



**Medical Aid  
International**

Supporting Healthcare in Low Resource Environments



*North West Uganda, Assessing the needs with the locals*



Medical Aid  
International:  
**Our Story:**  
Who We Are,  
What We Do,  
and Why



*Tim Beacon, CEO, Medical Aid International.*



# INTRODUCTION

**Over twenty years ago**, in a hospital in a remote part of Uganda, Tim Beacon, a former Operating Department Practitioner and medical equipment specialist from the UK, experienced first-hand the agonising challenges of providing adequate healthcare to some of the world's most vulnerable people.

Non-existent or obsolete equipment; lack of maintenance and training; donated Western devices too resource-hungry for infrastructure-poor environments – **these were the pitfalls that spurred CEO Tim to found Medical Aid International as a Social Enterprise, from his garage in 2002.**

Medical Aid International's objective is to supply equipment and skills **specifically developed for, and adapted to, the particular needs of Low and Middle Income Countries (LMICs)**, and to work closely with partners and local healthcare teams to improve the lives and wellbeing of those less fortunate than us who live there.

## **Twenty years on...**

It has been – and continues to be – a truly remarkable journey.

From our base in Stagsden, Bedfordshire, UK, we have grown our organisation not only with clinicians, medical equipment experts, logistics specialists, engineers, trainers, and business professionals, but through many dedicated volunteers and an invaluable partner network, comprising healthcare charities, humanitarian causes, faith organisations, NGOs, and others.

We have become a global entity, transforming (and saving) more lives than we ever thought possible; coordinating long-term, effective, sustainable aid with an immediate and enduring positive impact on clinical outcomes, survival, and patient quality of life.

We supply cost-effective, in-house developed medical devices, combined with carefully sourced new and expertly repurposed donated equipment, to hospitals, clinics, and partners supporting them.

Also, we provide advice and accessible healthcare, disaster relief and biomedical engineering training, creating a unique, end-to-end, LMIC-specific solution for long-term, sustainable aid relationships – whether with a rural hospital in the DRC, a major Tanzanian teaching centre, or a Nepalese disaster zone.

**This is long-term, effective, sustainable aid that has an immediate and enduring positive impact on clinical outcomes, survival, and patients' quality of life.**

## **What's in this brochure: a life-changing future**

It is critical we continue to give valued partners opportunities to provide information, support and encouragement to the wide range of LMIC healthcare providers.

It is our hope that this brochure achieves precisely this, highlighting our wide range of medical solutions for every operational discipline – including training – that are designed to help us all work together **not only to support those less fortunate than us, but to empower them to support themselves.**





*Rwenzori Mountains, Uganda/DRC Border. Hiking in the mountains to run an outreach clinic with Rwenzori Women For Health.*

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Medical Aid  
International:  
The Problems  
We Solve





**For Low to Middle Income Countries (LMICs), sourcing and maintaining suitable healthcare equipment is a problem for remote rural clinics and larger urban hospitals alike – as well as for the charities, NGOs, churches and medical equipment distributors that work with and for them.**

Imported equipment may be prohibitively expensive and unsuited to local conditions (e.g. unreliable electricity and gas); supply chains and skilled maintenance personnel are often non-existent.

Medical Aid International breaks the frustrating cycle of healthcare inadequacy in these countries by providing the critical resources that turn projects into life-saving deliverables – reliable advice, context-appropriate equipment, effective training, and ongoing support and maintenance.

Our long-term, effective, sustainable aid has an immediate and enduring positive impact on clinical outcomes, survival, and patients' quality of life.



*Northern Senegal. The EcoClave™ in use at a new Maternity unit.*

## What Makes Us Different?

At Medical Aid International, we don't put generic equipment on a plane, fly it to a dot on a map, and call the job done.

Instead, we offer tailored, modular solutions that can be combined into an end-to-end healthcare response to the precise needs of our end-users in LMIC regions.

- We **advise and consult**, to ensure 'right first time' results for every project.
- We **procure, recycle, repair and donate** equipment – and we also design and build our own.
- We make the logistical arrangements to get the equipment to location **safely, quickly** and – **crucially** – with all the right documentation.
- We provide ongoing **support** even after the project is complete.
- We **train** the local people on the ground to **upskill** them and leave a **lasting legacy** of healthcare equipment knowledge.

Our cost effective pricing, and our innovative 'gifts in kind' model, along with the carefully triaged donated equipment we can provide, enables healthcare budgets to be used more effectively. Our experience, knowledge and vast network of suppliers enable us to support and guide every clinical project from concept to completion – and beyond.

## Empowering Local Teams Through Training

As well as delivering aid, we're all about empowering local teams to take ownership of their medical equipment, and so gain greater confidence, skill, and self-sufficiency going forward.

Our online Biomedical Engineering Training Programme is a shining example of this, and is just one of the many innovations on which we have built a reputation for delivering positive, practical and long-lasting changes across the LMIC world.

Based on our extensive experience working with local teams on the ground, this web-based course, which also includes a comprehensive engineering toolkit with optional laptop, is accessible from anywhere in the world, cost-effective, and rewards successful students with an internationally recognised City & Guilds Assured Certification.

We invested heavily and worked for two years in order to make this programme happen – and we have seen, first-hand, its positive impact on both the morale of healthcare teams and the wellbeing and recovery of their patients across many LMIC regions.

For more information, see our MedAid Academy pages on pg 36 or check out our website:

**[www.medaids.co.uk/biomedical-engineering](http://www.medaids.co.uk/biomedical-engineering)**



# What Sets Our Solutions Apart

When it comes to medical aid, compassion and generosity are not enough. *The aid has to be appropriate to the recipient's circumstances, readily usable in their environment and be a long-term, sustainable solution.*

Hospitals and healthcare facilities in LMIC regions are all too often supplied with Western-donated equipment that is simply too delicate, too resource-hungry, and of inappropriate technical specification for these locations.

Just a few examples of typical LMIC conditions that make donated medical equipment often impossible to deploy include:

- **Electricity supply issues** – Utilities can be unpredictable in LMIC regions. Donated equipment often has no manual, battery, or alternative power source for when the power fails.
- **Technical incompatibility** – North American donated equipment, in particular, often operates at a different voltage to local standards, incurring an additional cost for step-down voltage transformers, but also creating a very real danger that untrained personnel will connect the equipment directly to the local power supply, and inadvertently destroy it.
- **Prohibitive cost of consumables** – Anaesthetic and some other devices often rely on consumables that must be regularly replaced. These can be impossibly expensive for LMIC users.

**But at Medical Aid International, not only do we source, repurpose and adapt existing equipment specifically to suit LMIC environments – and reject it if it's not fit for purpose – if the solution doesn't exist, we'll design and build it, or commission it, ourselves.**

And we devise and implement training programmes from scratch too, **to ensure the equipment we supply keeps working, treatment keeps going, and patients keep recovering.**



*Ethiopia. Demonstrating the LMIC appropriate anaesthetic machine.*



Gahini Hospital, Rwanda. MAI operating table.



# OUR HEALTHCARE SOLUTIONS

## Operating Table

### *Versatility without bulk and complexity*

Donated electric tables break easily and often the backup batteries are worn out.

The tables are also very rarely sent with a minimum set of operating accessories, and the mattresses tend to be of poor quality, leading to a high risk of burns from electrocautery systems.

**In response, we designed and developed the Medical Aid International Operating Table, a European-manufactured, CE-marked solution that requires no electricity, is easy to disassemble and light to transport for outreach and disaster work, and comes ready-supplied with essential attachments for arm, leg, gynaecological, obstetric and urological surgery.**

Many patient positioning accessories are available including an orthopaedic fracture traction table.



*Disaster relief training with Save The Children and UK Med.*



*The operating table lower limb traction accessory.*



*Operating table in an Orthopaedic unit in Rwanda.*



Gondar, Ethiopia. X-raying a fractured femur on the Orthopaedic ward.



on

## Digital X-ray System

### *Instant images, no costly consumables*

Apart from the challenges associated with old, unreliable X-ray equipment, LMIC regions also face often impossibly high costs for consumables such as film and development chemicals.

