

questions, asking why we do things one way and not another.” She goes on to say “diversity is just like that; knowing that we are surrounded by others who are distinct and different from us, pushes us to consider other solutions or views and allows us to broaden our worldview and knowledge. This is key to growth and evolution in Hand Surgery.” We hope that the number of diverse leaders increases over the next few years to better represent the demographics of hand surgeons and the patients they serve.

Dr Ghazi Rayan’s main theme of his ASSH presidency (2016–17) was diversity. He mentioned to be “living proof that the organization of ASSH is a melting pot. It rewards assiduous work, opens doors of opportunities to anyone regardless of their background.” To this end, he has recently written a book titled “Immigrants Who Founded and Fostered an Early Nation.”

### ***Leadership of Innovation***

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Historically, the field of surgery has taken significant pride in leading the profession in safety, quality, innovation, and education. Surgical innovation is defined as “the development of a new procedure or technology used for a procedure, the development of a substantial modification of an existing procedure or technology, or the application of an existing procedure, technology or product for a new indication.”<sup>17</sup> These advances would only be expected to lead the way for enhancement of racial and ethnic diversity in our field.<sup>18</sup> Dr W.P. Andrew Lee, Dean of the University of Texas Southwestern Medical School and executive vice president for academic affairs and provost of UT Southwestern Medical Center, grew up in Taiwan before coming to the United States at age 15 years. He quickly assimilated and excelled, attending Harvard College before medical school and residency at Johns Hopkins University. He led teams that completed the nation’s first double hand transplant, first above-elbow transplant, and the world’s first total penis and scrotum transplant. Moreover, Dr Lee has served in leadership positions of the ASSH, American Board of Plastic Surgery, the American Society for Reconstructive Transplantation, and the AAHS. We recognize Dr Lee as one of our innovative leaders in the field of Hand Surgery. Dr James Chang is currently the Johnson & Johnson Distinguished Professor and Chief of the Division of Plastic and Reconstructive Surgery at Stanford University. Dr Chang may be recognized for his presidential leadership of the ASSH (2017–18), his academic accomplishments, and his efforts in community work (Resurge International) among his many achievements. As

an innovator, he and his team recently established a new scleroderma classification system based on angiograms of the hand in patients with systemic sclerosis.<sup>19</sup> He mentions that “a good leader creates a team with the best people in each field and lets smart people do what they do. The leader’s job is to remove the barriers, share the work and share the credit.”

Similarly, we honor Dr Jorge L. Orbay as one of our innovative leaders. Dr Orbay graduated from the University of Puerto Rico, received his residency training at the Hospital for Joint Diseases Orthopedic Institute of New York, and completed his fellowship in hand and microsurgery at the University of Miami Jackson Memorial Hospital. He is currently the medical director at Miami Hand & Upper Extremity Institute located in Miami and is well-recognized for introducing the concept of volar fixed-angle plating for the treatment of distal radius fractures. Other examples include but are not limited to Dr Luis R. Scheker and Dr Lisa Lattanza. Dr Scheker graduated from the University of Santo Domingo and completed his postgraduate training in London, Scotland, and the United States. He is currently an Associate Professor of Surgery at the University of Louisville and Assistant Consulting Professor of surgery at Duke University, and well known for developing artificial joints to replace the distal radioulnar joint, radio ulnar/radio carpal joint, and the proximal radio ulnar joint of the forearm.<sup>20</sup> Dr Lisa Lattanza, Chair of the Department of Orthopedics and Rehabilitation at the Yale School of Medicine and an active leader in Hand Surgery, has been a leader in 3D surgical planning and technology for deformity correction and led the team that performed the first elbow-to-elbow transplant in the world.<sup>21</sup> Dr Lattanza was also actively involved in teaching, promoting the involvement of women in the field in the early stages of their life. We believe that innovation is a powerful tool to become a leader in the field. However, this does not follow a linear pattern. Dr Mackinnon, who is also an innovator of Nerve Surgery, delineated that innovation is not always welcome. She said “when you innovate, there will be people from the previous paradigm, wanting to support a push back.” Although this may happen, the ability to innovate moves the field forward and provides better care to our patients.

