

CHS Clinical & Translational Research Recharge Center
2021-2022 Wexford Equipment Guide

Clinical Research



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Anthropometric and Body Composition	
GE Lunar iDXA (General Electric)	Bone density and body composition by region or whole body. Specialized pediatric software 450lb weight limit CoreScan software estimates: Visceral adipose tissue (VAT) Vertebral fracture assessment (VFA)
Tanita TBF-400 Total Body Composition Analyzer	Detailed analysis of Weight, Body Fat %, Fat Mass, Fat Free Mass, Water Mass, Basal Metabolic Rate, and Body Mass Index. 600 lb. (270 kg) capacity and a portable design suited for in-house or offsite use.
Seca 286 Ultrasonic Measuring Station with Voice Guidance	Precision and high-speed measuring system using ultrasound technology and a hands-free design to allow social distancing during measurements of height and weight
Clinical Center Central Processing Support	
Multiple table top centrifuges, Biosafety cabinet, -20 and -80 freezer, refrigerator, participant restroom with pass through for urine sample collection , service toilet all conveniently located on the clinical research level	
Point- of-Care Analyzers	
DCA Vantage Analyzer	Point-of-care immunoassay analyzer Assays – HbA1c, Albumin, Creatinine, Albumin-to-Creatinine (A:C) Ratio
ABL90 FLEX PLUS blood gas analyzer by Radiometer	17 parameters – blood gas, electrolytes, metabolites and co-oximetry – from a syringe, capillary tube or test tube using only one blood sample of only 65 µL.
Metabolic Testing	
Cosmed Q-NRG Indirect Calorimeter	Indirect Calorimeter with mask or canopy for measurement of Resting Energy Expenditure (REE). Measurement of oxygen consumption (VO ₂), carbon dioxide production (VCO ₂), together with other ventilatory parameters, and metabolism substrate utilization (%FAT, %PRO, %CHO).
Parvo Medics TrueOne 2400 System	Integrated metabolic measurement system for cardiopulmonary stress testing and maximal O ₂ consumption measurement (VO ₂ Max).
Jaeger Oxycon Mobile Metabolic Measurement System	Wireless mobile cardiopulmonary and metabolic measurement system.
Cardiovascular and Clinical Monitoring	
Terason Usmart 330 Ultrasound Unit	Ultrasound system equipped with 3 imaging transducers. Cardiac, Vascular, Transcranial, Abdominal, Lung, Nerve and Musculoskeletal applications. Linear L 15-4 MHz, Phased 4-2 MHz, Curved 5-2 MHz
SphygmoCor-Xcel Central Arterial pressure analysis. Pulse Wave Analysis and Velocity	Noninvasive central blood pressure (NcBP) waveform assessment. Provides measurement of the central arterial pressure waveform and pulse wave velocity as well as an assessment of arterial stiffness via waveform analysis (e.g. augmentation index, augmented pressure, and reflected wave magnitude).

GE MAC 2000 Resting ECG Analysis System	Clear, accurate ECG data with a microprocessor augmented electrocardiograph 10-leadwire, 12-lead simultaneous acquisition and programmable lead configuration.
Edan iM50 Vitals Monitor	Monitoring of 3/5 lead ECG, heart rate, respiratory function, SpO2 pulse oximetry, noninvasive blood pressure, pulse rate and 2-temp sensors
Seca mVSA 535 EMR-validated Spot-check Vital Signs Monitor	Monitoring of blood pressure, heart rate, SpO2 pulse oximetry, pulse rate and 2- temp sensors
Hokinson Rapid Inflation Cuff	Rapid cuff inflation system with cuffs for brachial and femoral cuffs. Cuff pressure from 0-300 mmHg
Oscar 2 Ambulatory Blood Pressure Monitor with SphygmoCor	24-HR Ambulatory Blood Pressure Monitor featuring options to measure standard in central blood pressure and arterial stiffness measurements from AtCor Medical
Ergometry	
Sci-Fit Pro2 Total Body Exerciser	A versatile upper body exerciser and lower body recumbent bike with dependent upper and lower cranks to enable passive assistance. Removable seat for wheelchair accessibility
Lode Excalibur Sport 2500	Electromagnetically braked cycle for CPET testing, Wingate sprint test, isokinetic tests, high intensity (HIT) training and time trials. Interfaced with the Parvomedics metabolic system.
Tufftread High Performance HS Elite Treadmill	Heavy duty high speed treadmill with wide footprint to accommodate up to 700 lb. user weight, up to 26 mph and elevation range to 30%
T635M Medical Grade Treadmill	Medical Treadmill equipped with rehab specific features such as reverse speed up to 3 MPH and extended handrails suitable for testing child populations
Monark Cycle Ergometer 827e	Upright exercise bike with 44 lbs flywheel and comfort Velo Saddle with gel padding and 550 lb weight capacity.
Monark 881E Arm Ergometer	Adjustable crank arms independent from each other that can be used with hands or feet. Calibrated lodes shown in watts at 50 rpm.
Neuromuscular and Training	
Biodex System 4 Pro Dynamometer	Evaluate strength, endurance, power and range of motion of all major joints and muscles, and provides highly detailed objective data. There are 5 modes that can be used: Isokinetic Resistance, Reactive Eccentric, Passive Motion, Isometric, Isotonic
Handgrip Dynamometer	Measurement of the maximum isometric strength of the hand and forearm muscles, used for testing handgrip strength.
Keiser M3i Cycling Bike	Magnetic resistance, V-shaped frames and rear-flywheel design

