

Mind-Body Wellness: A Complement to Dental Education and Professional Development

Abstract

We strive in dental education to train our students to leave dental school with a skill set that enables them to be competent in diagnosis, treatment planning, and in their technical skills to treat their patients. We do not however train our students in practices to maintain their physical and mental well-being, cope with the demands of the dental school curriculum, and provide a toolbox of skills to manage the stresses of dentistry that will be with them for as long as they practice. The COVID-19 pandemic has added a new layer of stress on dental students and although the topic of wellness has been addressed in various ways in dental school environments, integrating a wellness component that supports our student's vulnerabilities while also teaching skills to build resilience to adversity is a needed and missing component in the dental curriculum. Elective stress management wellness courses have been implemented in dental schools and although this is a promising start, the demands of the dental school curriculum make it a difficult environment to become relaxed, grounded, and focused. Based on 6 years of experience in creating and implementing an integrated wellness program at an academic dental institution, this article aims to outline the benefits and applications for teaching mind-body practices in the dental school curriculum as preventative approaches to maintaining overall student wellness, for developing effective strategies to manage academic and clinical challenges and how it sets the foundation for the health, well-being, and professional mindset of future dentists.

Keywords: *Dental education, dental student stress, mind-body wellness, stress and dentistry, yoga and meditation*

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Introduction

We strive in dental education to train our students to leave dental school with a skill set that enables them to be competent in diagnosis, treatment planning, and in their technical skills to treat their patients. We do not however train our students in practices to maintain their physical and mental well-being, cope with the demands of the dental school curriculum and provide a toolbox of skills to manage the stresses of dentistry that will be with them as long as they practice. It was my experience teaching a calming breathing technique to a postgraduate endodontic resident experiencing a panic attack before her first apicoectomy that made me aware of this problem in dental education. In her 6th year of dental education, this resident did not have the awareness or the tools to mitigate her anxiety to perform the procedure. The willingness of the student to engage in the breathing technique and

witnessing the calming effects on her body through her conscious control of the breath were a compelling realization for a need to teach dental student's strategies for stress reduction and self-regulation. This led me to pursue a professional training in yoga and meditation and address with the administration at Tufts University School of Dental Medicine the importance of teaching Mind-Body wellness techniques specifically through the ancient practices of yoga, diaphragmatic breathing, and mindfulness meditation in the curriculum to all our students. For the past 6 years in my role as Director of Mind-Body Wellness I have witnessed the positive effects of teaching and incorporating these practices to our students in the basic science curriculum, preclinical simulation laboratory, and patient clinic.

The COVID-19 pandemic has added a new layer of stress to the students experience in dental school and more than ever our

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students need support and skills to navigate the dental school experience, especially in this new normal we are now experiencing in dentistry. Over the last several years, the topic of wellness has been addressed in various ways in dental school environments, however integrating a wellness component that supports our student's vulnerabilities while also teaching skills to build resilience to adversity is a needed and missing component in most dental school curriculums. This perspectives article aims to outline the benefits and applications for teaching mind-body practices in the dental school curriculum as a preventative approach to maintaining overall student wellness, developing effective strategies to manage academic and clinical challenges and for broadening overall knowledge of mind-body medicine and its effect on patient care.

Mind-Body Medicine and Dental Health

Mind-body medicine has found its place into dental education. The dental school curriculum incorporates education on Complementary and Alternative Medicine in dental practice broadening dental student's knowledge on various unconventional practices and how they may impact the delivery of safe and effective dental care. The National Center for Complementary and Alternative established by the National Institute of Health classifies complementary and alternative medicine into five categories, with one of them being mind-body interactions.^[1] Periodontal health is the foundation of a healthy dentition and dental researchers have linked increased stress levels (after smoking) as a main contributor to the pathogenesis of periodontal disease and that practicing yoga can be an adjunct practice to compliment standard treatment.^[2] For dental practitioners to understand the stressors that affect the health of their patients, it is important for them understand and manage their own stress.