And because many LMIC healthcare facilities are based in rural and remote areas, X-rays cannot easily be shared with colleagues in other institutions for a second opinion.

**To address these challenges, we provide the Medical Aid International X-ray System. Compatible with existing X-ray equipment, but requiring no film or development, it encases the X-ray plate in a 'cassette' that is then read by a scanner, and, just 45 seconds later, produces a faithful, interactive, image that can be shared electronically.**

The solution is supplied with a comprehensive but user-friendly software package that makes it possible to join images together, measure lengths and angles, zoom in, and alter contrast. The software has full patient data record capability, and makes the image instantly visible to authorised networked computers and users anywhere in the world, and also printable for patients' notes.

Our Digital X-ray System is also ideal for the urgency of intra-operative fracture treatment (where the X-ray takes place on the operating table), as the

surgeon receives images less than a minute after exposure. This offers a practical and realistic solution when there are no image intensifiers available.



*The software in use on a laptop.*



*Images can be easily exported as JPEG files.*





*Kagando Hospital, Western Uganda.*

## Sterilisation

Sterilisation of medical equipment in LMIC environments is a major challenge, particularly in more rural locations because of an absence of affordable, serviceable, easily usable equipment and an often unreliable – or non-existent – electricity supply. Consequently, infection rates are high – and increased mortality rates inevitably follow.

The obvious answer is to use sterilisation devices (autoclaves) that are designed to work in low resource environments. Medical Aid International can advise on the appropriate solution for your organisation to ensure long term sustainable sterilisation services.



An LMIC appropriate AutoClave in Gahini Hospital, Rwanda.

## The EcoClave™

Of particular concern is sterilisation in rural locations that have no or limited electrical supply. Pressure cooker autoclaves are ideal but the availability of fuels such as kerosene are limited and often too costly. The consequence is sporadic or non-existent sterilisation that puts lives at risk.

**But the Medical Aid International EcoClave™ changes all this. Non-electric, simple to use, maintenance-free, and robust enough for LMIC environments, it is also exceptionally fuel-efficient, as its insulated aluminium frame concentrates the wood-fired heat onto the sides and base of its integral pressure-cooker autoclave, controllably.**

There is now no reason for rural hospitals and healthcare facilities in LMIC regions to neglect sterilisation through lack of resources, skills, training, or time. The EcoClave™ gets to operating heat and pressure within fifteen minutes from cold, does not require medically trained personnel to work it, and can sterilise three large general surgical sets simultaneously.

*“The EcoClave™ has greatly impacted on infection control in a way that means instruments and dressing packs are sterile, and procedures are done without any fear of infection since there are no prior assumptions of sterility.”*

– African source



*Anaesthetists familiarising themselves with their new anaesthetic machine.*

## **Anaesthetic Solutions**

### ***Indispensable equipment for LMIC operating teams***

Anaesthesia in remote environments is rightly perceived as an area of great challenge. It is true that it is a frequently high-risk procedure, given that the patients it is performed on in LMIC environments are often medically unfit, and a full preoperative assessment is not possible.

Anaesthesia also suffers from hidden costs, as it requires not just an anaesthetic machine but associated complex and often expensive equipment, including laryngoscopes, equipment for difficult intubation, monitoring, and suction.

But on top of this, LMIC regions bring many other challenges to the operating table. Power supply is often limited and/or intermittent, and piped or cylindered oxygen and other gases are often simply not available.

**Yet at Medical Aid International, we make it perfectly possible to administer reliable anaesthetics in these environments, and carry out surgery safely. Based on many years' experience, we advise on and provide long-term anaesthetic solutions that are as effective high in the Himalayas or deep in the rural DRC as they are in a major teaching hospital in Dar es Salaam.**

How do we do this? By focusing on innovative but robustly simple technologies and approaches that are appropriate first and foremost for LMIC environments.

Examples of typical solutions include **draw-over, self-contained**, and occasionally, in major centres, circle machines, and these are explained in more detail in the table opposite.



Table showing anaesthetic solution options

Anaesthetic solution	Benefits	Important to know
Draw-over system	<ul style="list-style-type: none"> <li>• Requires no electricity</li> <li>• Can be used for all age groups</li> <li>• Can have an external ventilator attached to it</li> <li>• Small and portable</li> <li>• Generally the lowest-cost option</li> <li>• Maintenance-free</li> </ul>	<ul style="list-style-type: none"> <li>• Can be transported in luggage</li> <li>• Supplementary oxygen can be given</li> <li>• Supplied with a trolley to facilitate storage</li> <li>• Can be used on newborns</li> </ul>
Self-contained system	<ul style="list-style-type: none"> <li>• Equipped with an inbuilt ventilator, like a traditional anaesthetic machine</li> <li>• Needs no external gases, thanks to inbuilt oxygen concentrator</li> <li>• Can run without mains power for a limited period</li> </ul>	<ul style="list-style-type: none"> <li>• Larger than draw-over machines, so there can be freight cost implications</li> <li>• Requires mains electricity the majority of the time</li> <li>• Can be connected to external gas supply, if available</li> </ul>
Circle machine	<ul style="list-style-type: none"> <li>• Used in major medical centres globally</li> <li>• Works with much lower flow rates of gas, as it recycles the patient's gases</li> <li>• More advanced ventilator</li> </ul>	<ul style="list-style-type: none"> <li>• Needs extensive stocks of soda lime to extract CO<sub>2</sub> from patient's gases</li> <li>• Requires regular servicing on a yearly basis, unlike the solutions above</li> <li>• Requires CO<sub>2</sub> and anaesthetic agent monitoring</li> <li>• Most expensive anaesthetic option; rarely suitable for LMIC environments</li> </ul>

## ***Patient Monitoring: vital knowledge of vital signs***

Patient monitoring equipment is critical in ensuring that anaesthetised patients remain stabilised throughout the operating procedure – and intervening effectively when they don't.

But monitoring functions can add huge costs to anaesthetic equipment – so all too often, LMIC hospitals and healthcare facilities go without.

**Crucially, at Medical Aid International, we supply monitoring solutions that have been designed specifically to suit the demands of LMIC environments, and to deliver the same benefits as integrated anaesthetic/monitoring machines, but at far lower cost.**

For example, we can supply hand-held devices for oxygen saturation (SpO<sub>2</sub>) measurement and carbon dioxide monitoring (capnography), as well as

blood pressure sphygmomanometers, facilitating monitoring processes affordably.

Our monitoring solutions are also supplied with accessories to suit the wide patient age range of LMIC environments (from neonatal to adult), and can comprise cost-effective devices for ECG, anaesthetic agent monitoring, and suction, plus a full range of LED laryngoscopes with replacement parts.

Wherever there's an anaesthetic challenge in an LMIC environment, we have a context-appropriate response.

Examples of the main parameters that must be considered when procuring patient monitoring equipment are shown in the table opposite.



