An Introduction to Safe Anaesthesia Worldwide

Delivering safe anaesthesia to the world's poorest people

Safe Anaesthesia Worldwide

In the beginning…

Safe Anaesthesia Worldwide (SAWW) was founded in 2011 at the village pub in Marden, Kent and became a registered UK charity in 2012.

Safe Anaesthesia Worldwide

Why safe anaesthesia?

5 billion people are without anaesthetic and surgical care worldwide

The 2015 Lancet Commission on Global Surgery estimated that two thirds of the world's population lacked access to affordable surgical and anaesthesia care. This contributes to 17 million deaths each year. Mainly poor countries are affected.

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Mission

SAWW's mission is to provide safe anaesthesia services to those in need in poor areas of the world, in order to save lives and prevent suffering

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Objectives

The objectives of the charity are to preserve and protect good health by providing:

- Equipment
- Training
- Research

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Anaesthesia is needed for emergency Caesarean section, the most common major operation in Africa

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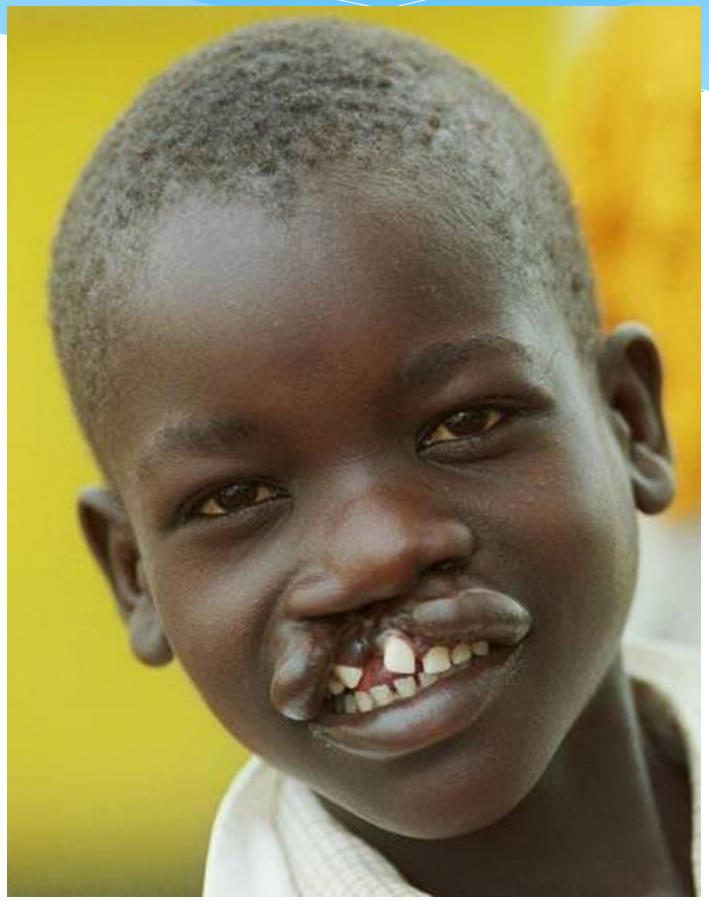
No surgery without anaesthesia

Anaesthesia is needed for surgical repair of birth defects such as cleft lip and palate



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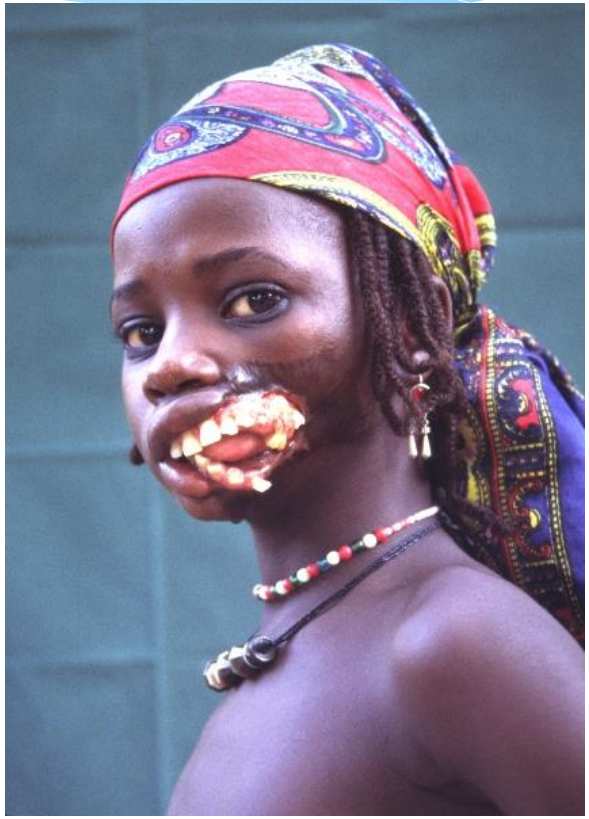
No surgery without anaesthesia

