

The Importance of Post-Performance Recovery for a Dancer

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Abstract

This article discusses the importance of recovery for dancers after a performance. I will investigate the link between ballet dancers and performance athletes (similarities and differences), what type of physical and psycho-emotional recovery is required, and I will present a case study which analyzes the evolution or involution of the dancers' bodies after a longer period of rest.

In the demanding world of dance, performance excellence hinges not only on rigorous training but also on effective recovery strategies. This paper explores the significance of recovery in optimizing dancers' performance and overall well-being. A comprehensive review of existing literature on dance physiology, sports science, and performance enhancement was conducted to examine the various aspects of recovery pertinent to dancers.

The findings underscore the multifaceted nature of recovery in dancers' training regimens. Adequate rest, nutrition, hydration, and sleep emerge as critical factors in promoting physical and mental recovery. Additionally, active recovery and passive recovery using techniques such as foam rolling, massage therapy, and mindfulness practices have been shown to mitigate fatigue, prevent injuries, and enhance performance outcomes.

Keywords: recovery, dance physiology, sports science, performance enhancement.

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Introduction

In the dimly lit studio, the air crackles with energy as dancers leap, twirl, and contort their bodies in a mesmerizing display of artistry and athleticism. Each movement is a testament to years of dedication, discipline, and sheer passion for the craft. But behind the grace and glamour of the stage lies a lesser-known truth: the relentless toll dance takes on the body and mind.

For dancers, every performance is a delicate balance between pushing the limits of physical endurance and preserving the finely tuned instrument that is their body. From grueling rehearsals to exhilarating live shows, the demands placed on dancers are unparalleled. Yet, amidst the whirlwind of pirouettes and pliés, one essential element often takes center stage: recovery.

In the pulsating world of dance, where every muscle fiber and fleeting moment holds significance, the importance of recovery cannot be overstated. It is the silent force that fuels performance excellence, rejuvenates weary bodies, and sustains artistic brilliance. As dancers strive to reach new heights of expression and mastery, understanding the transformative power of recovery becomes not just a necessity, but a pathway to unlocking their fullest potential.

„Dancers are the athletes of God” – Albert Einstein

The similarities between dancers and athletes are:

The fitness regimen, they both train every day in an organized fashion. The psycho-emotional link is present in their lives. Important example: Simona Halep, one of the greatest female tennis player, said that before winning the Grand Slam final in 2018, she changed her therapist. First, she won the Roland-Garros mentally and then she won it physically.

The maximum oxygen intake for ballet dancers can be between 50 and 55 ml/kg/min, that means ballet can be linked with other sports like gymnastics, volleyball, alpine sky, and canoe. The maximum oxygen intake for ballet dancers represent endurance. For a corps of ballet dancers ($44.57 \text{ ml} \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$) present higher $\text{VO}_{2\text{max}}$ than soloists ($40.5 \text{ ml} \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$), which may be related to their choreographic demands. While corps dancers usually perform continuous, longer duration, and low-moderate intensity choreography, soloists perform intermittent, short duration, and explosive high-intensity movement.

The risk of injury appears as a result of overtraining, mental illness, poor technique and eating disorders.

Nutrition is important in any kind of performance. To perform at their best, dancers need to be well fueled for classes, rehearsals and performance. A dancer's diet should be composed of about 55-60% carbohydrate, 12-15% protein, and 20-30% fat. Vitamins and minerals comprise the micronutrients in the diet.

The differences between dancers and athletes can be:

The main difference between ballet dancers and athletes is the purpose. Dancers are performing to produce aesthetic movement and cathartic emotion. Athletes are engaging in competition for the sole purpose of setting new records and providing ecstatic feelings for the public.

Physical and psycho-emotional recovery

Physical recovery can be active or passive. After rehearsals, active recovery can be made by doing certain exercises, like Pilates, Yoga, Gyrotonic, aerobic effort. The main three methods have the power to relax the body by doing stretching poses. These methods are using the same 6 principals that you can also find in dance techniques: centering, concentration, control, precision, flow and breath. Together these principles help strengthen core muscles, improve awareness and reduce tension throughout the body, helping you become more controlled and aligned. Blood flow within muscles fluctuates as they contract and relax. Increasing the blood flow prevents muscle cramps.

Aerobic exercise, also known as "cardio", involves training that conditions your heart, such as running or cycling. Anaerobic exercise focuses more on strength and flexibility. Light intensity exercises after rehearsals (active recovery) can really help eliminate the oxidized blood and lactic acid from the body.