*The Medical Aid International Capnograph and pulse oximeter.*



*The Medical Aid International Pulse Oximeter.*

*Table of key parameters in procurement of patient monitoring solutions*

Parameter	Considerations	Important to know
Accessories	<ul style="list-style-type: none"> <li>• All monitors sent must cover the full patient age range</li> <li>• Two of each accessory should be sent to enable spares availability</li> </ul>	<ul style="list-style-type: none"> <li>• Age range must comprise neonatal, child, adult</li> <li>• Try to use the same brand of monitors throughout a facility so accessories can be shared</li> </ul>
ECG	<ul style="list-style-type: none"> <li>• In many LMIC environments the availability of ECG electrodes is minimal or non-existent</li> </ul>	<ul style="list-style-type: none"> <li>• Note the contrast with the West, where ECG is regarded as a standard monitoring procedure</li> </ul>
Blood pressure	<ul style="list-style-type: none"> <li>• A vital parameter to be measured, particularly as many patients undergo spinal anaesthesia, which can significantly drop their blood pressure</li> </ul>	<ul style="list-style-type: none"> <li>• An electronic blood pressure device is preferable, but a basic sphygmomanometer can be used</li> </ul>
Oxygen saturation (SpO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• A vital parameter and an easy one to measure</li> </ul>	<ul style="list-style-type: none"> <li>• There are a multitude of LMIC-appropriate models available including finger models as well as larger handheld ones</li> </ul>
Carbon Dioxide measuring (capnography)	<ul style="list-style-type: none"> <li>• A truly vital adjunct that many are, however, less familiar with</li> <li>• Essential for use with circle machines</li> <li>• Very desirable for all types of general anaesthetic</li> </ul>	<ul style="list-style-type: none"> <li>• Gives an instantaneous read out as to whether a patient is breathing or not</li> </ul>
Anaesthetic agent monitoring	<ul style="list-style-type: none"> <li>• As discussed above, in a closed system the anaesthetic agent levels should be monitored</li> </ul>	<ul style="list-style-type: none"> <li>• Monitors with this facility are extremely expensive and this should be a consideration when budgeting for anaesthetic machines</li> </ul>
<b>Other requirements for safe anaesthesia</b>	<ul style="list-style-type: none"> <li>• To give safe anaesthesia, working suction is required</li> <li>• Laryngoscopes with a full range of blades should be supplied with a spare handle</li> <li>• Equipment for difficult intubation such as bougies and Magill forceps should also be supplied</li> </ul>	<ul style="list-style-type: none"> <li>• Battery backup should always be available in case of a power failure</li> </ul>





*The MAI/FIGO instrument set in development.*

## **Fistula Surgery**

### ***Championing women's health and wellbeing***

A major consequence of poor medical equipment supply in LMIC regions is that obstetric care is often not carried out adequately.

A knock-on effect of this tends to be a high incidence of prolonged obstructed labour, and this in turn can cause fistulas, whose symptoms include worsening incontinence – and can result in many women becoming socially excluded.

**At Medical Aid International, we are proud to help fistula sufferers recover from their pain and embarrassment not only by advising on, developing, and supplying LMIC-appropriate fistula repair equipment globally, but by partnering with influential organisations to actively advance women's health and rights.**

Our operating table solution (see pg 15), which we designed and commissioned ourselves, has special head-down positioning and shoulder supports for safe and effective fistula surgery, and is easily transportable for fistula outreach clinics.

We work closely with the International Federation of Gynaecology and Obstetrics/Fédération Internationale de Gynécologie et d'Obstétrique (FIGO), which is dedicated to the reduction of disparities in healthcare available to women and newborns, as well as to advancing the science and practice of obstetrics and gynaecology.

Just one of the many positive outcomes of this relationship has been our development of a specialist fistula instrument set, which we have supplied to hospitals and healthcare facilities across many LMIC regions.

Our work in rural clinics helps us to identify patients who are at risk of obstetric complications including fistulas.



*A happy recipient of FIGO instrument sets.*





*Madagascar. Unloading the container for a new operating department in partnership with Mercy Ships.*



# MODULAR SOLUTIONS: ALL-IN-ONE AND READY TO GO

Combining solutions into ready-made but customisable modular packages enables us to provide healthcare institutions of all types – from remote rural facilities in the bush or jungle to major city teaching hospitals – with everything they need to get improved clinical procedures up and running quickly, at a lower overall cost. Below are examples of modular solutions we have deployed successfully in many LMIC environments.

## Operating Theatres

### *For every environment and clinical specialism*

Addressing the often critical LMIC need both for complete equipment sets and environments that permit their safe, effective use, Medical Aid International's Modular Operating Theatres solution delivers a complete response tailored to each facility's needs, with options such as:

- Operating tables (including our own model – see pg 15)
- Intensive Care Units (ICUs)
- Anaesthesia
- Instruments
- Lighting
- Suction
- Diathermy
- Sterilisation (including our own EcoClave™ solution – see pg 19)
- Furniture
- Monitoring
- Recovery
- Digital X-ray (our own solution – see pg 17)
- Orthopaedic Instruments and Implants (see pg 48)



*DRC. 11 Caesarean sections were performed in the first 4 days after the shipment arrival in partnership with the Semiliki Trust.*

# The Medical Aid International Package includes:

## Arbutus Power Tool



Diathermy/ESU

Mobile Operating Light & Head Torch

**Patient Monitoring**  
includes ECG/  
BP/SpO<sub>2</sub>/CO<sub>2</sub>



## Operating Table



Tourniquet

External Fixation

Two Oxygen Concentrators

## Theatre Furnishings

- Large & small instrument trolleys
- Drip stand
- 2 Stools
- 2 Storage trolleys
- Mayo table

## Instruments

- General
- Orthopaedic
- Obstetric
- Plastic
- Skin Graft

## Anaesthetic Machine

LMIC appropriate with ventilator



**Autoclaves**  
LMIC  
Compatible

**Two FREE Online Biomedical Engineering Courses** including toolkits & text books (Worth £4,000)

## Suction



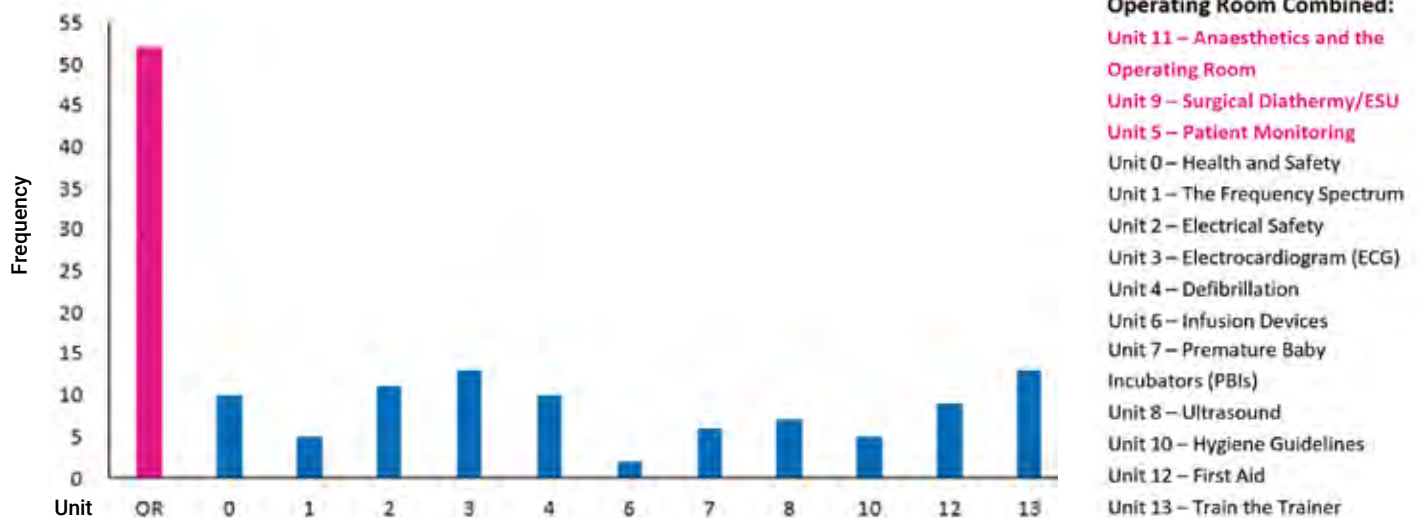
# OPERATING ROOM PACKAGES

## *An evidence based need*

Instant access to critical equipment in emergency scenarios (including disaster relief and refugee camps) can make the difference between life and death – but LMIC regions often struggle to find the resources to equip healthcare facilities fully with fit-for-purpose devices and accessories.

**Medical Aid International's Operating Room Package contains, in addition to what is mentioned on the adjacent page, everything doctors, nurses and healthcare workers need to deliver treatment rapidly and professionally to those in immediate need, in even the harshest of conditions.**

## Biomedical Engineering Course – The Most Useful Units



The need to upgrade operating rooms in LMICs has never been so great and is universally recognised. Data from a recent study of 50 Biomedical Engineers – available at <https://medaidacademy.co.uk/biomedical-engineering/the-effectiveness-of-the-biomedical-engineering-course-50-students/> – who had completed our online Biomedical Engineering Training package ranked

the operating room related units as most useful by a very significant margin. It is reasonable to draw a link between this fact and the urgent need to improve operating department facilities in LMICs.

