

# The value of health screening in music conservatoires

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## *Running head*

HEALTH SCREENING IN CONSERVATOIRES

# The value of health screening in music conservatoires

## ABSTRACT

Interest in musicians' health and wellbeing is growing, reflected by increasing numbers of investigations into the physicality and psychology of musical performance. Within sport and dance, screening and profiling programmes have furthered understanding of not only physical and psychological capabilities and demands, but also injury mechanisms and susceptibility. This article engages with questions relating to the development and delivery of musician-specific health screening programmes. Effective screening can offer a variety of benefits for musicians, providing informed recommendations for sustaining performance-related fitness across educational and professional contexts. Employing an interdisciplinary approach when developing screening programmes is essential, as is the ecological appropriateness of the measures used. The implications inherent in delivering and sustaining successful screening programmes are discussed.

### Keywords

conservatoires, injury prevention, musicians' health, performance science, screening

Music making is an activity with high physical and mental demands that put musicians at risk in the execution of their art form. For a long time, our understanding of the musician's body has been anecdotal, typically based upon tradition and personal experience rather than scientific principles. However, more recently, interest has been shown in the potential usefulness of practices normally employed in the field of performing arts medicine and science and how such practices might contribute to an interdisciplinary understanding of musicians and music making.

While interest in musicians' health and wellbeing is growing steadily, the application in music of relevant science-based physiological and psychological research is considerably behind that of sport and dance. For example, dance wellness programmes have been implemented into some dance schools and institutions with a view to promoting dancer health [2]. Such programmes also provide a means of

collecting information regarding dancers' physical and psychological wellbeing. The comparative infancy of music-specific research may in part be because much of what has been learned about the musician's body has come from research focusing predominantly on treatment of, and rehabilitation from, injury [3]. While contributing to our understanding of the individual musician, this approach has arguably created a treatment-orientated culture that could be counterproductive to our understanding of the musician as a "whole."

This article therefore addresses questions relating to the development and delivery of musician-specific health screening programmes. In particular, it suggests why a music conservatoire may wish to instigate some form of physical and psychological screening for students and also considers the wider implications surrounding such initiatives. (*NB.* The term "conservatoire" is used here to refer to music schools, academies, colleges, universities, and other such institutions that offer professional music training in higher education.)

### **BENEFITS OF SCREENING**

An effective screening programme can offer a variety of benefits for musicians, teachers and those researching musical performance. Screening can facilitate health promotion and injury prevention among students [4]. While it has yet to be shown scientifically that screening can predict injuries, the identification of individual characteristics can inform recommendations for supplemental training and appropriate support for musicians. In addition to promoting optimal health for students, screening may help institutions promote safe and healthy music practice.

More broadly, screening can generate an understanding of the "whole" musician. Screening programmes help establish norms for various performance-related parameters and question the significance of those parameters to the functionality of learning and performance. Although screening and profiling musicians does not define the physical and psychological demands of music performance, longitudinal screening programs can enable assessment of the impact of music training regimes on musicians across time. Additionally, the development of musician profiles at different levels of expertise provides the opportunity to identify and examine adaptations resulting from long-term intensive involvement in an activity. This information may allow researchers to provide informed recommendations for those entrusted with developing musicians' training curricula.

## MEASURES TO CONSIDER

When developing screening programmes, an interdisciplinary approach comprising physiology, biomechanics, psychology, health and behaviour has been shown to be important [5]. Within dance, it has been recommended that medical, musculoskeletal, fitness, technical dance skills, psychological and nutrition areas are addressed [2]. Collaboration and reflection are fundamental within this. Consequently, the content of screening programmes needs careful consideration, in order to ensure that variables tested are both ethically and ecologically appropriate, as are the tests used to measure them. Additionally, given the varying biomechanical demands associated with different instruments and musical styles and genres, and subsequent playing-related injuries [6], screening programmes need also to be instrument-specific. Furthermore, the variables tested will largely depend on the overall objectives of the screening; what might be tested within an injury prevention programme could very well differ from what might be tested within one for profiling. For example, a recent musicians' health profiling programme assessed psychology, health attitudes and behaviours, body composition, balance, flexibility, upper body strength, and fitness in order to examine music students' physical and mental fitness for performance [7].

