On Saturday, February 5th, 2011, the Dutch Performing Arts Medicine Association (Nederlandse Vereniging voor Dans- en MuziekGeneeskunde, NVDMG) organized a Symposium for and by allied health care professionals, held in the Medisch Centrum Haaglanden (MCH, Medical Centre of The Hague). This Symposium was sponsored by several companies in the field of allied healthcare, and CME credits were given for physiotherapists, Mensendieck therapists, speech therapists, and foot therapists.

Allied health care professionals, such as physiotherapists, manual therapists, Mensendieck therapists, speech therapists, and foot therapists, form a vital and indispensable link in the chain of healthcare and cure for dancers, musicians, and singers. The intention of the symposium was to highlight the practical and experience-related approach of allied health care providers, both in the presentations and in the artistic intermezzi. Apart from the exchange of knowledge and experience, there was ample opportunity for informal contact, facilitating and stimulating the formation of an interdependent network of allied health care providers specialized and/or interested in dance, music, and singing in The Netherlands.

The Symposium was open for all interested persons, including non-members of NVDMG, and took place in the auditorium of the MCH in The Hague. It was well attended with over a hundred participants.

The program started with a membership meeting for the section of allied health care professionals of the NVDMG. This meeting was marked by a positive attitude and a strong feeling of companionship. The initiative of NVDMG was greatly appreciated and the need was felt to come to a more formal organizational structure for allied health care of performing artists in The Netherlands.

Presentations were given by several specialists in the field of dance, music, and singing. Symposium-chairman was Dr. J.D. (John) Macfarlane, MD, PhD, rheumatologist and professional musician. In the abstracts below, the diversity of topics can be appreciated. Artistic intermezzi included a per-
formance by the pupils of the "Nationale Ballet Academie" of Amsterdam, under the supervision of Fred Berlips and Christopher Powney; a recital by Ellen Vos, singer/singing voice therapist, and Louise van de Sande Bakhuysen, pianist/nurse; and a recital by the duo Gerard van Duinen and Walton Mirek, on bandoneon (concertina) and guitar.

At the end was an astonishing breakdance demonstration of "Styles Confidential" by the Hiphop Centre of The Hague, under the supervision of Benny Blanco. The hiphoppers brought the audience to their feet in a roar of applause. The evening concluded with a performance of "Entwine" by the Nederlands Dans Theater in the nearby Lucent Dance Theatre.

Injury Prevention at The Dutch National Ballet Company (Het Nationale Ballet, DNB)

A.B.M. (Boni) Rietveld, J.M. (John) ten Kulve, and M.H.A. (Marleen) Grol
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ABMR: The presenters of this interactive workshop are from three different disciplines, and together they represent over 75 years of dance medical experience. Drawing on their long clinical experience with injured dancers, they cover the area of injury prevention, acknowledging that the treatment and knowledge of injuries form the scientific basis for prevention.

The different stages of prevention are:
• Primary: before injury has occurred;
• Secondary: after injury has occurred, to prevent it from worsening;
• Tertiary: after injury has occurred and is treated, to prevent it from re-occurring.

Faulty technique, compensation, and ignorance play a large role in the occurrence of dance injuries, and always the balance between the load-bearing capacity and the load demanded of the individual dancer should be observed.

Practical prevention tips for dancers, for dance teachers (both as they deal with their students and for the teachers themselves), and for aging dancers are given, followed by lessons to be learned from the high-level sports world, such as the physiological, psychological, immunological, and biochemical symptoms of overtraining.

Topics include the role of physiotherapy, manual therapy, and Mensendieck therapy, posture and alignment, core stability, fatigue and stress, late starters, growth spurt, warming up, class and conditioning, forcing turn-out, smoking, supercompensation, and degenerative changes.

Using the work of the interdisciplinary health team at the Dutch National Ballet Company in Amsterdam as an example, the speakers explain their, so far, successful injury prevention program.

JMtK: At the DNB, we have had a structured health team for several years centered on the physio-manual therapist who treats dancers with complaints of the musculoskeletal system. He/she acts as a case manager and maintains contact with medical specialists and the artistic staff. This therapist draws up treatment strategies, and if he finds additional necessary, then he refers to other members of the team (e.g., Mensendieck therapist or Pilates instructor). At a later stage, the dancer would be referred to the rehab-trainer for specific ballet training and reintegration in the dance group.

Recently, we have introduced a baseline check-up for all new dancers, including medical examination by the company doctor (including BMI, ECG, and blood test), movement assessment by the physiotherapist, and finally a test of strength, conditioning, and speed by the fitness trainer. The dancers are then divided into three categories: A, good; B, good but some points needing attention; and C, not good.
enough for the professional HNB level. Dancers in categories B and C are given an exercise program and re-evaluated after 6 months.

The health team comprises the company doctor, physio-manual therapist, Mensendieck therapist, Pilates instructor, nutritionist, fitness trainer, psychologist, masseurs, and a social worker.

