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OPINION PIECE

Exercise and the COVID-19 Lockdown in South Africa: Should we be filling our days with physical activity?

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Many online articles are talking about the importance of exercise during the COVID-19 lockdown period. So many questions arise:

Is exercise really important during this time?

Doesn't physical activity suppress the immune system?

I've never exercised before, should I even think about starting now?

How do I exercise without any equipment?

In this article, I will take an in-depth look at “exercise during the time of COVID-19”, using scientific evidence to answer whether we should all be running laps around our houses for the rest of lockdown.

On a positive note, the COVID-19 lockdown is a great opportunity for exercising and becoming physically active, especially if you don't usually have enough time to exercise. The benefits of physical activity have been well documented over time - evidence shows that regular physical activity contributes to the primary and secondary prevention of several chronic diseases as well as improving mental health, lessening symptoms of depression, anxiety and stress.

Being on full lockdown at home is challenging. While lockdown is an opportunity to spend quality time with family, many of us experience stress and anxiety associated with being confined to our homes and having to deal with uncertainty. One way to deal with this stress is to exercise! Aside from health and physical benefits, regular exercise results in the release of specific hormones which cause positive mood changes. Exercise is also an activity for the whole family, allowing partners and children to spend time together in a healthy, positive way!

The question is not whether we should be exercising during the lockdown, but rather how much exercise is too much, how exercise affects immunity and how to maximise the benefits of exercise during this time.

Exercise and the Immune System

Over the last few decades, much research has explored how exercise affects the immune system. Most researchers agree that regular, moderate exercise strengthens the immune system. At the same time, too much high-intensity exercise may suppress the immune system, leading to an “open window” of increased risk for infection in the hours directly following exercise.

In 2018, Dr Campbell & Dr Turner from the University of Bath challenged the idea that too much exercise influenced the risk of infection, either positively or negatively. They concluded that infections are more likely linked to other factors such as insufficient sleep, air travel, inadequate diet, overtraining and, perhaps more importantly in the current climate, exposure to pathogens at social gatherings. While Dr Campbell and Dr Turner's research focused on athletes and well-trained individuals, many of their conclusions apply to recreational athletes. In my opinion, it is essential that we all keep fit during this lockdown period, exercise will strengthen our immune systems, as long as we exercise according to the government's guidance for lockdown principles and social distancing.

Where to start?

**Please note that any guidance provided in this article is intended for individuals who have not been diagnosed with and/or do not present with any contra-indications to exercise, other special populations such as those with diabetes/obesity etc and/or symptoms of an acute respiratory illness. Please consult your physician if you present with any of these conditions.*

According to many resources, general guidelines recommend 150 to 300 minutes of moderate activity (30 minutes per day), or 75 to 150 minutes of vigorous activity per week. People who are starting, and unaccustomed to physical activity, will significantly improve their fitness levels with low-intensity training. In contrast, those with higher fitness levels will need to increase their exercise intensity to improve their fitness levels. This suggests that if you have never exercised before, the lockdown may be a great time to start, albeit slowly and with a scientifically thought-out plan to minimise the risk of injury. (I suggest that you contact your closest Sport Institute linked to a university and request personalised guidance). Here are my suggestions for keeping active during the lockdown.

MOVE!

While a lack of physical activity is detrimental to our health, prolonged sedentary behaviour is just as bad. It is important that we keep moving to avoid prolonged bouts of inactivity. If there are tasks you can do while standing or walking rather than sitting, then do so! The goal is to limit being in the same position for prolonged periods! Something is better than nothing

Regular bouts of exercise

As recommended above, if you are able and are not restricted by a health condition, you should aim for the prescribed 30 minutes of moderate exercise per day or 75 minutes of vigorous exercise per week.

You don't need a gym

We can do many different types of exercises during the lockdown. The most practical would be a bodyweight strength program, this can be interspersed with some "cardiovascular" exercises such as running step-ups, tuck jumps, skipping, jumping jacks, and burpees to create a more high-intensity interval session. We can use bottles or bags filled with sand as weights and broomsticks as bars (for overhead squats as an example). If you're lucky enough to have a driveway, you can do repeated sprints. We can use the spaces in our homes, including stairs, garden, driveway, balcony for many different types of exercises.

Many exercise institutes and professionals offer free live online sessions for pilates, yoga and strength classes. If you can access these, this is a great way to consistently train while knowing you are doing the right kinds of exercise.

