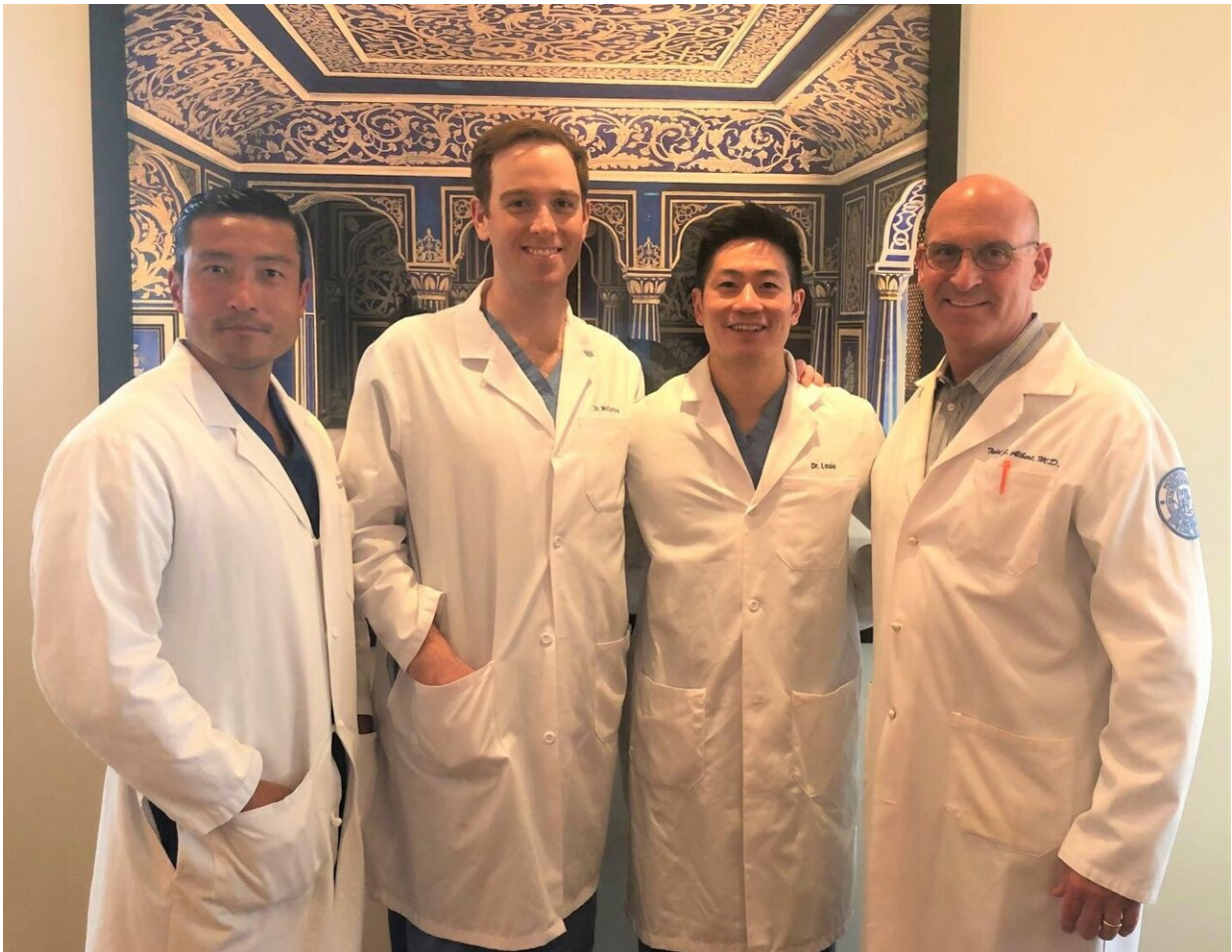


Doctors offer practical advice on reaching peak performance during surgical training

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Spine surgeons Han Jo Kim, MD; Michael McCarthy, MD; Philip Louie, MD; and Todd Albert, MD published practical advice on achieving peak performance during surgical training. Credit: Hospital for Special Surgery

Studies show that athletes and musicians achieve peak performance not only by constant practice but also by setting specific goals, engaging with strong mentors and cultivating the attributes of perseverance, stoicism and grit. Could incorporating these principles into the training of surgeons improve their residency experience and make them better doctors?

Philip Louie, MD, who recently completed a spine surgery fellowship at Hospital for Special Surgery (HSS), has given the subject a lot of thought. "Peak performance is the ability to achieve optimal outcomes or performance of a given task in a consistent manner. Although commonly studied in athletes and musicians and promoted in other careers as well, [peak performance](#) is rarely considered for those undergoing the rigors of surgical training," he said.

A classically trained musician and former varsity athlete himself, Dr. Louie thought about how he could apply his preparation in these areas to surgical residency training and help others achieve peak performance. Long interested in the kind of growth mindset that drives long-term success, he majored in business before attending medical school to gain new insights and learn to "think outside the box," he said.