Anaesthesia is needed for surgical repair of Noma, a facial gangrene that affects poor children in Africa



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Anaesthesia is needed for surgical repair of serious burns, common due to open cooking fires in Africa

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No surgery without anaesthesia

Anaesthesia is needed for surgical treatment of hernias and goitres

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No surgery without anaesthesia

Anaesthesia is needed for surgical treatment of traumas and injuries from road traffic accidents

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No surgery without anaesthesia

Anaesthesia is needed for surgical treatment of obstetric fistula, the result of prolonged obstructed labour without medical care, that leaves women doubly incontinent. Women affected are often outcast by their community

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Challenges

Lack of hospitals in poor countries mean that many patients have to travel long distances to receive medical care, when they are seriously ill, and they often arrive in a critical condition.

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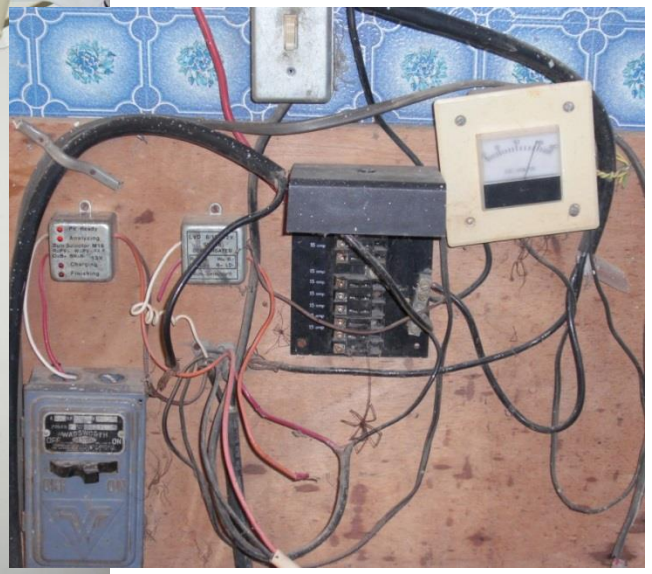
Challenges

Lack of infrastructure, poor roads and inadequate transport make it difficult for patients and medical supplies to reach hospitals.

Medical oxygen is commonly supplied in cylinders that are expensive, difficult to transport and run out. Without adequate oxygen supplies, patients can die as a result.

Challenges

Electrical supplies are unreliable and hospitals must cope with frequent power cuts and fluctuations in mains power that can damage sensitive electrical equipment.



Challenges

- Hospital equipment is old and no longer fully functional.
- Medical supplies are extremely limited.
- Wards are often over crowded and filled to more than 100% capacity, with patients sharing beds and sleeping on the floor.

Poor countries have few doctors and trained healthcare staff.

There is also a lack of technicians and engineers which makes it difficult to service and repair equipment.

‘Equipment graveyards’ of abandoned unsuitable medical equipment

Medical technology is designed for use in resource-rich hospitals and cannot function in the difficult conditions of a developing world hospital.

Up to 70% of medical equipment sent to developing countries is unsuitable and fails to work (WHO estimate)

Activities

SAWW works closely with local hospital staff to ensure we supply precisely what they need.

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Activities

SAWW supplies equipment that is suitable for use in poorly resourced hospitals.

SAWW has donated appropriate anaesthesia equipment to 25 low-income countries.

