

BRONWEN ACKERMANN

Associate Professor

Biomedical Science, School of Medical Sciences, Sydney Medical School

Biographical details

Dr Bronwen Ackermann is a specialist musicians' physiotherapist, musculoskeletal anatomist and musicians' health researcher at the University of Sydney. Her interest in performing arts health grew as a result of working with the Sydney Symphony Orchestra since 1995, going on to work on improving occupational health as well as developing best-practice injury prevention and management strategies with all the major Australian Orchestras, as well as the New Zealand Symphony Orchestra. She received a Churchill fellowship in 2002 allowing her to spend time with international colleagues involved in both research and clinical work in the field of music medicine. She completed her PhD in 2003 looking at physiotherapy management of performance-related musculoskeletal injuries in violinists, and joined academia in 2006, where she has lectured in physiotherapy and functional musculoskeletal anatomy. She continues to conduct research into musicians' health focussing on performance-related injury prevention, performance-related injury assessment and management, optimising performance through enhancing physical and psychological well-being, and understanding the anatomical, physiological and biomechanical mechanisms underpinning musical performance.

Research interests

Investigating strategies to enhance health and performance capacity in musicians across the lifespan

Encompassing: musicians applied anatomy and physiology research, music performance biomechanics, injury prevention, health promotion and health care provision research, development of evidence-based clinical assessments and treatments for musicians, enhancing health literacy and translational applications of health knowledge into music practice.

Teaching and supervision

Performing Arts Medicine training for health professionals (in music medicine)

Clinically and functionally applied musculoskeletal anatomy

Assessment and management of performance-related musculoskeletal conditions

Injury prevention and management for musicians

Evidence-based occupational health interventions for musicians

Optimising body use to enhance musical performance outcomes

Current projects

Sound Performers - an e-health initiative focussed on the delivery of health education to tertiary music students. Current expansion of the project to include research trials investigating strategies to enhance health literacy and self-efficacy of music students, as well as translational applications of health education into music training practices.

High Performance Consultant guiding best-practice educational and interventional initiatives to the Australian National Academy of Music Musicians' Health program.

Evaluation of the physiological benefits of warm-up in violinists

Investigating the benefits of participation in health education during music training

Investigating the interaction between pain, fatigue and stress on movement and muscle activity during skilled musical performance

Associations

Member of the Australian Society for Performing Arts Healthcare

Board Director Performing Arts Medicine Association

Awards and honours

Winston Churchill Memorial Fellow – 2002

PhD and master's project opportunities

Sound practice: Supporting sustainable careers in orchestral musicians through Occupational Health and Safety initiatives

A Musicians' health curriculum initiative. Developing a health module for use within the tertiary music sector

Selected grants

2017

- *Musician's Performance Health Education: A Translational Approach*; Ijsman S, Ackermann B, Chan C, Guptill C, Visentin P; The University of Western Australia/Research Collaboration Award.

2009

- *Sound practice: Supporting sustainable careers in orchestral musicians through occupational health and safety initiatives*; Ackermann B, Kenny D, Driscoll T; Australian Research Council (ARC)/Linkage Projects (LP).

2007

- *25th symposium of medical problems of musicians and dancers - Aspen June 2007*; Ackermann B; Ian Potter Foundation/Grants & Travel Grants.
- *International Conference Travel Grant*; Ackermann B; Ian Potter Foundation/Grants & Travel Grants.
- *International Conference Travel Grant*; Ackermann B; University of Sydney/Faculty of Health Science Cumberland Research Grants.

Selected publications

2017

- McCrary, J., Ackermann, B., Halaki, M. (2017). EMG amplitude, fatigue threshold, and time to task failure: A meta-analysis. *Journal of Science and Medicine in Sport*, article in press.
- Kenny, D., Ackermann, B. (2017). Hitting the High Notes: Healthy Aging in Professional Orchestral Musicians. In Alexander-Stamatios Antoniou, Ronald J. Burke, Sir Cary L. Cooper (Eds.), *The Aging Workforce Handbook: Individual, Organizational, and Societal Challenges*, (pp. 355-376). Bingley: Emerald.
- Ackermann, B. (2017). How Much Training Is Too Much? *Medical Problems of Performing Artists*, 32(1), 61-62.
- Ackermann, B. (2017). Medicine, Performing Arts, and Science--Dancing to the Same Tune. *Medical Problems of Performing Artists*, 32(2), 123-124.
- Ackermann, B. (2017). The Sickness of Stigmas. *Medical Problems of Performing Artists*, 32(3), 183-184.