The stressors of the dental profession begin with students in the 1st year of dental school and these stressors manifest in different ways over the 4 years of their dental educational and clinical training. Elective mind-body stress management wellness courses have been implemented in medical, dental, and dental hygiene schools and have been shown to be effective in reducing personal, academic, and clinical stress.^[3,4] The demands of the dental school curriculum make it a difficult environment to become relaxed, grounded, and focused and students who need stress reducing interventions the most may not seek them. It can be challenging for dental institutions to provide yoga instruction; first in regard to "buy-in" by administration and faculty and the commitment to make space in the curriculum and second, students willingness to participate. Although not formally explored, a pilot study showed that engaging dental students and dental hygiene students in a brief yoga intervention resulted in a decrease in their stress level as well as increased mindfulness.^[5] It has also been suggested that yogic breathing as part of the stress

reduction school protocol in the dental school curriculum could reduce dental students overall anxiety, enhance academic functioning, improve technical performance which in turn could decrease patient anxiety and increase overall success as dental students and professionals.^[6]

Key Benefits of Mind-Body Practices

Yoga, an ancient practice originating in India over 3500 years ago, aims to promote optimal physical and mental thriving. Today, in Western modern settings, yoga tends to appear as a trendy type of exercise, however historically, the practice was much more comprehensive encompassing four components that offer a range of techniques to promote the pathways of well-being and balance in the mind and body. Yoga encompasses the practices of physical postures, breath regulation, and mindfulness meditation that improve the body's ability to self-regulate. Self-regulation is the ability to monitor and control the one's behavior, emotions, and thoughts and alter them in accordance to a stressful situation, a skill essential to the developing and practicing dentist. In addition to physical postures, breath regulation, and meditation, these techniques also include ethical practices of self-discipline and moral observances, service to the self and to others which are considered in the ancient context as the external and internal virtues of character.

These four ancient foundational components can influence and transform the engaged individual in the positive and modern ways. When yoga is looked at from the historical perspective, research shows these practices provide "top-down" as well as "bottom-up" process tools that work together to lower and control stress as well as improve overall mental and physical health.^[7] Top-down tools impact the mind directly with a trickle-down effect on the body and behavior. Ethical observances and meditative practice provide self-regulatory mechanisms in the body that influence motivational drive, goal setting, working memory, attention, and awareness. Bottom up tools impact the body's physiology directly sending a message to the mind that it's ok to relax activating the parasympathetic nervous system to relax faster when exposed to stress. These bottom-up tools also improve motor and sensory body awareness, spatial attention, and hand-eye coordination [Figure 1]. There are a variety of integrative applications through the techniques of yoga and the comprehensive skillset it affords that can open innovative approaches to support and develop self-regulation, resilience, and professionalism in dental students [Table 1].^[8]

Applications of Mind-Body Wellness in the Dental School Curriculum

Professionalism and ethics

Our diverse demographic of dental students come into their 1st year wanting to do well for themselves, their families

and for some, a potential spot in a specialty program. The ability to perform at a high level, achieve academically and technically also needs to be balanced by the understanding that these pressures don't go away once they leave dental school. The diverse demographic of students also creates an array of beliefs, values, and reactions to handling difficult situations. As a way to mitigate these pressures, some

students have been known to compromise their ethical and professional standards. Professionalism can be taught through cognitive and experiential approaches; however, teaching professionalism in an authentic way that connects the concepts of professionalism and the behavior of dental students is lacking. Regardless of profession, when we are relaxed and in place of being present and focused, we become more aware we are more inclined to be better communicators, better listeners, as well as have more patience to stop and think before reacting or deciding. Beyond the physiological and psychological benefits, yoga, diaphragmatic breathing, and mindfulness meditation are also practices that foster self-awareness, acceptance, wisdom and compassion; innate human qualities that support us in life but are also essential to the commitment of the dental professional.^[9] One may question if these qualities can be taught to students? The practices can be taught, but the overall impact and innovation are in creating teaching opportunities that open the potential for these qualities to potentially arise naturally within the student.

