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Athlete Testing Report

Research project: The effect of 4 weeks of Sprint Interval Training on Transgender Health

Introduction

Thank you for participating in the above study at the Manchester Metropolitan University Institute of Sport. The benefit of this research to you is tracking your performance throughout the 8 weeks and providing insights to support your athletic and health development. We appreciate your time and effort in these assessments and look forward to welcoming you back to the labs in the future.

Disclaimer: This assessment is based on performance testing data and does not constitute medical or diagnostic advice. We are not a diagnostic facility, and any health concerns should be addressed with a qualified healthcare provider.

Athlete Name: Anaya Bangar
Date of Testing: 20/01/2025 to 20/03/2025
Sport: Cricket

Testing Conducted by:
Dr Blair Hamilton

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Clothed Weight (kg)

Visit 1: 71 **Visit 2:** 69.8 **Visit 3:** 68.1

BMI(kg/m2)

Visit 1: 22.5 **Visit 2:** 22.9 **Visit 3:** 23.4

Sleep (Hours)

Visit 2: 205 **Visit 3:** 173

Physical Activity (Mins)

Visit 2: 90 **Visit 3:** 0

Blood Pressure (mmHg)

Visit 1: 104/76 **Visit 2:** 128/89 **Visit 3:** 114/92

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Biochemical Markers

Haemoglobin (Hb)

Visit 1: 142 g/L **Visit 2:** 143 g/L **Visit 3:** 133 g/L

Typical Female Range: 115 – 165 g/L[1]

What is Hb? Hb is a protein in red blood cells that carries oxygen, crucial for oxygen delivery to muscles during high-intensity efforts and sustained play. Higher Hb concentrations generally lead to better aerobic capacity as more Hb means you can transport and deliver more oxygen to working muscles, supporting increased aerobic performance.

Fasted Glucose (Blood Sugar)

Visit 1: 6.1 mmol/L **Visit 2:** 5.6 mmol/L **Visit 3:** 4.9 mmol/L

Typical non-diabetic range: 4.0 to 5.9 mmol/L/[1]

What is blood glucose? Many types of glucose tests exist, and they can be used to estimate blood sugar levels at a given time or, over a longer period of time, to obtain average levels or to see how fast the body is able to normalize changed glucose levels or in this case if the intervention had any effect on the body's ability to regulate glucose levels.

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[1] National Health Service. Haematology Reference Ranges. 2025 [cited 2025 24th March]; Available from: https://www.gloshospitals.nhs.uk/our-services/services-we-offer/pathology/haematology/haematology-reference-ranges

Diabeties UK Available at https://www.diabetes.co.uk/diabetes_care/blood-sugar-level-ranges.html

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Power Tests

Peak Power (W)

Visit 2: 706 **Visit 3:** 789

Cisgender Women: 673 ± 101 [3] Z score: +1.1

**Note: Z-score is a statistical measurement that describes a value's relationship to the mean of a group of values. The Z-score is measured in terms of standard deviations from the mean.*

Peak Power (W/kg)

Visit 2: 10 **Visit 3:** 12

Cisgender Women: $11.\pm 1$ [3] Z score +1

Mean Power (W)

Visit 2: 470 **Visit 3:** 417

Cisgender Women: 457 ± 66 [3] Z score: - 0,6

**Note: Z-score is a statistical measurement that describes a value's relationship to the mean of a group of values. The Z-score is measured in terms of standard deviations from the mean.*

Mean Power (W/kg)

Visit 2: 7 **Visit 3:** 6

Cisgender Women: 8 ± 1 [3] Z score -2

3 Baker UC, Heath EM, Smith DR, Oden GL. Development of Wingate Anaerobic Test Norms for Highly-Trained Women. Journal of Exercise physiology online. 2011;14(2).

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Body Composition Assessment (BodPod)

Relevance: Bodpod provides insights into body composition, which influences strength, endurance, and injury risk. Optimal body composition supports performance through increased lean mass for power and reduced fat mass for agility.

Please see the next pages for your body composition report

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Sign: _____

BODY COMPOSITION

Device	Serial Number	Firmware Version	Test Time	Body Density Model
BOD POD GS-X	2022X008	16.12	15:02	Siri

TGV Model: **Predicted**

% Fat

Population Mean and Standard Deviation

Results obtained from the literature were used to develop population specific Mean and Standard Deviation (SD) values, assuming a normal distribution of the population. These values are shown in the Distribution Curve and are used in the Automatic Interpretation. References used are provided in the User Manual.