This solution is straight forward and will transform patient care, help retain and recruit staff and be a major factor in context appropriate capacity building.





*Nepal. Disaster relief following the 2015 earthquake with UK Med and Save The Children.*

# OTHER SOLUTIONS

## Disaster Relief and Consultancy



*Discussing treatment options after the Nepal Earthquake in 2015.*

Medical Aid International has established a solid reputation for disaster relief work. In 2013 we played an active role in delivering the UK Disaster Relief Hospital commissioned by the UK Government, providing a consultancy service and much of the procurement.

CEO Tim Beacon also deployed with the UK team to Nepal, following the 2015 earthquake, in a logistical and advisory capacity. We continue to fulfil an active role in education and training in this field, working with both civilian and military organisations in both classroom and field-based work.

Additionally, we have been deeply involved in dealing with the COVID-19 pandemic, advising on ventilators and CPAP devices; and supplying intensive care units, oxygen concentrators, and associated equipment to LMIC regions.



*Covid consultancy for the Virgin ventilator project.*





*The Emergency Bag and its contents.*



## Emergency Bag

### ***Portable first response for patients of all ages***

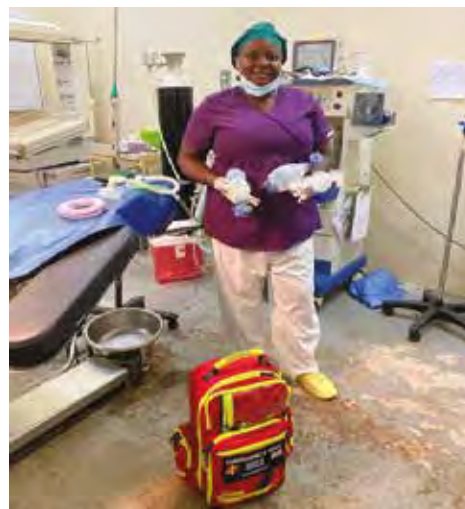
The difficult conditions in LMIC environments both increase the likelihood of clinical incidents and render effective responses to them more difficult.

From a newborn child who is not breathing, to an adult injured in an accident, effective first response is critical to a positive outcome – but many LMIC healthcare facilities typically don't have a complete range of first responder equipment, and certainly not in portable form.

**The MedAid Emergency Bag assembles the critical equipment needed to respond to patients of all ages with regard to airway, breathing, circulation, and bone and soft tissue injuries. In addition, it includes a headtorch, high-visibility vests, and gloves, so that responders can clearly see what they are doing, protect themselves and the patient, and remain visible.**

Its full complement of equipment also includes, amongst other items, a reusable resuscitator with masks suitable for adult, child and neonate, pulse oximeter, airways, scissors, stethoscope, and dressings and bandages.

The Emergency Bag is composed entirely of manual and battery-operated equipment, has no reliance on mains electricity, is robust enough for journeys through harsh terrain, and is light enough to be carried on foot or bicycle. It is truly a solution designed specifically for the realities of LMIC environments.



*Rebecca a Clinical Officer in Mbala, Zambia delighted to receive her Emergency Bag via FlySpec.*

*I was working one day in a new paediatric operating room that we had just finished commissioning and we were doing our first case. Suddenly a nurse ran in and asked if anyone had a breathing bag for a child that had just been delivered by C-section who was not breathing.*

*I grabbed our emergency bag and rushed in and, using our neonatal BVM started to breathe for the baby. Forty five seconds later she started to breathe on her own; a life saved.*

Tim Beacon, CEO, Medical Aid International



*Some of the Med Aid team and our volunteers despatch another consignment of refurbished oxygen concentrators, pulse oximeters, emergency medical bags and Biomedical Engineering education toolkits to Africa and Asia as part of our Covid-19 response. At a time of global shortage of oxygen concentrators we sent over 2750 to multiple countries, delivering clinically whilst also saving our numerous partners over £2,000,000 through our recycling model. Repurposing and recycling medical equipment as part of a strategy that includes new equipment saves lives and enables budgets to be used to maximum effect.*







# INTRODUCING



It is at the very core of Medical Aid International's ethical DNA that we should help educate the people we have the privilege of working alongside.

When we are in-country, there is obviously ample opportunity for us to share knowledge, but sadly, the reality outside of this is that in the environments in which we work on a day-to-day basis, physical access to relevant and regularly updated education is often lacking – despite people's very evident passion to learn.

To address this challenge, we are proud to have launched MedAid Academy ([www.medaidacademy.co.uk](http://www.medaidacademy.co.uk)), which makes use of the internet, smart phones, tablets and computers to deliver vital training and education.

The Academy's City & Guilds Assured online Biomedical Engineering Training Programme (see main text) is cost-effective, flexible to fit with participants' existing work schedules, requires no travel or physical contact, and is accessible from

any internet connection anywhere in the world.

With orthopaedics education available and other educational material resources also in development, the Academy is a force for positive change in environments that always show great willingness to learn, but often simply cannot fund the materials and tools required.

We also offer a variety of residential training, such as on disaster relief, or the practicalities of delivering surgical care in LMICs. To this end we organise symposiums, bringing together experts on these topics to facilitate discussion and share expertise.

In addition to our own educational programmes, we are proud to support those of our partners, such as the Primary Trauma Care Foundation and the STAE course (Surgical Trauma for Austere Environments), as well as to teach and assess on degree and master's courses.

## **Online Biomedical Engineering Training Programme**

### ***Worldwide access to world-changing skills***

For many years, we have been training biomedical engineers in-country, through residential training courses. This programme had become vital in enabling healthcare institutions in LMICs to keep their equipment functioning better and more safely for longer – which, in turn, positively impacts clinical outcomes.

But these courses were not only relatively expensive, and therefore only accessible to a minority – they also became unworkable in the light of Covid-related restrictions on travel and social contact. This was a source of great concern to us, as so often in our work, we have met ill-equipped but nonetheless motivated hospital maintenance staff and engineers who had sufficient abilities to make a real difference on a sustained basis, if only they were equipped with tools and some basic training.

The Medical Aid International online Biomedical Engineering Programme was our response to this. It provides global, web-based access to effective biomedical engineering training, foundational knowledge, and support, with no travel or face-to-face tuition required, in a holistic package that can be used on its own or as part of a wider support strategy.

The programme also includes a comprehensive professional engineering toolkit, textbooks, a full electronic library of service manuals, and optional

laptop in a ruggedised military specification briefcase.

Reporting tools enable sponsors and team leaders to track their students' progress, and students who complete the course receive a City & Guilds Assured certificate – a globally recognised awarding body – that is also evidence of the high quality of the course content.



*Cameroon. Biomedical Engineering Training.*

## The Course Content

The course content covers the many relevant and vital topics that will give students the basic foundations of biomedical engineering knowledge, including:

- Health & Safety
- Electrical Safety
- Electrocardiogram (ECG)
- Defibrillation
- Patient Monitoring
- Infusion Devices
- Premature Baby Incubators (PBIs)
- Ultrasound
- Surgical Diathermy/ESU
- Hygiene Guidelines – with Covid-19 Updates
- Anaesthetics and the Operating Department – includes Oxygen Concentrators
- First Aid
- Train the Trainer
- Principles of Fault Finding
- Covid-19 Guidance across all Subject Areas

**Upon completion of the course, the candidates who pass will receive an Assured Biomedical Engineering certificate from City & Guilds – a globally recognised awarding body.**



*Our trainee Callixte at Madagascar's CHUT medical facility. Our assessment visit revealed a lack of training, tools, and professional confidence.*



*Callixte, post-course, with the City & Guilds certificate awarded through our Biomedical Engineering Training Programme. Proud, fully trained, self-confident, he is now part of a motivated team properly equipped with a full comprehensive toolkit to provide long-term support.*

## How does the Biomedical Engineering Programme work?

The training is designed to be simple to implement and monitor. The programme is delivered entirely online, so can be accessed and completed from anywhere in the world.

