Piteå, Sweden, 13-14 June 2013
Welcome to Acusticum, Piteå, for the first Nordic Conference in music medicine. The Conference is a new forum for researchers and clinicians, as well as musicians and music teachers with a special interest in Musicians’ Health and Performance

www.ltu.se/mhpnc2013
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Welcome to Scandinavia’s most Northern University of Technology

Luleå University of Technology is Scandinavia’s most northern university of technology, and offers world-class research and education. Our main campus is located in Luleå, a city with approximately 75,000 residents and which lies 120 km south of the Arctic Circle. It takes about an hour to fly to Luleå from Stockholm.

Our university is young. It was established in 1971 with 50 students and a small number of employees. Now, we are one of the country’s largest higher education institutions with 17,000 students and 1,600 employees. The other campuses are located in Kiruna, Piteå, Skellefteå and Filipstad.

We are foremost a university of technology, with specialised education primarily within civil engineer programmes, but we also offer creative and artistic subjects such as dance, music and theatre. We also provide the opportunity to study subjects such as philosophy and media with various specialisations.

Department of Health Sciences

The Department of Health Sciences is part of the Faculty of Humanities and Social Sciences and offers several programmes, including: Physical Therapy, Occupational Therapy, Health Guidance, Radiography, Nursing and several Specialist Nursing programmes.

The department’s activities are based on the Luleå campus. Several of the programmes and most of the single subject courses are offered in the form of distance education. Research and post-graduate studies are conducted within, e.g., Physical Therapy, Occupational Therapy, Nursing, Health Promotion, Sports Science and Medicine, and Pharmacology.

Musicians’ Health and Performance 1st Nordic Conference 2013

The Conference is a new forum for scientists, clinicians, musicians and music teachers with a special interest in Musicians’ Health and Performance, and is arranged by the Department of Health Sciences at Luleå University of Technology.

MHPNC 2013 will be the first Nordic Conference devoted to musicians’ health and performance and provides an opportunity to take part of and discuss recent progress in the area of music medicine.

The goal of the Conference is to bring together scientists, clinicians and musicians with special interests in various aspects of musicians’ health and performance to share their knowledge and ideas. The results of the Conference are expected to promote further research and development, and promote national and international collaborations within this area.

Topics covered include, e.g., musculoskeletal disorders, stress, hearing, health promotion, sensorimotor control and learning, performance, creativity, and related interventions.

About the Organisers

Organizing Committee Members

- Melt Levin, Conference Coordinator
  Office of Marketing and Communications Luleå University of Technology, Sweden
- Ulrik Röijezon, Assistant Professor, Chair of Conference
  Dept. of Health Sciences, Luleå University of Technology, Sweden
- Lars Nyberg, Professor
  Dept. of Health Sciences, Luleå University of Technology, Sweden
- Ulrika Lindstrom, PhD Student
  Dept. of Health Sciences, Luleå University of Technology, Sweden

Program Committee Members

- Lars Nyberg, Professor
  Dept. of Health Sciences, Luleå University of Technology, Sweden
- Ulrik Röijezon, Assistant Professor
  Dept. of Health Sciences, Luleå University of Technology, Sweden
- Teresa Nyman, PhD
  Karolinska Institutet and KTH Royal Institute of Technology, Stockholm, Sweden
- Svend Erik Mathiassen, Professor
  Dept. of Occupational and Public Health
  CBF Centre for Musculoskeletal Research, University of Gävle, Sweden
- Karen Sgaard, Professor
  Inst. of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark
- Birgit Juul-Kristensen, Associate Professor
  Inst. of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark
- Annchristine Fjellman-Wiklund, Associate Professor
  Dept. of Community Medicine and Rehabilitation, Umeå University, Sweden
- Helene Paarup, PhD
  Dept. of Occupational and Environmental Medicine, Odense University Hospital, Denmark
- Helena Börjesson
  Betania FHV, Stockholm, Sweden
- Lotte Nygaard Andersen, PhD Student
  Inst. of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark
# Conference program MHPNC2013

**MHPNC**  -  Luleå University of Technology

**Day 1 - Thursday June 13**

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## Day 1 - Thursday June 13

### 09.00-09.20
**Welcome Speech** - Mai Lindström, Head of Dept of Health Sciences and Christin Wiklund, Head of Dept. of Arts, Communication and Education

### 09.20-09.40
**Scientific 001** Lotte Nyagaard Andersen, Kirsten Kaya Roesler, Henning Eichberg
*Good Body Control While Playing Music*

### 09.40-10.00
**Scientific 002** Jesper Hyvär Schmidt, Ellen Råben Pedersen, Helene M Paarup, Jakob Christensen-Dalsgaard, Ture Andersen, Torben Poulsen, Jesper Bælum
*Hypermobility Among Musicians – Advantage or Disadvantage?*

### 10.00-10.20
**Scientific 003** Ian McDaid, John Rubin, Shashi Hirani, Edward Blake, Ruth Epstein
*An Investigation of Abdominal Muscle Recruitment for Sustained Phonation in 25 Healthy Singers*

### 10.20-10.50
**Coffee break**

### 10.50-11.10
**Keynote 001** Bronwen Ackerman
*Musicians’ Health – Past, Present and Future*

### 11.10-12.10
**Scientific 004** Ulrik Röijezon, Birgit Juel-Kristensen
*Motor Control Alterations in Musicians with Musculoskeletal Pain Disorders*

### 12.10-12.30
**Scientific 005** Birgit Juel-Kristensen, Ulrik Röijezon
*Phonation in 25 Healthy Singers of Professional Symphony Orchestra Musicians*

### 12.30-13.30
**Lunch**

### 13.30-14.00
**Lunch Concert – Kristallkvartetten (Crystal Quartet)**

### 14.00-14.20
**Scientific 006** Circle Coulter
*Fitness Training to Improve Musicians’ Health, Wellbeing and Performance*

### 14.20-14.40
**Scientific 007** Cecilia Wohlin-Erding, Annchristine Fjellman-Wiklund
*Pain, Strain and Joy - Musicians’ Perceptions of the Work Situation in Symphony Orchestras*

### 14.40-15.00
**Scientific 008** Marit Danielsen
*When My Feet Help Me Play Pianissimo. A Case Study of the Timani-Technique as an Example for Embodied Music Performance Teaching*