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Activities

SAWW supplies appropriate equipment that is:

- Designed to function in low-resource hospitals
- Reliable, effective, safe
- Affordable to run
- Simple to operate
- Easy to service and maintain

Donated Glostavent anaesthesia machines helped to establish an urgently needed training programme in Somaliland

Safe Anaesthesia Worldwide

Activities

The Glostavent anaesthesia machine is designed to work in challenging and hostile locations.

It continues to function in the event of interruptions to electricity and oxygen supplies.

Training on a donated Glostavent in Ethiopia

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Activities

Oxygen concentrators generate 95% pure oxygen from room air – a free and inexhaustible source.

These devices can ensure a reliable oxygen supply in hospitals, instead of relying solely on cylinders of compressed gas.

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Activities

These oxygen reservoir vessels can be used to store the oxygen generated by concentrators, so that oxygen is always available, even during power cuts.

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Activities

SAWW has helped to ensure a reliable supply of affordable oxygen for patients in The Gambia, Uganda, Somaliland and many other countries.

This baby is receiving supplementary oxygen from a concentrator at Bansang Hospital in the Gambia.

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Activities

CPAP – Continuous Positive Airway Pressure

SAWW has supplied modified oxygen concentrators that deliver lifesaving CPAP therapy for infants and babies with breathing difficulties in Gambia, Ghana, Myanmar, Tanzania, Uganda and more.

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Activities

Lifebox pulse oximeter

A simple monitoring device that measures oxygen saturation in the blood stream to improve patient safety during anaesthesia.

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Activities

These portable anaesthesia machines are in great demand for use in poorly resourced locations and by emergency response teams

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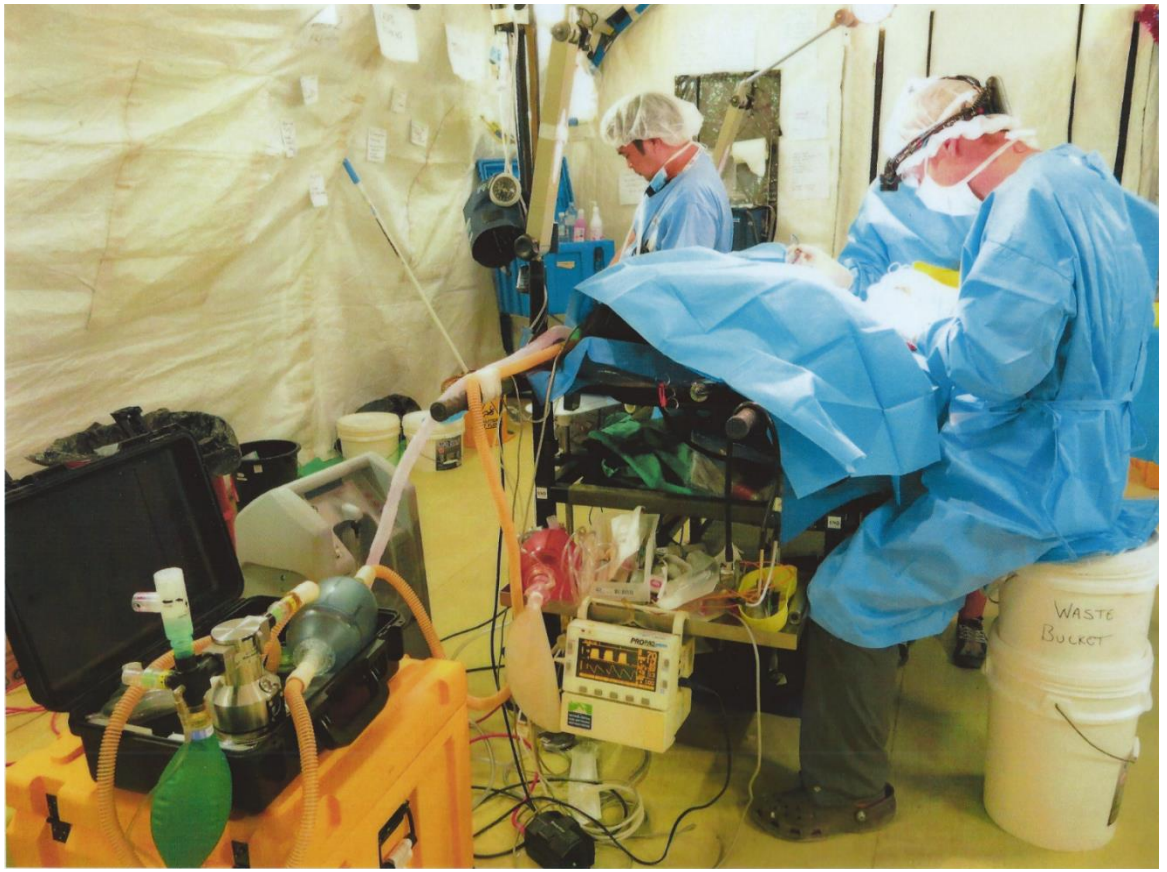

