

# NORTHERN IRELAND CLINICAL RESEARCH FACILITY

U Floor, Belfast City Hospital,  
Lisburn Road, Belfast, BT9 7AB

Tel: +44 (0)28 9504 0342

Email: [nicrf@qub.ac.uk](mailto:nicrf@qub.ac.uk)



# AVAILABLE EQUIPMENT

# EQUIPMENT AVAILABLE IN THE NORTHERN IRELAND CLINICAL RESEARCH FACILITY

Please note that the included equipment is not an exhaustive list,  
for further information contact [nicrf@qub.ac.uk](mailto:nicrf@qub.ac.uk).

## CONTENTS

**1 - 2      General Clinical Equipment**

**Specialist Clinical Equipment:**

**3-4      Respiratory**

**5-9      Ophthalmology**

**10      Nutrition**

**11-12    Laboratory Equipment**



# GENERAL EQUIPMENT



## MAC 1600 & 2000 ECG ANALYSIS SYSTEMS

Used to record ECG signals from surface ECG electrodes, these devices 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.



## NIHON KOHDE VISMO PATIENT MONITOR

PVM-2701 combines high accuracy and simple operation to satisfy every caregiver from expert to trainee. With a range of functions, measuring BP, SpO2, arrhythmia, temperature, ECG and respirations.



## ZOLL SERIES PORTABLE AED

This 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.



## EMERGENCY RESUSCITATION TROLLEY

A mobile unit stocked with emergency medical supplies and equipment to provide immediate response during critical situations.



## GENIUS TYMPANIC THERMOMETER

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.



## JAMAR PLUS DIGITAL DYNAMOMETER-IN GENERAL

Used to measure grip strength, with an easy-to-read digital display.



## ARJOHUNTLEIGH MAXI-MOVE HOIST & SARA STEDY-IN GENERAL

The Maxi-Move Hoist is intended for use for wheelchair users to enable transfer while the Sara Steady is used to quickly and easily transport or transfer the patients from one sitting position to another.



## WELCH ALLYN SPOT VITAL SIGNS MONITOR

Provides vital signs in seconds with hospital-grade technology that is easy to use and accurate.



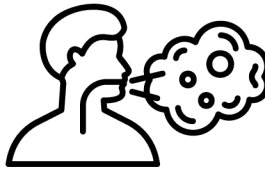
## SECA 956 ELECTRONIC CHAIR SCALES

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



# SPECIALIST EQUIPMENT

## RESPIRATORY EQUIPMENT



### 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 system combines our leading gas exchange technology with the premier Mortara ECG. A single software platform seamlessly controls both the gas exchange and ECG components. The result is an all-in-one, easy-to-use, metabolic stress testing system.

- 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.
- Cardiopulmonary Exercise Testing with the Trackmaster Treadmill or Ergoline Ergoselect, as below.



### TRACKMASTER TREADMILL

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 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.



## DEVILBISS 646 NEBULISER

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 MARKOSMEFAR)

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



## SPIROMETER MICROLAB MK8

This is lightweight, portable and easy-to-use as well as having the ability to test both FVC and SVC.



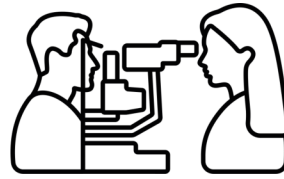
## OXIMETER (AEON-A310)

Offers the performance, comfort and memory you demand from a pulse oximeter.



# SPECIALIST EQUIPMENT

## OPHTHALMOLOGY EQUIPMENT



### ADVANCED IMAGING:

#### HEIDELBERG SPECTRALIS HRA, OCT AND OCTA

The SPECTRALIS® OCT imaging platform combines scanning laser fundus imaging with simultaneously acquired OCT. Optical Coherence Tomography (OCT) is a non-invasive imaging method that uses reflected light to create images of the back of the eye. It helps diagnose and manage common eye diseases such as age-related macular degeneration, diabetes-related retinopathy and glaucoma.

The SPECTRALIS® HRA+OCT imaging platform combines scanning laser fundus imaging modalities including dye-based Fluorescein Angiography (FA) with simultaneous OCT imaging. It has a panning camera head and an external touch panel control for easy adjustment and acquisition

In addition, the SPECTRALIS® also has OCT-Angiography imaging capabilities which enables quick, non-invasive, detailed imaging of the fine retinal capillary network.