### 15.00-15.30
**Coffee break**

### 15.30-16.00
**Keynote 002** Karen Segard
*Risk Factors for Musculoskeletal Disorders, Why Are Musicians at Risk and Do We Have Research-Based Suggestions for Prevention?*

### 16.20-18.00
**Reception and Networking**

## Class room

### 09.20-10.20
**Workshop 001** Katarina Porander
*Good Body Control While Playing Music*

### 10.20-10.50
**Coffee break**

### 11.50-12.10
**Clinical 001** Kim Eriksson, Helene M. Paarup
*Musical Students and the Alexander Technique*

### 12.10-12.30
**Clinical 002** John Macfarlane, Boni Rietveld
*Malignancies Presenting at a Performing Arts Medicine Clinic*

### 12.30-13.30
**Lunch**

### 13.30-14.00
**Lunch Concert – Kristallkvartetten (Crystal Quartet)**

### 14.00-15.00
**Workshop 002** Ing-Marie Olsson, Karin Engquist, Inga-Britt Niemand
*Workshop Focusing on Various Playing Situations with Specific Instruments*

### 15.00-15.30
**Coffee break**

### 15.20-18.00
**Reception and Networking**

## Day 2 - Friday June 14

### 09.00-10.00
**Keynote 003** Fredrik Ulén
*The Music Performing Brain*

### 10.00-10.20
**Scientific 009** Lotte Nyagaard Andersen, Camilla Marie Larsen, Helene Paarup, Birgit Juel-Kristensen, Eleanor Boyle, Karen Søgaard
*Efficacy of ‘Specific Strength Training’ or ‘General Fitness Training’ and Influence on Self-Assessed Physical Fitness in Professional Symphony Orchestra Musicians - A Randomized Controlled Pilot Trial*

### 10.20-10.50
**Coffee break**

### 10.50-11.10
**Scientific 010** Anika Schöpping
*Lifelong Learning - A Study About Orchestra Musicians in “The Third Age”*

### 11.10-11.30
**Scientific 011** Camilla Marie Larsen, Lotte Nyagaard Andersen, Helene Paarup, Eleanor Boyle, Birgit Juel-Kristensen, Karen Søgaard
*Musculoskeletal Troubles in Professional Orchestral Musicians: The Influence on General Health and Playing Performance?*

### 11.30-12.30
**Workshop 004** Kjell Fagéus
*Artistic Mental Training for Stage and Education*

### 12.30-13.30
**Lunch**

### 13.30-14.00
**Clinical 008** Mikaela Pellomaa
*The Health Care of the Musicians - The Finnish Perspective*

### 14.00-14.30
**Clinical 009** Peter Jørgensen
*Establishment of a Clinic for Musicians at a University Hospital*

### 14.30-15.00
**Clinical 010** Karin Engquist, Inga-Marie Olsson, Inga-Britt Niemand
*Artist- & Musikeralshult - Describing the Processes of Teamwork to Help Students and Professional Musicians with Injuries, Both in Terms of Rehabilitation and Prevention*

### 15.00-15.30
**Coffee break**

### 15.30-16.50
**Panel discussion** - Future directions for research, clinical specialization and occupational health services for musicians’ health & performance?

### 16.50-17.00
**Closure**

## Class room

### 10.20-10.50
**Coffee break**

### 10.50-11.10
**Workshop 003** Bronwen Ackerman
*Embouchure and Breathing Workshop for Practitioners*

### 11.50-12.10
**Clinical 003** John Macfarlane, Boni Rietveld
*The Prevention of Complaints in Musicians*

### 12.10-12.30
**Clinical 004** John Macfarlane, Boni Rietveld
*Hypermobility and the Musician*

### 12.30-13.30
**Lunch**

### 13.30-14.00
**Clinical 005** Kerstin Dahmén, Andreas Sjögren
*Musicians and Hearing Problems*

### 14.00-14.30
**Clinical 006** Grete, Ege Grønland
*How to Play Music in Harmony with Your Body - Music Physiology, A Prevention Subject to Avoid Strain Injuries in Musicians*

### 14.30-15.00
**Clinical 007** Mary McGovern
*The Alexander Technique for Musicians*

### 15.00-15.30
**Coffee break**
Keynote Speakers

Fredrik Ullén, PhD, Professor
Fredrik Ullén is professor of cognitive neuroscience at the Karolinska Institutet, Stockholm. He is a very successful Swedish researcher who combines his research career with an international career as a concert pianist, and is also a member of The Royal Swedish Academy of Music. Fredrik Ullén’s research involves neural mechanisms of expertise, in particular musical expertise. His research focuses on exercise effects on the brain, learning skills, the brain’s handling of rhythm and timing, and creativity.

Presentation: THE MUSIC PERFORMING BRAIN

Karen Søgaard, PhD, Professor
Karen Søgaard is professor at the Institute for Sports Science and Clinical Biomechanics, University of Southern Denmark in Odense, Denmark. She has over 25 years research experience in exercise physiology, biomechanics, ergonomics and epidemiology. Her main focus is in physical education, health promotion, prevention and rehabilitation of musculoskeletal disorders. Karen Søgaard is an authority in occupational health medicine and will give her view of musician medicine within the broader context of occupational medicine

Presentation: RISK FACTORS FOR MUSCULOSKELETAL DISORDERS, WHY ARE MUSICIANS AT RISK AND DO WE HAVE RESEARCH-BASED SUGGESTIONS FOR PREVENTION?

Bronwen Ackermann, PhD, PT
Bronwen Ackermann is Australia’s leading specialist physiotherapist in the area of musicians’ health research, injury prevention and clinical treatment. She is an active clinician and researcher, working in the Sydney Medical School at the University of Sydney. She currently leads the Linkage grant, Sound Practice, with all the major Australian orchestras as industry collaborators to address occupational health risks within the orchestral workplace. Bronwen Ackermann’s research interests include investigating better clinical movement analysis protocols for musicians, refining targeted rehabilitation and injury prevention strategies, and investigating physiological characteristics of elite music performers.

Presentation: MUSICIANS’ HEALTH – PAST, PRESENT AND FUTURE
Keynote presentations

KEYNOTE 001

MUSICIANS’ HEALTH – PAST, PRESENT AND FUTURE

Bronwen Ackermann
Discipline of Biomedical Science, Sydney Medical School, Lidcombe, NSW 1825, Australia.

