Dance specific plyometric training for dancers: A way to improve strength and power
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Apart from technical and aesthetic demands, dance requires physical fitness including strength, explosive strength in lower extremities, balance, flexibility and vertical as well as horizontal power (Brown, Wells, Schade, Smith & Fehling, 2007; Sozibir, Acay Sozibir, Aydin & Karli, 2014). Muscular power in dance is used to produce explosive, repetitive, short actions with maximum load, as they are realized in big dance jumps, such as grand jeté, cabriole or barrel turn. As the physiological factors needed in dance performances are of an intermittent nature with a high power-output, additional plyometric exercises seem to be an efficient training method to reduce ground contact time and to maximize reactive strength of dancers (Hunnicutt, Elder, Dawes & Sinclair Elder, 2016; Sozibir et al., 2014; Girard, Koenig, & Village, 2015; Nitzsche, Stutzig, Walther, & Siebert, 2015). Plyometric training is a training method that makes use of the stretch-shortening cycle (SSC). A greater force production is thus created in SSC when an eccentric muscle contraction is rapidly followed by a concentric action (Makaruk & Sacewicz, 2010).
The purpose of this workshop therefore is to introduce key elements and variations of such exercises for dancers. In a short introduction, participants will receive general information about plyometrics, followed by a short discussion of a systematic approach of different phases, ranging from learning basic full-body stability in plyometrics to multidirectional dance-specific plyometric exercises from low load to high load. The practical part will start with an exemplary shortened version of the warm-up, followed by exercises from all phases to give all participants the chance to experience and identify these stages. The drills and exercises follow guidelines, skills and ideas taken from previous studies from sports and contemporary dance as well as input gained from personal experience with a current plyometric intervention that I conducted between August and November 2017 with professional ballet dancers from Ballett Zürich (Makaruk et al., 2010; Sozibir et al., 2014; Haas & Rainer-Mitterbauer, 2016; Hunnicutt et al., 2016). The session will close with a short discussion of the prerequisites, advantages and disadvantages of such a training program. Experiences with implementing such a program/intervention with professional (ballet) dancers will be shared. This workshop will be beneficial to dance teachers, dance-interested sport scientists and professional dancers in order to monitor plyometric training and facilitate the transfer from sport specific to dance specific plyometric jumps. Workout clothes and good indoor training shoes are essential as well as healthy lower-limbs for an individual intensive try of the program and participation in the workshop.

Kurzbiografie des ersten Autors: Angélique Keller holds a MSc in Sport Sciences from the University of Basel and is currently doing her MAS of Dance Science at the University of Bern. Since 2010 she has been working as a sport therapist at an orthopedic clinic in Zurich with a strong focus on patients from the performing arts. Her interests and focus lie in preventative and rehabilitative measures for dancers in the water and on land. She is currently evaluating a study on jumping performance with dancers of Ballett Zürich.