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Artistic Discipline Meets Modern Technology to Enhance Surgical Proficiency

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CINCINNATI – A century-old posture improvement technique developed by Shakespearian actor F.M. Alexander to correct his chronic laryngitis appears to enhance the posture and proficiency of surgeons who perform minimally invasive procedures.

This is the conclusion of new research from Cincinnati Children's Hospital Medical Center presented Oct. 2 at this year's annual meeting of the American Academy of Pediatrics in San Francisco.

The research studied the effectiveness of the Alexander Technique at improving the surgical posture and technical performance of urological surgeons during laparoscopic skills assessment exercises. Minimally invasive laparoscopic surgical procedures involve using long wand-like surgical instruments through tiny incisions and cameras that afford surgeons a close-up internal view of a patient's anatomy.

"The goal of our research is to prove beyond doubt that this technique works to improve surgical ergonomics and proficiency so that it can be incorporated as part of graduate surgical training," said Pramod P. Reddy, M.D, lead investigator and director of Pediatric Urology at Cincinnati Children's. "Minimally invasive procedures require surgeons and assistants to maintain awkward, non-neutral and static postures of the trunk and extremities. This limits the natural shifting of their posture and can lead to discomfort, fatigue and even injury."

Enter Alexander, an Australian actor born in 1869 who began to experience chronic laryngitis when performing. Although leading physicians of Alexander's day could not help him, he developed his own solution. Using a system of mirrors that allowed him to study his posture and muscle movements, he found that upright posture, proper breathing and smooth, fluid muscle movements improved his condition.

Alexander refined the technique and it has since been used extensively by actors, musicians and others over the years. In fact, Dr. Reddy first heard of the technique from his daughter, Trisha, a college student and violinist.

For their study with urological surgeons, the researchers studied four urology fellows and three urology residents from the medical center. After training in the Alexander Technique, the subjects demonstrated improved abilities to complete laparoscopic skills in a shorter time. The subjects showed improvements in posture, trunk and shoulder stability and the ability to perform the series of laparoscopic skills tests.

"The Alexander Technique training program resulted in significant improvement in posture and trunk and shoulder endurance," the researchers state in their presentation. "Improved endurance and posture during surgery reduces the occurrence of surgical fatigue. Intra-operative fatigue has been shown to be associated with surgical errors. AT training has the potential to reduce the occurrence of fatigue-related surgical errors."

Dr. Reddy said in the next phase of the research will include a larger scale "cross-specialty" assessment of how the Alexander Technique impacts surgical ergonomics in both laparoscopic surgery and also more traditional open surgery.

Also collaborating on the study were Jennifer Roig-Francoli, M.AmSAT, of the American Society for the Alexander Technique; and Lois Cone, M.AmSat, department of Radiology at Shriners Hospital for Children in Cincinnati. Both conducted Alexander Technique training and postural assessments for the study. Also collaborating was Trisha P. Reddy, a student of Xavier University, Cincinnati.

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