## Appendix (vi) Risk Management Plan

**Risk Management Plan**

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| Ethics reference number: **ERGO//17661** | Version: 1 | Date: 2015-10-10 |
| Study Title: Ultra-low-power exercise monitoring applications for sub-threshold micro-controllers | | |
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In this study, participants will be required to wear a device on various parts of their body which will measure their movement while they perform different exercises. These activities will take place in a private lab in the psychology building on campus. Due to the nature of this study, there are some risks whose details and management strategies are listed in the table below.

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| --- | --- | --- | --- | --- | --- |
| Risk Description | Risk Likelihood | Loss value | Exposure (likelihood x loss value) | Management Strategy | Escalation Procedure |
| Electrical shock from device due to wiring failure. | 0.2 | 8 | 1.6 | Device will be insulated from direct contact with participants skin by making sure it is put over their clothing and concealing as much of the electrical wiring as possible. | The device can be shut down immediately from the power supply. A person appropriately qualified in first aid will be available to provide assistance. |
| Excessive heat or fire from device due to electrical issue. | 0.1 | 10 | 1 | Firstly, the device will not be in direct contact with participants skin so if it starts to get hot this can be identified before injury. Also, the device will be made easy to remove from participants by using a Velcro strap or similar. | The device will be shut down immediately from the power supply and removed from the participant. In case of fire, a fire extinguisher shall be used. A first aid kit will be on hand to treat burns. |
| Constriction of blood flow if strap is too tight. | 0.3 | 6 | 1.8 | Always directly ask participants if they are comfortable with the strap before they start any exercises. | The device will be removed immediately and participants will be allowed to rest before continuing. |
| Tripping hazard from dangling power cable. | 0.5 | 5 | 2.5 | Most of the exercises are performed while sitting down so there is not a trip hazard there. However, when walking with the device, we will walk along with the participants holding the power cable alongside them to stop it from tripping them up. | A first aid kit will be on hand to treat any cuts or bruises. |
| Strains from the exercises. | 0.6 | 4 | 2.4 | The participants will be carefully told how to do the exercises to make sure they know how to perform them properly which should not result in any strains. | A first aid kit will be available and this can be used to bandage strains. |
| There is a fire in the building and we need to evacuate. | 0.1 | 5 | 0.5 | Participants shall be shown the emergency exits from our lab room before the start of the study. | Fire wardens will be present to assist anyone who may get lost trying to leave the building. |