Clinical Chemistry, Immunoassay Analyzers and Other Equipment	
AU480 Chemistry Analyzer Expected delivery, early December 2021	For General Chemistry, Cardiac, Drugs of abuse testing (DAT), Therapeutic Drug Monitoring (TDM), specific proteins, electrolytes, and immunosuppressant drugs Sample types – Serum, Plasma, Urine
Access 2 Immunoassay System Expected delivery, early December 2021	Anemia, Bone Metabolism, Cardiac, Diabetes, Infectious Disease, tumor markers, Thyroid, reproductive Sample type – Serum, Plasma, Urine
BioTek™ EL406 Microplate Washer/Dispenser	Automatic Plate washer and Dispenser for 96 and 384 well plates
MESO QuickPlex SQ 120	Bone disorders, Cardiac Biomarkers, Cardiac injury, Alzheimer markers, Kidney injury, liver injury, muscle injury, Oncology, Intra cellular signaling, Neuroinflammation, Immunology/Inflammation Suitable for human, rat, mice, non-human primates' samples ECL detection for best sensitivity and dynamic range
BIOTEK SYNERGY H1 HYBRID MULTI-MODE MIROPLATE READER	This system supports top and bottom fluorescence intensity, UV-visible absorbance and high performance luminescence detection
CHEMIDOC IMAGING SYSTEM	Based on CCD high-resolution, high-sensitivity detection technology and modular options. Chemiluminescence detection (example chemiluminescent western blots)
CRYOSTAT LEICA CM1950	The CM1950 is a high-performance cryostat with an encapsulated microtome and separate specimen cooling. The cryostat is designed to produce frozen sections for biological, medical and industrial applications
Optima™ Max-XP Tabletop Ultracentrifuge	Optima™ Max-XP Tabletop Ultracentrifuge Specifications: Platform – Tabletop UCF with maximum Speed – 150,000 rpm. Maximum g-Force – 1,019,000 X g. Sample volume: 175 µL up to 32.4 ml. Temperature Range(s) - : 0 to 40°C in 1°C increments
B·R·A·H·M·S KRYPTOR compact PLUS	A fully automated bench-top analyzer Thyroid markers, Copeptin, Prenatal Screening, Tumor markers
A₂O® Advanced Automated Osmometer	For reliable high-throughput osmolality testing of patient samples
WATERS ALLIANCE HPLC SYSTEM E2695	Identifying, quantifying and purifying individual components from a mixture.
BREATHTRACKER SC HYDROGEN/METHANE ANALYSIS	Analyze H ₂ , CH ₄ and CO ₂ Provides physicians with necessary information to confidently diagnose carbohydrate malabsorption and/or small intestinal bacterial overgrowth (SIBO).
ISOPERTEBOL BOMB CALORIMETER 6400	Determines the heat of combustion or calorific value of materials (Study of food and feeds)
FreeZone 4.5 Liter -84C Benchtop Freeze Dryers	Designed for lyophilizing light to moderate sample loads.
TRANSBLOT TURBO TRANSFER SYSTEM	Expedite western blotting. High performance protein transfer in as little as 3 minutes. Transfer up to 4 mini or 2 midi gels simultaneously.
CFX Connect Real-Time System	CFX Connect Real-Time System - deliver sensitive, reliable detection of both singleplex and multiplex real-time PCR reactions. Paired with CFX Maestro Analysis Software, CFX Instruments provide superior data collection, statistical analysis, and data visualization capabilities
QIA Xpert System	High-speed microfluidic UV/VIS spectrophotometer for accelerated DNA, RNA, and protein quantification. Fast and easy to use analyzing up to 16 samples within 2 minutes.

