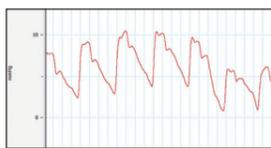


Assessing the body with physiological measurement

Physiological measurement is the science of transforming physiological information into meaningful data to contribute to diagnosis or treatment.

1. Intracranial pressure monitoring

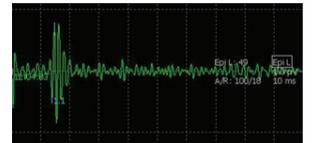
involves measuring the pressure in the head using a small transducer placed through a hole in the skull. The results of this monitoring can be used to help direct treatment for some patients, for example, patients who have cerebral fluid flow disorders or those who have had a head injury.



2. Visual electrophysiology measures the electrical signals produced in the retina that travel along the optic nerves to the brain in reaction to specific light and pattern stimuli using specialised electrodes. These tests of retinal and optic nerve function assist in the assessment of a number of ophthalmic conditions including unexplained visual problems and inherited or inflammatory diseases.



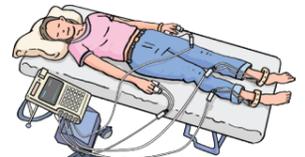
3. Spinal cord monitoring uses specialised equipment to monitor electrical signals passing through the spinal cord. This is used in some high-risk spinal surgeries so that any potential issues can be noticed early and corrective action can be taken.



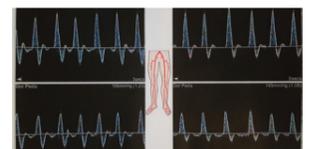
4. Microvascular measurement assesses the skin / tissue blood flow using a range of modalities including thermal imaging, laser Doppler imaging, and nailfold capillaroscopy. These are particularly useful for assessing burn wound depth and tissue viability and patients with Raynaud's phenomenon / connective tissue disease.



5. Body composition measurement quantifies the proportions of fluid, fat and bone in body tissues using methods like bio impedance, plethysmography, MRI etc. This test is very useful in nutritional studies, sports science and other clinical applications.

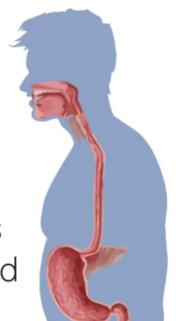


6. Macrovascular measurement investigates the blood flow in the arteries and veins using Doppler Ultrasound. This type of testing is useful in determining if there is a narrowing or occlusion in key blood vessels such as those linked to stroke, heart attack, painful legs on walking / leg ulcers, and diabetes.

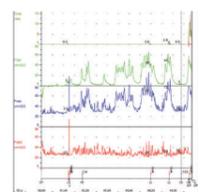


7. Upper Gastro-Intestinal physiology

measures the strength and integrity of the sphincter muscle that guards the stomach, the oesophageal muscle motility during swallowing and the acid reflux in patients using pressure and pH sensors. These tests are useful to assess patients with suspected gastric reflux disease and patients who experience difficulty in swallowing.



8. Urodynamics measures the pressure, volume and flow in the lower urinary tract using urinary catheters, pressure sensors and flowmeters. It helps to distinguish problems that have similar symptoms. For example, incontinence can be related to problems with bladder contractions or the muscle keeping the bladder closed.



9. Pulse oximetry measures the oxygen saturation using light, that is, how much oxygen the blood is carrying as a percentage of its possible maximum. This is important for indicating whether the cells and tissues of the body are getting enough oxygen.