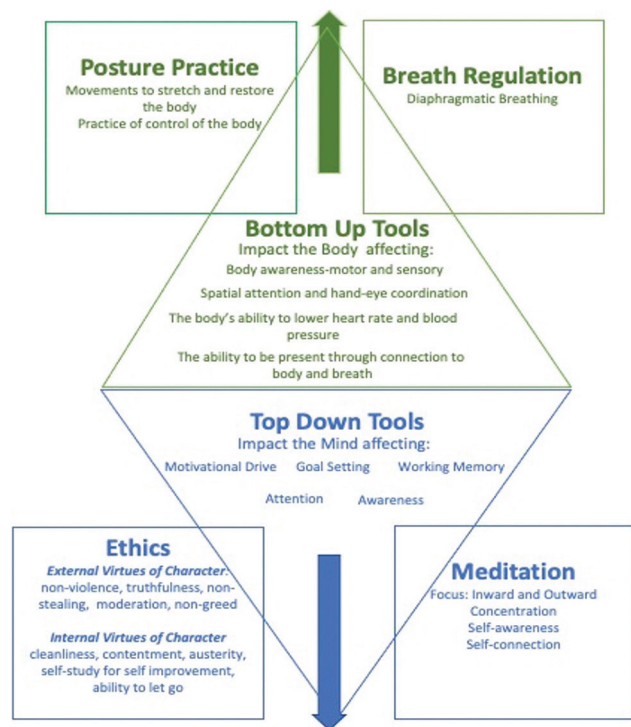


Figure 1: Yogic process tools effects on the mind and body

Self-care

Beginning with the challenges of adapting to professional school and high-volume learning in the 1st year, dental students can benefit by understanding the importance of maintaining a healthy balanced lifestyle as well as the negative effects that can result if not implemented. Many students already have strategies in place that they may have used in college; however, self-care goes beyond maintaining healthy eating, fitness, and sleep habits. Self-care also involves the awareness of listening to the body as well as the components of self-acceptance

Table 1: Applications for the Modern Components of Yoga in the Dental School Curriculum

Ethics	Meditation	Posture Practice	Breath Regulation
Support, cultivate and develop professional and ethical behavior. CODA Standard 1-3*	Personal, Academic, and Clinical Stress Management tool and Self-Care practice to support student health.	Personal and Clinical Stress Management tool and Self-Care practice to support student health.	Personal and Clinical Stress Management tool and Self-Care practice to support student health.
Development of professional values and capacities for self-directed lifelong learning. CODA Standard 2-11*	CODA Standard 4-10*	CODA Standard 4-10*	CODA Standard 4-10*
Development of professional mindset to foster competency in the application of ethical decision making and professional responsibility. CODA Standard 2-21*	Attention training for focus and concentration and development of the capacities to foster competency in critical thinking, problem solving and procedural skills. CODA Standards Goals p. 10*	Modality for increasing flexibility and range of motion of the body areas affected by dental practice: neck, shoulders, chest and back	Pre-exam preparation to decrease performance anxiety in the academic and clinical setting
	Modality for fostering acceptance and compassion for the self and others supporting the development of cultural competence.	Modality to cultivate spatial body awareness and coordination.	Self-regulation tool for navigating personal and professional challenges.
	Development of personal and professional self-awareness	Modality for fostering acceptance, self-compassion and compassion and acceptance of diverse patient cultures.	Self-regulation tool for supporting the development of a calm professional demeanor with the potential to foster effective communication and clarity in reasoning through problems.
	Pre-exam preparation to decrease performance anxiety in the academic and clinical setting		CODA Standards Educational Environment p. 13*

*Commission on Dental Accreditation Accreditation Standards for Dental Educational Programs³

and compassion. Exposing and teaching all students to mind-body approaches to relax and restore their bodies, quiet and focus the mind may spark new habits and open new approaches to self-care to carry on into their careers as dentists. Will all students buy in? Maybe not, however as everything else our students learn in dental school, the value may not be immediate, but as part of their educational skillset, the benefits may surface for them in the future and the value may reflect back on the institution with gratitude.

