



My Thoughts / My Surgical Practice

Knitting: A simple and effective intervention for surgeon wellbeing

1. A surgeon wellbeing crisis

Long residencies with delayed gratification, exhausting work hours, high acuity patient care in the operating room, feelings of guilt and stress over complications and poor outcomes, and strain on family/personal life all pose risks to the surgeon's wellbeing. There is a smoldering mental health crisis among surgeons that has changed very little in the past few decades.

In a large nation-wide survey of general surgery residents, the prevalence of burnout was 69%.¹ Twenty percent of residents had moderate to severe depressive symptoms (more than twice that of age-matched peers) and the prevalence of suicidal ideation (11%) was triple that of the general population.¹ Beyond residency training, the demands of a surgical career continue to take a significant toll on a surgeon's mental health. A systematic review found higher rates of suicidal ideation, especially among more senior surgeons, compared to the general population.² Across studies, depression was reported in approximately one-third of surgeons.²

Comprehensive mental and emotional regulation skills training for surgeons has been increasingly promoted as a way to improve wellbeing, technical skills and patient outcomes. In striving for this ultimate goal, there is opportunity to promote and implement simple, but effective interventions. (see Fig. 1).

2. A proposed simple intervention

One such strategy for reducing stress and enhancing wellbeing is knitting. While the benefits of knitting have thus far not been examined in the surgery literature, there is strong evidence suggesting knitting to be an accessible and effective way to promote physical, mental and emotional health.

3. Anxiety and stress reduction

Multiple studies have shown that hobbies and exercise are significantly protective against depression and psychiatric distress among surgeons.² The repetitive physical movements of knitting elicits the "relaxation response" described by the Harvard Mind Body Institute's Dr. Herbert Benson – decreasing heart rate, blood pressure and muscle tension.³ In a cohort study of women receiving knitting lessons as part of inpatient treatment for anorexia nervosa, 32% reported benefits of meditative movements of the hand, 74% reported increased relaxation and comfort, and 54% reported reduced stress.⁴

4. Emotional regulation and mindfulness

Operating room cognitive stress and retention of laparoscopic skills can be improved with mental skills curriculum focusing on emotional regulation and mindfulness techniques.⁵ Knitting can help to regulate emotions to promote more positive rather than negative emotions, especially in stressful situations. In an international survey of over 3500 knitters, knitting frequency was significantly associated with feeling calm and happy, and improved problem-solving.⁶ Furthermore, by working through a technical challenge, knitters can experience increased focus, flow and mindfulness. In a study of a knitting program at a drug and alcohol rehabilitation center, participants used knitting to "stay in the present and modulate affect" and learned to "evaluate, reflect and stay in the present rather than react impulsively," avoiding drugs, alcohol or other self-harming behaviors.⁷

5. Dexterity and technical skill

Knitting provides continual opportunities for learning and mastering manual skills, with new stitch techniques and patterns that increase in difficulty. There is some evidence to suggest that prior experience in manual hobbies can provide advantage in dexterity and learning surgical skills.⁸ Additionally, surgical residents who underwent comprehensive stress management training demonstrated greater technical accuracy in a high stress environment.⁹ Thus, knitting has the potential to optimize surgeon technical performance both through manual dexterity practice and its ability to improve mindfulness and emotional regulation, as previously discussed.

6. Conclusion and implementation pearls

Addressing the crisis of burnout and stress among surgeons will require comprehensive and systems-wide changes. No single intervention will suffice. However, practical, accessible skills such as knitting can be taught and shared among the surgeon community. Other mindfulness activities such as meditation, sports, yoga, and music can be beneficial and encouraged for surgeon wellbeing as well. Knitting has the advantage of being portable and quiet and can be done in many settings – resident rooms, faculty offices, staff break rooms. It can also be done during active or passive time – for example between cases or while talking with others. The materials – yarn and needles – are relatively inexpensive. The greatest barrier to knitting is not having learned to knit when younger. Fortunately, there is a plethora of online instructional videos, a learning modality surgical residents likely are already familiar with for learning surgical techniques. Furthermore, local yarn stores

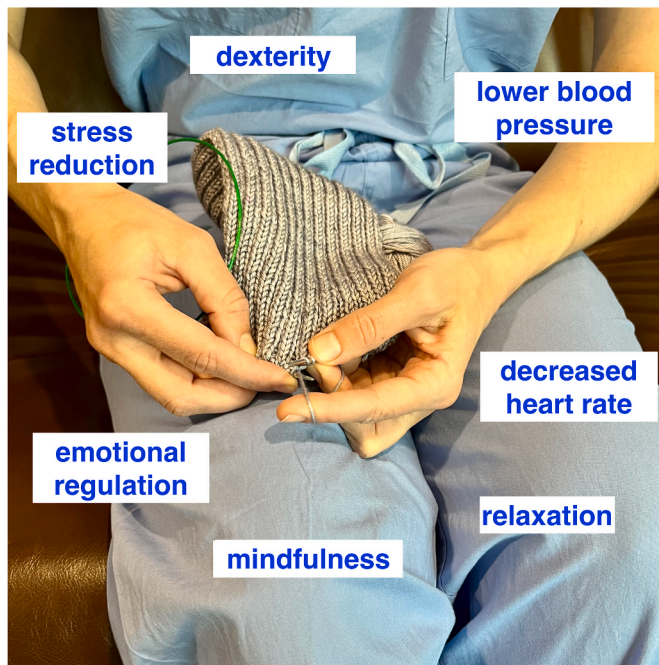


Fig. 1. Benefits of knitting for the surgeon.

offer free or low-cost introductory classes. Lastly, colleagues, friends or family members who are knitters welcome opportunities to teach and share this skill. Program directors can incorporate knitting as a wellness intervention option for residents by providing kits of a pair of knitting needles and a skein of yarn, with instructions and instructional video link for a simple project such as a garter stitch scarf. Once learned, knitting is a lifelong skill that surgeons can utilize for enhanced wellbeing.

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