

Genees & Kunst 3

Third Biannual Symposium on Medical Problems of Dancers and Musicians, Gouda, December 9, 2006

A. B. M. Rietveld, for the Dutch Performing Arts Medicine Association (NVDMG)

On Saturday, December 9, 2006, the Dutch Performing Arts Medicine Association (NVDMG) held its third biannual member assembly, followed by a festive symposium “Genees & Kunst 3,” at the Groene Hart Ziekenhuis (GHZ), Gouda. The assembly and symposium, hosted by Dr. A.B.M. (Boni) Rietveld, President of the NVDMG, by D.J. (Dirk Jan) Verbeek, MHA, President of the Board of Directors of GHZ, and by Dr. L.A.C. (Louk) Rietveld, radiologist at GHZ and Symposium Moderator, celebrated the installation of the new Yamaha C7 concert grand piano at the GHZ.

The NVDMG is honored by the support that the GHZ offered to make this event possible. The GHZ is the home of some enthusiastic “founding members” of the NVDMG, including Th.O. (Thijs) Haalstra, rehabilitation doctor, F.M. (Frits) van der Linden, surgeon, and L.A.C. (Louk) Rietveld, radiologist. They formed the organizing committee of the current symposium, working in close cooperation with D.J.

A.B.M. (Boni) Rietveld, M.D., B.A.(Mus.) is President, NVDMG; Orthopaedic surgeon and musician; and Head, Medical Centre for Dancers & Musicians, The Hague, The Netherlands.

The Dutch Performing Arts Medicine Association—in Dutch, Nederlandse Vereniging voor Dans- en Muziek-Geneskunde (NVDMG)—was founded April 1, 2005, in The Hague by a group of enthusiastic medical doctors, including specialists and general practitioners. It is an association primarily for physicians, psychologists, and scientists interested in performing arts medicine, but also for physiotherapists, performers, teachers, and other interested people.

The association’s Mission Statement is three-part: 1) to enlarge and deepen the interest for and expertise in the field of dance and music medicine; 2) to promote contact among doctors, psychologists, and scientists interested in dance and music; and 3) to offer a scientific framework for dance and music medicine and monitor its quality. The NVDMG has grown to over 150 members, of whom 25% are general practitioners and representing 22 different medical specialties. Institutional members include the Dutch National Ballet, the Arnhem based dance company Introdans, several dance academies, the Codarts Rotterdam Conservatory for Music, and several hospitals.

NVDMG is sponsored and supported by several pharmaceutical companies and a Dutch bank. Its meetings are accredited for general practitioners.

Information about the NVDMG can be found on its website www.nvdmg.nl.

Verbeek and Ms. Nicolette van Leeuwen, executive secretary of the GHZ. The moderator of the symposium was L.A.C. (Louk) Rietveld.

After the welcome and introduction by Boni Rietveld, Dirk Jan Verbeek gave a witty talk on the special relation between music and medicine through the ages. He started with a quote from *Lucubrations Poemata; Musica* from 1567, “Music is the medicine of a troubled mind,” and ended with a poem “Handen vol Bach” (“Hands Full of Bach”), written by Hans Bouma, about the famous organ player and medical doctor Albert Schweitzer (1875-1965).

The guest of honor was Yiannis Koutedakis, Professor of Exercise Physiology, Department of Sport & Exercise Sciences and Honorary Director of the Research Institute of Human Performance & Rehabilitation, University of Thelasy, Trikala, Greece, who lectured on “The Dancer as a Performing Athlete: Physiological Considerations.” Other presentations, interspersed with dance and music performances, were given by F.M. (Frits) van der Linden, surgeon; F.R.U. (Frans Robert) Berkhout, dentist/implantologist and professional bassoon player; B. (Blancefloor) Foelkel, psychologist; and P.A.H.M. (Pieter) Goderie, ENT/phoniatrist.

Performing arts intermezzi included a piano solorecital by 15-year-old Nicolas van Poucke, first prize winner of the prestigious Dutch Prinses Christina Concours and the international Steinway & Sons contest in the Concertgebouw Amsterdam, and the dance-duet *Little Ease*, by choreographer Ton Simons of DanceWorks

Rotterdam with piano accompaniment by Christo Lelie. Also, singer Micheline Dumonceau performed various Dutch and Flemish songs, with piano accompaniment by Wim Veenhof. After his presentation, Frans Robert Berkhout performed bassoon and cello duets by Bela Bartók,



Dr. Boni Rietveld, calling the member assembly to order.



FIGURE 1. Dr. Louk Rietveld, symposium moderator.

together with Lodewijk Spanjaard (microbiologist and professional cellist).