**MHAG:** As a Mensendieck therapist, with 30 years’ experience in working with dancers, I am member of the health team of DNB. The team consists of myself, a physio- and manual therapist, company doctor, nutritionist, fitness trainer, and Pilates teacher and is coordinated by the rehab teacher, a member of the artistic team.

Mensendieck therapy, a posture and exercise method, is best described as “a system of exercises for executing movement to improve habits and functioning.”1 In the Netherlands, the Mensendieck therapist is a recognized allied health profession (comparable to physiotherapy) and specializes in screening and developing tailored exercise programs for individual patients.

During the last 2 years, the DNB health team has been working on providing the more efficient care for the dancers. The reason for this is an increase in the number of injuries in our group of dancers since 2006, which reached a peak in 2007. First, we made an overview of the care we were offering and what team-members, dancers, and the artistic staff would like to see improved in the activity of the team, and which input of the health team they were pleased with so far. Besides regular treatment of injured dancers, the attention of the team became more focused on injury prevention.

When new dancers get a contract in the Company, they are first screened by the health team for common medical, physical, and stamina conditions. After the screening, they are grouped in three levels: A, good condition; B, reasonable condition but with some points needing attention (the dancers are advised to work on these); and C, insufficient condition, requiring obligatory attention to these points. At a follow-up session, the Mensendieck therapist makes a training plan both for the short and long term.

One of the most important topics in training is core stability. With a series of exercises, the therapist trains the dancers from low impact to high impact situations. The results are monitored on a regular basis and shared with the artistic and health teams. The increased communication and cooperation between these two teams has proved worthwhile. The number of injuries has fallen by 20% in the last 2 years! So you might say: cooperation is the key to prevent injuries!!

1. Eddy M: founder and director of the Center for Kinesthetic Education (CKE), New York,

**Strength and Stability: Their Importance for the Male Dancer**

S. (Sefton) Clarke  
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In the last decade a change in the aesthetics of the male dancer has taken place. We have become more androgynous and finer in physique, and this is in part due to the technical demands of modern pieces and the need for more flexibility. This has come at a certain price: increased flexibility in the legs and back means a decrease in not only back strength but also the hamstrings and gluteal muscles. These decreases mean that jumping, partnering standards, and strength levels have fallen. From my perspective within a company, I have seen new members arrive unable to lift a girl and therefore lose a part in a ballet. This then categorizes this dancer who will not be able to broaden his horizons if this weakness is not addressed. The dancers are not to blame; most schools have disregarded the need for traditional strength in the male dancer, choosing instead for a newer aesthetic. I say, why not have it all? 

**Care and Treatment of the Professional Singing Voice**

R. (Rob) Stallinga  
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In the singer’s history, we hear complaints primarily in diverse vocal issues:

- Loss of vocal quality: dysphonia, breathy voice, gravelly raspy sound
- Loss of high tones: higher tones can only been made with higher power, full loudness
- Register break: instability in registers, dipliphonia (multiple tones simultaneously)
• Reduced recovery possibilities after vocal injury or vocal fatigue
• Longer duration of reduced vocal quality
• Sensations of pain and discomfort in vocal folds, throat and neck

On a secondary level, but often of importance for voice therapy, there are complaints in the field of breathing, posture, and articulation. What are the medical, technical, and psychological aspects of the singer’s voice problem?

Finally, will the voice therapy and treatment be short or long term?

• Immediate, acute aid: medical and technical short-term "tricks" to keep the singer’s voice going
• Longer, intensive voice therapy, based on complete vocal rest with no vocal performances
• A combination of short- and long-term voice therapy and laryngologic/ENT treatment to support the singer in a period of reduced vocal ability.

To train a singer in a specific style of singing (classical, opera, musical, pop, jazz, etc.) requires specific singing techniques to develop the special timbres, muscles, and auditory qualities. To treat a professional singer with vocal problems, a specialized, trained speech and voice therapist is needed. Based on a voice-examination, a voice-diagnosis, and a voice-treatment of a specialized "voice doctor" (e.g., a phoniatrist, ENT/laryngologist), the teamwork of voice therapist, voice doctor, and also singing teacher is of great value for a positive prognosis in the cure of a singer’s voice problem.

The Vulnerable Musician

R. (Rob) Nolet and A. (Annemarie) Waal
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RN: The Vulnerable Musician, an Introduction—This presentation provides a general picture of what it means for a musician to play an instrument. It also gives an idea of the work- and study-loads of both amateur and professional musicians. One will gain insight into the broad spectrum of complaints occurring during the working life of a musician and into how vulnerable, medically speaking, musicians are.

This NVDMG symposium is primarily aimed at the allied health professions and this presentation should be viewed as providing a general overview of how music-making can have such a large impact both physically and mentally. Hopefully, the allied health professionals will be left in no doubt of the complexity of the problems faced by musicians and of the need for specialist training, even among the allied health professions.

