cannulation in young children. ANESTHESIOLOGY 2019; 131:1018–24

- 8. Troianos CA, Hartman GS, Glas KE, Skubas NJ, Eberhardt RT, Walker JD, Reeves ST; Councils on Intraoperative Echocardiography and Vascular Ultrasound of the American Society of Echocardiography: Guidelines for performing ultrasound guided vascular cannulation: Recommendations of the American Society of Echocardiography and the Society of Cardiovascular Anesthesiologists. J Am Soc Echocardiogr 2011; 24:1291–318
- Przkora R, Mora J, Balduyeu P, Meroney M, Vasilopoulos T, Solanki D: Ultrasound-guided regional anesthesia using a head-mounted video display: A randomized clinical study. Pain Physician 2021; 24:83–7

- Tolu S, Basaran B: Work-related musculoskeletal disorders in anesthesiologists: A cross-sectional study on prevalence and risk factors. Ann Med Res 2019; 26:1406–14
- Rahman R, Wood ME, Qian L, Price CL, Johnson AA, Osgood GM: Head-mounted display use in surgery: A systematic review. Surg Innov 2020; 27:88–100
- Wu TS, Dameff CJ, Tully JL: Ultrasound-guided central venous access using Google Glass. J Emerg Med 2014; 47:668–75
- Lim H, Kim MJ, Park JM, Kim KH, Park J, Shin DW, Kim H, Jeon W, Kim H, Kim J: Use of smart glasses for ultrasound-guided peripheral venous access: A randomized controlled pilot study. Clin Exp Emerg Med 2019; 6:356–61

ANESTHESIOLOGY REFLECTIONS FROM THE WOOD LIBRARY-MUSEUM

Beyond Woodbridge and Tovell: Connecting the Dots to Anesthetic Safety!



From its very founding, the American Society of Anesthesiologists (ASA) has helped connect the dots between one person's idea and systemic change. An insightful engineer and anesthesiologist, Philip D. Woodbridge, M.D. (1895 to 1978, *lower left*), recognized the hypoxic risk posed by carelessly interchanging compressed gas cylinders on anesthesia machines. With elegant ingenuity, he designed a system of pinned yoke connectors (*upper middle*) to fit into geometrically arranged sockets on the gas cylinders (*upper left*). In 1939, Woodbridge unsuccessfully petitioned equipment manufacturers to incorporate this Pin Index Safety System (*upper right*), which prevented incorrect gas delivery from anesthesia machines. Fourteen years later, Ralph M. Tovell, M.D. (1901 to 1967, *lower right*), a past ASA president, initiated discussions between an ASA delegation and the Compressed Gas Association. The ASA's endorsement bolstered Tovell's negotiations, leading to the approval of the Pin Index Safety System—a milestone in safe anesthetic delivery. (Copyright © the American Society of Anesthesiologists'Wood Library-Museum of Anesthesiology.)

Melissa L. Coleman, M.D., Penn State College of Medicine, Hershey, Pennsylvania, and Jane S. Moon, M.D., University of California, Los Angeles, California.