Focus and performance anxiety

It is expected that dental professionals should pay attention in learning or clinical environments; however, we live in a distracted society and out of habit our attention tends to move to unrelated thoughts and feelings causing the mind to “zone out.” This can happen unintentionally and when our mind is not present errors and failures in task performance can result and compromise patient care. Our minds are not naturally trained to be present and just as we train in anything, the skill of presence and attention needs to be practiced. Scientists have shown through fMRI research that during meditation the cortex processes information less actively.^[10] The frontal lobe, responsible for reasoning, planning, and self-conscious awareness slows down as does the parietal lobe, responsible for sensory processing and spacial orientation. Teaching mindfulness activities in appropriate courses may take the edge off anxiety and improve attention and focus in students as well as benefit them by potentially developing the brain to be less reactive in demanding clinical situations.

Didactic examination blocks, preclinical and clinical competencies, and licensing examinations are anxiety provoking experiences for dental students. Students may be well prepared and have the cognitive ability to perform well on an examination; however, the pressure to perform can impede this ability. It has been shown that when students use meditation and breathing exercises to calm the mind and body there is a significant decrease in anxiety and increase in student academic learning and achievement.^[11] Dental students need the capacity to respond to stress in a healthy way, rebound from challenges and gain strength from them. The challenges our students experience in dental school will not go away after they graduate, they will simply morph into the reality of life after dental school and the demands of dentistry. Meditation and breathing techniques can be taught to students as effective tools to prepare them for written examinations and clinical competencies but more importantly to foster resilience through self-monitoring and stability through the examination to chasten unexpected challenges when they arise. The dental environment is fast paced, demanding, and unpredictable. The COVID-19 clinical protocols and academic constraints have made it more important than ever to implement stress reduction practices in the clinic. Incorporating a short group diaphragmatic breathing meditation exercise on the

clinic floor before patients is brought into the operatories has been implemented be a simple way to calm the body and lower anxiety as well as create connection between students, faculty and staff.^[12]

Future Directions and Conclusion

ADEA CCI 2.0 defined the future needs of dental educators to contemplate, investigate, and define the future needs of their academic dental institutions in this constantly changing world.^[13] We are in that changing world and COVID-19 has challenged us to embrace creative opportunities of teaching our students and residents skills, tools, and behaviors to deliver exceptional care to their patients. Teaching Mind-Body practices in the curriculum are an approach to investigate tools for stress management and resilience to complement the dental student skill set. In the past 6 years teaching our students, faculty and staff stress reduction through yoga and meditation I have seen an increasing openness and acceptance that has made us aware of the interconnection we share as an academic professional community, but more so has human beings. Mind-Body wellness has become a hallmark of our institution and students are choosing our program over others because we address the stresses of dentistry by providing education on evidence-based mind-body practice interventions to specifically navigate the physical, mental, and psychological challenges of the dental profession. More than ever we need to address the stresses dental students endure and empower them with strategies to ensure the investment they make in their education results in a healthy trajectory during their education and beyond. Our Tufts University School of Dental Medicine community has been enriched by these experiences academically, clinically, and personally. Formally incorporating mind-body practices into university education has been described as one of the most dramatic departures from conventional education strategies in our time.^[14] Now is the time for dental education to embrace unconventional approaches to teach students how to cope with the demands of dental school but also to foster, clarity, insight, self-care practices, resilience, and the essential human qualities of patience and compassion to carry them into their careers. This shift in dental education has the potential to benefit the profession of dentistry and ultimately the care of our patients.

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Conflicts of interest

There are no conflicts of interest.

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