The Role of Rest

The article by Haben[1] in this issue of *Medical Problems of Performing Artists* describes one expert clinician's approach to the use of rest in treating voice problems in singers. In the absence of well-designed randomized controlled trials of voice rest for various vocal problems (and little in the way of other research on the topic), expert opinion is the best guidance available. Performing artists of all types have to make decisions on a daily basis about how to balance practicing and performing versus resting and recovering from those activities. Likewise, both teachers and health care professionals who work with performing artists are in a position to advise musicians, dancers and others about when to rest and when to engage in specific types of practice and performance. For all involved, these questions apply to both the prevention of performance-related injuries and for their treatment.

Dr. Brandfonbrener wrote an editorial[2] on this very subject 21 years ago. Titled "'R' is for Rest," it raised critical questions about the use of rest to treat and prevent performance-related injuries in musicians and called for scientific guidelines. Unfortunately, we don't have much more evidence on which to base scientific guidelines in 2012 than we did in 1991. Mamie Air and Boni Rietveld wrote some guidelines for the use of rehabilitation of injured dancers that was published in *MPPA* in 2008,[3] but these too are the recommendations of expert clinicians. The following paragraphs will attempt to provide a brief overview of these issues as they relate to performing arts healthcare based on what we have learned over the last two decades.

What do we know about the use of rest to treat acute musculoskeletal injuries in the 21st century? A review article published in 2004[4] in the *Journal of Family Practice* concluded that rest is not beneficial in the treatment of acute upper or lower extremity injuries, including both fractures and soft-tissue injuries. In fact, many of the 49 randomized controlled studies that met the inclusion criteria for this systematic review showed that early mobilization results in improved outcomes. For ankle sprains, immobilization in a cast did not improve outcomes. However, it's not clear from the way the article was written how patients with nonfracture upper extremity injuries fared with rest/immobilization versus early mobilization.

But what about subacute and chronic injuries, which are more typical in the performing arts world? A recent article[5] from *Clinics in Sports Medicine* that reviewed the treatment of tendinopathy recommended "relative rest from running . . . for 3–5 days" for runners with Achilles tendinopathy. While this may be relevant for some dancers, how it applies to musicians with upper extremity tendinopathy is less clear. The Achilles tendon is much larger than the distal upper extremity tendons, and the Achilles tendon has no sheath. A long-term follow-up study[6] of an exercise program to treat groin pain due to hip adductor strain showed beneficial effects 8 to 12 years later. In the earlier phase of this intervention, active exercise was superior to a conservative passive treatment, with 79% of injured athletes returning to their preinjury level of participation. The combined early and late benefits of more active treatment in an injury that has some pathologic similarities to overuse injuries in performing artists provides further evidence that rest may not be a very important part of effective treatment for the typical musician or dancer with a performance-related musculoskeletal injury.

Of course, preventing injuries from occurring is better than treating them after they have already occurred. What role might rest play in reducing the incidence of performance-related musculoskeletal disorders? The very term *overuse* implies that this type of injury could be prevented by introducing more rest or recovery time into one's practice/rehearsal/performance schedule. Glenna Batson was quoted in a *Dance Magazine* article[7] last year on the topic of "intentional rest." She believes that "overtraining" can be thought of as "under-recovering." Justin Howse points out in his book (*Dance Technique and Injury Prevention*)[8] that injuries are more likely to occur later in a practice session and later in the dance season, and data from New Zealand[9] show that 90% of injuries to dancers occur when the dancer is fatigued. Comparable data on musicians are scarce, although one of the two peaks in upper extremity performance-related musculoskeletal injury incidence in one well-studied population of university-level music students consistently occurs late in the academic year.[10] A previous editorial in this journal discussed the potential role of periodization as it could be applied to performing artists.[11] Periodization is essentially the structured use of recovery time over the course of a week, a season, or a year. Unfortunately, no prospective studies of "intentional rest" for musicians or dancers have been carried out to the best of my knowledge.

Another potentially important aspect of rest for performing artists (and everyone else) is sleep. The American College Health Association's National College Health Assessment,[12] which has responses from tens of thousands of college students across the USA over the last 12 years, consistently identifies sleep as a common concern. Only 10.1% of respondents to the 2011

survey reported getting enough sleep to feel rested in the morning on 6 or more of the last 7 days, whereas 17.9% of students reported feeling tired or sleepy during the day for at least 6 of the last 7 days. For both categories, men reported better sleep than women. Over the last 12 months, 25% of respondents reported sleep difficulties as being very difficult to handle, again with higher rates among women than men. If these data are true for college-level music students, it's possible that sleep difficulties or lack of adequate sleep could be risk factors for performance-related musculoskeletal disorders.

Research over the last 20 years has expanded our understanding of the role of sleep in human health, although much remains unknown. In addition to its importance in general health and immune function,[13] sleep may support athletic performance.[14] A study done on a university men's basketball team[15] showed that extending sleep time by about 2 hrs/night improved sprint time, shooting accuracy, and overall ratings of physical and mental well-being. The role of sleep disturbance in fibromyalgia is well known, and the chronic musculoskeletal discomfort that some performing artists develop overlaps with fibromyalgia in some cases.

Several articles on musicians have reported data on sleep and performance-related health problems. In a sample of 241 Brazilian symphony orchestra musicians,[16] 62.7% reported some type of sleep disorder, and sleep disorders were associated with musculoskeletal pain. Lack of sleep was correlated with hyperacusis in male (but not female) rock/jazz musicians in a 2003 report,[17] and almost one out of three flutists reported sleep disturbances.[18]

"P" is for practice and perform, "R" is for rest and recovery, "S" is for sleep, and "T" is for time. All performing artists have the same amount of time in every day and every year. Those of us who try to improve the health of performing artists want to give the best advice we can in order to prevent problems from occurring and to treat them as quickly and effectively as possible when they do occur. While much more research is needed, recent findings suggest that we should recommend only minimal amounts of rest as part of a treatment plan and perhaps more rest (and sleep) as a preventive strategy.

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