#### OPTOS SILVERSTONE SS OCT + ULTRA-WIDE-FIELD RETINAL IMAGING & ANGIOGRAPHY

The Optos Silverstone is currently the only retinal imaging device with integrated, Ultra-Wide-Field-guided swept source OCT. The Silverstone produces a 200° single-capture Optomap image in less than ½ second and enables guided OCT scanning across the entire retina including into the far periphery.



## OPTOS CALIFORNIA ULTRA-WIDE-FIELD RETINAL IMAGING AND ANGIOGRAPHY

California produces a 200°, single-capture retinal image of unrivalled clarity in less than ½ second. It's Ultra-Wide Field capabilities is key in the diagnosis and management of ocular diseases such as retinal detachment, diabetic retinopathy, peripheral retinal degeneration and uveitis.



## IMAGINE EYES RTX1 (ADAPTIVE OPTICS RETINAL CAMERA)

The RTX1 Retinal Camera unlocks capabilities to examine the retina at a scale where individual cells are visible. Thanks to Adaptive Optics (AO) technology, it reveals parafoveal cone photoreceptors as well as other microscopic retinal structures that cannot be seen with conventional imaging techniques.

The RTX1 enables visualizing the microscopic walls of retinal arterioles non-invasively. Focal narrowing, perivascular sheathing, microhaemorrhages and micro-aneurysms are also visible without using contrast agents.



The RTX1 stands out as the most widely used AO imaging device throughout the world. It has become the reference device for cellular-level retinal assessments in clinical research and enables extensive clinical knowledge and findings in a large variety of diseases that impact the retina

## OCULUS OXYMAP

Composed of a custom-made optical adapter and two high resolution digital cameras (1600 x 1200 square pixels), producing quality images in a 50° field of view without sacrificing pixel resolution across the vessels. The Oxymap Analyzer software stores fundus images and subjects' data in its database and allows users to study retinal oxygenation and vessel width in groups of individuals, in healthy eyes and those with ocular disease, or compare oxygenation before and after treatment. Color-coded oxygen saturation values give a quick overview of the oxygenation of the retina. Users can also select vessel segments of interest, exclude vessel areas from calculations, get detailed analyses and record numerical results.



## STANDARD IMAGING:

### TOPCON TRC - NW8 NON MYDRIATIC FUNDUS CAMERA

The TRC-NW8 comes with a Nikon digital camera, enabling the user to zoom in on the finest detail. The Topcon TRC-NW8 offers a 45° angle which covers fovea and macula. Nine fixation targets enable to shoot nine images which can be collated into a mosaic, or panoramic overview. Stereo photography and a real red-free filter is a standard option on TRC-NW8.



## VISUAL FIELDS / PERIMETRY:

### ZEISS HUMPHREY FIELD ANALYSER

The Humphrey Visual Field Analyser is the gold standard of visual field testing. The Humphrey Visual Field Analyser allows us to map the peripheral vision of the eye which is important for evaluating and monitoring disease progression in eye conditions such as glaucoma.



### HUMPHREY MATRIX 800

The Humphrey Matrix 800 is a frequency doubling perimeter which provides the ideal solution for case detection and fast threshold visual field testing.



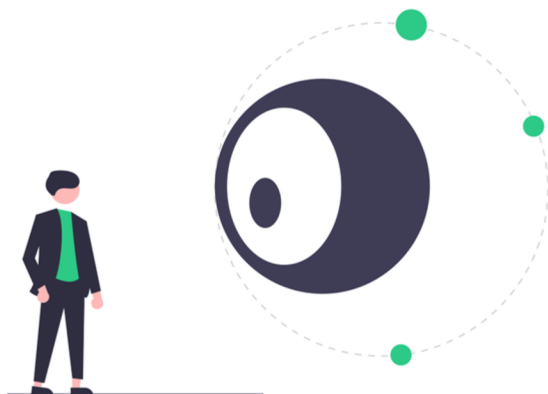
## METROVISION MONCVONE STANDARD AUTOMATED PERIMETER

The Metrovision MonCvONE comprises automated static perimetry tests, mixed perimetry tests (combination of kinetic in the periphery and static in the centre) as well as true binocular tests for the evaluation of visual aptitudes (drivers and low vision). MonCvONE-PRO[EM1] [LD2] has also the capability of automated and manual ('Goldmann') kinetic perimetry. It covers the entire visual field, up to 105 degrees on the temporal side (Ultra Wide Field Perimetry).

