



Quarterly Pulse Newsletter

Bringing you the latest information in Health, Wellness, and Performance



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The North-West University (NWU) is home to the Physical Activity, Sport, and Recreation (PhASRec) research focus area. Established in 2012 and spearheaded by Prof Hanlie Moss, PhASRec has grown by leaps and bounds in numerous areas that include academic expertise, research, community engagement, international collaborations, and national standing.

PhASRec is nestled between two other key service areas at NWU, namely the Center of Health and Human Performance, and the Institute for Biokinetics. Together these three entities have served the greater Potchefstroom area and beyond across a broad domain of health, wellness, and performance.

The purpose of this newsletter is therefore to highlight the many aspects of PhASRec, its staff, and the community that it serves. We will also keep you up-to-date with all things related to health, wellness, and performance in a manner that is light-hearted yet informative. Our goal is to publish a new edition of the newsletter each quarter of the year to provide a bird's-eye view of all the inner workings, where you as the reader can find additional information on assorted topics of interest, and perhaps most importantly, how you can get involved in the various on-going projects.



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PERF-FIT for low resourced schools

For some children with motor deficits (e.g., hopping, running, throwing, jumping and balance), the development of such skills may take longer to improve, if at all.

With this in mind, PhASRec is contributing to the establishment of valid PERFORMANCE and FITNESS tools (PERF-FIT) by comparing tests within the PERF-FIT testing battery to standardized tests and to identify South African norm values.

The study is currently on-going and focuses on children aged 6-12 years.

Want to get involved? Contact Dr Barry Gerber (barry.gerber@nwu.ac.za) for more details.

Barry's Profile

Relationships between growth characteristics, physical activity and neuromotor milestone development

How to GrowActive



The first 1000 days from birth, are considered a unique window of opportunity to establish a solid foundation for an infant's overall development

Although there are well defined timeframes at which infants should have reached certain milestones, various factors, such as growth, physical activity (PA), motivation to explore, opportunities, necessary stimulation and the environment, play a significant role in infants' development.

The GrowActive study, led by Dr Barry Gerber, aims to determine the possible effect of anthropometric growth- (head and upper arm circumference, weight, length, arm length, arm span, leg length and sitting height) and differences in physical activity patterns (accelerometer) on the neuromotor milestone development (reflexes, stationary, locomotor, object manipulation, grasping, visual-motor) of 6 to 12 month old babies from varying socio-economic statuses. The information gained from this study could facilitate the planning and implementation of effective interventions to help infants reach their milestones optimally and promote PA in children, which could reduce obesity in infants.

If you would like to find out more, please contact Dr Gerber directly for more [information\(barry.gerber@nwu.ac.za\)](mailto:barry.gerber@nwu.ac.za).

Exercise "Snacking"

Fitness fact or fiction?



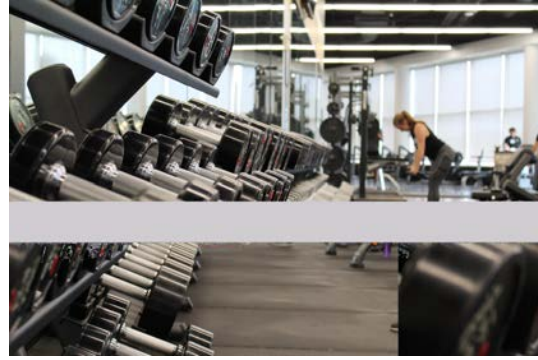
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Sometimes less is more

As we have already established, low levels of cardiorespiratory fitness (CRF) and sedentary behaviour are associated with higher levels of all-cause mortality and [CVD](#). Although most of us know this, the general excuse for not engaging in more regular physical activity (PA) tends to be ascribed to a lack of time and access to facilities.

Recent [studies](#) have shown however, that substantial improvements in CRF can be attained by periodically engaging in vigorous exercise lasting < 1 minute throughout the day. This concept is referred to as “exercise snacking” and alleviates the need for planning and allocating leisure time for structured exercise. Exercise snacks appear to be well tolerated (even in clinically compromised populations) and can be incorporated at the home, office, or school settings.

As with any study, there are some caveats: (i) the effort of the activity must be “hard” (e.g. 85% of maximum heart rate), (ii) the activity must be repeated ~3 times throughout



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HIIT vs. MICT

From the previous section, perhaps the notion of training very hard for very short periods of time is not quite your cup of tea? Arguably, the latter would not be most peoples exercise method of choice. Luckily there are alternative options.

On the one hand you could choose to complete interval training at higher intensities (HIIT), or choose to do continuous training at more moderate intensities (MICT). Recent evidence has shown that both methods appear to be, at least for the most part, similarly effective for improving body [composition](#), [cardio-respiratory fitness](#), [blood pressure](#), and various [blood biomarkers](#) (e.g. cholesterol, blood glucose etc).

Therefore regardless of the method of training, the key take-away message is to pursue the option that you enjoy the most so that you can engage with training more regularly.

How much is enough? The [current guidelines](#) show that 150-300 minutes of moderate intensity activity, or 75 minutes

the day for 3 days per week, (iii) fitness will likely improve by ~5% after 6-weeks.

Given the negative effects of sedentariness and low CRF, exercise snacking really does seem to be a viable alternative with evidence-based outcomes in the parameters that really matter for health and wellness.

of vigorous intensity (or a combination of both), are recommended to [prolong life](#) and increase your health-span. Remember to start small, plan ahead, contact a friend, and keep trying (even you loose some battles).

[View more](#)



Exercise to Depress your Stress

Given the turbulence of the past two years, it is not surprising that industry has placed a greater emphasis on ensuring more optimal mental health. In fact, in South Africa, approximately 1-in-10 individuals suffer from [major depression](#).

Depression is most commonly treated with anti-depressants, but these come with a multitude of side-effects. Believe it or not, but exercise is a clinically proven anti-depressant that not only improves mental well-being but also

comes with a host of other health-related benefits (e.g. blood pressure, glucose tolerance, heart health etc).

In a recent [review](#) on the available literature, it was shown that exercise and anti-depressants were at least equally effective in treating depressive symptoms, thereby supporting the use of exercise as an adjunctive therapy.

We currently have an on-going project here at NWU that is investigating the effects of exercise on depression. Should you be interested, please contact Prof Hanlie Moss (email: hanlie.moss@nwu.ac.za).

[Read more](#)

[Meet the Team](#)

Tamrin Veldsman

Tamrin Veldsman is a dynamic lecturer, researcher, and Biokinetics Program leader here at PhASRec. She is also a registered biokineticist with the Health Professions Council of South Africa (HPCSA) and serves as the chairperson for the North-West Biokinetics Association of South Africa (BASA) committee.

Before Tamrin joined the North-West University in 2017, she lectured at the University of Venda and worked in private practice. She obtained her Ph.D. in 2020 researching cardiometabolic disease risk, carotid intima-media thickness, and physical activity in teachers and published articles in the field.

In whatever spare time she has left, Tamrin really enjoys hiking, spending time with friends, completing puzzles, and walking her 2 dogs.

She has a keen interest in research regarding risk factors for non-communicable diseases, physical activity, and health.



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