

Equipment in the Northern Ireland Clinical Research Facility



Equipment Index:

- General Clinical Equipment *Pg 1 - 6*
- Laboratory Equipment *Pg 6 - 9*
- Specialist Clinical Equipment
 - Nutrition *Pg 10 - 11*
 - Respiratory *Pg 12 - 15*
 - Cardiac / Vascular *Pg 16 - 16*
 - Ophthalmology *Pg 17 -19*

Please note that below is not an exhaustive list; kindly contact nicrf@qub.ac.uk for further information.

General Clinical Equipment

Genius Tympanic Thermometer



The Genius Tympanic Thermometer is a fast, accurate and convenient clinical instrument for measuring patient temperatures by using its proprietary *Peak Select System* technology to determine the body's accurate temperature directly from the tympanic membrane. It is an ear canal thermometer with measurement-site equivalence modes including oral, core and rectal equivalent temperatures.

MAC 1600 ECG Analysis System

The **MAC 1600 ECG Analysis System** is used to record ECG signals from surface ECG electrodes. This device can analyse, record and store electrocardiographic information from adult and paediatric populations. This data can then be computer analysed with various algorithms such as interpretive ECG and signal averaging for presentation to the user.



MAC 2000 ECG Analysis System

The **MAC 2000 ECG Analysis System** are used to record ECG signals from surface ECG electrodes. This device can analyse, record and store electrocardiographic information from adult and paediatric populations. This data can then be computer analysed with various algorithms such as interpretive ECG and signal averaging for presentation to the user.



Jamar Plus Digital Dynamometer-in General

The **Jaymar Plus Digital Hand Dynamometer** is a piece of medical equipment used to measure grip strength in patients, with an easy-to-read digital display.



Arjohuntleigh Maxi-Move Hoist & Sara Stedy-In General



arjo

The **Maxi-Move Hoist** is intended for use for patients who sit in a wheelchair to enable transfer while the Sara Stedy is used to quickly and easily transport or transfer the patients from one sitting position to another.



Welch Allyn Spot Vital Signs Monitor

The **Welch Allyn Spot Vital Signs monitor** provides vital signs in seconds with hospital-grade technology that is easy to use and accurate.

Nihon Kohden Vismo Vital Signs Monitor

The concept of **PVM-2701** is "*supreme ease of use.*" The **PVM-2701** provides a solution for hospitals that want to improve quality and streamline operation. **PVM-2701** combines high accuracy and simple operation to satisfy every caregiver from expert to trainee.



ZOLL Series Portable AED



The ZOLL Series Portable AED is an automated Defibrillator (AED) is a life saving device to deliver high-quality CPR, it analyses the heart's rhythm and can deliver an electrical shock or defibrillation in sudden cardiac arrest.

Seca 956 Electronic Chair Scales

The Seca electronic chair scales allow one to weigh patients with an impaired sense of balance, mobility issues they can be positioned directly next to the patient. Wheels include brakes to ensure the scale stays in place when needed, with fold up arm and footrests. Weight capacity 200kg.



Volumat MC Agilia Connect Infusion Pump



The Volumat MC Agilia Infusion pump is used for (IV) delivery of fluids including medications, parenteral nutrition, blood and blood products in controlled amounts into a patient's body by medical staff.

The pump administers fluids intravenously via an infusion tubing set and is intended for adults and paediatrics.

Laboratory Equipment



- 20°C Labcold Freezer

- 20°C **Labcold Freezer** is designed to store samples at low temperatures with precise temperature control.

- 80°C New Brunswick Freezer

The - 80°C **New Brunswick Freezer** is designed to provide precise, ultra-low temperature environments for cold storage of scientific materials for research purposes





Lab Dancer - Vortex

The **Lab Dancer - Vortex** is an attractively designed test tube shaker designed for mixing small test samples (*small containers up to 30mm in diameter, eg test tubes, centrifuge tubes, Eppendorf beakers*) with a touch function.