Abstract
This presentation will present an overview of the emergence of the field of music medicine and the typical injuries faced by this population. Research to date has proposed a number of key risk factors leading to injury in performers, and the common injuries seen in the clinical setting. A particular challenge faced today by clinicians and researchers is that our methods of assessment and rehabilitation have not been targeted to meet the needs of this hyper-functioning population and are based on traditional models of deficit-based assessment and injury management that only returns performers to a general population norm. Goals and strategies of future research will be discussed including task analysis of injured musicians in this population, the need for establishing potential boundaries of ‘how much is too much’, the challenges of implementing injury surveillance and prevention programs, and extending our clinical management to encompass the needs of elite performers.

KEYNOTE 002

RISK FACTORS FOR MUSCULOSKELETAL DISORDERS, WHY ARE MUSICIANS AT RISK AND DO WE HAVE RESEARCH-BASED SUGGESTIONS FOR PREVENTION?

Karen Sagaard
Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense M, Denmark

Abstract
It is well known from work physiology, that repetitive and high frequency movements is a risk factor for development of musculoskeletal disorders. Aggravating factors are low degree of variation, high demands on precision both in relation to timing and level of force as well as high mental demands and irregular working hours. For many musicians this is a description of their occupational exposure both during practice and performance. Therefore, it is not surprising that a literature search on musculoskeletal disorders among musicians reveals a large number of papers documenting a high frequency of playing related disorders. There is a considerable relation between disorders in different locations and the instrument played, which clearly indicate an ergonomic factor. Of notice is that female musicians and string players are most at risk for attracting symptoms.

For musicians, musculoskeletal disorders not only cause pain and decreased quality of life but may also have an effect on performance and the chances to continue as a musician. Therefore, there is a crucial need for good prevention and treatment of musculoskeletal disorders among musicians.

Good ergonomics aims to fit the task to the man and usually involve both an adjustment of tools and work place as well as the advice to increase variation as much as possible during the repetitive work task. Obviously these advices are hard to follow for a musician.

Recently, the concept of intelligent physical exercise training has been evaluated and especially for sedentary jobs with high repetitive movements has shown a pain relieving effect. Such an approach may also benefit musicians if it can be tailored to their specific needs.

KEYNOTE 003

THE MUSIC PERFORMING BRAIN

Fredrik Ullén
Dept. of Neuroscience, Karolinska Institutet, SE-171 77 Stockholm, Sweden

Abstract
Musicians have become one of the most commonly used model groups in studies of expertise and brain plasticity, and the neurobiology of music is today a well-established field of research within cognitive neuroscience. In this talk, I will summarize some major findings that have emerged from research on the brains of musicians, and discuss a number of current key questions in the field. Topics to be discussed include effects of musical training on the anatomy and function of the brain, whether there are sensitive periods for musical training during development, transfer effects of musical training on other abilities, and specific effects of training musical improvisation. I will also present a recently started collaborative research programme, Humans Making Music, where we study a number of broad questions relating to the neuropsychology of music from a behavior genetic perspective.
Workshops

GOOD BODY CONTROL WHILE PLAYING MUSIC

Katarina Porander
Ergokinetics company, Espoo, Finland

Abstract
The presentation contains practical demonstrations with music students. The teacher participates with their student and present the physical problems in playing. The physiotherapist is working on the body by doing different exercises and after that transfer a better body function to playing. A balanced and naturally working body and good playing technics goes hand in hand, this is what we will experience in this workshop. Musculoskeletal injuries will happen as a result of insufficient body control and incorrect training. Music education that emphasized body consciousness is important when preventing injuries, but it also makes playing easy and relaxed. In the end of the workshop there will be a discussion about the importance right ergonomics and the role of the physiotherapist in music education and training of teachers.

WORKSHOP 002

WORKSHOP FOCUSING ON VARIOUS PLAYING SITUATIONS WITH SPECIFIC INSTRUMENTS

Ing-Marie Olsson, Karin Engquist, Inga-Britt Niemand
Artist- och Musikerhälsan, Malmö, Sweden

Abstract
Workshop about different playing situations depending on which instrument you are playing. Ergonomics with focus on stable positions and balanced movements while playing in sitting or standing positions (1, 2, 3). Special focus at the interplay between the musician and the instrument (4). Tension and pain (5) is common problems for the musicians and for the students. We want to illustrate the analysis and the change with starting-point from a string instrumentalist (6), a wind instrumentalist (7) and a pianist (8). Presentation of the function of the shoulder girdle because of it’s complexity and how to find strain-free movements. Some improving exercises will be presented.

References
4. Chamagne Ph. Prévention des troubles fonctionnels chez les musiciens: aleXitère; 1996
8. Mark Th. What every pianist needs to know about the body: Chicago: GIA Publications, Inc.; 2003

EMBOUCHURE AND BREATHING WORKSHOP FOR PRACTITIONERS

Bronwen Ackermann
Discipline of Biomedical Science, Sydney Medical School, Lidcombe, NSW 1805, Australia.

Abstract
Background: For singers, woodwind and brass players, precise control of the breathing apparatus, jaw and facial muscles are critical to reach and sustain optimal performance levels. Very little research has been done with musicians, particularly wind players, and much of the existing respiratory research is based on respiratory diseases or maximal airflow topics.

Purpose of workshop: The aim of this workshop is to give a summary of existing evidence on breathing mechanisms and facial muscle activity patterns, including new research conducted on 115 wind musicians characterizing these patterns into instrument-specific demands. Following this, clinical methods of assessing and rehabilitating breathing and embouchure dysfunction based on functional anatomy and scientific evidence will be discussed and practiced.

ARTISTIC MENTAL TRAINING FOR STAGE AND EDUCATION

Kjell Fagéus
Freelance, Stockholm, Sweden

Abstract
The purpose of this training is that musicians may perform at their own highest level with flow. The training follows a progressive line and provides a physical and mental space where the musicians can feel calm, confident, and free to try, play, fail and succeed. Our individual learning stories will have a prominent place. Stories will be used as a “mirror gallery”, where the musician can reflect himself or herself. The progressive line and the space rig a setup where knowledge and experience creates by itself - from within the musicians. Participants are trained in mental strengths, strengths in traditional sense and more profound allowing oneself being human, sensitive and vulnerable.
HEARING LOSS, TINNITUS AND HYPERACUSIS IN RELATION TO SOUND EXPOSURE OF PROFESSIONAL SYMPHONY ORCHESTRA MUSICIANS

Jesper Hvass Schmidt1,2, Ellen Raben Pedersen1,4, Helene M Paap1,4, Jakob Christensen-Dalsgaard1, Ture Andersen1,4, Torben Poulsen5, Jesper Baelum1,4
1Dept. of Occupational and Environmental Medicine, Odense University Hospital, University of Southern Denmark, DK, Odense, Denmark, 2Institute of Biology, Centre for Sound Communication, University of Southern Denmark, Odense, Denmark, 3Institute of Clinical research, University of Southern Denmark, Odense, Denmark, 4Institute of Occupational and environmental Medicine, Odense University hospital, University of Southern Denmark, Odense M, Denmark

Abstract

Background: Professional symphony orchestra musicians are exposed to loud sounds from music but it is still debated whether increased sound exposure leads to an increased risk of noise induced hearing loss and hearing associated symptoms such as tinnitus and hyperacusis (1). Tinnitus and hyperacusis may be particular prominent in a population of musicians since musicians especially pay attention to audiological symptoms.