### ***Academic Leadership***

Academic leadership is defined as the commitment to teaching, learning, research productivity, and academic performance.<sup>22</sup> Research productivity is usually linked to this definition as this leader creates ideas, sets a vision, and inspires

people to invest in research.<sup>23</sup> Lately, with efforts to increase diversity, research and time are becoming crucial for underrepresented physicians to be able to reach equal representation at the highest positions of an organization.<sup>24</sup> Most of our diverse Hand Surgery giants actively participate in this type of leadership. Many leaders lean toward the academic field given the fact that they find it enjoyable to teach, mentor, advise, and train medical students and residents who will become our future leaders. The academic environment allows for influencing society by training good surgeons, as Dr Armstrong supports.<sup>15</sup>

Dr Augusta Déjerine-Klumpke (1859–1927) may have been the first great example of this type of leadership. The name Klumpke is well known throughout the medical field, denoting Klumpke palsy or lower trunk brachial plexopathy.<sup>25</sup> Despite familiarity with the injury, many physicians are unfamiliar with the woman who described this condition. Her achievements take on added significance because of the difficulties to enter the medical field as a woman at that time. She is seen as pioneer in the history of French feminism and was the first woman selected as an intern in the Paris hospitals. While reviewing her legacy, we recognize the obstacles that she had to overcome to enter academic medicine. Augusta was supported by Professor Vulpian (a French neurologist and codiscoverer of spinal muscular atrophy). She received her doctoral degree, was awarded numerous prizes, and helped standardize protocols for the care of paraplegic patients. As a pioneer in the rehabilitation of spinal cord injury, she overcame all challenges that came to her, not only as a woman of her era but also as a scientist and physician of the highest caliber.<sup>26</sup> Nearly a century after Klumpke’s death, we are still facing many of the same challenges for women in leadership positions.

The academic environment still faces many challenges related to microaggressions due to race and gender; however, it is gradually changing. Dr Mackinnon shared with us that the most challenging thing for her was “having a sense of not fully belonging as a woman in a man’s game.” Despite these challenges, efforts have been invested in promoting equity and inclusion in the academic fields.

### ***How to Improve Diversity in Hand Surgery***

When looking at the impact that one can make, we must start small. Making changes on the department level will eventually lead to changes in the field. It is suggested by Dr Kerri Woodberry, hand surgeon and Chief of Plastic Surgery at

West Virginia University, that when recruiting diverse faculty and trainees, institutions need to implement implicit bias training for faculty members and truly look at applicants' qualities and characteristics, and not just at metrics.<sup>27</sup> Diversity drives excellence by inherently incorporating diverse thoughts, backgrounds, and perspectives. It has been demonstrated that diversity improves the patient-physician relationship, cross-cultural communication, and patient satisfaction.<sup>28,29</sup> On the other hand, lack of diversity has a negative effect on patient care, the culture of our health care system, and research productivity.<sup>11</sup> To create that change, "we need to be proactive and intentional with our diversity efforts" as stated by our senior author, Dr Moore. We can only benefit from diversity by leaning in and committing to it. This means avoiding all male or all White panels, webinars, and speakers. We have to think broader and include new faces. When nomination slates are not reflective of the organization or lack diversity, we have to push back. We need to move past the "known and give" others a chance. These wise words reflect the accepting culture in the department that Dr Moore leads.

Fostering diversity in our field is essential for continued excellence. We may need to rethink how we select the next generation of Hand surgeons to achieve diversity. Dr Lisa Lattanza said "We have studied what correlates most highly with becoming a successful surgeon and added those skills and attributes to the selection criteria for residents. For example, grit and resilience correlate more highly with success as a surgeon than board scores. Research supports the characteristics and life experiences that score highly on the grit/resilience scale. We are not just saying, you get more points because you're a woman or a minority," she said. "We're weighting things toward people who have a more interesting story, a different path and this leads to a more diverse residency class."<sup>30</sup> Excellence and the desire to achieve your goals are personal and come from an internal drive to be the best version of yourself that you can be, every day. This is independent of race, gender, sexual orientation, or religious preference.

"As a profession, we have invested a significant amount of money and time into pipeline programs and those are all wonderful endeavors," as mentioned by Dr Erica Taylor, Assistant Professor of Orthopedic Hand and Upper Extremity Surgery at Duke University. The impact of these efforts often takes several years to be observed and measured. What needs to happen in the "now" is a critical examination and renovation of the systemic processes and practices that we have in

place throughout our organizations. How do we search and select talent? How is our leadership held accountable for owning this space and being part of the change? How is pay equity evaluated and then repaired? These questions and many more remain to be answered in the upcoming years in our search to improve and diversify our field. The opportunities for systematic change are endless; however, we have not emphasized the leadership skills required to change organizational culture in health care. In 2020, Dr Taylor founded the Orthopedic Diversity Leadership Consortium (ODLC) to empower clinical leaders of diversity to recognize and understand these structural opportunities and implement sustainable strategic change. Lenses of equity and inclusion need to be embedded in all strategic decisions that are being made in our health care facilities and organizations. We believe that these efforts will eventually benefit our colleagues, our leaders, and above all, our patients.

## SUMMARY

Diverse leadership exists in Hand Surgery; however, we recognize not only the uphill battle but also the diverse perspectives of those who have broken through barriers. Strong efforts are being invested into diversifying Hand Surgery because diversity drives excellence by inherently incorporating diverse thoughts, backgrounds, and perspectives. We are confident that with these efforts, the number of diverse leaders will continue to increase, and success will be redefined.

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## DISCLOSURE

None.

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