



Being Proactive To Prevent Injury

Proper ergonomics and exercise regimens may help prevent musculoskeletal disorders in retina specialists.

By Allen Chiang, MD

Midway through examining an elderly kyphotic woman, I felt a twinge between my shoulder blades that evolved into a twisting pain that lingered for weeks despite IcyHot and ibuprofen. Having long considered myself to be in solid physical shape, running many miles a week in addition to circuit strength training, this non sports-related pain caught me off guard. The daily grind had become overtly painful, and I suddenly realized that this could easily evolve into a chronic issue if I did not take action.

Repetitive tasks, performed in what ergonomic experts refer to as “nonneutral” postures, result in the development of musculoskeletal disorders (MSDs). Nonneutral postures create abnormal stretching of nerves, blood vessels, and muscle tendons over bone and ligaments, which generates inflammation that ultimately leads to restriction.

Symptoms of MSDs are common among ophthalmologists. Marx and colleagues at the Lahey Clinic in Massachusetts reported some of the first studies on the prevalence of ophthalmology-related MSDs and ergonomic risk factor exposure.^{1,2} In 1 of their studies, a survey of members of the American Academy of Ophthalmology showed that 51.8% of respondents reported having neck, upper extremity, or lower back MSD symptoms. A survey specifically of retina surgeons by another group of researchers,³ reported at the 2004 American Society of Retina Specialists annual meeting, noted back and neck pain in 55.4%, back pain in 21.4%, and neck pain in 8.3% of respondents; astoundingly, only 15% of respondents were completely symptom-free.

A 3-PRONGED APPROACH

Despite the prevalence of MSDs in our line of work, there are ways to be proactive. Early adoption of the following 3-pronged approach can be a safeguard for young retinal physicians against the daily physical strains that arise from caring for patients with retinal disease.

Check The Office And OR

It is critical to conduct a thorough walkthrough in the office, paying particular attention to the chairs and equipment, particularly if you share the same office workspace with other ophthalmologists. For example, the dimensions of the slit lamp platform may accommodate a partner who is 6'2" nicely but may be insufferable for the colleague who is 5'5" and has shorter arm and reach. Although most examination stools or chairs are adjustable, they can compensate for the dimensions of fixed structures such as the countertop only to a certain extent, so it is important to assess whether structural modifications are warranted. One should be able to maintain a neutral spine (not slanted, hunched, or over-extended) when performing slit-lamp biomicroscopy or entering data into an electronic health record.

In the OR, it is imperative to make fine adjustments to the microscope, wrist rest, patients' head position, foot pedals, and stool in order to ensure that the spine can be straight and tall with shoulders dropped and relaxed. In addition, between cases I recommend “1-minute” yoga, which is essentially performing a couple of simple poses to counteract spinal flexion that often occurs while focusing intensely during surgery. This helps me stay loose and also enhances mental focus before the next case.

Core Fitness

When it comes to personal fitness, many turn to running, elliptical trainers, cycling, and resistance weight training. Despite obvious strength and cardiovascular benefits, however, these activities do little to enhance core fitness. The “core” refers to the zone between the neck and hips, excluding the arms and legs. Core fitness is about much more than having nice abdominal muscles; it is about strengthening and conditioning the muscles that stabilize your spine and protect internal organs.

One of my partners, Sunir Garg, MD, introduced me to

yoga as a way of increasing my core fitness. He echoed what I recall Allan “Buzz” Kreiger, MD, sharing with me in residency—that yoga has enabled him to operate longer than he had ever anticipated. Indeed, the regular practice of yoga has eliminated my back pain and enabled me to endure long days in the clinic and OR. There are many different types of yoga, which can be confusing and daunting, but Iyengar yoga is good for beginners. Certified Iyengar instructors pay particular attention to modifying and adjusting the asanas (poses) for each student, which helps to avoid injuries, and they employ the use of props (blocks, blankets, belts) to further ensure the safety of novice yogis. Of course there are many other excellent avenues to core fitness including tai chi, pilates, TRX (suspension) training, and Barre³. The most important thing is to choose at least 1 and integrate it into your daily routine.

Calibrate

Although our profession is undeniably rooted in the philosophy of Western medicine, the potential therapeutic value of integrating alternative or complementary approaches into one’s health care regimen should not be underestimated. When combined with good office ergonomics and a core fitness program, the services of a chiropractor, certified masseuse, physical therapist, or acupuncture/acupressure specialist can serve as an important physical “reset button” that when pushed periodically can help prevent MSDs. Some health insurance carriers may even cover some or all of these services, so it is certainly worth investigating the fine print.

CONCLUSION

New retina physicians should be aware of the potential hazard of MSDs that can develop as a result of the unique physical demands of examining retina patients and performing vitreoretinal surgery on a highly repetitive basis. It is essential to be proactive in creating a personalized strategy in order to mitigate the risk of occupational injury and enhance one’s professional longevity. ■

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