Objectives: To estimate the hearing status objectively and subjectively of classical symphony orchestra musicians and to investigate the hypothesis that occupational sound exposure of symphony orchestra musicians lead to elevated hearing thresholds and increased risk of hearing associated symptoms.

Methods: The exposure was estimated by binaural sound measurements of the sound exposure during concerts, rehearsals and personal practice. 212 musicians from five symphony orchestras took part in audiometric testing and the test results were analysed in relation to the individual exposure. The musicians’ individual exposure was estimated on the basis of sound measurements and data from a cross sectional self-reported questionnaire regarding the exposure time. The mean hearing threshold at the frequencies 3, 4 and 6 kHz, corrected for age and gender (2), was calculated for adjustments required for individual instruments, for breaks or for action to prevent pain. Musicians’ strong sense of coherence and the experience of pain as integral to their identity have encouraged musicians to develop flexible coping strategies. Ignoring pain and potential damage is an accepted concomitant to striving for perfection. A musician does not focus on pain but on the music.

Conclusion: Most of the symphony orchestra musicians had normal hearing but they had a work-related risk of developing additional noise induced hearing loss. Increased risk of tinnitus and hyperacusis is in relation to the exposure could not be observed. The observed additional noise induced hearing loss was at the expected level based on reference values from cumulated sound exposure (3).

References

PAIN AMONG PROFESSIONAL ORCHESTRAL MUSICIANS: A CASE STUDY IN BODY CULTURE AND HEALTH PSYCHOLOGY

Lotte Nygaard Andersen1, Kirsten Kaya Roessler1, Henning Eichberg1
1Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense M, Denmark, 2Institute of Psychology, University of Southern Denmark, Odense M, Denmark

Abstract

Introduction: Professional musicians experience high rates of musculoskeletal pain (1, 2), but only few studies have investigated how this pain is accepted by musicians.

Aim: To investigate the culture of pain and to explore how professional musicians experience and cope pain.

Methods: Ten semi-structured in-depth interviews were conducted; eight with musicians and two with professional elite athletes. In addition, a concert and two rehearsals were observed. The audio-taped interviews were transcribed verbatim. Configurational analysis was used to interpret the material as a whole.

Results: Musicians often experience pain as a consequence of prolonged repetitive work early in their career. Such pain is often compounded by the lack of breaks during concerts and rehearsals. Orchestras seldom give opportunities for adjustments required for individual instruments, for breaks or for action to prevent pain. Musicians’ strong sense of coherence and the experience of pain as integral to their identity have encouraged musicians to develop flexible coping strategies. Ignoring pain and potential damage is an accepted concomitant to striving for perfection. A musician does not focus on pain but on the music.

Conclusion: For the musician pain has a significance beyond being something that can simply be removed by a practitioner. Pain tells both an individual and a cultural story that is crying out to be heard.

References

AN INVESTIGATION OF ABDOMINAL MUSCLE RECRUITMENT FOR SUSTAINED PHONATION IN 25 HEALTHY SINGERS

Ian MacDonald, John Rubin, Shashi Hirani, Edward Blake, Ruth Epstein
University College London, London, UK

Abstract

The purpose of this study was to investigate the baseline muscle thickness and recruitment patterns of the transversus abdominis muscle (TAM) and the internal oblique muscle (IOM) during semi-sustained phonation in a group of healthy performers.

Study design: Two 2x2 groups with repeated measures study examined changes just prior to vocalising a simple vowel (a), the absolute changes in millimetres and the percentage change measures calculated for three voice qualities (modal, opera and belt), and at two pitches (low and medium).

Methodology: The convenience sample had 12 males and 13 females, with an average age of 21.9 years (sd=4.28). A control was labelled “modal voice” (no technical preparation) and “opera quality” and “belting quality” were chosen for the technical and belting requirements. Measurements were taken with ultrasound Sonosite Micromaxx US) of the baseline thickness and % recruitment during voicing, of the two deep abdominal muscles. A transducer was placed transversely across the abdominal wall on a point between the inferior angle of the rib cage and the iliac crest and 10cm from the umbilicus until the ante-romedial aspect of the transversus abdomens was visualised. On-screen callipers were then used to take a very clear measure from a frozen M-mode image. Correlations between TAM and IOM absolute change scores; TAM and IOM percentage change scores; and muscle changes (absolute and percentage) and age, were examined. Gender differences in the 4 types of change scores within each combination of pitch and quality were conducted with one-way ANOVAs. Alpha level was set to 0.05.

Results: In terms of absolute contractions (changes in the actual millimetre thickness of the muscle) the IOM was always greater than the TAM. However, in terms of percentage changes in muscles, the TAM was always greater than the IOM. Changes in absolute measures are related between the IOM and the TAM; however, percentage changes in the IOM are generally not correlated significantly. The TAM as a percentage change was recruited preferentially and significantly in most vocal qualities tested. Although there were differences in muscle mass and recruitment patterns between genders, and males had thicker muscle mass at rest, these differences were not conclusive.

Conclusions: Overall this study supports the argument that the peri-abdominal muscles do indeed play a role in supporting the “performing” or athletic voice in healthy subjects, and will hopefully act as a database for further research in individuals with healthy and injured voices.

HEARING LOSS, TINNITUS AND HYPERACUSIS IN RELATION TO SOUND EXPOSURE OF PROFESSIONAL SYMPHONY ORCHESTRA MUSICIANS

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Abstract

Background: Professional symphony orchestra musicians are exposed to loud sounds from music but it is still debated whether increased sound exposure leads to an increased risk of noise induced hearing loss and hearing associated symptoms such as tinnitus and hyperacusis (1). Tinnitus and hyperacusis may be particular prominent in a population of musicians since musicians especially pay attention to audiological symptoms.

