Medical Problems of Performing Artists, since its inception under the legendary Alice Brandonbrener’s guidance and vision, has always recognized the need for voices to be heard from the clinic, stage, and experimental research. This has been important in a relatively young field like performing arts medicine, where there is not yet a robust base of evidence to draw from for the complex range of physical, psychological, and institutional challenges that can affect performer health.

Interestingly, in comparison to many other domains, both medicine and performing arts are relatively more populated with professionals who both practice their craft and teach or conduct research. Evidence-based medicine has long been described as using the best available research in conjunction with clinical expertise, while considering patient beliefs, characteristics, and circumstances. As a clinician and researcher, I find both aspects to be mutually informative. While my clinical findings inform my research in many cases, my research then refines my clinical practice. In addition, working collaboratively with the performing artists themselves, and with their institutional administration, has been essential to develop more specific and practicable strategies for health education and research, as well as injury prevention and management, for performing artists.

It is important to remember in the clinic that individualistic phenomena will require some flexibility when applying available evidence-based practice to a given disorder, and this can be particularly apparent when considering the incredible variety of demands in the performing artists’ workplace—stages, theatres, repertoire, choreography, rehearsal/performance scheduling, artistic approaches, and so on. Domain-specific challenges continue to exist—for example, some performers and their educators traditionally believing that non-practice activities (such as physical conditioning, mental skills training, etc.) are a waste of time, or being fearful of undertaking any activity that may negatively affect performance. Carefully conducted research is very important to help guide us in determining the best ways to adopt constructive health interventions that aim to optimize performance outcomes while simultaneously minimizing the risk of injury or illness.

This goal of achieving evidence-based practice has led to recent shift towards prioritizing “translational research,” following the realization that a significant portion of life sciences research has not in fact been applied in a manner that creates tangible changes in health. For example, performing arts medicine research has continued to show high rates of injury/illness occurrence since the 1980s, with research only recently emerging on intervention strategies that may effectively and proactively reduce such health issues. It has been proposed in recent literature that too much emphasis has been traditionally placed on a linear model from the research laboratory to clinics/studios, underutilizing the reverse flow of information from performing artists or clinicians to inform research. Indeed, the latter is integral to the original premise of evidence-based medicine; the two-way street of health information flow between laboratory and clinical settings that also includes the specific needs of the individual. Performing arts medicine is not only benefitting from increasing laboratory research, like the better understanding of the biomechanical demands of specific dance techniques (see Jarvis and Kulip, p211 in this issue), but also from musical perspectives that aim to share theoretical and musically applied knowledge regarding complex performance-related conditions where little research currently exists (see Muller, p244, in this issue).

Also in this issue, we also have an example of clinician-driven, or “reverse flow,” translational research. Woldendorp and his colleagues (see p232) provide a theoretical framework, in combination with their clinical experience, on assessing and understanding embouchure dysfunction. Previously, a series of case studies has been presented by an expert clinician that illustrates a clinical approach to evaluating and diagnosing the embouchure dystonia, a usually catastrophic motor control disorder. These clinical papers have been written to provide some clinical guidance for embouchure issues and provide a first step where there is a lack of scientific evidence.

Dysfunction of the orofacial musculature is among the most common causes of injury occurring in brass instrumentalists and may prematurely end a musician’s playing career. The actions of these muscles form the final interface between the air supply and the instrument, known as the embouchure, which includes the lips and muscles of the lower face as well as the structure and positioning of the teeth and jaw. Little, however, is known about the relative activation and coordination of all the different muscles.
involved and how this changes between healthy performers and those with injury or motor control disorders.

Online forums and publications of embouchure dysfunction and injury highlight a significant incidence of problems occurring in classical and other brass musicians. However, while it would seem logical that musicians would do all in their power to avoid such injuries, there remains a high level of fear that thinking too much about embouchure mechanics will cause confusion—that “overanalysis equals paralysis.” Given that the embouchure has been described in Grove’s as “a matter of such vital importance that its nature will influence the wind instrument player’s progress and ultimate capability, there remains a high level of fear that thinking too much about embouchure mechanics will cause confusion—that “overanalysis equals paralysis.”

This attitude can be frustrating to those working clinically with embouchure dysfunctions. The performer suffering from embouchure problems will usually hear an overwhelming array of conflicting ideas and advice from all sorts of reliable or otherwise sources and is usually very stressed and confused once actually attending a medical or allied health appointment. Heated debates on embouchure dysfunction are commonly encountered in online forums, blogs, and posts.

Part of the problem no doubt lies in the fact that there has been very little research on orofacial functioning in musicians to prepare the music student for the future demands of playing or to guide rehabilitation after injury. Individual players will also have varying jaw and teeth “scaffolding” structure on which to place the extra-oral instrument, use a seemingly infinite variety of mouthpieces from diverse pedagogical backgrounds, and require different patterns of muscle activation depending on lip aperture needs (e.g., pitch). There is almost no anatomical and physiological education available for wind musicians on many aspects of embouchure and respiratory function. And finally, as the sound produced remains the fundamental outcome of performance, health professionals need to consider the mechanics of embouchure with the performance outcome in mind, and thus may benefit from seeking additional input from expert musicians.

For published information to achieve best outcomes in the arts medicine field, in a manner that clearly represents the perspectives, experiences, aims, and findings of authors, collaboration between clinical and academic medical and allied health professionals is essential. In addition, interdisciplinary collaborations between health professionals, performing artists, and bodywork teachers will increase the relevance, breadth, and depth of information obtained. Performing arts medicine, which is still in the relatively early stages of developing a base of knowledge, can benefit greatly from both applying available medical and health science knowledge into the studio, but also for the artists and clinicians to communicate to researchers what they perceive to be the biggest health issues and challenges.