There are 13 units, and at the end of each unit there is a series of multiple-choice questions (MCQs), totalling 300 over the entire programme. The student must achieve 100% in order to move onto the next unit.

Students can retake as many times as necessary, but each time the questions and answers shuffle, to ensure genuine understanding and robust learning.

The programme also includes:

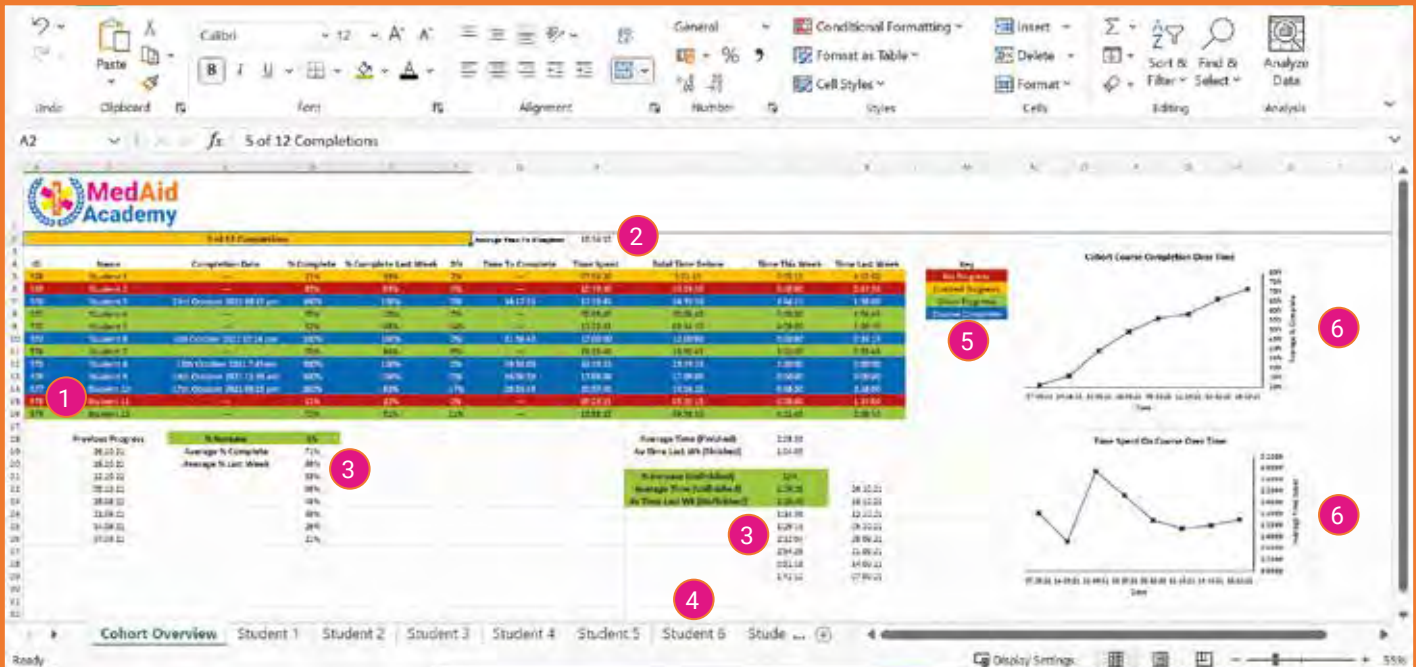
- A comprehensive professional engineering toolkit
- Four textbooks
- A full electronic library of service manuals
- Reporting tools to enable sponsors and team leaders to track their students' progress
- A laptop in a ruggedised military specification briefcase (a highly recommended optional extra)



*Toolkit, textbooks, service manuals, reporting tools – all supplied as part of the training programme, with optional laptop and ruggedised, military-specification briefcase.*



## An example of a weekly progress report



1. Cohort Progress Table, tracking a variety of time and completion metrics.

2. Average time to complete the programme.

3. Data from previous weeks.

4. Marks for each individual student.

5. Key to quickly identify student progress at a glance.

6. Graphs of cohort completion and average time spent over all weeks.



For WFSA, partnering with MAI has been a real plus. Not only are they experts in providing appropriate equipment for low resource environments, but their biomedical engineering courses address the essential skills needed to keep that equipment functioning properly. And we've been kept updated on students' progress via regular progress reports and self-evaluations so we know where our investment is going. By supporting these courses we are making anaesthesia and surgery safer.

Stuart Halford, Head of Development, World Federation of Societies of Anaesthesiologists



## Our Comprehensive Reporting System

To help support our students and partners, as well as building relationships, Medical Aid International provides a comprehensive reporting system, included as part of the Biomedical Engineering Course.

Their performance will be closely monitored via our Education and Data Analysis Manager who will provide the following comprehensive report service:

- Weekly progress reports
- A bespoke data analysis report – analysing student programme feedback, investigating the impact of the programme, analysing the impact on education level on programme achievement/outcome
- Access to all student data for the coordination group
- Student survey data that details the impact of the course
- Student enrolment management and support



*One of our engineers working on an oxygen concentrator.*



*A WFSA container being collected, ready for shipping to Nigeria.*



*Unit 3 [Electrocardiogram (ECG)], Unit 5 [Patient Monitoring] and Unit 11 [Anaesthetics and the Operating Room] are the most useful units.*

*They are equipment I have been struggling to understand its operation and maintenance. With these videos I have understood the dark parts that were hidden from me in the past. These three units have now given me the edge to communicate freely with the users, doctors and my staffs.*



*Education and continuous user training is key and will go a long way in prolonging the life cycle of an equipment. First Aid: Accident scene in my part of the world is bad. In most cases, the victims' lives are being cut short due to the way they are handled. Sharing these experiences with my colleagues will help us save lives.*



*Thank you very much Medical Aid team, you have helped me a lot as an engineer. Your knowledge that you have imparted on me will help to improve my professional career as a biomedical engineer, your textbooks will further widen my knowledge in the biomedical engineering field. In Malawi, biomedical engineers lack resources, the tool kit that you have provided will help me to diagnose and troubleshoot the equipment accurately and with ease, now I will be able to work professionally and improve the quality of service delivery at my institution as well as the entire country. Thank you very much Medical Aid team for your overwhelming support.*



*I would like to thank you for this nice program; it has changed the way I am working and responding to emergencies.*





## Programme Summary

At Medical Aid International, we are passionate about delivering efficient, value-for-money training that empowers LMIC healthcare communities and enables them to proudly and confidently take ownership of their patients' current and future treatment and wellbeing.

Our online Biomedical Engineering Training Programme model is effective, simple, quick to implement, and proven to benefit patients rapidly. **It means equipment keeps working, treatment keeps going, and patients keep recovering.**



*Lameck and Kondwani, the Biomedical Engineers at Cure Orthopaedic Hospital in Blantyre, Malawi, proudly receive their City & Guilds Certificates from Elly, the Director of the hospital.*

# WORKSHOPS FOR EFFECTIVE HEALTHCARE SUPPORT IN DISASTER & LMIC ENVIRONMENTS



*Complex medical training exercise – evacuating a casualty, Mid Wales.*

## An Innovative And Extensive Training Programme

### *Who And How Many Is It For?*

This programme is a multi-disciplinary programme and is applicable to:

- Medical staff, all grades and specialities
- Logistics personnel
- Biomedical engineers

The programme is designed for up to 20 delegates and benefits clinical and nonclinical personnel; the programme has been adapted specifically for this purpose.

### *What Are Its Objectives?*

To prepare the delegates for the LMIC environment in order for them to respond safely, quickly, efficiently and on a long-term basis.

### *What Subjects Are Included?*

- Personal equipment and preparation
- First aid and survival
- Personal development, leadership and teamwork skills
- Procuring a mobile medical facility
- Setting up a secure, safe and effective base of operation
- The wide-ranging clinical implications of working in a disaster zone
- Logistics







*Training the Royal Navy and Royal Marines on civilian elements of disaster relief*

### ***How Will You Be Taught?***

The programme spans four full days with teaching comprised of:

- Lectures
- Discussion groups
- Group work with presentations
- Outside based high realism exercises
- The setting up of a mobile surgical unit in a field location

### ***The Faculty***

The extensive and highly experienced faculty come from a wide range of backgrounds, clinical and nonclinical with a broad set of relevant expertise and experience.