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Activities

Donated portable anaesthesia machines have been used to treat casualties in conflict zones

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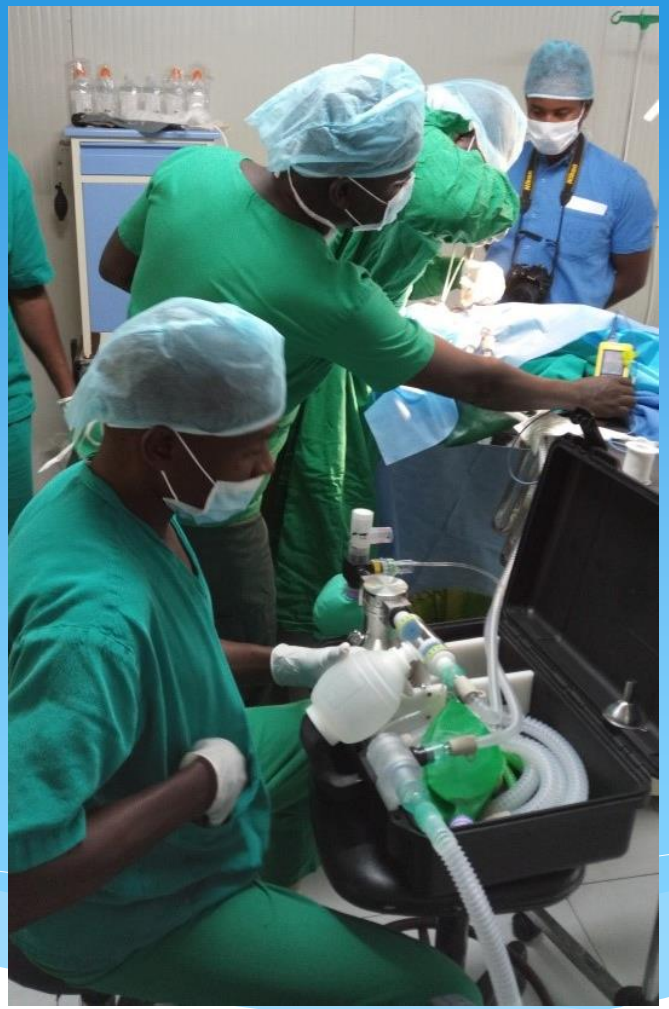
Activities

Portable anaesthesia machines are used for outreach work to bring surgery to remote, rural communities.

This portable machine is being used for cleft lip and palate repair in paediatric patients in outlying areas around Mogadishu, Somalia.



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Activities

SAWW supports education and training by sponsoring anaesthesia providers to attend training courses

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Activities

SAWW supports equipment workshops to train technicians on servicing and repairing anaesthesia equipment.

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Activities

SAWW has played a key role in organising anaesthesia conferences and training workshops in Ghana, Myanmar, Mozambique and Tanzania.

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Kagera Appeal, Tanzania

The Kagera region lies in the far north west of Tanzania.

Borders with Uganda, Rwanda and Burundi.

