

Safer surgery in low-resource settings

Make It 0 is the Lifebox Foundation's global campaign to ensure that surgery is safer in low-resource settings. We are thrilled to welcome SASA as the newest campaign member. We know that your support will be crucial in helping us to deliver essential equipment and education to the anaesthesia providers who need it most. Your contribution will, without a doubt, save lives.

Each year, more than 234-million operations take place, but around the world, patients with exactly the same pathologies will be wheeled into operating rooms that present very different odds. In some countries, the risk of anaesthesia-related deaths will be as low as 1 in 200 000. In others, they may be as high as 1 in 133.¹

This is because many operating rooms lack even the most basic equipment needed for safe surgery. Thousands of these operating rooms can be found in southern Africa, where three out of four surgical patients are not monitored with a pulse oximeter under anaesthesia.² As a result, anaesthesia mortality is unconscionably high.

Pulse oximetry monitoring is mandatory according to the 2010 International Standards for a Safe Practice of Anaesthesia. It is also the only piece of equipment required to complete the World Health Organization Surgical Safety Checklist, and has repeatedly proven to reduce complications and mortality in the operating room by more than 30% in every hospital setting worldwide.³

But today, more than 70 000 operating rooms worldwide lack access to any kind of monitoring beyond a blood pressure cuff and a finger on the pulse. Lifebox is working to change this by providing appropriate equipment to operating rooms and recovery settings, and education and training for anaesthesia providers.

Rather than select a pulse oximeter off the shelf that would be ready to go, but just as quick to fail in the wrong environment, we developed the ideal monitor for use in a low-resource setting. Uninterrupted monitoring during frequent power cuts is necessary, so the oximeter uses rechargeable batteries with 12 hours of battery life. To thrive in an environment of extreme wear and tear, it is intentionally robust enough to survive a fall from an operating room table onto a concrete floor. Given that few biomedical engineers are trained to maintain complex machinery in low-resource settings, this oximeter requires no calibration or maintenance and uses generic, compatible probes.

It is also equipped with a multi-language education DVD about pulse oximetry and the Surgical Safety Checklist. By empowering anaesthesia providers, this programme turns a useful piece of equipment into a life-saving intervention.

The pulse oximeter costs US\$250 (approximately R2 220), including delivery to any hospital worldwide.

Feedback from oximeters that were donated more than one year ago has shown that each one is being used up to 20 times a day. This means that that the lives of thousands of patients a year can be safeguarded, and anaesthesia providers can have greater peace of mind for a relatively small investment.

Over the next few months we hope that you will have an opportunity to learn more about the Lifebox Foundation, where we work, and how you can get involved. You will find us at SASA Congress in Port Elizabeth and at the 5th All Africa Anesthesia Congress in Cairo, Egypt. If you visit the SASA website, you will find information about Lifebox at the bottom of the page, inviting you to get involved in the campaign. You can also find us in the next edition of SAJAA.

Safe surgery is not possible without safe anaesthesia, and safe anaesthesia is not possible without blood oxygen monitoring. A baseline of safety during surgery should be a right, not a privilege, and this can be made a reality for patients worldwide, and for our colleagues in anaesthesia working against the odds.

We are enormously grateful for your support, are proud to stand with you, and excited to see what we can achieve in the coming year.

The Lifebox Foundation Board

www.lifebox.org

References

1. Ouro-Bang'na Maman AF, Tomta K, Ahouangbévi S, Chobli M. Deaths associated with anaesthesia in Togo, West Africa. *Trop Doct.* 2005;35(4):220-222.
2. Funk LM, Weiser TG, Berry WR, et al. Global operating theatre distribution and pulse oximetry supply: an estimation from reported data. *Lancet.* 2010;376(9746):1055-1061.
3. Haynes AB, Weiser TG, Berry WR, et al. A surgical safety checklist to reduce morbidity and mortality in a global population. *N Engl J Med.* 2009;360(5):491-499.