### ***Location***

The training can be conducted from our head office in Bedfordshire. We also offer the flexibility to bring this programme to your area; we are able to host the course at almost any location across the UK or overseas.

### ***Our Experience***

We are a globally recognised NGO Social Enterprise that has worked in the LMIC field for over 20 years. MedAid consulted on and procured the bulk of the equipment for the UK Disaster Relief Hospital in 2013 and deployed to the Nepal Earthquake in 2015 with the UK team. They provided equipment and logistics support throughout the Ebola epidemic and responded to a wide variety of additional humanitarian crises, such as the Syria conflict and Covid-19.

Our CEO, Tim Beacon, has been an adventure training instructor, university healthcare lecturer and visiting examiner for degrees and master's programmes in global health. He completed a post-graduate diploma in Travel Health at Glasgow Medical School, writing his thesis on "What Makes a Good Expedition Medic", alongside "The Gap Year Handbook: An Essential Guide to Adventure Travel" (both available via our website). Tim, as a civilian, completed the UK Special Forces Patrol Medical Course when he was working as an instructor on the programme.

# INTRODUCING



## ORTHOPAEDICS INTERNATIONAL

Part of the Medical Aid International Family

Tim Beacon, CEO of Medical Aid International, spent many years in clinical orthopaedics, as well as working at national manager level in the orthopaedic device industry, supplying trauma and joint replacement systems.

On many occasions in LMICs, he saw wards full of orthopaedics patients who could have been treated effectively if only the infrastructure to do so had existed – but it didn't. This left him, just like the medical staff in the hospitals concerned, hugely sad and frustrated – and from this grew his vision of creating a dedicated division at Medical Aid International to address this shocking situation.

We were therefore delighted at the end of 2020 to formally launch **Orthopaedics International**.

As part of our work in this area, which includes training, we are delighted to partner with World Orthopaedic Concern UK – a charitable organisation dedicated to improving the standard of orthopaedic, trauma and reconstructive surgery in developing countries.



## **Orthopaedics International Solutions**

### ***Cost-effective treatment for a major cause of disability***

In the West, fractures and orthopaedic trauma meet with effective treatment that delivers overwhelmingly positive patient outcomes. In LMIC regions, however, it's a very different story – orthopaedic injury is a major cause of death, disability, unemployment, and therefore also poverty.

The treatments that are available keep the patient immobile and confined to bed, in traction, unable to work, for many weeks, imposing an economic

burden on the patients' families, and increasing the likelihood of a variety of clinical complications due to the length of bed stay.

Unlike many other specialities, orthopaedics requires significant instrumentation and implants in order to provide a life-changing solution, and in LMICs there is the added extensive requirement for joint replacements – particularly hips – due to complications arising from HIV.



*The Dreamland Hospital, Western Kenya. Clubfoot repair.*



## **The Arbutus Orthopaedic Drill System**

### ***Cost-effective equipment***

Medical Aid International are proud to be the distributors of the pioneering Arbutus Orthopaedic Power Tool system. Already in use by surgeons in LMICs and the US military, it is specifically designed for low resource environments, representing an innovative, cost-effective solution that meets the needs of the orthopaedic surgeon.

The system works using a normal industrial drill and an FDA approved drill cover, which provides a fully sealed, liquid and pathogen-proof sterile barrier, converting the industrial drill into a licenced and

approved surgical device. This delivers a reliable, easy to sterilise solution – only the low volume cover needs sterilising, meaning with the multiple covers and batteries supplied, surgeries can be performed sequentially.

Two models are available: the Hex system, which is typically used for non-cannulated procedures, and the Pro system, which can be used where a cannulated device is preferable, for instance intramedullary nailing or the insertion of circular frame wires or K-wires.



*The Pro System demonstrating cannulation capability.*





*Inserting the drill into the sterile cover.*

*A solution to meet all your clinical needs*



*The Pro System.*



*The Hex System.*



### ***Orthopaedic Products supplied by Orthopaedics International***

- External Fixation including Circular Frames
- K-wires
- Rush Nails
- Small and Large Fragment Plates and Screws
- Intramedullary Nails
- Total Hip Replacements (cemented and uncemented)
- Total Knee Replacements
- Tourniquets
- Instrument Sets and all Accessories including Consumables



## ***Orthopaedic External Fixation Pack***

Our 20 years of experience have shown that there are many levels of support we need to deliver.

A large orthopaedic unit in a town, for example, will require more sophisticated treatment options, whereas remote rural clinics or hospitals – who are often the first to receive major bone trauma cases – require something much more user-friendly: an external fixation system, which stabilises the injury using pins and rods, permitting surgical access, delivering far better results, far more quickly.

Unfortunately, the standard orthopaedic surgical power drill systems normally used are not only prohibitively expensive for less developed countries, but are also prone to breakdown, with little prospect of being subsequently returned to function.

**Medical Aid International's Orthopaedic External Fixation (Orth Ex Fix) Pack turns this situation around. It is a comprehensive treatment set that delivers a complete, portable fracture solution that makes orthopaedic treatment both cost-effective and simple for clinicians to adopt, with minimal maintenance required.**

The Ortho Ex Fix Pack combines a battery powered drill with a re-sterilisable, sealable bag that prevents infection, and a range of standard rods, clamps, pins, and drill bits. Orthopaedic nails, plates, screws and K-wires, and even complete hip and knee replacement sets are also available.

The Ortho Ex Fix Pack is a critical innovation that not only greatly accelerates the return of function to the fractured body part, but speeds the return of the patient to a normal, economically active, self-sufficient life too.

**[www.orthopaedicsinternational.org](http://www.orthopaedicsinternational.org)**





*Dar es Salaam. Installation of the paediatric surgical unit for the Archie Foundation.*



*The surgical unit in use 5 days later removing a benign tumour from a 3 month old's spine.*

# GETTING AID OUT THERE, MAKING IT WORK, OPTIMISING BUDGETS

At Medical Aid International, we pride ourselves on our 'big picture' approach – a total aid delivery package, supplying what is necessary to meet all aspects of our partners' needs, no matter how large, small, or location-specific.

**Logistically**, for example, the territories we are supporting our partners in often mean that deliveries can only ever be few and far between, and so it is absolutely vital that every shipment is given the maximum amount of care to get it 'right first time'. Working with us ensures that this happens.

Not only do we procure and package the aid solutions, we organise shipping and documentation as required to ensure safe, compliant, timely delivery.

**Beyond logistics**, we offer an installation service where necessary, and offer biomedical engineering training and advice, so that equipment is properly deployed, used, and maintained.

And **financially**, we maximise the effectiveness of our users' and partners' often limited budgets by providing high-quality, relevant gifts in kind.

**We are proud that, thanks to this approach, our partners often have the confidence to entrust projects to us more or less entirely, after just an initial brief.**



