

Human Sciences Laboratory: Equipment Summary

Biopac MP36 and MP100	The Biopacs are data acquisition bio-potential amplifiers and are used for recording: ECG (Electrocardiogram), EMG (Electromyogram), GSR (Galvanic Skin Response), RSP(Respiration Pneumogram), PPG (Photoplethysmogram) and Bipolar EEG (Electroencephalograph).The Biopacs are able to interface with stimulus presentation software such as E-Prime and Superlab and are capable of sending/receiving external 8- bit data and triggering logic.
NeuroScan SynAmps 32 Ch EEG	The NeuroScan SynAmps EEG equipment is designed to record a wide variety of multi-channel neurophysiologic signals. The equipment consists of a PC, Amplifier, Head Box Interface, and 32-channel electrode caps. The NeuroScan is able to interface with stimulus presentation software such as E-Prime and Superlab and is capable of sending/receiving external 16-bit data and triggering logic.
TSA11 and COVAS System	The TSA11 is a computerised and programmable device which is used to measure sensory thresholds such as sensation to warmth, cold, heat-induced pain and cold induced pain; this is done via a thermode that is attached to the patient's skin. Lower vibratory thresholds can also be measured thus supplementing thermal testing and providing a much more comprehensive test. Using the COVAS system a simple analogue feedback response can then recorded.

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Grant Immersion - Cold Pressor	<p>The Cold Pressor is used to induce cold pain sensation, this usually involves the submersion of the hand into a bath of cold water. The equipment consists of a stainless steel water tank in which is submerged an immersion cooler (C1G) and immersion thermostat (GD120) both of which work in tandem to control the water temperature. Basically the immersion cooler continuously extracts heat from the water, once the desired temperature is obtained the immersion thermostat keeps the temperature constant (accuracy 0.1 Celsius) by intermittently heating the water. The immersion thermostat is fitted with a water agitator in order to obtain an even distribution of water temperature within the tank.</p>
Dinamap Pro Blood Pressure Monitors	<p>The Dinamap Pro Monitors are lab based blood pressure units which provide a determination of systolic blood pressure, diastolic blood pressure, mean arterial pressure (MAP), pulse rate, SpO2 levels and body temperature.</p>
TM2430 Ambulatory Blood Pressure Monitors	<p>The TM-2430's are a non-invasive Ambulatory Blood Pressure Monitor intended for measuring and displaying systolic and diastolic blood pressures. The TM-2430 can be programmed to take readings at set or random time periods over an extended period, up to 48 hours.</p> <p>The TM-2430 are programmed by the experimenter using a PC interface.</p>
Software	<p>SuperLab 4.5, E-Prime 2.1, Inquisit, SPSS 19, plus all up-to-date application software.</p>
Biological Lab	<p>Clinical biochemistry laboratory located within the HSL - Clinical diagnostic equipment enables the biochemical and haematological analysis of human body fluids such as blood, urine, saliva and semen. Analyses include full blood cell count, glucose, cholesterol, triglycerides, electrolytes, blood gases and enzyme assays. There is a dedicated area where participants can undertake physical activity utilising a treadmill and exercise bikes. There is also a state-of-the-art gene sequencer and capillary electrophoresis system.</p>