Laboratory Roller Mixer

The **Roller Mixers** are designed for use in the laboratory to gently roll bottles to provide mixing at a steady even rate. They are ideal mixers to prevent sedimentation of samples.



LEC Laboratory Freezer

The **LEC Laboratory Freezer** is perfect for short-term sample storage.

Rotina 380 R Centrifuge

The **Rotina 380 R** delivers good separation results rapidly and reliably and can be used for thermolabile samples at the required temperature.



Sartorius Laboratory Scales

Sartorius is a German company and maker of the world's finest balances since 1871. The scales excel in speed, accuracy and quality backed by years of experience.



Scotsman Ice Dispenser

The **Scotsman Ice Dispenser** is a push-button ice dispenser.



Specialist Clinical Equipment - *Nutrition*

DEXA System (bone mineral density & body composition)



Dual-energy X-ray absorptiometry (*DXA*) offers precise, comprehensive body composition analysis including bone, lean and fat issue distribution, as well as bone mineral density (*BMD*).

Stadiometers and Weighing Scales (height & weight)

Top of the line Stadiometers and Weighing Scales to measure height and weight to a high degree of accuracy.



SphygmoCor (central blood pressure and arterial stiffness measurement)



SphygmoCor® technology is used clinically for central pressure waveform analysis to better inform blood pressure management.

Bodystat Bioelectrical Impedance Monitor (body composition)

The **Bodystat Bioelectrical Impedance Monitor** measures body composition by sending a low, safe electrical current through the body. The current passes freely through the fluids contained in muscle tissue, but encounters difficulty / resistance when it passes through fat tissue. This resistance of the fat tissue to the current is termed '*bioelectrical impedance*', and is accurately measured by the bodystat machine.



Holtain Skinfold Calipers (skinfold thickness)



The Holtain Skinfold Calipers instrument has been specifically designed for the accurate measurement of subcutaneous tissue.

Specialist Clinical Equipment - Respiratory

Bronchoscopy: Olympus EVIS LUCERA CV 260 SL



The **Olympus EVIS LUCERA SPECTRUM** video system has set a new standard for endoscopic imaging, offering outstanding image quality.

Ultima CardiO2

The **Ultima CardiO2** is a cardiorespiratory system that offers metabolic stress testing, and configuration of both pulmonary function testing (PFT) and gas exchange testing.

- Fast responding oxygen and carbon dioxide sensors acquire data on a discrete breath-by-breath basis, providing continuous analysis and display of data.
- Simplified testing and data interpretation.
- Optional wireless ECG.



TRACKMASTER Treadmill



The **Trackmaster medical treadmill** is intended as a stressing device by providing motion to the patient. This can be tracked and interfaced with a variety of cardiac and pulmonary stress testing systems.

Ergoline Ergoselect

The Ergoline Ergoselect is the quintessential ergometer for exercise ECGs. Free programming of exercise protocols, intuitive operation and universal interfaces (digital, analog, remote start) for connecting to all ECG recorders and PC ECGs on the market.



ChloroCheck[®] Chloridometer[®] Analyzer

The ChloroCheck[®] Chloridometer[®] is used as part of the Newborn Screening (NBS) programme and is held as the gold standard diagnostic test for Cystic Fibrosis. After sufficient amounts of sweat chloride has been collected, the sample will be analysed using the ChloroCheck[®] system.



Devilbiss 646 Nebuliser



The **Model 646 nebuliser** converts liquid into aerosol via a high velocity, compressed air stream. Used in conjunction with a compressor, it delivers consistent aerosol particles to the lungs of asthmatic patients. It has a *5cc capacity* and an *MMAD of 5 microns*. The break-resistant nebuliser easily disassembles for sterilisation and is autoclavable.

Dosimeter (MB3 Markos Mefar)

The MB3 provides an accurate, easy-to-use and reliable method for the study, diagnosis and prevention of bronchial asthma.



