

Obstetric Fistula Repair in Sub-Saharan Africa: Partnering to Create Sustainable Impact for Patients and Trainees

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ABSTRACT

Obstetric fistula, an abnormal connection between a woman's genital tract and urinary tract or rectum, can be physically and psychosocially debilitating. We describe a sustainable obstetric fistula surgical trip model that includes providers from Women and Infants Hospital at Brown University. These surgical trips provide pre-operative, surgical, and post-operative care to patients with fistulae at Kibagabaga Hospital in Kigali, Rwanda.

To ensure patients are prepared for the recovery process after fistula surgery, the team created a post-operative education curriculum that includes illustrative visual aids and teaching guides translated into Kinyarwanda, focusing on topics including urinary catheter care, wound care, and pain management. Through this program, the team is committed to restoring women's dignity through fistula repair as well as providing a model for delivery of sustainable surgical care in low-resource settings. Involvement of trainees into a global health team like this can benefit both the trainee and the patients served.

KEYWORDS: global health, obstetric fistula, women's health

BACKGROUND

Obstetric fistula, an abnormal connection between a woman's genital tract and urinary tract or rectum, affects between 50,000 to 100,000 women worldwide each year.¹ The most common cause of obstetric fistula globally is protracted, obstructed labor which can often be prevented, in part by timely access to obstetric services. Women experiencing obstructed labor may labor for multiple days, causing tissue necrosis due to fetal head compression within the pelvis, and a subsequent vesicovaginal fistula (connection between the bladder and vagina) or rectovaginal fistula (connection between the rectum and vagina). Women who suffer from obstetric fistula experience constant incontinence of urine, feces, or both, that causes physical complications as well as social isolation, including rejection from their husbands, families, and communities at large. Acknowledging this devastating yet preventable condition, the World Health Organization (WHO) has prioritized the prevention and management of obstetric fistula in its Sustainable Development

Goals as a means of improving global maternal health. The surgical repair of a vesicovaginal or rectovaginal fistula can alter the course of a woman's life; however, the lack of training of local physicians and inadequate resources for evaluation and repair are some of the many reasons the majority of these women are unable to be treated for their condition.

SUMMARY OF IOWD FISTULA SURGERY PROGRAM HISTORY AND ACCOMPLISHMENTS

Benefits of global health experiences for trainees are well-recognized. Global health experiences broaden medical knowledge, foster an improvement in diagnostic, examination and procedural skills, and develop a deeper appreciation for public health issues, professionalism, and cultural sensitivity. In addition, trainees who have global health experiences are more likely to practice medicine among underserved and multicultural populations, and/or work internationally in the future.² Recognizing this, the Division of Urogynecology and Reconstructive Pelvic Surgery within the Department of Obstetrics and Gynecology at Women and Infants Hospital has sponsored Dr. B. Star Hampton, Professor of Obstetrics and Gynecology at the Warren Alpert Medical School of Brown University, and a Fellow in Female Pelvic Medicine and Reconstructive Surgery (FPMRS) to travel to Sub-Saharan Africa as part of an obstetric fistula repair team organized by the International Organization for Women and Development (IOWD) since 2008.³ As part of their training, the FPMRS fellows have a unique opportunity to take part in the evaluation and management of complicated surgical patients, giving them insight into the care of obstetric fistula as well as global health efforts. The Division of Urogynecology at Women and Infants is one of the few FPMRS Fellowships in the nation to sponsor a fellow on a yearly basis. The design and curriculum of this program has served as a national model. Many graduated FPMRS fellows now include global health work in their careers, attributing this experience as life-changing. Dr. Hampton has extended the opportunity to be part of this surgical team to medical students at Alpert Medical School and Obstetrics and Gynecology residents at Women and Infants who have demonstrated a unique interest in obstetric fistula and global health, as well as a level of maturity and cultural competency to integrate into a challenging work environment.

