Risk assessment RA18 Metabolic testing

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Faculty / Service Area	Faculty of Health Sciences and Sport	Location	Sport Science laboratories, other
Description of work task / equipment /area being assessed			
Metabolic testing			
Change log	Version 1.1 29 Aug 2022 Expanded this section Version 1.2 11 July 2023 Referenced regulations and SOPs		
Head of faculty	Prof Jayne Donaldson	Safety officer	Dr Nidia Rodriguez Sanchez
Completed by	Dr Stuart Galloway	Date	22 Jul 2020
Reviewed by	Dr Nidia Rodriguez Sanchez Chris Grigson	Date	11 July 2023
		Date of next review	August 2024
Equipment used	Metabolic testing using the following equipment: Hans Rudolph respiratory plumbing, Douglas Bag sets, Cosmed Quark, Cosmed QNRG, Cosmed K5		
Categories of people involved	Staff, UG, PG, Visitors		
Duration of activity	<3hrs	Frequency of activity	Daily
Legal compliance to standards and regulations required	Health and Safety at Work act 1974 (HASAWA) https://www.hse.gov.uk/legislation/hswa.htm Management of Health and Safety at Work Regulations 1999 (MHSWR) https://www.legislation.gov.uk/uksi/1999/3242/contents/made		

	Provision of Work Equipment Regulations 1998 (PUWER) https://www.hse.gov.uk/work-equipment-machinery/puwer.htm The Control of Substances Hazardous to Health Regulations 2004 (COSHH) https://www.hse.gov.uk/coshh

What are the hazards?	Hazard category	Who might be harmed and how?	What are you already doing to control the risks?	*Risk rating	What additional controls (if any) are required to reduce the risks?	*Risk rating	Action by who?	Action by when?	Date of completion
Overexertion	F4	User Low blood pressure - fainting High blood pressure episode Cardiac arrest Muscle fatigue Cramp Joint pain Pulled muscles, ligaments and tendons. Dizziness Hyperventilation Nausea Exhaustion	Risk assessment RA01 and RA02 Participants must go through health and fitness screening before use Only trained investigators allowed to use machine All users instructed to warm up before and down after the test All users instructed to stop if they experience unusual symptoms during the test	1x4=4					

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Inadequate ventilation	F4	Test subject Asphyxia	SOP Only trained investigators and supervised students allowed to assemble equipment and perform tests All equipment to be inspected for correct operation after assembly and prior to use Procedure explained to subject who can stop the test at any time Subject never left alone during test	1 x 4 = 4					
Hood for resting metabolic measurements	F4	Test subject Asphyxia	SOP Only trained investigators and supervised students allowed to assemble	1 x 4 = 4					

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			equipment and perform tests All equipment to be inspected for correct operation after assembly and prior to use Procedure explained to subject who can stop the test at any time Subject instructed not to sleep during test. Investigator instructed to monitor subject throughout test. Subject never left alone during test						
Calibration gas	F4	All Asphixia Intoxication	See laboratory RA and SOP safe handling of calibration gasses	1 x 3 = 3					

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References and Further reading	Preparticipation medical evaluation for elite athletes https://bmjopensem.bmj.com/content/bmjosem/7/4/e001178.full.pdf Activity Risk Assessments RA16 Dynamometers RA17 Bicycle ergometers RA20 Treadmills Laboratory Risk Assessments RA80_TeachingLab_L19 RA83_NeuromuscularLab_3B142D	Standard Operating Procedures KinCom Lode Excalibur Cosmed Quark Cpet CosmedK5 RA81_ResistanceLab_3B140 RA84_MultipurposeLab_3A72	Biodex Lode Corival Douglas Bags HP Cosmos Pulsar 3P RA82_PhysiologyLab_3B142	Monark 894E					

COSHH Risk assessment

Anything in category F.6 (Chemical and biological hazards) should go here

*Details under relevant heading in appendix

Manufacturers COSHH data sheets are required for all chemical hazards and should be attached

The Substance What are the hazards and *classification? *Route of exposure	*WEL mg/m3	Who might be harmed and how?	What are you already doing to control the risks?	*Risk rating	What additional controls (if any) are required to reduce the risks?	*Risk rating	Action by who?	Action by when?	Date of completion	Health monitoring
See laboratory RA and SOP 70% iso propyl alcohol Milton sterilising solution Calibration gas Air Mix Calibration gas Nitrogen										