Objectives: To estimate the hearing status objectively and subjectively of classical symphony orchestra musicians and to investigate the hypothesis that occupational sound exposure of symphony orchestra musicians lead to elevated hearing thresholds and increased risk of hearing associated symptoms.

Methods: The exposure was estimated by binaural sound measurements of the sound exposure during concerts, rehearsals and personal practice. 212 musicians from five symphony orchestras took part in audiometric testing and the test results were analysed in relation to the individual exposure. The musicians’ individual exposure was estimated on the basis of sound measurements and data from a cross sectional self-reported questionnaire regarding the exposure time. The mean hearing threshold at the frequencies 3, 4 and 6 kHz, corrected for age and gender (2), was used as objective outcome and subjective outcomes were hearing loss, tinnitus and hyperacusis.

Results: Most of the musicians had better hearing at 3, 4 and 6 kHz for age than expected. Musicians with an average annual exposure above 90.4 dBA and with a mean exposure time of 41.7 years showed significant elevated hearing thresholds of 6.3 dB compared to the musicians with lowest exposure. Trumpet players and the left ear of 1st violinists had significant elevated hearing thresholds compared to other musicians. 1st violinists had on average 5.6 (95% confidence interval (CI) 2.4– 8.9) dB poorer hearing on their left ear compared to the right ear which was related to the asymmetric exposure. Approximately one third of the musicians complained of hearing associated symptoms. No statistic significant relationship between increased exposure and increased risk of tinnitus and hyperacusis could be observed.

Conclusions: Most of the symphony orchestra musicians had normal hearing but they had a work-related risk of developing additional noise induced hearing loss. Increased risk of tinnitus and hyperacusis in relation to the exposure could not be observed. The observed additional noise induced hearing loss was at the expected level based on reference values from cumulated sound exposure (3).

References

MOTOR CONTROL ALTERATIONS IN MUSICIANS WITH MUSCULOSKELETAL PAIN DISORDERS

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Musculoskeletal pain disorder (MSD) is a common cause for long-term work absenteeism among both women and men in the western world, including the Nordic countries. Musicians represent a profession highly afflicted with pain disorders, especially the areas of the neck, shoulder, arm, hand and the upper and lower back.

During the last decades an abundant amount of research has reported associations between MSD and motor control disturbances. Common findings include altered neuromuscular coordination and reduced movement precision, as well as reduced strength, endurance and mobility. These disturbances can be of importance for recurrence and duration of the disorders, but also for work ability. Presumably, this can be of specific significance, with risk for absenteeism among professions with high demands on motor control.

Musicians are highly dependent on fine motor control, such as fast and accurate finger movements, as well as postural and muscular endurance. Although the amount of research on motor control in pain disorders is extensive, only a few studies have investigated sensorimotor functions among musicians with musculoskeletal pain disorders. Altered posture has been reported, where one study reported dysfunction of the postural stability systems of the low back, shoulder and neck among musicians with playing related disorders (1). However, this study lacked an asymptomatic control group. A couple of studies have reported increased sensorimotor disturbances of the hand and arm among music students with symptoms compared to asymptomatic controls (2,3). A few studies have investigated musculoskeletal activity of superficial neck-shoulder muscles in musicians with neck pain while playing the violin or viola, but the results are inconherent reporting both increased and reduced muscle activity, e.g. (4, 5).

Taken together, altered motor control appears to be a concern for musicians with playing related MSD. There is, though, a need for further investigation into motor control functioning among musicians and the association with MSD, especially whilst playing musical instruments. Increased insights in this area can be of important value for prevention and rehabilitation strategies.

**References**


**FITNESS TRAINING TO IMPROVE MUSICIANS' HEALTH, WELLBEING AND PERFORMANCE**

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This research consists of a Doctorate program's proposal and will develop fitness assessments and exercise programmes tailored to specific instrumental groups, thereby complementing the more general research already undertaken in similar institutions.

The training required to reach the highest levels of performance is significant for musicians. The achievement and improvement of musical competences and technical abilities are subject to the use of the body, sometimes in unnatural positions, by means of continuous and repeated movements; it will come as no great surprise that musicians experience susceptible changes in musculature, bone structure, circulation and respiration to the same degree as expert performers in other domains (1). At length, a daily practice routine accompanied by strenuous repetitive movements can even degenerate into chronic health problems and musculoskeletal injuries which may affect musicians immeasurably.

The causes of these musculoskeletal symptoms have been documented mainly as being over-practising, insufficient rest breaks, poor posture, poor physical condition, change of instrument or inadequate instrument set-up, difficult repertoire, and stress of a demanding lifestyle (2).

Concerning the importance of prevention to avoid ill health within the profession, musicians can been seen (at least to some extent) as athletes of the upper body. However, all athletes warm up before and cool down after practice and performance because injuries are common if muscles are not exercised. Zaza and Farewell (3) demonstrated that warming up before, taking breaks during practice and cooling down after practice and performance can prevent performance-related pain and injuries.

Unfortunately, musicians often tend to underestimate the long-term consequences of bad habits and stress on their physical and mental health. Indeed, according to Williamon et al. (4), musicians tend not to score well on standardized tests of physical fitness. Giving the physicality of musicians’ work, it would be thus suitable to develop specific and tailored exercises, focused on strengths and weaknesses of each instrument.

Nonetheless, studies directly relating to instrument-specific fitness are conspicuously missing from the literature, and therefore musicians must turn to generic recommendations from other fields, such as exercise science, sport and dance.

The main aim will be to improve musicians’ health and wellbeing by changing individual musicians’ attitudes towards health music making and by creating a step change in educational and employment contexts.

**References**

PAIN, STRAIN AND JOY - MUSICIANS’ PERCEPTIONS OF THE WORK SITUATION IN SYMPHONY ORCHESTRAS

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Abstract
Introduction: Musicians perform demanding work tasks under psychological pressure (1). Work-related musculoskeletal symptoms as well as stress and stage fright, are common problems in symphony orchestras (2). Research shows that physical work-load interplay with psychosocial factors in the genesis of musculoskeletal symptoms (3). This study aimed at exploring how musicians in symphony orchestras perceive and deal with their work situation and related conditions.

