

Risk assessment RA22 Magnetic stimulation

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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			
Sub cranial stimulation using Magstim B200 ² . A magnetic coil is placed over target area of brain, short duration magnetic pulses are delivered to elicit involuntary muscle twitches.			
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	Thomas Di Virgilio	Date	7 Jul 2020
Reviewed by	Dr Nidia Rodriguez Sanchez	Date	11 July 2023
	Chris Grigson	Date of next review	August 2024
Equipment used	Magstim B200 ²		
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		

		<p>Manual Handling Operations Regulations 1992 (MHR) https://www.hse.gov.uk/pubns/priced/l23.pdf</p> <p>The control of electromagnetic fields at work act (2016) https://www.hse.gov.uk/radiation/nonionising/emf-regulations.htm</p>							
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
Mild discomfort due to electrical stimulation	F4	Participants May feel a brief stinging sensation	Participants will be thoroughly briefed and familiarised to avoid surprise and reduce involuntary movements	Low					
Collision of body parts with hard sharp objects	F4	Participants as a result of involuntary movements	Participants will be thoroughly briefed and familiarised to avoid surprise and reduce involuntary movements Stimulation only undertaken according to a written procedure Subject must be supported in a stable position with no risk of falling	Low					

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			<p>All objects removed from the full range of motion of limbs to prevent collision</p> <p>Where appropriate subject should be suitably restrained or strapped into test equipment to control involuntary movement</p>						
Accidental discharge of the stimulator	F4	<p>Participants; Researcher</p> <p>Participants may be subjected to an unexpected stimulation resulting in discomfort, pain</p> <p>Staff members may accidentally receive an electric shock if careless with cables</p>	<p>Researcher will be trained extensively on the safe use of stimulators</p>	Low					

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Use of stimulator on subjects with pre existing health conditions	F4	Participants Heart problems, pacemakers, epilepsy etc. may result in an injury associated with condition or death	Participants will be screened* with appropriate questionnaires for pre existing conditions prior to undergoing the procedure	Low					
Mains electricity	F4	All Electric shock from exposed wires or earth fault.	Regular PAT testing Pre use visual inspection	Low					
References	<p>* Preparticipation medical evaluation for elite athletes https://bmjopensem.bmj.com/content/bmjosem/7/4/e001178.full.pdf Magnetic stimulation and The control of electromagnetic fields at work act (2016) https://pubmed.ncbi.nlm.nih.gov/37380100 Activity Risk Assessments Standard Operating Procedures</p>								

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	RA16 Dynamometers		KinCom		Biodex				
	Laboratory Risk Assessments								
	RA80_TeachingLab_L19		RA81_ResistanceLab_3B140		RA82_PhysiologyLab_3B142				
	RA83_NeuromuscularLab_3B142D		RA84_MultipurposeLab_3A72						