Cobas c 111 Autoanalyzer	40 clinical chemistry assays available
RX Daytona Clinical Chemistry Analyzer	Capability of analyzing a variety of human sample types - Serum, Plasma Urine, CSF and Whole Blood as well as VETERINARY sample
StatSpin CritSpin	For hematocrit determinations
Evos Core XL	Cell and tissue culture applications and routine cell maintenance
NanoDrop™ One/OneC Microvolume UV-Vis Spectrophotometer	Quantify DNA, RNA, and protein samples in seconds with only 1-2 µL, and obtain full-spectral data before you decide to use samples in downstream applications
ABI Real-time PCR	RT-PCR reactions
ABI Thermocycler	Amplify DNA and RNA samples by the polymerase chain reaction.
Malvern Nanoparticle Size and Zeta Potential Measurement Equipment	Malvern Panalytical offers leading zeta potential analyzers for the measurement of zeta potential, or electrophoretic mobility. The Zetasizer provides a simple, fast and accurate way to measure zeta potential in either laboratory or process environments and a variety of cell types, including affordable disposable folded capillary cells
12 Position N-EVAP Nitrogen Evaporator	Used for concentrating biological samples
Agilent 1290 Infinity LC System UHPLC	Isolation and purification of biological materials in shorter period of time
Biotek Cytation5	Used for cell imaging
Agilent Seahorse XFe96	Agilent Seahorse XFe96 Analyzers measure the oxygen consumption rate (OCR) and extracellular acidification rate (ECAR) of live cells in a 96-well plate format.
Columbus Instruments Comprehensive Laboratory Animal Monitoring System (CLAMS) ,	CLAMS monitoring system and Columbus instrument Climate Chamber for research animals. Operation of Oxymax/CLAMS and data collection is performed by an integrated program.
Caliper Perkin Elmer IVIS Spectrum system	The IVIS® Spectrum in vivo imaging system combines 2D optical and 3D optical tomography in one platform. The system uses leading optical technology for preclinical imaging research and development ideal for non-invasive longitudinal monitoring of disease progression, cell trafficking and gene expression patterns in living animals.
Branson Ultrasonics Sonifier SFX150 Cell Disruptor, Voltage: 120V, Cell Disruptor with traditional converter	Designed to bring the most advanced sample-processing capabilities to your laboratory with advanced energy and control modes, process monitoring capabilities, and programming features.
AccuTemp-09 0.9 Cu Ft Vacuum Oven	Heating system optimizes chamber space for drying, curing, vacuum embedding, and plating applications.
MaxQ™ 6000 Incubated/Refrigerated Stackable Shakers	Recommended for: Bacterial suspensions Hybridizations Solubility studies Diagnostic test Extraction procedures Washing procedures General mixing Protein expression Staining and de-staining Plasmid purification
Bio-Rad Electrophoresis Equipment	Protein, DNA and RNA purification unit
Thermofisher C Locator 6 Rack and Box System	Economically store up to 6,000 samples in this cryogenic storage system that makes sample retrieval simple and consumes minimum liquid nitrogen.
Echo MRI™ 3-in-1	Body Composition Analyzers for Live Small Animals (Mice), Organs, and Biopsies

Other small equipment in the lab:

Spectrophotometer genesys, Du 730 spectrophotometer, Fluorescence reader w/ top bot probes bio tek instruments flx800, Nitrogen evaproator organomation, Alegra 6 centrifuge, Heat block, Shaking waterbath, Microcentrifuge, Barnstedt smart2pure 6, Analytical scale, Waterbath hotplate stirrer, Vortex, Rocking shaker, Microplate shaker, Centrifuge small refrigerated, Allegra 30r centrifug