2016

- McCrary, J., Halaki, M., Sorkin, E., Ackermann, B. (2016). Acute Warm-up Effects in Submaximal Athletes: An EMG Study of Skilled Violinists. *Medicine and Science in Sports and Exercise*, 48(2), 307-315.
- McCrary, J., Halaki, M., Ackermann, B. (2016). Effects of physical symptoms on muscle activity levels in skilled violinists. *Medical Problems of Performing Artists*, 31(3), 125-131.
- Ackermann, B. (2016). From Stats to Stage-Translational Research in Performing Arts Medicine. *Medical Problems of Performing Artists*, 31(4), 246-247.
- Ackermann, B. (2016). In the June Issue. *Medical Problems of Performing Artists*, 31(2), 122-123.
- Kenny, D., Driscoll, T., Ackermann, B. (2016). Is playing in the pit really the pits?: Pain, strength, music performance anxiety, and workplace satisfaction in professional musicians in stage, pit, and combined stage/pit orchestras. *Medical Problems of Performing Artists*, 31(1), 1-7.

- Ackermann, B. (2016). MPPA Welcomes a New Editor. *Medical Problems of Performing Artists*, 31(1), 59-59.
- Kenny, D., Ackermann, B. (2016). Optimising Physical and Psychological Health in Performing Musicians. In Susan Hallam, Ian Cross, Michael Thaut (Eds.), *Oxford Handbook of Music Psychology*, (pp. 633-647). Oxford: Oxford University Press.

2015

- McCrary, J., Ackermann, B., Halaki, M. (2015). A systematic review of the effects of upper body warm-up on performance and injury. *British Journal of Sports Medicine*, 49(14), 935-942.
- Rickert, D., Barrett, M., Ackermann, B. (2015). Are music students fit to play? A case study of health awareness and injury attitudes amongst tertiary student cellists. *International Journal of Music Education*, 33(4), 426-441.
- O'Brien, I., Driscoll, T., Ackermann, B. (2015). Description and evaluation of a hearing conservation program in use in a professional symphony orchestra. *Annals of Occupational Hygiene*, 59(3), 265-276.
- Evans, A., Driscoll, T., Livesey, J., Fitzsimons, D., Ackermann, B. (2015). Nasendoscopic evaluation of stress velopharyngeal insufficiency in wind musicians: a pilot study. *Medical Problems of Performing Artists*, 30(1), 47-53.
- Kenny, D., Ackermann, B. (2015). Performance-related Musculoskeletal Pain, Depression and Music Performance Anxiety in Professional Orchestral Musicians: A Population Study. *Psychology of Music*, 43(1), 43-60.

2014

- O'Brien, I., Driscoll, T., Williams, W., Ackermann, B. (2014). A Clinical Trial of Active Hearing Protection for Orchestral Musicians. *Journal of Occupational and Environmental Hygiene*, 11(7), 450-459.
- Evans, A., Driscoll, T., Ackermann, B. (2014). A Delphi survey on diagnosis and management of stress velopharyngeal insufficiency in wind musicians. *International Journal of Speech-Language Pathology*, 16(5), 445-455.
- Chan, C., Driscoll, T., Ackermann, B. (2014). Effect of a musicians' exercise intervention on performance-related musculoskeletal disorders. *Medical Problems of Performing Artists*, 29(4), 181-188.
- Chan, C., Ackermann, B. (2014). Evidence-informed physical therapy management of performance-related musculoskeletal disorders in musicians. *Frontiers in Psychology*, 5(July 2014), 1-14.
- Chan, C., Driscoll, T., Ackermann, B. (2014). Exercise DVD effect on musculoskeletal disorders in professional orchestral musicians. *Occupational Medicine*, 64(1), 23-30.
- O'Brien, I., Ackermann, B., Driscoll, T. (2014). Hearing and hearing conservation practices among Australia's professional orchestral musicians. *Noise and Health*, 16(70), 189-195.
- Rickert, D., Barrett, M., Ackermann, B. (2014). Injury and the Orchestral Environment: Part II. Organisational Culture, Behavioural Norms, and Attitudes to Injury. *Medical Problems of Performing Artists*, 29(2), 94-101.