The day concluded with a jubilee concert given by members of the Amsterdam Chamber Music Society, *het Reizend MuziekGezelschap* (Christiaan Bor, violin; Godfried Hoogeveen, cello; and Sander Sittig, piano), celebrating their 25th anniversary of performing together and featuring the GHZ's new grand piano. On the program were Mozart's *Sonata for Violin and Piano in E* (K304), Dmitri Sjostakowitsj's *Sonata for Cello and Piano*, and Anton Arensky's *Piano Trio in D* (op 32).

Intra-abdominal and Intra-oral Blowing Pressure: Preference for Laparoscopic Inguinal Hernia Repair in Wind Instrument Players.

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A.B.M. (Boni) Rietveld, M.D., B.A.(mus.)

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In the treatment of inguinal hernia, the last 2 decades have seen the use of polypropylene mesh become the standard technique, usually placed anteriorly (outside) using a standard inguinal incision and performed with loco-regional anaesthesia. Laparoscopic treatment of inguinal hernias is becoming more popular, in which the mesh is placed in the pre-peritoneal space, posteriorly (inside), by using laparoscopic techniques and equipment.

Anatomically, this pre-peritoneal location seems to be ideal, because under intra-abdominal pressure, the mesh is compressed against the abdominal wall, thus closing the hernia. In addition, less postoperative pain, quick recovery, and fewer recurrences are described. The disadvantage is that general anaesthesia is used, the technique is more difficult to learn in residency, and, above all, it is more expensive.

Due to the high pressures that may be produced during trumpet playing, the laparoscopic, pre-peritoneal technique seems more suitable for trumpet players suffering pain from an inguinal hernia. To analyze and describe pressure differences in the oral cavity and intra-abdominal space (measured in the urinary bladder) during trumpet playing, measurements were made with standard equipment normally used for patients in intensive care.

Bladder pressure is a good representative of intra-abdominal pressure, which normally is 0 to 10 mm Hg (0-1.33 kPa). In diagnosing so-called abdominal compartment syndrome, this technique is used in every-day clinical practice in intensive care units. A continuous pressure above 25 mm Hg (3.33 kPa) is believed to decrease blood flow to the intra-abdominal organs and lead to decreased kidney function and hemodynamic regulation problems.

In our study, we used a semi-professional trumpet player (ABMR), in whom a bladder catheter was placed and connected to a monitor. Measurements were made while the trumpet player played different types of trumpets and musical passages. Then, the same measurements were repeated using a different catheter in the oral cavity during playing. Blood pressure was monitored during testing and raised slightly from 115/75 to 130/90 mm Hg (15.3/9.98 to 17.29/11.97 kPa). Low, medium, and high tones were produced, with different levels of loudness. Low volume and low sounds produced pressures of 45 to 60 mm Hg (5.99-7.98 kPa). Pressures rose to a maximum of 140 mm Hg (18.62 kPa) during high tones with high-volume playing. Above these pressures, the soft palate did leak air into the nasal cavity as a kind of "safety valve." The pressure differences during all these measurements were equal in the oral cavity and urinary bladder.

As a comparison, intra-abdominal pressures during lifting 20 kg (44 lbs) raised to 20 mm Hg (2.66 kPa) only, during yelling to 85 mm Hg (11.31 kPa), and during coughing and laughing up to 120 mm Hg (16.96 kPa).



FIGURE 2. Dr. Frits van der Linden.



FIGURE 3. Dirk Jan Verbeek, President of the Board of Directors, Groene Hart Hospital.

Although this is a pilot study, we conclude that rising tones and rising blowing volume in trumpet players do increase the pressures in the oral cavity and urinary bladder equally, up to a maximum pressure of 140 mm Hg (18.62 kPa). This is well above diastolic and even systolic blood pressure and thus must compress the vena cava totally, blocking blood flow to the heart. Unexpectedly, laughing produces much higher intra-abdominal pressures than lifting. Because of the high pressures that are produced during trumpet playing, the laparoscopic, pre-peritoneal technique is recommended for trumpet players suffering pain from an inguinal hernia.

The Dancer as a Performing Athlete: Physiological Considerations

Yiannis Koutedakis, Ph.D.

Professor of Exercise Physiology, Department of Sport & Exercise Sciences and Honorary Director of the Research Institute of Human Performance & Rehabilitation, University of Thessaly, Trikala, Greece; and Professor of Applied Physiology, Wolverhampton University, Walsall, UK.



FIGURE 4. The Board of the NVDMG during the Member Assembly. From left: Jan Krijgh, Sylvia van der Wolf, Thijs Haalstra (secretary), Boni Rietveld (president), Camilla Winterkorn-Pierrot (treasurer), Willem Kersing (vice-president), and Gert-Jan de Haas.



FIGURE 5. Prof. Yiannis Koutedakis.