# A Simple Recipe for Surgical Success

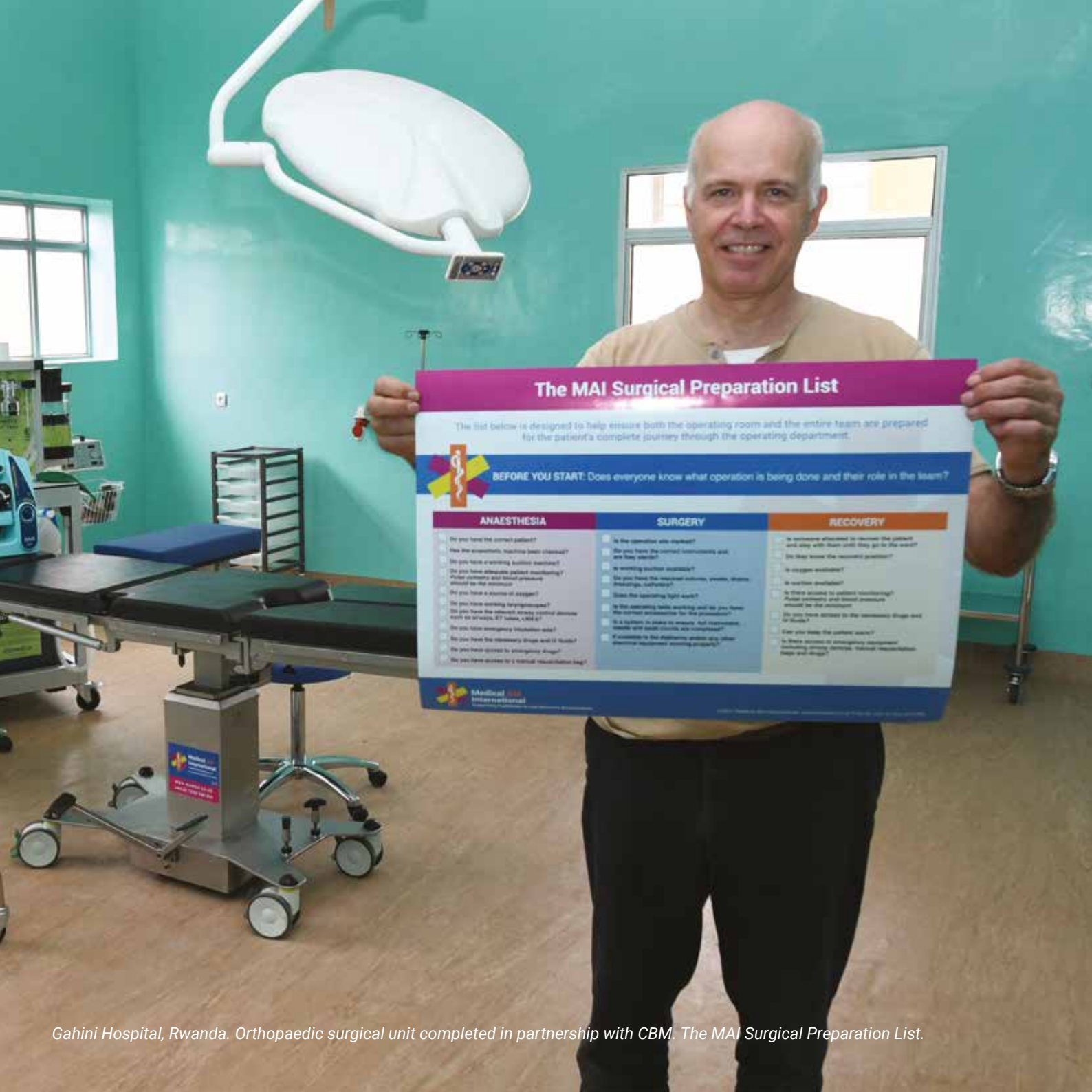
LMIC environments are complex and challenging, as is one of the most critical clinical disciplines in these environments – surgery.

Faced with limitations in resources, education and training, surgical teams in LMIC regions are often poorly positioned to cut through the complexity and correctly identify the basics – and if they don't get these right, surgical interventions and treatment inevitably suffer.

Yet to get the basics right, often all that is needed is the simplest of solutions – and this is what Medical Aid International has produced.

The Medical Aid International Surgical Preparation List is a straightforward, one-page tick sheet that takes surgical teams through every essential pre-op check, from understanding which operation is being performed and each individual's role in it, to verifying instruments, machines, medicines and supplies, across the critical phases of anaesthesia, surgery and recovery.





## The MAI Surgical Preparation List

The list below is designed to help ensure both the operating room and the entire team are prepared for the patient's complete journey through the operating department.



**BEFORE YOU START:** Does everyone know what operation is being done and their role in the team?

### ANAESTHESIA

- Do you have the correct patient?
- How the anaesthetic machine been checked?
- Do you have a working suction machine?
- Do you have adequate patient monitoring? What emergency airway procedure should be the chosen?
- Do you have a source of oxygen?
- Do you have working fire extinguisher?
- Do you have the anaesthetic agents checked against the service, RT label, A&S etc?
- Do you have emergency intubation aids?
- Do you have the necessary drugs and 10 fluids?
- Do you have access to emergency drugs?
- Do you have access to a manual resuscitation bag?

### SURGERY

- Is the operative site marked?
- Do you have the correct consent and are they signed?
- Is working theatre necessary?
- Do you have the necessary sutures, staples, dressings, swabs etc?
- Check the operating light work?
- Is the operating table working and do you have the correct accessories for the procedure?
- Is a system in place to ensure all equipment, sterile and back counts are completed?
- If available to the department ensure any other essential equipment working properly?

### RECOVERY

- Is someone allocated to receive the patient and stay with them until they get to the ward?
- Do they know the recovery position?
- Is oxygen available?
- Is suction available?
- Is there access to patient monitoring? What emergency airway procedure should be the chosen?
- Do you have access to the necessary drugs and 10 fluids?
- Can you locate the patient's notes?
- Is there access to emergency equipment including oxygen, suction, manual resuscitation bags and drugs?





# The MAI Surgical Preparation List

The list below is designed to help ensure both the operating room and the entire team are prepared for the patient's complete journey through the operating department.



## BEFORE YOU START:

Does everyone know what operation is being done and their role in the team?

ANAESTHESIA	SURGERY	RECOVERY
<ul style="list-style-type: none"> <li><input type="checkbox"/> Do you have the correct patient?</li> <li><input type="checkbox"/> Has the anaesthetic machine been checked?</li> <li><input type="checkbox"/> Do you have a working suction machine?</li> <li><input type="checkbox"/> Do you have adequate patient monitoring? Pulse oximetry and blood pressure should be the minimum</li> <li><input type="checkbox"/> Do you have a source of oxygen?</li> <li><input type="checkbox"/> Do you have working laryngoscopes?</li> <li><input type="checkbox"/> Do you have the relevant airway control devices such as airways, ET tubes, LMA's?</li> <li><input type="checkbox"/> Do you have emergency intubation aids?</li> <li><input type="checkbox"/> Do you have the necessary drugs and IV fluids?</li> <li><input type="checkbox"/> Do you have access to emergency drugs?</li> <li><input type="checkbox"/> Do you have access to a manual resuscitation bag?</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Is the operation site marked?</li> <li><input type="checkbox"/> Do you have the correct instruments and are they sterile?</li> <li><input type="checkbox"/> Is working suction available?</li> <li><input type="checkbox"/> Do you have the required sutures, swabs, drains, dressings, catheters?</li> <li><input type="checkbox"/> Does the operating light work?</li> <li><input type="checkbox"/> Is the operating table working and do you have the correct accessories for the procedure?</li> <li><input type="checkbox"/> Is a system in place to ensure full instrument, needle and swab counts are completed?</li> <li><input type="checkbox"/> If available is the diathermy and/or any other electrical equipment working properly?</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Is someone allocated to recover the patient and stay with them until they go to the ward?</li> <li><input type="checkbox"/> Do they know the recovery position?</li> <li><input type="checkbox"/> Is oxygen available?</li> <li><input type="checkbox"/> Is suction available?</li> <li><input type="checkbox"/> Is there access to patient monitoring? Pulse oximetry and blood pressure should be the minimum</li> <li><input type="checkbox"/> Do you have access to the necessary drugs and IV fluids?</li> <li><input type="checkbox"/> Can you keep the patient warm?</li> <li><input type="checkbox"/> Is there access to emergency equipment including airway devices, manual resuscitation bags and drugs?</li> </ul>

How We Work:  
Advice,  
Preparation,  
Project  
Management



*Amy sorting instruments for Leyaata Hospital for Ghana Rural Integrated Development (GRID).*

At Medical Aid International, we pride ourselves not only on supplying equipment, training, and expertise specifically targeted to LMIC regions' needs, but on our ability to advise partners of the practical challenges and limitations of deploying and managing aid projects in these regions – and how to prepare for and project-manage them.

Below is some advice to help you in your projects.

- **Involve, don't impose** – Listening to end-users and other stakeholders is critical, to ensure that what is being delivered will truly work for their needs and in their environment, today and tomorrow.
- **Assess needs** – A detailed and accurate assessment of the receiving institution's clinical needs is critical, as each institution will vary. From this, a realistic list of appropriate equipment can be decided, and accurate costings calculated.