Methods: The study had a qualitative approach with semi-structured interviews. Three women and three men in professional symphony orchestras were interviewed. The interviews were tape-recorded, transcribed and analyzed according to a phenomenographic approach.

Results: Four themes emerged from the interviews. There were High external and internal demands, ascribed as part of the requirements of the profession. The orchestra was described as a collective, dependent on the individuals to produce high quality concerts. No mistakes or excuses were accepted from themselves or their colleagues. Physical demands such as tiring, locked work postures and not being allowed to choose chair or take a break when needed were addressed. The loud work environment contributed to stress. The informants experienced mental and physical symptoms. They felt nervous, vulnerable and exposed, both during rehearsals and concerts. This made it difficult to control the tone and quality. Muscle tension, stiffness and pain were described, in connection to periods with high work-load or through the professional lifespan. Hearing problems were vividly described. The musicians had Multiple ways of handling the work situation, often in combinations. Bodily awareness and mental training techniques were used to focus better on work tasks and to cope with symptoms. Physical exercise was considered to be important in order to cope with the physical demands. Physical exercise could also make muscle pain become worse. It was difficult to find relief from musculoskeletal symptoms. The musicians often played despite of pain and had difficulties getting adequate treatment. The musicians loved the music and to perform it, and expressed both joy and satisfaction. High demands on perfection contributed to symptoms, but also to good concerts. Some colleagues were close friends, and positive feedback from them was important, although too seldom communicated.

Conclusions: This study contributes to a deeper understanding of the work situation in a symphony orchestra and what difficulties to handle. Health promotion programs including teaching young music students how to cope with such situations, and how to prevent musculoskeletal symptoms, at an early stage in the career is important.

References

Efficacy of ‘Specific Strength Training’ or ‘General Fitness Training’ and Influence on Self-Assessed Physical Fitness in Professional Symphony Orchestra Musicians - a Randomized Controlled Pilot Trial

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Abstract
Introduction: Among professional musicians playing-related disorders are frequent with a point prevalence from 39% to 87% (1). This is probably due to static contractions and repetitive movements during long rehearsals and concerts. Holding and playing an instrument for many hours implies high demands of precise and accurate grasps that cannot be performed without a certain muscular endurance and strength (2). Although, there is still no evidence for training methods, effective training appears to represent a balance between the maximization of the quantity of playing (1). The aims of the study were, 1) to evaluate efficacy of two interventions on general pain and physical capacity, 2) to evaluate interventions influence on self-assessed physical fitness.

Methods: A total of 23 professional symphony orchestra musicians were randomly allocated to either 1) specific strength training group (SST, n=12) or 2) general fitness training group (GFT, n=11). The participants conducted 3 x 20 minutes training each week at the workplace for 9 weeks.

Results: At baseline the two groups did not differ on age, gender, BMI, grip strength, aerobic power or general pain (p>0.18-0.73). From PRE to POST GFT increased significantly in aerobic power (Δ=0.93 to 10.9 ml/kg/min) compared to the decrease in SST (Δ=1.8 to -3.9 ml/kg/min) (p=0.01). From PRE to POST, SST showed a significant reduction in pain (ΔVAS=14.9 (29.9 to 0.3) mm) (p=0.05), while GFT decreased non-significantly (ΔVAS=6.3 (-13.6 to 1.0) mm) (p=0.09). However, GFT increased in self-assessed muscle strength from PRE to POST (Δ=0.7 (-0.7 to 2.0)) (p=0.23).

Discussion and conclusion: This study showed a clinically relevant lowering of general pain in SST. GFT achieved an increase in aerobic power but this increase in cardiorespiratory fitness was generally not reflected in the musicians’ own assessment of their physical fitness. However, GFT assessed an increase in muscle strength which could indirectly be related to a perceived improvement in functional capacity. The clinical relevance of the increase in self-assessed muscle strength may be questioned and more studies on interventions with training tailored to improve musicians’ physical fitness are needed.
**LIFELONG LEARNING A STUDY ABOUT ORCHESTRA MUSICIANS IN “THE THIRD AGE”**

Annika Schönning
Stockholm Royal Philharmonic Orchestra, Stockholm, Sweden

**Abstract**

What differentiates orchestra musicians from most other professional groups is that their learning period is extremely long; those who continue the hobby of their youth into a musical profession may have prepared their professional life for 15, perhaps 20 years (1, 2, 3, 4). Their working life could be described as a continuation of their student years with ever-lasting new studies tasks, but with an implacably imparting power time factor. Age has an inevitable impact on the professional life of the musicians (5) and the musicians self-critical forces them to quit before they “have become a problem”. Musicians are highly intolerant against everything that negatively affects the quality of the play and which may impair the reputation of the orchestra. Musicians must play their part well, but the high demands for admission to the orchestra usually guarantee that the musician has the capacity to do so during their whole professional life (5). But not even the expert commands the practiced skills forever, expertise demands a continuous grounding. According to Brodsky (6) it is remarkable that so little research has addressed the full life span of musicians although orchestras now to 40 % consists of musicians older than 50. Brodsky does not refer to own studies within the area but discusses results from research conducted from future research; have orchestra musicians in general more resistance or higher ability to recover than the general population? Is it because of the life-long musical training, or is it a lifestyle of playing and performing that somehow makes the musicians – more than the rest of the population – immune to aging, Brodsky wonders. My study describes individual learning strategies as well as collective learning among experienced orchestra musicians in “the third age”; 50 to 65 years old. I have interviewed seven string musicians working in the three largest symphony orchestras in Sweden. The results show that their work methods change over time in relation to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear.

**References**

6. Brodsky W. Rationale behind investigating positive aging among symphony orchestra musicians in “the third age”. 50 to 65 years old. I have interviewed seven string musicians working in the three largest symphony orchestras in Sweden. The results show that their work methods change over time in relation to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear. It was obvious that there is a problem to verbalise the musicians thoughts about strategies to their experiences but also due to physical and mental wear.

