Summary: The nuances of the medical culture need to be considered when introducing new techniques and the reasons for embracing change are sometimes surprising.

Key Words: SIGN techniques—SIGN program—Afghanistan.

Bringing a new surgical technology, such as Surgical Implant Generation Network (SIGN), to countries where the surgeons have never before done locked intramedullary nailing is rarely a straightforward process. Though SIGN only goes to hospitals that request the implants, camps often emerge within the orthopaedic department. They can be enthusiastic or resistive, sometimes breaking along ethnic lines, or more often along an age divide with the younger, though less powerful members, the more likely adherents for the new. The voiced fears, uncertainty, and excuses from some about trying a new technique often sound bizarre to Westerners who accept, and even expect, change on a daily basis. The path and ease of program building also depend on who brings the technology, how it is presented, and who are the first local champions of the technique. No guidelines exist on how to best accomplish this. SIGN’s success often depends on time. For in 6 or 8 months most of the staunchly pessimistic and reluctant surgeons usually come to recognize the success of treating complex lower extremity fractures with SIGN.

THE CASE IN MAZAR-I-SHARIF

In early 2009 I was asked to come to the Provincial Hospital in Mazar-i-Sharif in northern Afghanistan to help shepherd the SIGN program (Fig. 1). An Afghan orthopaedic surgeon in the city had been using SIGN since 2005, and wanted to share the implants with the surgeons at the public hospital, but was running into difficulty. He had attended medical school and had worked with the public hospital surgeons, but this too familiar proximity grated and not everyone was receptive to his instruction. He needed someone from the outside, without pre-existing ties, to bring everyone together.

Once in Mazar and listening to the different stories, I found that a few of the surgeons had been to a SIGN workshop in Kabul the year before. They saw that it was an interesting idea, told the others and most of them wanted to learn, but did not want to lose face by the status of their teacher. Others needed to be shown the advantages, challenging the concepts of intramedullary nailing that did not square with their previous notions of internal fixation. Others had done a number of tibial and antegrade locked SIGN nails, but were reluctant to do retrograde nailing. The idea of introducing a femoral nail through the knee joint was something so outside their scope of experience that they needed to be personally shown that it was not just possible, but on bilateral distal femur fractures, the treatment of choice.

Within a month everyone had learned how to successfully lock the nails. I looked at my role as fostering surgical confidence and reinforcing the best ways to work within the limits of the SIGN nail and the limits of the hospital. Critiquing the x-rays became a chance to learn, emphasizing my own mistakes and how one can always improve by paying attention to the details. The surgeons became more interested in the patients’ postoperative rehabilitation when we agreed to guidelines of early mobilization; they saw the strength of this solid nail which in turn made them all look good. The patient with bilateral femur fractures was walking with crutches, had regained 90% of her knee range of motion, and had waved a thank you as she left the hospital, 2 weeks after admission.

FIGURE 1. SIGN programs in Afghanistan.
Hospital in Kabul with a locked intramedullary nail stabilizing his fractured femur. He had heard about such implants, had never done one, but by seeing this one patient with a SIGN nail, knew that things were changing in Afghanistan. He wanted to be a part of this change. I offered to come to Shebergan with a set of instruments and some nails and help him if he had any cases. Afghan surgeons must deal with many traffic injuries (Figs. 2-3).

Rahimullah, a Mazar surgeon volunteered to come with me and the 3 of us did 2 cases one afternoon in Shebergan. Later that evening, I was shown the black fat-tailed sheep that was given as a gift from one of the patients. Twice more in the next few months Rahimullah drove to Shebergan, taking young surgeons from Mazar with him. He e-mailed that he was giving the younger ones the opportunity to teach, for what better way is there to learn.

In August Said Amir had satisfactorily completed 10 SIGN nail surgeries, showing that he was capable of both doing the surgery and handling any intraoperative problems. By early summer the surgeons in Mazar were doing 2 or 3 SIGN cases each week, and putting their results on the internet database. They had bought cloth in the bazaar with a small monetary donation and had the hospital’s tailors make them surgical gowns that covered their backs and reached past even the tallest ones’ wrists and knees. Of the same material they had new OR sheets sewn and bought a locker to store them.

I had many questions about how medicine is practiced in Afghanistan. In the public system surgeons are not well paid; they have to scramble with outside jobs to make ends meet and I had seen a number of instances of surgeons having performed some unnecessary or more expensive alternative treatment simply for gain. The decision to use a plate rather than a free SIGN nail often rested on the simple fact that the surgeon could charge for a plate; they could not charge for a SIGN nail. After a few weeks all the surgeons were using SIGN nails instead of plates and were quite excited by the possibilities the system offered. I was heartened by this because successful, simple, but financially unrewarding techniques do not always overcome the lure of mammon.

In my years working with SIGN, and especially during my visits to hospitals in Africa and Asia while completing research to write A Leg to Stand On, I have seen the way it can initiate wide-ranging, positive changes within an orthopaedic department. Surgeons and nurses did not hesitate to tell me of the nonmedical advantages of having dependable, free implants in their hospitals. To see that SIGN’s impact had convinced the surgeons to look first to what was best for the patients, rather than themselves, was an important step forward, not just in technique but in becoming healers.