Initially Dr. Hampton traveled with IOWD to Niger, but since 2010, the organization has moved their team to Kibagabaga Hospital in Kigali, Rwanda. Dr. Hampton serves as the team leader and lead surgeon for an annual two-week surgical mission, one of three per year organized by IOWD. During this mission, an average of over 150 women are triaged, many of whom have traveled hours to days for help, and usually more than 50 women undergo fistula repair surgery. Over the last eight years in Rwanda, the program has evaluated approximately 3,500 patients and operated on close to 1,200 women suffering from fistulae. The team works directly with Rwandan care providers, and educates these providers on evaluation and treatment of obstetric fistula, as well as post-operative care, with an aim to be a sustainable program.

POST-OPERATIVE PATIENT EDUCATION

Ensuring that patients understand the care they receive is at the core of “patient-centered care,” but in practice, it is not always easy. Here in the United States, challenges related to patient education including providers’ lack of time, varying levels of health literacy among patients, and cultural barriers are common. During their global health experience with IOWD at Kibagabaga Hospital, trainees on the surgical team have the unique opportunity of having ample time to spend with patients, many of whom have traveled hours to seek care for their fistulae and stay on hospital grounds for two to four weeks after surgery. It is essential, however, for team members to be cognizant of cultural differences between foreign care providers and Rwandan patients, as well as patients’ limited formal education and health literacy.

The idea for a post-operative educational curriculum for the obstetric fistula patients at Kibagabaga Hospital came about after a need was expressed by multiple stakeholders: Dr. Hampton and the team of visiting surgeons who had been performing fistula repair surgeries for over five years at the hospital, Rwandan care providers, and most importantly the patients. Previous literature has noted the limited understanding among patients undergoing fistula repair about the surgery itself and the subsequent post-operative healing.⁴ In addition to the expected post-operative risks associated with any surgery, fistula repair surgeries are often time-intensive and complex. They require prolonged post-operative bladder drainage with an indwelling Foley catheter for one to two weeks, sometimes longer, in order for the tissue to remain tension-free and heal. Recovering from surgery with a urinary catheter

is inconvenient and uncomfortable at baseline. This can be further challenging for women in a low-resource setting like Rwanda. For the patients who presented for fistula surgery to Kibagabaga Hospital, many of them lived hours or days away and had limited access to qualified health care providers if surgical or catheter complications arose. Additionally, many had not openly shared their plan for surgery with their husbands and families so felt a sense of pressure to return back to their homes quickly to resume their responsibilities and also were concerned about how to avoid sexual intercourse without disclosing their condition. To address these potential complications, patients had accommodations on the hospital grounds in order to recover following surgery and allow the Fistula team to follow them post-operatively.

Dr. Hampton and trainees that traveled with her to Rwanda in February 2017 (AK, AM) undertook the task of creating a formalized curriculum to standardize, and make accessible to patients, information regarding post-operative expectations. The curriculum focused on common issues patients would experience post-operatively including urinary catheter care, wound care, pain management, and worrisome signs or symptoms that warranted prompt medical attention. Aware that a majority of our patient population was illiterate, large visual aids provided the basis for the patient education modules with supplemental teaching guides translated into Kinyarwanda to aid the Rwandan providers in group and individual discussions.

It was imperative that the project was a collaboration, from development to implementation, between the US-based team and the Rwandan colleagues in order to be successful. The initial project concept was discussed with both IOWD’s Executive Director and the lead nurse who

oversees the fistula program at Kibagabaga hospital. Having long-term, personal relationships with these partners and their buy-in was vital in moving the project forward. A proposed outline of curriculum content was shared electronically with Rwandan partners, who provided critical feedback that was both constructive and enlightening. For example, during a unit discussing perineal hygiene, the US team suggested use of perineal bottles to keep the area clean. Rwandan partners reminded the team that something as simple as a perineal bottle was not readily available or affordable for most patients. Rwandan partners also encouraged clarification and simplification of instructions and language. Did perineal baths require soap? Many patients didn’t have daily access to soap but a simple bucket with clean water and a wash cloth would suffice.