- Rickert, D., Barrett, M., Ackermann, B. (2014). Injury and the orchestral environment: Part III: The role of psychosocial factors in the experience of musicians undertaking rehabilitation. *Medical Problems of Performing Artists*, 29(3), 125-135.
- Kenny, D., Driscoll, T., Ackermann, B. (2014). Psychological well-being in professional orchestral musicians in Australia: A descriptive population study. *Psychology of Music*, 42(2), 210-232.
- Ackermann, B., Kenny, D., O'Brien, I., Driscoll, T. (2014). Sound Practice-improving occupational health and safety for professional orchestral musicians in Australia. *Frontiers in Psychology*, 5, 1-11.
- Ackermann, B., O'Dwyer, N., Halaki, M. (2014). The difference between standing and sitting in 3 different seat inclinations on abdominal muscle activity and chest and abdominal expansion in woodwind and brass musicians. *Frontiers in Psychology*, 5, 1-9.

2013

- O'Brien, I., Wood, J., Ackermann, B. (2013). Assessment of an acoustic screen used for sound exposure management in a professional orchestra. *Acoustics Australia*, 41(2), 146-150.
- Ackermann, B., Driscoll, T. (2013). Attitudes and practices of parents of teenage musicians to health issues related to playing an instrument: a pilot study. *Medical Problems of Performing Artists*, 28(1), 24-27.
- Chan, C., Driscoll, T., Ackermann, B. (2013). Can experienced observers detect postural changes in professional musicians after interventions? *International Symposium on Performance Science 2013*, Brussels, Belgium: Association Européenne des Conservatoires.
- Chan, C., Driscoll, T., Ackermann, B. (2013). Development of a specific exercise programme for professional orchestral musicians. *Injury Prevention*, 19(4), 257-263.
- Rickert, D., Barrett, M., Ackermann, B. (2013). Injury and the orchestral environment: part I. The role of work organisation and psychosocial factors in injury risk. *Medical Problems of Performing Artists*, 28(4), 219-229.
- Kenny, D., Fortune, J., Ackermann, B. (2013). Predictors of music performance anxiety during skilled performance in tertiary flute players. *Psychology of Music*, 41(3), 306-328.
- O'Brien, I., Driscoll, T., Ackermann, B. (2013). Sound exposure of professional orchestral musicians during solitary practice. *Journal of the Acoustical Society of America*, 134(4), 2748-2754.
- Rickert, D., Halaki, M., Ginn, K., Barrett, M., Ackermann, B. (2013). The use of fine-wire EMG to investigate shoulder muscle recruitment patterns during cello bowing: The results of a pilot study. *Journal of Electromyography and Kinesiology*, 23(6), 1261-1268.
- Chan, C., Driscoll, T., Ackermann, B. (2013). The usefulness of on-site physical therapy-led triage services for professional orchestral musicians - a national cohort study. *BMC Musculoskeletal Disorders*, 14, 1-9.

2012

- Rickert, D., Barrett, M., Halaki, M., Driscoll, T., Ackermann, B. (2012). A study of right shoulder injury in collegiate and professional orchestral cellists: An investigation using questionnaires and physical assessment. *Medical Problems of Performing Artists*, 27(2), 65-73.

- Driscoll, T., Ackermann, B. (2012). Applied Musculoskeletal Assessment: Results from a Standardised Physical Assessment in a National Population of Professional Orchestral Musicians. *Rheumatology: Current Research*, 52, 1-7.
- O'Brien, I., Driscoll, T., Ackermann, B. (2012). Hearing Conservation and Noise Management Practices in Professional Orchestras. *Journal of Occupational and Environmental Hygiene*, 9(10), 602-608.
- Ackermann, B., Driscoll, T., Kenny, D. (2012). Musculoskeletal pain and injury in professional orchestral musicians in Australia. *Medical Problems of Performing Artists*, 27(4), 181-187.

2011

- Chan, C., Driscoll, T., Ackermann, B. (2011). Development of a Specific Evidence-based Injury Prevention Exercise Program for Professional Orchestral Musicians. Third National Australian Physiotherapy Association (APA) conference, Brisbane: APA.
- Ackermann, B., Kenny, D., Fortune, J. (2011). Incidence of injury and attitudes to injury management in skilled flute players. *Work*, 40(3), 255-259.
- Evans, A., Driscoll, T., Ackermann, B. (2011). Prevalence of velopharyngeal insufficiency in woodwind and brass students. *Occupational Medicine*, 61(7), 480-482.

