

TREATING FOCAL DYSTONIA – A NEW RETRAINING THERAPY FOR PIANISTS

Laurent Boulet
Berlin, Germany

Introduction/Background

Despite growing scientific knowledge, F F Focal dystonia in pianists is remains complex movement disorder illness that has to be considered under various aspects which may have dramatic impact on the careers of affected musicians from a variety of angles. Different treatment approaches (pharmacological, physiotherapeutic, psychotherapeutic) have been reported and may improve the situation to a certain extent.

Aims

There are already many different medical treatments (psychological, using physiotherapeutical and pharmacological interventions orthodox medicine) available that can bring some substantial improvement. A very important complement or even alternative to the above treatments is a focused and individual rehabilitation program taking place on the instrument under pedagogical supervision. The aim was to clarify whether this rehabilitation program might be an effective treatment for focal dystonia in pianists at the instrument itself.

Method

Through specially developed easy exercises at the instrument, a so-called ‘deprogramming phase’, five pianists suffering from focal dystonia were treated according to the following retraining program:

During the so-called ‘deprogramming phase’, incorrect dystonic movement patterns and signs of muscular imbalance were identified in affected hands of pianists. During the ‘deprogramming phase’, frequent repetitions of individually adapted exercises were performed in the slowest tempo. A basic ‘correct’ posture of the hand is established using easy exercise. This allows us to determine which basic movements of the instrument playing are incorrect. Then follows, in a second phase, strengthening of weak muscle-groups and the acquisition of an internal representation of simple movements, achieved using special physiotherapeutic exercises by which we focus on the redevelopment of the muscles. Therefore teamwork with physiotherapists is absolutely essential. By the ‘redevelopment of the muscles’, we mean a restructuring process of the muscles using only natural and (from a physiological point of view) optimal movements (as compared to other methods). The third part of the whole retraining therapy course starts after establishing a muscular equilibrium and control of exaggerated involuntary flexion, and can begin as soon as the hand has recovered a significant part of its natural balance. During this procedure, basic constituents of piano technique were re-established during the ‘reprogramming phase’. The patients then have to revise their whole instrument technique as they require, after the ‘deprogramming phase’, a new ‘programming phase’.

The whole retraining process is filmed under visual feedback monitoring utilising a digital camera. Using a digital camera and a monitor on the piano, visual feedback of the hands’ movements from different perspectives serves not only for control

of finger movements, but additionally, it aims at the establishment of new, functionally intact visual-sensory-motor neuronal connections.

Medical supervision was provided by the Hannover Institute of Music Physiology and Musician's Medicine.

Results

The presentation will consist of video documents from the past years, a study made in collaboration with the Hannover Institute for Music Medicine shown demonstrating the method and the resulting substantial improvements of symptoms in the five pianists who have been doing this retraining. After taking part in the retraining, they had regained the ability to control the hand and finger movements allowing them to perform technically difficult literature which had not been possible before, avoidance of compensatory movements is much higher, allowing them to play difficult passages without subsequent problems.

Conclusions

By pedagogical retraining, it is possible through a specific retraining program at the instrument to help pianists with dystonia succeed in remarkably improving the abilities to control their hands and in going back to a professional level of instrument playing. Further research will be necessary to objectively evaluate different treatment options for focal dystonia in pianists.