Lung Clearance Index / N₂ Washout:



The **EXHALYZER D** offers various types of spirometry tests from neonatal to adult patients. The modular system is easily upgradeable and fully compliant with the *ATS / ERS* recommendations for infant / paediatric pulmonary function testing.

Oximeter (Aeon - A310)



The **Aeon - A310** offers the performance, comfort and memory you demand from a pulse oximeter.

Spirometer Microlab MK8

The **Microlab spirometer** is lightweight, portable and easy-to-use as well as having the ability to test both FVC and SVC.



Specialist Clinical Equipment - Cardiac / Vascular Equipment

Philips CX50 Ultrasound Platform (vascular [carotid intimal media thickness & flow mediated dilatation] & cardiac imaging)



Multi-modality portable ultrasound platform with additional offline analysis package, Qlab version 9 including: **IMT** (*Intimal Media*

Thickness Analysis) and flow mediated dilation assessment. **CMQ** (*Cardiac Motion Quantification*) tool for the assessment of cardiac strain deformation.

Philips CX50 Ultrasound Platform: Cardiac imaging with online Qlab version 9 including CMQ (*Cardiac Motion Quantification tool*)

Echocardiography dedicated ultrasound platform with built in Qlab version 9 analysis package. **CMQ** (*Cardiac Motion Quantification*) functionality for assessment of strain deformation.



Specialist Clinical Equipment - Ophthalmology

Standard Imaging



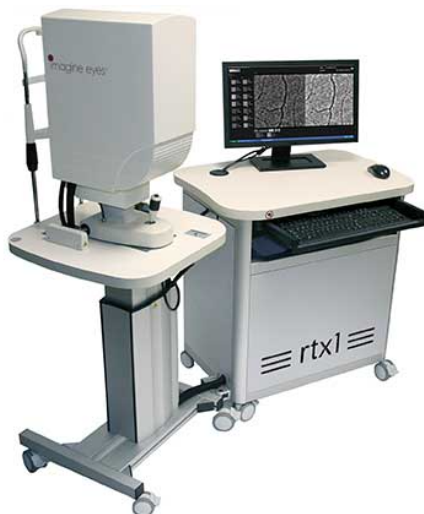
We have the following equipment available for **standard** imaging:

- Canon CX-1 Colour Fundus Camera
- Topcon TRC - NW8 Non Mydriatic Fundus Camera.

Advanced Imaging

We have the following equipment available for **advanced** imaging:

- 2 x Heidelberg Spectralis HRA & OCT2 /OCTA
- Oculus Oxymap
- Optos California Wide-Field Retinal Imaging & Angiography
- Imagine Eyes RTX1 Adaptive Optics Retinal Camera
- Zeiss Cirrus OCT/OCTA
- Topcon TRC 50DX Mydriatic Retinal Camera



Visual Fields / Perimetry

We have the following equipment available for **Visual Fields / Perimetry** testing:

- Humphrey Field Analyser
- Humphrey Matrix 800
- MAIA Microperimeter (*standard + Scotopic*)
- Metrovision MonCvONE Standard Automated Perimeter



Visual Function & Assessment

We have the following equipment available for **Visual Function & Assessment**:

- ETDRS LogMAR Charts (*distance & near*)
- Moorfields Acuity Charts
- Pelli-Robson Contrast Sensitivity Charts- Binocular Indirect Ophthalmoscope (*Keeler*)
- Shin Nippon K-900 Autorefractor
- Power Refractor 3
- Slit Lamp
- Trial lens set & trial frame
- Goldmann & iCare Tonometer
- Lenstar Optical Biometer
- AdaptDX Adaptometer
- Ocular Response Analyser- Oculus C-Quant
- Tinsley MPOD
- Oculus Pentacam
- 90D, 78D & 20D Volk lens
- Volk gonioscope