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- Ackermann, B., Driscoll, T. (2010). Development of a New Instrument for Measuring the Musculoskeletal Load and Physical Health of Professional Orchestral Musicians. *Medical Problems of Performing Artists*, 25(3), 95-101.
- Evans, A., Ackermann, B., Driscoll, T. (2010). Functional anatomy of the soft palate applied to wind playing. *Medical Problems of Performing Artists*, 25(4), 183-189.

2009

- Driscoll, T., Ackermann, B., Kenny, D. (2009). Injury surveillance in orchestral musicians. 9th National Conference on Injury Prevention and Safety Promotion 2009, Australia: Safety Institute Australia.
- Ackermann, B., Kenny, D. (2009). Musical performance. In Susan Hallam, Ian Cross, Michael Thaut (Eds.), *Oxford Handbook of Music Psychology*, (pp. 321-400). Oxford, UK: Oxford University Press.
- Kenny, D., Ackermann, B. (2009). Optimising Physical and Psychological Health in Performing Musicians. In Susan Hallam, Ian Cross, Michael Thaut (Eds.), *Oxford Handbook of Music Psychology*. Oxford, UK: Oxford University Press.

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- Ahn-Kim, Y., Chesky, K., Ackermann, B., Likar, A., Kadel, N., Stasney, C. (2009). The updated PAMA website: redesigning a webpage through communication within an organization. *Medical Problems of Performing Artists*, 21(3), 145-149.
- Kenny, D., Fortune, J., Ackermann, B. (2009). What predicts performance excellence in tertiary level music students? 2nd International Symposium on Performance Science ISPS 2009, Utrecht: Association Européenne des Conservatoires.

2007

- Kolodziej, I., Ackermann, B., Adams, R. (2007). Discrimination of cello string height: musicianship and sex. *Perceptual and Motor Skills*, 104(2), 510-518.
- Kolodziej, I., Ackermann, B., Adams, R. (2007). Discrimination of cello string height: Musicianship and sex. *Perceptual and Motor Skills*, 104(2), 510-518.

2005

- Ackermann, B., Adams, R. (2005). Finger movement discrimination in focal hand dystonia: Case study of a cellist. *Medical Problems of Performing Artists*, 20(2), 77-81.
- Ackermann, B., Adams, R., Kolodziej, I. (2005). Musicians health issues- Focus on hand dystonia. *Stringendo*, 27(1), 34-34.

2004

- Ackermann, B., Adams, R. (2004). Interobserver Reliability Of General Practice Physiotherapists In Rating Aspects Of The Movement Patterns Of Skilled Violinists. *Medical Problems of Performing Artists*, 19(1), 3-11.
- Ackermann, B., Adams, R. (2004). Perceptions Of Causes Of Performance-Related Injuries By Music Health Experts And Injured Violinists. *Perceptual and Motor Skills*, 99(2), 669-678.

2003

- Ackermann, B., Adams, R. (2003). Physical characteristics and pain patterns of skilled violinists. *Medical Problems of Performing Artists*, 18(2), 65-71.

2002

- Ackermann, B. (2002). Managing the musculoskeletal health of musicians on tour. *Medical Problems of Performing Artists*, 17(2), 63-67.
- Ackermann, B., Adams, R. (2002). Physical measures with between-limb asymmetry in skilled violinists. *From Cell to Society 3*, Sydney: The College of Health Sciences.

- Ackermann, B., Adams, R. (2002). Reliability of physiotherapists in observing functional movements of the upper limb used in violin playing from videotaped footage. VIIth International Physiotherapy Congress, Sydney: Australian Physiotherapy Association.
- Ackermann, B., Adams, R., Marshall, E. (2002). Strength or endurance training for undergraduate music majors at a university. *Medical Problems of Performing Artists*, 17(2), 33-41.
- Ackermann, B., Adams, R., Marshall, E. (2002). The effect of scapula taping on electromyographic activity and musical performance in professional violinists. *Australian Journal of Physiotherapy*, 48(3), 197-203.