Passive recovery methods, such as massage, stretching, and foam rolling, are important for promoting recovery after workouts or rehearsals because they help to reduce muscle soreness, improve range of motion, and increase blood flow to the muscles. Can help to reduce this inflammation and promote healing, which can lead to faster recovery and improved performance. Additionally, these methods can help to prevent injury by improving flexibility and reducing muscle tension. Overall, incorporating passive recovery methods into a workout routine can

improve recovery and performance, making them an important component of any fitness program.

Recovery after shows: Ballet dancers, like many athletes, often need to prioritize rest and recovery in order to maintain their physical health and performance. Here are some common strategies that ballet dancers may use to optimize their sleep and recovery. Using hot and cold therapy.

Stretching before bed: Performing gentle stretches before bedtime can help release tension and promote relaxation, which can improve the quality of sleep.

Decompression boots can be also a great method of passive recovery. Consuming carbs after a show will replenish your glycogen stores, keeping you from feeling run-down the next day. You also want some protein to repair muscle tissue, as well as healthy fats to fight inflammation

Recovery after injuries: Injury management is very important and dancers must consult a therapist to design a personalized recovery plan (fiziotherapy and kinetotherapy). Depending on the severity and type of injury, you would need a specific program to maintain your level of muscular fitness, you can use alternative training methods (pilates, swimming, gyrotonic)

Recovery after the summer break: the perfect moment for ballet dancers to recover is the beginning of the summer and it should be 21 days long. Dancers can do active rest- anything that is not dance, examples of active rest activities include: biking, swimming, hiking, yoga, light aerobic activity. This kind of rest help dancers to prevent physical and mental imbalances.

Mental recovery methods:

Showering in between rehearsals for refreshing mind and spirit, keeping the 15 minutes break between rehearsals, meditation, yoga, pilates, power naps are short and sweet. Short power naps cut the risk of waking up in a daze. There's no medical definition for a power nap. A power nap that lasts 20 to 30 minutes is usually ideal. It's long enough to give you all the benefits of sleep without leaving you feeling groggy when you wake up. Nutrition is very important in mental recovery, dancers' body need specific fuel to make them able to perform. All dancers need to ingest sufficient energy to meet the rigors of hard training. Consuming the right amounts and types of food and fluid will provide the body with "high performance fuel" necessary to achieve optimal training benefits and peak performance, for example:

they can eat a banana which is full of potassium and it prevents the muscle cramps or they can eat a small carbohydrate snack because it transforms in energy.

Psycho-emotional recovery methods include meditation, Hobbies, Psychotherapy and/or mentorship, Aerobic exercises (for regulating the fear hormone, cortisol)

Case study

The following case study will analyze the consequences of a long lay-off for a professional dancer. Before and after the summer break I studied physical skills for 6 ballet dancers (2 girls and 4 boys). During the summer break three of them trained using alternative training methods and the other three didn't train at all.

After VO2 max¹ tests and measuring the ability to push into the floor and the jump height, we could observe that in the case of a dancer who trained using alternative methods his jump is in progress, the height of the jump is constant and that means his body is prepared to jump high. After the recovery process his jump is higher by 20 %.

A dancer who didn't train at all during the summer break, after 20 seconds of jumping is not constant in jump, one jump is high and the next one is lower. After the recovery process his jump is lower by 15 %.

After VO2 max tests, the maximum oxygen intake by dancers who trained using alternative methods is almost the same, but for dancers who did not train the VO2 max value had a significant drop, the results show that the dancers who didn't train are not physically prepared to dance in a performance.

Conclusions

In conclusion, the journey of preparation, training, and recovery forms a crucial aspect of an individual's process, whether they are dancers or athletes. The intricate nature of dancing as a complex form of movement necessitates a comprehensive approach to monitoring and support. This includes the involvement of a multidisciplinary team comprising physical trainers, nutritionists, and

¹ A VO2 max test, or maximal oxygen consumption test, is a measure of the maximum amount of oxygen an individual can utilize during intense exercise. It's a common measure of aerobic fitness and cardiovascular health. VO2 max is typically expressed in milliliters of oxygen consumed per minute per kilogram of body weight (ml/min/kg).

psychologists, all working together to ensure dancers and athletes achieve their peak physical and mental condition. Moreover, maximizing physiological factors such as Vo2 levels can significantly contribute to expedited recovery times, enhancing overall performance. Ultimately, dancing is not merely an activity but a lifestyle that demands ongoing dedication and training. By recognizing the importance of holistic care and continual effort, dancers can strive towards excellence both on and off the stage.

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