**SCI1001 MUSCULOSKELETAL TROUBLES IN PROFESSIONAL ORCHESTRA MUSICIANS: THE INFLUENCE ON GENERAL HEALTH AND PLAYING PERFORMANCE?**

Camilla Marie Larsen1, Lotte Nygaard Andersen1, Helene Paastrup2, Eleanor Boyle1, Julei Kristensens1, Karen Sieggaard1

1Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, M. Denmark, 2Department of Occupational and Environmental Medicine, Odense University Hospital, Odense, C. Denmark, 3Institute of Occupational Therapy, Physotherapy and Radiography, Søbgeren University College, Bergen, Norway

**Abstract**

Introduction: Musculoskeletal (MSK) symptoms are frequent in orchestral musicians (1,2). A recent study of report-

**References**

Clinical presentations

CLINICAL 001

MUSIC STUDENTS AND THE ALEXANDER TECHNIQUE

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Abstract

Introduction: In the last couple of decades the interest for scientific research of Alexander Technique (AT) has increased and so has research within musicians’ health. Among musicians AT has been popular for years as a means to alleviate playing-related musculoskeletal problems and facilitate performance.1 Many major music conservatories offer AT to their students. Among musicians improvements in performance after AT lessons have been objectively assessed.1,2 AT is known to affect different aspects of motor behavior and can result in changed postural regulation when standing as well as in increased adaptability of muscle tone and posture changes and reduced muscle activity have been demonstrated.3 Musculoskeletal problems are frequent among professional orchestra musicians with one-year prevalence rates of more than 80%.4,5 The musculoskeletal disorders in professional musicians are often repetitive strain injuries. The majority of symphony orchestra musicians have experienced that musculoskeletal problems interfere with their music playing.

Aims: The overall aim was to apply AT on academy music students to direct themselves in their motion pattern while playing in order to facilitate that they apply as little force as possible when playing and that playing positions are adjusted to be less strenuous.

Methods: This 12 weeks course in AT with one lesson per week was held at The Royal Danish Academy of Music in 2012. Mostly 9-10 students were present although 12 had assigned to the course. Students were instrumentists and singers from different classes. The AT course was group-based and comprised hands-on guidance as well as verbal explanation to teach the students how to reduce improper postural and movement habits, and to alter habitual movement responses to pain into coordinated movements requiring less effort. However, no specific measuring of any of the course was planned on beforehand.

Discussions: Based on the consecutive dialogues with the students during the course it turned out that the students appeared to attend the course for different reasons: some due to having musculoskeletal problems while others intended to improve their playing. While working with the coordination of their playing positions the sound of their playing was improved and some experienced less tensed/sore muscles. However, no specific follow-up was planned to ensure that the students were able to continue improving with their playing positions without the AT teacher.

Objective measures of the effect of AT courses for academy students explored by using qualitative and quantitative research methods should be performed.

References


CLINICAL 002

MALIGNANCIES PRESENTING AT A PERFORMING ARTS MEDICINE CLINIC

John Macfarlane, Boni Rietveld
MC Haaglanden, The Hague, The Netherlands

Abstract

We report here four performing artists who were referred for an opinion about their musculo-skeletal complaints, and this resulted in 4 widely differing diagnoses.

As: 22 year-old male musician with 3 months of low back pain, worse after activity but also occurring at night. The pain was central and did not radiate to the buttocks or legs. There were no paraesthesias. He denied skin, joint

References

and eye complaints and had no morning stiffness. Two weeks later he presented with a painful testis. This led to the
diagnosis of testicular cancer with para-aortic metastases for which he received an operation and chemotherapy with
success.
B: 50 year old amateur ballet dancer who had 3 weeks’ pain in the lower back with some radiation to both legs
but no paraesthesias. He complained of nocturnal pain but no morning stiffness. He denied joint and eye
complaints. There was no compression pain. Standard radiographs showed an compression fracture of T 12. The
subsequent MRI suggested a tumor; later confirmed to be a non-Hodgkin Triple B lymphoma for which he is receiving
radiotherapy, a corset and chemotherapy.
C: 58 year old dance teacher (and smoker) with pain in the right elbow two months after heavy physical effort. The
pain was mainly localized to the medial epicondyle but radiated to both the upper- and lower arm and was made
worse by use. A radiograph of the right elbow disclosed a lytic lesion in the distal humerus. A thoracic radiograph
showed an abnormal hilus and some atelectasis. Lung carcinoma was confirmed by bronchoscopy and she has
received radiotherapy to the humerus and lung and she is at present in a stable condition after 3 chemotherapies.
D: 33 year old professional singer who complained of intermittent pain in the left hip area, gradually worsening over
3.5 years with increasing difficulty in mobility but experiencing temporary relief by repeated manual therapy. A radio-
graph showed extensive lysis around the acetabulum and a speckled appearance of the os ischium. An urgent MRI
confirmed the suspicion of a chondrosarcoma in the os ischium with invasion of the small pelvis. She has undergone
several extensive operations including for recurrences. For the last 4 years she has been in good health. Important
clinical lessons can be learned from these patients. Even healthy performing artists with musculo-skeletal complaints, seemingly attributable to poor posture or overuse, may have an underlying malignancy.

References

HYPERMOBILITY AND THE MUSICIAN

John Macfarlane, Boni Rietveld
MC Haaglanden, The Hague, The Netherlands

Abstract
It is self-evident that hypermobility might be an asset for dancers. For musicians this is less certain. Of course a high
degree of dexterity is required but this does not necessarily have to be linked to any hypermobility. Indeed, in our
experience, hypermobility can be detrimental for optimal performance.
First we should consider what is meant by hypermobility. It is common practice to use the Beighton Hypermobility
Criteria (1). The scale is from 0-9 and, if limited to only the arms, then the scale is 0-6. For the majority of musi-
cians the Beighton score is often irrelevant because their increased laxity occurs in one or more of the following joints
- 1st carpo-metacarpal (cmc), 1st metacarpal-phalangeal (mcp), inter-phalangeal joint of the thumb, the proximal-
and/or distal inter-phalangeal (pips and dips). None of these joints is specifically included in the Beighton scoring
scheme. It is quite possible for a musician to have a low Beighton score and still be very hypermobile in the hands.
Though the majority of complaints in musicians concern the upper extremity, the legs can be affected - ankle instabil-
ity, hypermobility and muscle weakness have been seen in organists and drummers. The development of the Brighton
criteria for the better recognition of the (benign) hypermobility syndrome has result-
ed in an improved assessment of many with chronic pain (2). The minor criteria include features more reminiscent of
such connective tissue disorders as Ehlers-Danlos and Marfan’s syndrome. The specific joints mentioned above are
not named but the term arthralgia can surely include those listed. The consequences of hypermobility for the musician include muscle weakness, tendon irritation, (sub)luxations, pain and premature arthrosis. The treatment options are limited but even just providing information can be beneficial. There is a place for muscle strengthening exercises (core-stability, shoulder stabilization, hand physiotherapy) and various orthotics such as thumb base splints and silver-ring splints. Attention should be paid to posture, both with and without the instrument. The management of pain requires teamwork and sometimes help from a psychologist.