At all times, our advice echoes our own approaches and attitude – namely, that we should be doing *right* by these environments, not just doing *good* there.

- **Assess infrastructure** – Availability of electricity, gas, oxygen, and the state of the buildings all influence the balance between needs and potential solutions.
- **Look at local support** – Understand what the limitations of local skill and support are (nursing, biomedical engineers etc.) and consider investing in these to remedy shortfalls.
- **Watch for hidden costs** – Some medical devices, whilst being extremely effective require a costly supply of consumables. Budgets often won't cover this, so alternatives are necessary.
- **Choose equipment carefully** – A combination of new, ex-demonstration and donated goods enables budgets to be maximised to best effect. All equipment should be checked to ensure it comes with everything needed to make it usable.
- **Factor in the maintenance** – Provision should be made in budgets for regular maintenance even if that involves bringing in overseas engineers.
- **Low-tech doesn't mean low-quality or poor patient care** – Crucially, there must be an acceptance that something that is less than high-tech may still produce the desired outcome.
- **Get started, show results** – It is often not realistic to provide all the stakeholders' desired equipment options, particularly in the initial phases of a project. But it is important to start a unit functioning using the equipment available, since funders can then see evidence of positive outcomes, which can in turn unlock more funds.
- **Plan for the future** – Set up a training, staffing and maintenance plan to ensure the resources are used effectively for the long-term.

Donations:  
Combining  
New and Used  
for Optimal  
Outcomes



In LMIC regions, funds are typically limited, and it is vital to make them stretch as far as they can.

At Medical Aid International, we specialise in optimising the combination of **donated new, ex-demonstration and pre-owned equipment** to achieve the best possible results from every partner's and healthcare institution's budget.

We do this by sticking to three crucial principles. All donations:

- Must be suitable for the needs and limitations of the LMIC environment they will be sent to
- Must contribute to long-term, sustainable improvement of clinical outcomes
- Must exclude unsuitable items, with their inevitably high disposal costs



*Kumuzu Central Hospital, Lilongwe, Malawi. Operating room installation.*

# DONATION GUIDELINES

Effective recycling saving lives



We are really pleased you are reading this, as hopefully it means you may have some equipment to donate to us! However, sometimes we are sent items that are of no use and these cost us to dispose of, so we have set out below some guidelines for you.

We specialise in making budgets stretch as far as they can, to maximise their impact on healthcare provision. We do this using new, ex-demonstration, pre-owned equipment and occasional consumable supplies.

It is vital that all equipment that we send is suitable for the environment that is going to in order to make a long-term and sustainable difference to the healthcare provision in Low to Middle Income Countries.



Do you have a Corporate Social Responsibility budget? If so, talk to us as we have many projects you could support.

## We are always on the look out for:

Bowls, bowl stands, kidney dishes	Lead aprons	Orthopaedic power tools
Crutches	Manual examination couches	Patient trolleys
Defibrillators	Manual operating tables and attachments	Physiotherapy equipment
Diathermy	Microscopes	Pre-hospital care items
Emergency equipment	Minor procedure tables	Reusable laryngoscopes
Examination and mobile and ceiling operating lights (LED)	Mobile X-ray machines	Sheets/blankets
GP surgery equipment	Monitors	Suction
Gynae/obstetric examination tables	Nursing items	Training aid such as manikins
Image Intensifiers	Occupational therapy equipment	Ultrasounds
Instruments	Operating theatre furniture	Ward furniture
IV stands	Orthopaedic plates/screws/ external fixation	X-ray vests

## Please note that we cannot take the following:

- > Out of date items
- > Single use items (IE AMBU bags, single use laryngoscopes, syringes, IV cannula)
- > Orthopaedic boots, braces
- > Catheters, dressings, colostomy bags
- > In general, we do not take consumables though there are exceptions such as sutures and anaesthetic breathing adjuncts, as long as they are in date

If you are a major supplier with very high levels of stock to dispose of please get in touch.



## Getting items to us

We are delighted to collect donations but it does cost us to do so, it is greatly appreciated if you can arrange delivery to our warehouse.

## ***We Help Donors to Get it Right***

These principles notwithstanding, the reality is that our donors need clear, straightforward advice on what they can and cannot donate, and how.

We help them to get this right by publishing donation guidelines that set out exactly what our typical equipment needs are, how they can get donations to us, and which items should not be donated.

The extremely positive message in these guidelines is that there are far more donated items we can use – in both new, ex-demo and pre-owned condition – than items we can't. They range from the smallest kidney bowls and dishes, to operating theatre

instruments, tables and furniture, to monitors, diathermy machines and defibrillators – to name just a few.

Indeed, the only items we can't use are generally those that are out of date (these can be ineffective or even unsafe to use), single-use or consumable (these are too costly for LMIC environments, with a few exceptions), or in specific categories like catheters, colostomy bags, dressings and some orthopaedic accessories.

You can see a copy of the actual donation guidelines on the page opposite.



*Recycling oxygen concentrators as part of our Covid-19 response. MedAid team members and volunteers at work in our hospital tents, which we put up in our car park in order to speed up production.*





OXYGEN  
CONCENTRATOR

 Medical Aid  
International  
Supporting Healthcare in  
Low Resource Environments



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MEDICAL  
AID  
INTERNATIONAL



FIRST AID

## ***Keeping Our (and Donors') Costs Down***

We do everything we possibly can to keep the costs of receiving and processing donations down, and to minimise the cost to the donor of sending donations to us.

We have four centralised warehouses (not in London), each of which can receive donations of all types. This centrality and choice of location keeps our logistical costs low and, for the donor, means there is no need to manage and pay for multiple shipments to multiple locations.

We can also collect donations from the donor.

**At Medical Aid International, we give both used and unused equipment a new life, to save life. We are totally committed to making it easy for donors of all kinds to play their part in this transformation – from small organisations, to larger concerns with corporate social responsibility programmes, to major suppliers with very high levels of donatable stock.**

### **Healthy patients, healthy planet – our environmental commitment**

Our focus is always on resource-efficient solutions within our overarching environmental commitment, which focuses on **reusing, recycling, and repurposing donated medical equipment**, thus **preventing it ending up in landfill**. Wherever possible, we also minimise waste by supplying equipment that requires none or few of the consumables that can be difficult to dispose of responsibly in LMIC regions.



Summing Up:

Our Story

Continues



For twenty years, Medical Aid International has been making a critical difference in LMIC regions where it matters most – on the clinical front line.

But the challenges of these regions haven't gone away. In fact, the added peril of Covid-19, and the ever-present threat of natural and man-made disasters, are more likely to endanger, wreck and steal lives than ever. And we are upping our game to fight back.

With the founding of our two specialist divisions, MedAid Academy and Orthopaedics International, we are funding focused, specialist resources to turn willing but under-skilled staff into qualified and confident biomedical engineers who keep critical equipment running - and so help, in their own important way, to save lives.

We are reversing needlessly common death and disability by delivering cost-effective fracture and trauma solutions, so that dedicated doctors can get on with doing what they've always known how to do, but for which they simply didn't have context-appropriate equipment.

We are expanding our team and extending our logistics capability so that we can source, store, adapt, ship, and install more equipment, and deliver more skills and training.

We have completely revised our training curriculum to include Covid-19 education and procedures, enabling our LMIC students to stay safe and protect others in their everyday work.

And we are constantly researching new solutions that we could produce ourselves, as well as refining the ones we have already developed, ensuring our aid remains consistently fit for purpose, effective, and relevant for LMIC regions.

In short, the story of Medical Aid International – and the brilliant, dedicated, resilient, world-changing people it serves – continues.

And whether you come to us as a partner, healthcare institution professional, training programme student, donor, or fund-raiser, **we want you to become part of the next chapter.**

# Get in touch



*CHUT Hospital, Toamasina, Madagascar. Before and after, working in partnership with Mercy Ships.*





Niamey, Niger. Working with Cure International





**Medical Aid  
International**

Supporting Healthcare in Low Resource Environments

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