Lies some 1600 km (1000 miles) from the Tanzanian capital Dar es Salaam ●

Kagera Appeal, Tanzania

Region has a population of 2.7 million people

Mainly poor rural communities 90% are agricultural workers

Few all-weather roads

Limited access to health services

WHO: Maternal deaths in Tanzania, with a ratio of 578 per 100 000, represent 18 percent of all deaths of women age 15-49. Main causes of **maternal death** are haemorrhages, infections, hypertensive disorders and obstructed labours.

The Tanzania Government is working to lower unacceptably high maternal and neonatal mortality. Health centres and hospitals are to be upgraded to offer safe caesarean sections. The aim is to ensure all Tanzanians can access safe surgical care by 2025, but this is ambitious.

Kagera Appeal, Tanzania

Anaesthesia is usually administered by nurse anaesthetists.

Tanzanian has fewer than 30 physician anaesthetists to serve a population of 59 million people.

Nurses are responsible for running anaesthetic services in remote hospitals often without support.

Kagera Appeal, Tanzania

January 2018, SAWW organised the first ever anaesthesia refresher course to be held in the Kagera region.

Attended by nurse anaesthetists from 16 rural hospitals.

Focus on improving obstetric anaesthesia skills and safety.

Kagera Appeal, Tanzania

Training methods included case study discussions, simulations, skill stations, lectures and practice in hospital theatres.

In 2019, a second 3-day refresher course focused on anaesthesia for trauma and emergencies.

Kagera Appeal, Tanzania

Participants on the refresher course from three rural hospitals did not have a fully functional anaesthesia machine. These were:

- NYAKAIGA Hospital
- NDOLAGE Hospital
- HURUMA Health Centre

These hospitals have no funds available to buy a new machine.

Kagera Appeal, Tanzania

A basic anaesthesia equipment kit can be supplied consisting of the follow items:

- A Portable anaesthesia machine £3,100
- An Oxygen concentrator £1,200
- A pulse oximeter or oxygen monitor. £200
- Each kit costs £4,550 (Canadian dollars 8,000)

This simple portable anaesthesia machine will work anywhere.

Needs no electricity

Will function without oxygen

Inexpensive to run

Simple to use and easy to maintain

This oxygen concentrator generates oxygen gas from room air.

It will never run out, unlike cylinders of oxygen.

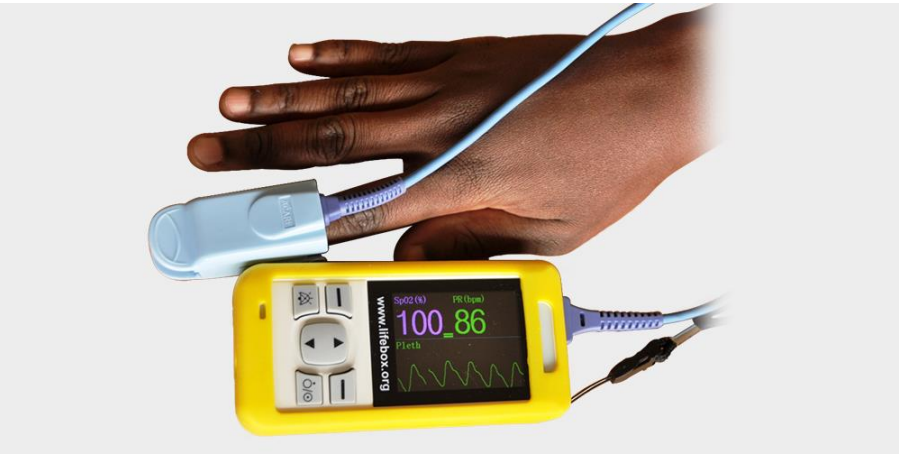
Inexpensive to run

Simple to use and easy to maintain

Can generate ten litres of 97% pure oxygen per minute.

Kagera Appeal, Tanzania

Oxygen monitors check the levels of oxygen in a patient's bloodstream and detect unsafe changes in oxygen levels. Oxygen monitors are used to improve patient safety.



Kagera Appeal, Tanzania

This photo shows a tiny baby who has been safely anaesthetised for surgery by nurse anaesthetist Mohammed Abdi using a basic anaestheisa kit supplied by SAWW. Gargaar Hospital, Somaliland, 2018.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Three Glostavent Kits