“The work of dancers today embraces not only the art of communicating the joy and aesthetics of movement executing in perfect harmony and style, the power to express ideas and emotions through movement and musicality and the effortless display of technical virtuosity, but also these days a far more *athletic* and often *acrobatic* approach to movement is required which choreographers are insisting on more and more as a result of the increased cross fertilisation between classical ballet and contemporary dance.”—Sir Peter Wright, former Artistic Director, Birmingham Royal Ballet, UK. [In Koutedakis Y, Sharp NCC (eds): *The Fit and Healthy Dancer*. John Wiley & Sons Ltd, 1999.]

Based on the preceding comment, it could be argued that as the physical demands placed on today’s dancers continue to grow, their physiology and fitness become just as important as skill development. However, even at the height of dancers’ professional careers, their aerobic power and muscular strength, among other physical fitness parameters, are the “Achilles heel” of the dance-only selection and training system. This partly reflects the unfounded view, shared by sections of the dance world, that any exercise training that is not directly related to dance would diminish dancers’ aesthetic appearances. Given that performing dance itself elicits only limited stimuli for positive fitness adaptations, it is not surprising that professional dancers often demonstrate values similar to those obtained from healthy sedentary individuals of comparable age in key fitness-related parameters. In contrast, recent data on male and female dancers revealed that supplemental exercise training can lead to improvements of such parameters and reduce incidents of dance injuries, without interfering with artistic and aesthetic requirements.

Dental Care for Wind Instrument Players

F.R.U. (Frans Robert) Berkhout

Dentist and implantologist, Implantologie Amsterdam

For wind instrumentalists, the mouth and teeth are an important part of the instrument. Embouchure is formed by the whole complex of anatomical structures in and around

the mouth with which the instrument is played. These structures determine the way sound is made, and disorders, especially dental abnormalities, can negatively affect the playing and sound.

Although in marching and brass bands, wind instruments can be played with partial or complete dentures, for a professional or orchestral musician it is not possible to function properly without permanent dentition. In the past, tooth loss often led to disability. The loss of teeth due to periodontitis has been greatly reduced by increased periodontal knowledge. Thanks to implantations, lost elements can be permanently replaced.

Recovery of embouchure can be accomplished by treatments varying from simply grinding off a sharp corner to complex treatments such as complete rehabilitation with implants. Lack of space or spacing can often be solved with braces or prostheses. Duration and intensity of treatment are of utmost importance, because wind instrument players sometimes cannot exercise their profession during treatment. Good timing and consultation with the employer are necessary.

Today, implants are an important treatment for replacing lost teeth. If implants are not possible for technical, psychological, and/or financial reasons, a partial prosthesis is a second choice. If extensive treatment is necessary, it is wise to first use a reversible treatment to avoid potential permanent damage. Patients are advised to bring their instrument to the dentist to judge the dental change at the moment of treatment. A mold of the original denture should be made for every professional wind instrument player as a preventive measure, in case it is necessary to determine the original position of the teeth when teeth are lost (e.g., after trauma).

In the Beginning Was the Ocean (A Brief Note on the Power of the Sublimation Process)

B. (Blancefloor) Foelkel

Psychological Consultant for Musici Foelkel and de Jong, and School Psychologist, Conservatorium of Amsterdam, Amsterdam

Playing music is a passionate, lustful activity. No one can perform professionally while being in an anxious or depressive state. The performer needs a specific emotional condition that facilitates the experience of becoming one with the instrument and being wrapped up in the music, losing him or herself completely, while at the same time exerting a powerful control over what he or she is doing. Where does this emotional condition stem from? From a very early stage of our childhood development.

In the first 5 months after our birth, we experience a symbiotic fulfilment that has remarkably parallel emotional components with music-making, such as feeling united (with the omnipotent mother figure) and losing ourselves completely (in the lustful sucking activity), and we experience this fulfilment as if it is generated by ourselves and is under our complete control. As soon as we lose this paradise of oneness and illusory independence, we try to overcome this loss by searching for surrogates. The need for the breast is over, but we



FIGURE 6. Dr. Frans Robert Berkhout.

want to rediscover that accompanying lustful state of powerful satisfaction where no one intervenes, where no inner conflicts exist, and where time and space are dissolved in an oceanic sensation. While performing music, we come as close as possible to this state. After all, in this area we are the creators of our own paradise. The process that makes it possible to transpose the early lust state into a new activity with the same lustful impact is called *sublimation*.

In this unconscious process—described by Anna Freud—the energy of the drive (in our example, the sucking activity) is channelled into a socially acceptable pursuit (in our example, performing music), while the accompanying lust sensation of the drive remains intact. This process of sublimation provides the musician with that specific emotional condition to become one with his or her instrument, to get wrapped up in the music, and simultaneously to perform in complete control. If the process of sublimation is successful, the musician will perceive the same overwhelming satisfaction as if he or she had come home at last. And the audience will share this experience. But this process of sublimation can get disturbed.