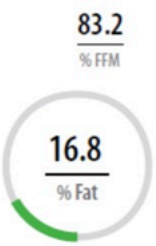
16.8 %	11.442 kg	56.686 kg
% Fat	FM	FFM
83.2 %	68.128 kg	64.246 L
% FFM	Body Mass	Body Volume
1.0604 kg/L	3.514 L	
Body Density	TGV	

Body Fat

A certain amount of "essential fat" is necessary for good health. Fat plays an important role in protecting internal organs, providing energy, and regulating hormones. However, if too much fat accumulates over time, health may be compromised.

Fat Free Mass

Fat free mass is everything except fat. It includes muscle, water, bone, and internal organs. Muscle is the "metabolic engine" of the body that burns calories and plays an important role in maintaining strength and energy. Healthy levels of fat-free mass contribute to physical fitness and may prevent conditions such as osteoporosis.



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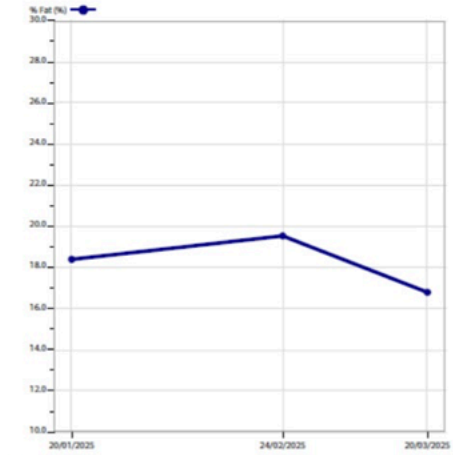
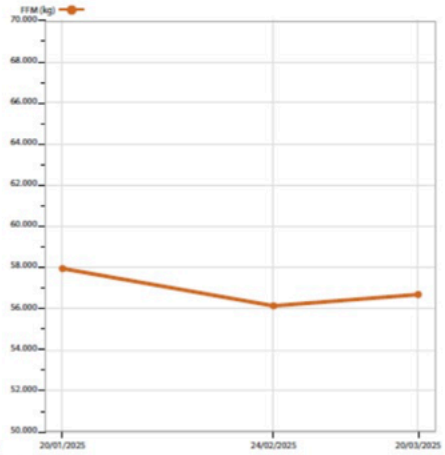
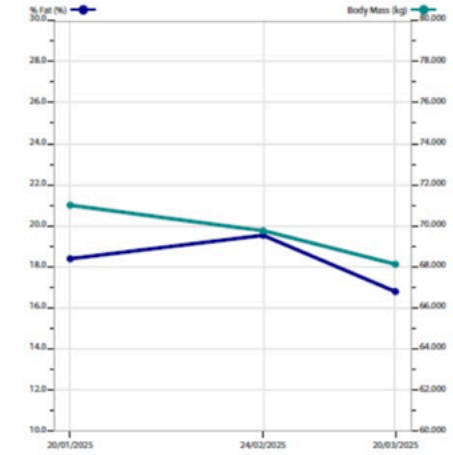
% Fat vs t



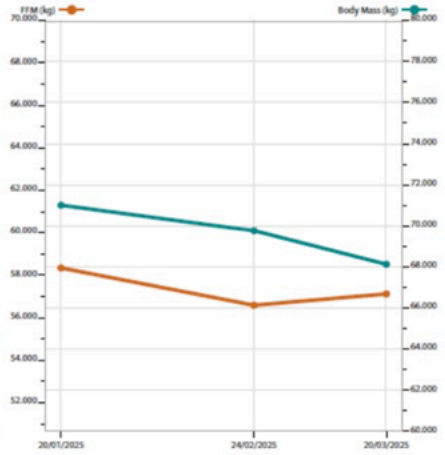
FFM vs t



% Fat, Body Mass vs t



FFM, Body Mass vs t



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https://www.mmu.ac.uk/institute-of-sport

Report date: 20/03/2025

First Name	Middle Name	Last Name	D.O.B.	Age	Gender	Ethnicity
BHSIT01		--	26/12/2000	24.2	Female	Indian

		20/01/2025	24/02/2025	20/03/2025
ADP				
% Fat	%	18.4	19.5	16.8
FM	kg	13.064	13.629	11.442
FFM	kg	57.948	56.135	56.686
Body Mass	kg	71.012	69.764	68.128

It is encouraged that you discuss these results with your coaching team, and they will be able to help with how this might inform your future training

Tester Signature: Digitally signed by Dr. Blair Hamilton

Athlete Signature: _____

Coach Signature (if applicable): _____

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