The development of screening programmes for musicians is currently hindered by a lack of understanding of the physical and psychological demands of musical performance. For instance, while there is growing advocacy for the importance of fitness for musicians [8], very little is known about what aspects of fitness might facilitate performance and help prevent the onset of performance-related injuries. Of what is known, the presence of hypermobility in musicians has been linked to pain in joints such as the knees and spine [9] and finger/hand span has been linked to pianists' pain [10]. It also seems that many musculoskeletal problems in musicians arise from faults embedded in the playing, such as poor technique and posture and inappropriate practice procedures [11]. It is significant that musicians are often unaware of their own postural misalignments [12]. Given these factors, assessment of musicians' physical interaction with their instrument and postures assumed while playing clearly warrant inclusion within screening programmes.

## CURRENT DEVELOPMENTS

Increasingly, international associations of music conservatoires are offering advice and support for administrators, managers and teachers in encouraging their students to achieve and maintain healthy approaches to music making. According to the National Association of Schools of Music, the US national accrediting agency for music and music-related disciplines:

Administrators and teachers in arts units cannot and must not attempt to serve as health professionals, but they can maintain basic understanding of health maintenance issues sufficient to inform their work as teachers and mentors. Arts units are encouraged to develop means of working with health maintenance issues through direct education, counselling, and referral services [13].

Across Conservatoires UK (CUK), the eight constituent member institutions are working to develop shared screening programmes for instrumental and vocal students, elements of which are already being offered at the Royal College of Music and Trinity Laban Conservatoire for Music and Dance. The objectives of this initiative are: (1) to identify and support students potentially at risk of developing playing-related injuries, (2) to determine the interactive relationship between biomechanical, physiological and psychological factors relevant to music performance in order to better understand the “whole” musician and (3) to empower students to feel responsible for their own training, development and health promotion.

The CUK screening programmes will vary according to performance specialism but will comprise three core components. In the first, students complete a series of surveys and questionnaires addressing demographic and background information, practice and exercise behaviours, past medical history, and psychological measures such as attitudes to health promotion, trait anxiety and perfectionism. In the second, the students are taken through a range of physiological, biomechanical and fitness assessments. These include body composition, finger and hand span, balance, core stability, arm strength, joint flexibility and range of motion, hypermobility, and proprioception. In the third, students undertake a postural assessment while playing or singing, with singers also receiving a vocal health assessment. Following their assessments, students will be given a full debrief, with explanations of their results and sources for further reading and information. Students for whom concerns surrounding injury susceptibility have emerged will be offered referral pathways to relevant therapists.

In parallel, clinicians especially those with an interest in musculoskeletal medicine, are becoming increasingly aware of the need for expert medical guidance in these areas and of the importance of disseminating results of such research to a multidisciplinary audience. The new MSc course in Performing Arts Medicine at UCL in the United Kingdom is providing a catalyst for this as well as training clinicians of the next generation.

## IMPLICATIONS

Understanding the whole musician from a psychological, physical and behavioural view point clearly has implications for the practising musician. If screening results can be disseminated back into the study context (namely the practice room), students will have the advantage of understanding risk factors involved in music making and be able to take responsibility for both their training and their journey into the music profession. Arjmand (2009) states that music training needs to produce a curriculum representative of the inter- and multidisciplinary nature of the performing arts [14]. But despite inferring that musicians should draw from other disciplines as a way of understanding their bodies, screening programmes can only be implemented if training institutions are proactive in their responsibility for students' health [15] and committed to health screening as an integral part of music training. Lastly, the effectiveness of screening requires detailed knowledge of the unique characteristics of each instrumental/vocal group, to ensure that music-specific testing parameters are found, and supplementary programmes are introduced.

In terms of implementation, collaboration with institutional members of staff is of the utmost importance. Similarly, advice from experts within each field must be sought to ensure that the delivery of tests and dissemination of feedback are carried out appropriately. It is also important that educators and administrators involved with the implementation of a screening programme are aware that participants may still be reluctant to undergo screening. A common misunderstanding is that the application of scientific principles may in some way change the artistry of music performance. Further intervention and longitudinal research will assist with determining associations between screening results and outcomes, the relationship between various characteristics and music-making, and variance between vocalists, instrumentalists and composers. Further research will provide the impetus for the development of standardized music-specific screening procedures together with a better informed understanding of the music student, who ultimately represents the future of the music profession.

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