Dr. Louie and colleagues at HSS set out to review the current literature on residency training and to discuss the value of assessment tools and critical performance measures. In an article published in the *Journal of the American Academy of Orthopaedic Surgeons*, the HSS physicians offer practical advice for both educators and trainees on reaching peak performance.

"Residency is a crucial period of training where foundations for future success are established by habit and [daily practice](#)," said Michael McCarthy, MD, a former spine surgery fellow at HSS and co-author. Dr. McCarthy, a former college football player and history major, cited the

intensity of Division I athletics and the diversity of thought and opinion in his studies as the foundation and impetus to explore achieving peak performance in training. "We believe the same tools that enable those in other fields to be at their best could equip surgical trainees with the tools necessary to achieve peak performance. It's crucial for physicians seeking to perform at the top of their game and will ultimately benefit patients."

The HSS physicians say peak performance is essential in an evolving health care landscape that demands optimal clinical outcomes and value-based medicine. The COVID-19 pandemic is also placing unprecedented demands on physicians. Coronavirus cases surged while Drs. Louie and McCarthy were in the middle of their spine surgery fellowship. The attributes they discussed in their article of perseverance, grit and stoicism were essential when, almost overnight, HSS went from an orthopedic specialty hospital to a "surge" center treating coronavirus patients to take the load off overwhelmed neighboring hospitals.

"During that stressful time, when New York City was the epicenter of the pandemic and we cared for COVID patients in the ICU, the important thing was to take a step back and remember why we decided to enter medicine," Dr. Louie notes. "We had been given the gift of opportunity, and it was our duty to persevere and make the most of it and play our role in guiding our communities through the crisis. What we gained from collaborating with other healthcare professionals and caring for patients in their time of greatest need will last far beyond the pandemic."

When the crisis was under control in New York City, HSS transitioned back to a dedicated musculoskeletal center, resuming elective surgeries in the beginning of June.

In their article, Drs. Louie and McCarthy outline several key areas and

recommendations to achieve peak performance, including growing self-awareness through mindful activities. "We realize that some of these concepts are off the beaten path for orthopedic trainees, but they're important nevertheless," said Dr. McCarthy. "When you're used to focusing on evidence-based medicine, these can seem like nebulous concepts, a skill set difficult to grasp for detailed-oriented surgeons."

They break down their recommendations on reaching peak performance into five key areas that encompass both physical and mental skills:

1—Translating Practices from Peak Performers in Other Fields

- Refine physical skills through improving mental engagement during a task. Practice focusing solely on the task at hand.
- Develop a program for deliberate practice in which you can undergo critical assessments to allow for graduated improvement.
- Grow self-awareness through mindfulness activities to promote "flow" states. The term "flow" is best described as a state of full engagement, control, concentration and action awareness occurring during an activity perceived as highly rewarding and characterized by clear goals.
- Create and consistently review step-by-step notes on specific techniques to develop proficiency that can be translated directly to intraoperative opportunities.

2—Goal Setting and Accountability

- Align goals with values, create a plan and visualize the goals.
- Identify an accountability partner or system.
- Anticipate obstacles and possible solutions.
- Ensure work-life balance.

- Reward goal accomplishment.

3—Developing Technical Skills

- Seek opportunities outside the OR for skill acquisition. Evaluate how other departments in the hospital may be training their residents.
- Encourage the program director to consider new technologies, such as bioskills simulations and virtual reality training.
- Upon seeking feedback on surgical techniques and proficiency, identify activities that can improve areas requiring additional practice.

4—Perseverance and Grit

- Believe in constant change and grow.
- Understand that frustrations are part of the process.
- Focus on productivity.
- Look for ways to make work more meaningful.
- Practice deliberately.
- Consider the principles based on Stoicism during long periods of difficulty or moments of crisis.

5—Mentorship

- Monitor, track and measure the results of the mentorship relationship.
- Define the strategic purpose of the mentorship.
- Identify a strong match based on the skills of the mentor and the needs of the mentee.

Both Drs. Louie and McCarthy underscore the importance of mentorship

and say they appreciate the "amazing" mentors they had at HSS: spine surgeons Todd Albert, MD, and Han Jo Kim, MD. But many residents and fellows at other hospitals are not as fortunate, Dr. Louie notes. "A lot of mentors don't put time into the relationship. They only meet with the trainee twice a year," he says. "I think mentorship needs to be much more formalized. You need to ensure a good match and set formal strategic goals on both sides of the mentorship. There needs to be accountability and checkpoints over time as to how the relationship is going and what can be done to improve it."

Drs. Louie and McCarthy recently completed their fellowship training, but they plan to continue to collaborate with doctors at HSS to establish an initial curriculum based on the principles and strategies they outline in their paper. They believe educators should aim to equip surgical residents with the tools necessary to achieve peak performance during training, so they can apply what they learn throughout their careers.

More information: Philip K. Louie et al, Reaching for Peak Performance During Surgical Training: The Value in Assessment Tools and Critical Performance Measures, *Journal of the American Academy of Orthopaedic Surgeons* (2020). [DOI: 10.5435/JAAOS-D-20-00172](https://doi.org/10.5435/JAAOS-D-20-00172)

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