References

MUSICIANS AND HEARING PROBLEMS

Kerstin Dahlmén, Andreas Sjögren
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Abstract
What is the influence of subjective hearing problems as tinnitus and hyperacusis and how do we cope with them and
what type of treatment can we offer them? As we already know through the results of studies about hearing problems of Kim Kähär the subjective problems are usually more common among the musicians than in the general population, and more common than hearing loss. In Artist- och Musikerhalsan we have also gone through a questionnaire among orchestra musicians in south of Swe-
den (not published) where we saw the same result as of Kähär. And there are often problems of the sound level of the hall where musicians are playing and an impressive stress level. Discussion about sound levels that the ear can stand and protective possibilities.

HOW TO PLAY MUSIC IN HARMONY WITH YOUR BODY- MUSIC PHYSIOLOGY, A PREVENTION SUBJECT TO AVOID STRAIN INJURIES IN MUSICIANS

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The Grieg Academy, Bergen, Norway; Haukeland University Hospital, Bergen, Norway

Abstract
Introduction: The subject Music physiology was developed in 1971 by physiotherapist Lille Lærum at Bergen
music conservatory. She formed the subject on what she experienced was the need for the young music students
that suffered from different kinds of strain injuries. In addition to a general education on the subject she also gave the
students individually hours.
Purpose: The purpose for the subject is to teach the students what to do to avoid strain injuries in order to strengthen their performance and hopefully enable them to have a long career as musicians. 

Method: The Alexander Technique is a practical subject where the students learn different exercises to use before, during and after playing music. They are taught how to play in harmony with their body when they start to play an instrument. The teachers of the Alexander Technique are trained to observe the influence of people’s use of themselves upon function, especially on the functioning of the postural mechanisms and the mechanisms of respiration. By means of the exercises, the Alexander Technique aims at increasing the body's awareness, the ability to control, and the ability to adjust to the requirements of specific musical tasks. The road from idea to reality is long and winding, and involves complex research regarding many and varied issues, and at different levels. Focused efforts must be directed towards: involving many people with differing interests; financial decisions; negotiations among the involved clinical specialties; good physical environments; employment of clinicians and researchers; strategic decisions on the board of directors and political acceptance of an unusual health area (1, 2, 3).

Conclusion: The establishment of a clinic for health problems in performing artists (initially a clinic for diseases that afflict professional musicians) requires the presence of certain key elements: There must be a demand for the clinical solution; clinical expertise in multiple specialties is a necessity and scientific research must support the evidence-based clinical areas. In order to ensure the qualitative aspects of daily business as well as a continued development of the area, it is necessary to work with a clinical department with functions in daily clinical work combined with knowledge of organisational/industrial psychology, social issues and occupational and environmental diseases. Odense University Hospital has collaborated with the University of Southern Denmark in the establishment of a clinic for performing artists (musicians) starting June this year. The process that forms the basis for the clinic hinges on specific managerial tasks. The establishment of a clinic for musicians at a university hospital requires that certain key elements be present.

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Abstract
The Alexander Technique is a practical form of health education. It has a substantial history of helping musicians reduce injury and fatigue and improve technique, physical freedom, stamina and tonal quality. Teachers of the Alexander Technique are trained to observe the influence of people’s use of themselves upon function, especially on the functioning of the postural mechanisms and the mechanisms of respiration. By means of the skills involved in hands and verbal instructions, the teacher helps the pupil to change inappropriate ways of using himself so that he lengthens in stature rather than shortens, so that he widens rather than narrows, so that he frees up rather than being stiff. The teacher does this by conveying sensory experiences that physically demonstrate the meaning of the words he uses in teaching.

Musical Performance

Music is performed by the local ensemble Kristallkvartetten (the Chrystal Quartet). All members in Kristallkvartetten have studied classical music at the School of Music in Piteå, Luleå University of Technology.

Various repertoires are performed during the Conference, including a lunch concert on Thursday 13. The lunch concert includes novel art music with strong association to the area of Norrbotten, specifically written for Kristallkvartetten by composers who are former students at the School of Music in Piteå. Music which has been written with support from Swedish Arts Council, Norrbottens läns landsting and Kluster.

Further information about Kristallkvartetten is found at www.kristallkvartetten.blogspot.se

CliniCAL 010

ARTIST- & MUSIKERHÄLSAN - DESCRIBING THE PROCESSES OF TEAMWORK TO HELP STUDENTS AND PROFESSIONAL MUSICIANS WITH INJURIES, BOTH IN TERMS OF REHABILITATION AND PREVENTION.

Karin Engquist, Inge-Marie Olsson, Inga-Britt Niemand
Artist- och Musikerhälsan, Malmö, Sweden

Abstract
The base for the teamwork is a psychosomatic perspective (1, 2,3) and how the stress reaction influence the individual. When the individuals coming for the first consultation it’s important to listen to their story about the problem, how they deal with the situation and how they react and which strategies they are using. The functioning in the playing situation with the instrument is also important. The team include different competences as medical doctor, physiotherapist with competence in body awareness, psychologist, behavior scientist, Alexander teacher and audiologist and also contacts with teachers of different instrument.

Most common problem for musicians are pain and for the professionals located in neck and shoulders and for the students pain in forearms and hands is also common. Performing anxiety and subjective hearing problems are other problems we have to deal with.

Risk factors for developing pain are stress (4, 5, 6, 7) without recovery, poor ergonomics that is poor position and/or unbalanced movements (8)together with the instrument, high demands from their own thoughts or high demands from the environment.

The plan for rehabilitation is always individual from what we know about how the person deals with practice routines, training for needed body stabilization and smooth and free movement. Knowledge of daily life style and the meaning of stress is also a common subject.

Preventive strategies including seminars at different schools and working places, where we are concentrating about the meaning of stress and ergonomics together with the instruments. The experiences with the professional musicians are that the preventive knowledge is most interesting for them, when musicians have got into troubles. At the Academy of Music in Malmö the physiotherapist has courses in ergonomics. The Alexander technics are very useful as a preventive strategies.

References

Sponsors and Collaborators

Finally, a great Thank You to our sponsor and collaborators, with whom we share this important interest in Musicians’ Health and Performance! Without your support we could not have realized this Conference.

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SVERIGES YRKESMUSIKERFÖRBUND