Thanks to its large viewing field camera, it can be used on very young children using attraction perimetry. Thanks to its video recording capability, it is also suitable for the assessment of ptosis, the test of diplopia visual field (fusion field or field of single vision) and for recording the cardinal positions of gaze.

It has the capability of:

- Dark adapted chromatic perimetry,
- Dark adaptometry,
- Full field stimulus threshold (FST),
- Photoaversion threshold (PAT),
- Chromatic pupillometry exams,
- ERG and sensory EOG exams with the ISCEV standard (option CR++).



## VISUAL FUNCTION & OCULAR ASSESSMENT:

### OCULAR RESPONSE ANALYSER (ORA)

The Ocular Response Analyzer is a non-invasive device that analyses corneal biomechanical properties simply and rapidly. The ORA allows cornea compensated IOP measurements and can estimate corneal hysteresis (CH) and corneal resistance factor (CRF).



### LENSTAR OPTICAL BIOMETER

The Lenstar 900 provides highly accurate laser optic measurements for every section of the eye, from the cornea to the retina, including thickness of the crystalline lens.



### ADAPTDX ADAPTOMETER

The AdaptDx is a simple, fully automated dark adaptometer. It measures dark adaptation speed, which can be used to detect and monitor the progression of age-related macular degeneration (AMD). Impaired dark adaptation is 90% sensitive and specific to the presence of AMD.



### OCULUS PENTACAM

The Gold Standard in anterior eye segment tomography. The OCULUS Pentacam provides precise and reliable topographical measurements of the cornea and anterior segment of the eye.

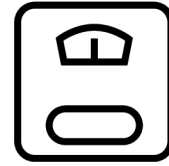


#### Further Ophthalmology Equipment:

- ETDRS Visual Acuity Charts (distance and near)
- Moorfields Acuity Charts
- Low-Luminance Visual Acuity Charts
- Pelli-Robson Contrast Sensitivity Charts
- Binocular Indirect Ophthalmoscope (Keeler)
- Shin Nippon K-900 Autorefractor
- Power Refractor 3
- Slit Lamp
- Trial lens set and trial frame
- Goldmann and iCare Tonometer
- Oculus C-Quant
- Tinsley MPOD
- 90D, 78D and 20D Volk lens
- Volk gonioscope

# SPECIALIST EQUIPMENT

## NUTRITION EQUIPMENT



### 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.



### HOLTAIN SKINFOLD CALIPERS (SKINFOLD THICKNESS)

Designed for the accurate measurement of subcutaneous tissue.



### STADIOMETERS AND WEIGHING SCALES

Digital measurement of height and weight to a high degree of accuracy.



# LABORATORY EQUIPMENT



## T-SCAN FREEZER TEMPERATURE MONITORING SYSTEM

A reliable system designed to continuously monitor and log freezer temperatures, ensuring compliance with storage requirements in clinical research.

## -20°C LABCOLD FREEZER

Designed to store samples at low temperatures with precise temperature control.



## -80°C NEW BRUNSWICK FREEZER

Designed to provide precise, ultra-low temperature environments for cold storage of scientific materials for research purposes



## LEC LABORATORY FREEZERS & FRIDGES

Ideal 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.



## MICROFLOW CLASS II BIO SAFETY CABINETS

Containment units designed to provide a sterile work environment while protecting the user, product, and environment from contamination.



## VANE ANEMOMETER

Handheld device used to measure airflow for calibrating biological safety cabinets to ensure proper containment and protection standards.



## CHLOROCHK CHLORIDOMETER ANALYZER

The ChloroChek® Chloridometer® is a coulometric titrator designed to determine chloride ion concentrations in sweat samples with just 10 microliters of sweat. It displays the concentration directly in mmol/L Chloride. The ChloroChek is truly simple to use and provides consistent results. It performs accurate coulometric chloride titration of small sweat samples.



## MICROPIPETTES

Precision instruments used to measure and transfer small volumes of liquid accurately in laboratory settings.



## LAB DANCER - VORTEX

Test-tube shaker designed for mixing small test samples (small containers up to 30mm in diameter, eg test tubes, centrifuge tubes).



## SARTORIUS LABORATORY SCALES

Sartorius scales excel in speed, accuracy and quality backed by years of experience.



## SCOTSMAN ICE DISPENSER

Push-button ice dispenser.