The importance of a scientifically periodised and planned training program

It is important to remember that the benefits of any exercise program are physiologically built during rest periods. We require a stimulus or training period (strength, running, etc.), and a rest and recovery period to reap the full benefits of the exercise. Our weekly routines must include 1 to 3 days of rest/recovery, depending on how much exercise we have done before. It is helpful to speak to a qualified sports scientist or biokineticist about your needs and goals to assist you with a periodised plan and session plan to avoid any risk of injury and reap the rewards of a scientific and reliable program.

Even during the lockdown, a periodised plan will allow you to follow a “normal routine”, even though your “normal” routine is different. Creating a new routine for you and your family will ensure that the exercise gets done!

Recovery is key!

Post-exercise recovery is always vital to ensure optimal adaptation. Given the increased stress of the lockdown, recovery is even more important. We should all practise good personal hygiene after exercising; shower straight after your session and change out of training gear. Ensure your post-training nutrition is on point by eating a balanced diet and avoiding excessive alcohol intake. Make sure that you get enough sleep and rest (naps are highly recommended).

Don't forget about nutrition!

I would suggest that we complement our positive exercise routine with a healthy nutrition plan. To deal with stress during the lockdown, we are always tempted by unhealthy eating and snacking, which makes it even more imperative that we follow an exercise routine. Ideally, though, we should not make up for poor eating habits with an exercise regime, but rather view healthy eating and exercise as complementary.

It's not just about the exercise!

In these unprecedented times, we are all going through a collective traumatic experience. I am a sport scientist, and my first perspective is always to rely on exercise or physical activity as a coping mechanism. While exercise is important, we should consider other important aspects to ensure optimal health and mental well-being.

Sleep

In these stressful and uncertain times, we need to ensure we are getting at least 8 hours of sleep. Practice good sleep hygiene by avoiding excessive blue light from electronic devices an hour before bedtime to ensure the correct hormonal levels of melatonin which regulates sleep. We need to get enough sleep to recover properly from exercise and to cope with other stresses.

Maintain a healthy mental state

As mentioned, and I'm sure many of us are currently experiencing, this is an extremely stressful time. Try to avoid the constant negative news/churn on social media and manage your psychological state by engaging in relaxing activities such as reading and gardening. Speak to family and friends as often as possible. Laughter really can be the best medicine, and with today's technologies such as Zoom/Skype/Google Hangout/WhatsApp video calls we can all feel closer and connected, and enjoy a laugh with family and friends, in a very unconnected time.

Be kind to yourself and others

In these extremely stressful and uncertain times, we need to be kind to ourselves and those around us. We need to look after our health and well-being, as well as that of those around us. Exercise is but one way to do this. Being kind to ourselves, our bodies and minds, and those around us is what will get us through to the other side. We need to remember that exercise is greatly beneficial, but that all the factors mentioned in this article are important for our health and well-being during this time.

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on the Hatfield Campus, Pretoria. This 112-year-old institution is also the largest producer of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country that has a Faculty of Veterinary Science which is ranked top in Africa, and overall has 120 academic departments, as well as 92 centres and institutes, accommodating more than 55 000 students and offering about 1 100 study programmes.

UP is one of the top five universities in South Africa, according to the 2019-2020 rankings by the Center for World University Rankings. It is also ranked among the top 100 universities worldwide in three fields of study (veterinary science, theology and law), and among the top 1% in eight fields of study (agricultural sciences, clinical medicine, engineering, environment/ecology, immunology, microbiology, plant and animal sciences and social sciences).

In June 2019, the annual UK Financial Times Executive Education Rankings once again ranked GIBS as the top South African and African business school. The University also has an extensive community engagement programme with approximately 33 000 students involved in community upliftment. Furthermore, UP is building considerable capacities and strengths for the Fourth Industrial Revolution by preparing students for the world beyond university and offering work-readiness and entrepreneurship training to its students.

As one of South Africa's research-intensive universities, UP launched the *Future Africa Campus* in March 2019 as a hub for inter- and transdisciplinary research networks within UP and the global research community to maximise 4IR innovation and address the challenges and stresses our continent and world is facing. In addition, UP also launched the Javett Art Centre in September 2019 as a driver of transdisciplinary research development between the Humanities and other faculties. In 2020 UP will launch Engineering 4.0. as a hub not only for Smart Cities and Transport, but also to link the vast resources in technology and data sciences to other faculties via Future Africa. These initiatives are stimulating new thinking at the frontier of 'science for transformation'.

For more information, go to www.up.ac.za