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AW: Problem Solving, Interviewing, Inspiring Behavioral Change—Music can be beneficial to your health, but the complexity of playing music is often a source of problems. Underlying causes or reasons for these problems can lie in many different areas. This is what makes the musician so vulnerable.

This presentation shows a method that allows the problems of the musician to be clarified, to determine whether and how the problem can be tackled by a therapist. As an introduction, what constitutes a problem in the musician is again defined. Then we discuss: at what levels can we expect problems of the musician and the need for change? What problems are and which are not under the discipline of the Mensendieck therapist or physiotherapist? Using practical examples, we explain the process of problem solving and how the therapist guides the musician in this process. After the presentation the audience will be aware of the benefits of addressing the question of the vulnerable musician in this way.
The Musician’s Body
M. (Marjon) Kuijers
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Music does something for us: it stimulates the emotions and moves us, sometimes literally. Today, I would like to tell you something about the musician’s body, musical expression, and what this does for the musician. A good posture and way of moving is an essential requirement for a musician. Mensendieck exercise-therapy is a good and useful method for changing and improving posture and movement patterns. Thanks to a large range of specific exercises one can become aware of one’s own method of functioning and movement. It is a practical therapy that can be tailored to suit the individual musician. Musicians learn to separate musical intensity from their bodily actions and technique. Attention is paid to posture, warming-up, coordination, relaxation, breathing, instrumental ergonomic advice, stage presentation, and stress reduction.

During this lecture, you will see all kinds of instrumentalists, without their instrument and while playing. The effects on their posture and movements are demonstrated. Examples of treatment such as exercises, ergonomic postural, and movement advices are given.

Review of 10 Years of Industrial Physiotherapeutic Consultations with the Arnhem Philharmonic Orchestra
I.A. (Ida) Wakely
Industrial Physiotherapist, Arnhem Philharmonic Orchestra, and Physiotherapist at "de Stimulus," Arnhem. info@destimulus.nl.

In 1998, the Arnhem Philharmonic Orchestra was the first orchestra in the Netherlands to use the skills of an industrial physiotherapist to help improve the working conditions of the musicians and to recognize playing-related injuries in an early stage and to prevent those injuries from becoming chronic.

Industrial physiotherapy is a relatively new specialty within physiotherapy and concentrates on the prevention of physical complaints arising from work. The industrial physiotherapist is specifically trained and qualified to systematically assess, measure, and analyze all kinds of work and work situations, using standardized and validated methods. An assessment consists of three aspects, including the organization of the work tasks, the ergonomics of the workplace, and the physical behavior of the worker/employee. A broad analysis of these work conditions is completed to identify potential health risk factors. Next, a strategic implementation is developed to optimize the work situation for each aspect of the assessment. The objective is to assist companies or employers in developing effective strategies to prevent injuries and specific work-overload and eventually to reduce disability and employee absenteeism due to sick leave.

After a pilot project in 1998, the orchestra initiated industrial physiotherapeutic consultations, which are held once every other week. All the orchestra’s employees can voluntarily use this service. From the period 1998 to 2008, a large amount of data have been collected from the consultations, and a number of conclusions can be drawn concerning the health care strategy of the Arnhem Philharmonic Orchestra.

Silicone Technique in Dance (Pointe) Shoes
H. (Helen) de Vries
Foot therapist for dancers, Nijmegen. helenhdevries@hotmail.com

Dancing on pointe can cause numerous complaints at various sites. Obviously, the toes bear the brunt. The unnatural position results in blister and callus formation on the tips and tops of the toes. Problems can occur with every type of foot (and the technique described here can be applied with good results), but for dancers with a Greek foot (relatively long second toe, 30% of the population), dancing en pointe can be very painful.

The big toe, if of normal size, has sufficient power to maintain this unnatural position. When the second toe is larger than the first, there is often insufficient strength and severe pain can occur. This results in diminished pleasure (sometimes visible on stage!) when dancing en pointe.

A protective adaptation using soft silicone (Bland Rose) can be made in the dancing shoe. Essentially, this is a negative mold of the forefoot which fits into the shoe, fixing the toes, distributing the pressures more evenly, and preventing friction. In other words, the direct pressure on the second toe is significantly reduced, resulting in less pain.

All photographs by Mr. George Patho, medical photographer, MCH, The Hague.
Ellen Vos, singer and speech therapist, with Louise van de Sande Bakhuyzen accompanying on piano (not shown).

Pupils of the Nationale Ballet Academie of Amsterdam, directed by Fred Berlips and Christopher Powney, accompanied by Dessy Radeva on piano.

Dessy Radeva, pianist

Fred Berlips

Walton Mirek and Gerard van Duinen, guitar and bandoneon.

Breakdance demonstration, "Styles Confidential," by the Hiphop Centre of The Hague, directed by Benny Blanco.

All photographs by Mr. George Patho, MCH, The Hague