The two main disturbing factors are: 1) guilt-loaded, repressed, aggressive impulses and 2) guilt-loaded, repressed, sexual impulses. The very fact that this repression takes place in the unconscious mind provokes anxiety and causes inner



FIGURE 7. dra. Blancefloor Foelkel.



FIGURE 8. Dr. Pieter Goderie.



FIGURE 9. Micheline Dumonceau with Wim Veenhof on piano, performing Dutch and Flemish songs.

conflicts that interfere in the originally conflict-free zone of the sublimation activity. Gradually, the musician loses that specific emotional skill of free natural playing, loses his self-confidence, and sooner or later he may develop symptoms that can vary from increasing podium fear to self-inflicted injuries, psychosomatic symptoms, and, in the worst case, an affective disorder.

The task of the psychologist during anamnesis is to discover the trigger of the symptoms (the luxating moment), thereby focusing on the two main disturbing factors. If the personality structure of the musician is strong enough to be confronted with his repressed impulses, the psychologist can help him to accept his rejected self and advise him how to deal with his impulses in a non-disturbing way. What will be seen soon in this therapy is the recovery of the process of sublimation. For the musician, this means not only a return to the profession, but also a better mood, less stress, and a growing pleasure in making the most of his talent, without undermining his health.

Pathological Findings in Professional Singers without Complaints

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Minor problems of the upper respiratory tract can be a serious problem for professional singers. On examination, there may be little or no pathologic findings. For this reason, we performed a study in a population of singers without complaints, comparing them to a group with complaints. The first group were outpatients, seen for reasons such as earwax, sensory hearing loss, or a preventive check-up. Rock and popular singers were excluded because of their high prevalence of

smoking habits (30%) and a repertoire sometimes limited to one octave.

A population of 238 nonsmoking professional classical singers were examined by videolaryngostroboscopy and tested for allergy by RAST or skin scratch test. The group was divided into patients with ($n = 91$) and without ($n = 147$) vocal problems. Severity of pathology on examination was defined as grade I (no abnormalities), grade II (mild abnormalities), or grade III (severe abnormalities) for both videolaryngostroboscopic and allergy results. Classification was done by the author and a speech therapist and was subjective in the different groups (Table 1).

A relationship between allergy and vocal problems is well known. Nevertheless, 11% of the population without complaints suffered from severe allergy. In 20% of the total population, there was a grade III allergy. A relationship between abnormalities found with laryngovideostroboscopy and vocal complaints is evident. However, 10% of the population without complaints showed mild abnormalities on videolaryngostroboscopy.

This study indicates that in a population of healthy classical nonsmoking singers without vocal problems or complaints, pathological results are to be found on videolaryngostroboscopy and allergic examination. In the population of singers with vocal problems and complaints, however, there are more pathological results on the same examinations. This suggests that the pathological findings are not always causing problems or complaints for the singers.

A complete medical examination in a population of singers with and without vocal problems provides much information, but it does not replace the value of your musical ear.

TABLE 1. Severity of Pathologic Findings in Singers with and without Vocal Problems/Complaints

	Total	Grade I	Grade II	Grade III
Allergy				
Complaints	91	48 (52%)	20 (22%)	23 (26%)
No complaints	147	98 (67%)	33 (22%)	16 (11%)
Videolaryngostroboscopy				
Complaints	91	58 (64%)	23 (25%)	10 (11%)
No complaints	147	130 (88%)	15 (10%)	2 (1%)



Audience at Genees & Kunst 3.



Dance Works Rotterdam performing Little Ease. Jessica Larbig and Szabolcs Pataki (dancers); Christo Lelie (pianist); choreography by Ton Simons; music by Mozart, Adagio from the Sonata in C minor (K 457).



Pianist Wim Veenhof and singer Micheline Dumonceau.



Pianist Nicolas van Poucke (b 1992), who played Frédéric Chopin's Nocturne, op 55 nr. 1, and Bolero, op. 19.



Dr. Boni Rietveld with Inge Buyls, office manager of the NVDMG and former professional modern dancer.



Left: Members of the Amsterdam Chamber Music Society (het Reizend Muziek Gezelschap) Christiaan Bor, violin, Sander Sittig, piano, and Godfried Hoogeveen, cello. Right: Frans Robert Berkhout, bassoon, and Lodewijk Spanjaard, cello, performing works by Bartók.

Photographs by Ms. Cora van Nieuwkerk, Medische Fotografie, Groene Hart Ziekenhuis, Gouda.