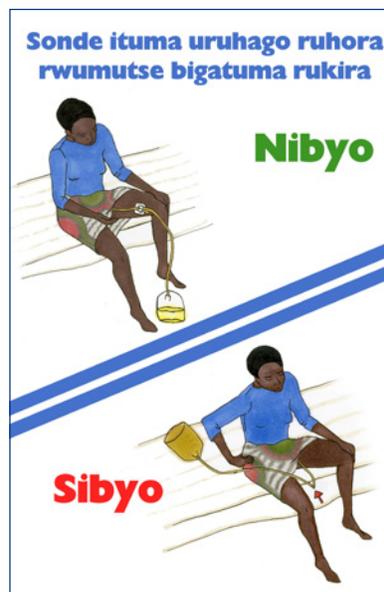


Figure 1. Simple instructional drawings for visual teaching.



Women waiting for their fistula repair surgeries attend a group educational session about post-operative expectations. **Amita Kulkarni, MD, OB/GYN** resident at Brown, and **Leah Moynihan, NP**, a nurse practitioner at Women and Infants, helped lead the session with Rwandan colleagues.

Once content was finalized, an illustrator (SA), who had traveled with the surgical team on prior missions and was familiar with setting and patients, created simple instructional drawings for visual teaching (**Figure 1**). Rwandan partners helped ensure illustrations were clear and appropriate. Feedback regarding details such as the color of clothing the woman was wearing and the position she was sitting in was essential for illustrations to be accurate and useful. This iterative process was not only helpful in ensuring the US team brought the best educational materials to the patients, but also allowed for connection and idea sharing, creating a team dynamic between Rwandan and US colleagues that everyone felt a part of even before meeting on the ground in Kigali.

Once in Kigali, the curriculum was used to lead a large-group workshop with over 80 women about post-operative care and what they might expect (**Photo above**). Careful consideration was taken regarding workshop structure and leadership, with the fistula program's lead nurse and physician (AN) running the workshop as they not only spoke the language fluently but were known and well-respected by the patients. They had a deep understanding of the emotional, physical, and social impacts fistula had on individual women in the group. With this leadership, the workshop became an interactive safe space, where women felt comfortable talking about the most intimate parts of their bodies and asking questions they may not have otherwise asked. After the large workshop, the US team

worked closely with a group of Rwandan medical students to reinforce educational topics with individual patients after their surgeries. Patients were informally surveyed about perspectives on the educational modules and overall found the illustrations and group sessions helpful, with many stating that it answered questions they may have had but were too afraid to ask. One patient, a 43-year-old woman who lived with a rectovaginal fistula for 15 years after a vaginal delivery underwent surgery with the IOWD team. She recounted the shame she experienced surrounding her fecal incontinence, not telling anyone about it, including her husband who she continued to have intercourse with despite pain because she was afraid he would leave her. She was feeling desperate after she asked a midwife who told her there was nothing that could be done for her due to the lack of skilled doctors. After her fistula repair, she remarked that the curriculum and illustrations were very helpful, stating "you cannot heal if you do not follow them" and that they "give clear instructions, they help when you forget, they show you clear pictures as examples of how to behave."

The initial implementation of the post-operative education modules was successful and through ongoing collaboration with and feedback from Rwandan colleagues and patients, content has continued to be updated (**Photo below**). The project has also been a lesson in the challenges of



From left, **Nicole Kanyana**, a Rwandan medical student, **Amita Kulkarni, MD, OB/GYN** Resident at Brown, **Annetta Madsen, MD**, previous Urogynecology Fellow at Women and Infants and **Arlene Nishimwe, MD**, a Rwandan physician.

sustainability. While the core US and Rwandan members of the program have been involved for a number of years, there is often turnover each year among visiting team members, Rwandan medical students, and hospital staff. Further, with a long-standing program like this, there are multiple priorities each mission that need to be balanced. This can make it difficult to maintain continuity and excitement around any single initiative. In order to address this, the team's goal is to have the education modules revisited during each surgical mission by appointing a champion within both the US and Rwandan care teams each trip to ensure close follow-up and follow-through.

CONCLUSION

Obstetric fistula is both physically and psychologically debilitating. IOWD and its surgical teams continue to work to help restore women's dignity, allowing them to reintegrate into their families and communities. Through integration into this experience, trainees can better understand how to deliver sustainable surgical care to patients in low-resource settings, as well as dedicate time to projects such as the patient education initiative described here. Involvement of trainees into a global health team thus not only benefits the trainee, but can positively impact the patients served.

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