And The Blind Shall See

Thanks to new techniques and dedicated doctors, the end is in sight for the epidemic of needless blindness in the Himalaya

Geoffrey Tabin

Dr. Sanduk Ruit restoring vision in Tibet. Dr. Ruit was the first Nepali doctor to perform modern cataract surgery with a sight restoring lens implant. In 1995 he co-founded the Himalayan Cataract Project with Geoff Tabin, dedicated to eradicating needless blindness in mountainous Asia. *Michael Amendolia/Network Photographers*

The expedition begins with the usual frenzied packing in Kathmandu. Each box is carefully labeled. We double-check all the necessary equipment, as there will be no chance of getting supplies along the way. We fly first to Lhasa and then over spectacular unexplored mountains to land in Xining, in the Tibetan populated Quinghai Province of China. We proceed in old Chinese jeeps across the rugged landscape of the Amdo region, one of the poorest places in one of the poorest countries in the world. This is the area where the current Dalai Lama was born.

Our jeep bounces along a heavily rutted road winding along a high plateau. On both sides unexplored 6000-meter peaks rise steeply. A few scattered settlements of bare wood and mud hovels cling to the steep hillsides adjacent to the road. White Buddhist prayer flags flap in the wind on top of each box-like dwelling. Yaks and goats graze on the sparse grass in the brown remnants of barley fields. At nearly 15,000 feet the temperature dips below freezing

every night. There is no electricity or even firewood to be found in this region. Cooking is done over open fires of dried yak dung.

Life is harsh here, particularly if you are blind. And the high Tibetan plateau has one of the highest rates of cataract blindness in the world. The two local doctors whom we brought to Nepal for basic training in cataract surgery have pre-screened patients and tell us that there are more than 300 people in the county of about 800 households who are totally blind from cataracts in both eyes.

Our bus moves off the rutted dirt track and on to the pavement of Golog, the only large settlement for several hundred miles. Many of the buildings are Chinese prefab concrete blocks and most of the officials are Chinese, but the population is overwhelmingly Tibetan nomad. We pull up in front of the county hospital. Our team includes my partner, Dr. Sanduk Ruit, a Nepalese ophthalmologist, two nurses and two technicians from our eye hospital in Kathmandu, plus the two Tibetan doctors, Dr. Wong and Dr. Sangye whom we have been training. Here we will also work with and teach two local nurses and two assistants.

My interest in international medicine grew out of my climbing trips in Nepal and Tibet during the 1980s. In 1981 I left medical school to join an American climbing team attempting to make the first ascent of the east face of Mt. Everest. I vividly remember seeing a blind middle-aged man being led with a stick by a small child. When I looked at his eyes I saw that his pupils glowed an eerie white, rather than the normal black color. I soon learned that this was the appearance of an absolute cataract. After completing medical school I worked as a general doctor in Nepal. I was frustrated that most of the medical problems I faced were the result of public health issues and could not be "cured" by a doctor. Then I watched a Dutch team perform cataract surgery. I witnessed a miracle. A woman from my village, who had been totally blind, had her sight restored. She went from living the life of a neglected houseplant, kept in a

Geoff Tabin in Golog County, Tibet. *Michael Amendolia/Network Photographers*

Dancing the joy-step upon seeing the world anew. *Geoffrey Tabin*

dark corner of the house and occasionally carried out to spend a few hours in the sun or go to the bathroom, to having her life returned. She was no longer a burden and could return to being an active member of the family, cooking and caring for her grandchildren. I returned to complete an ophthalmology residency in America and a fellowship in corneal surgery under Professor Hugh Taylor in Melbourne, Australia, one of the leaders in the worldwide fight against needless blindness. More than 90 percent of the blindness in the world is preventable or treatable. In mountainous Asia over 70 percent of the blind people can have their vision completely restored with cataract surgery.

During my fellowship year I was sent to Nepal to work with Dr. Sanduk Ruit. I was amazed by his skill: He is a master surgeon. Ruit trained at the best hospitals in India and then spent two years studying microsurgery in the Netherlands and Australia. He became the first Nepali doctor to perform modern cataract surgery with a sight restoring lens implant. Previously all doctors in the region sliced the eyeball in half, pulled out the entire lens, sewed the eye shut with crude sutures and gave the patients thick, coke bottle, glasses that provided some focus but also a lot of distortion. It is not surprising that the second leading cause of blindness in Nepal (after cataract) is bad cataract surgery. Dr. Ruit adapted modern techniques to his environment and perfected high volume delivery of high quality cataract surgery in remote regions at a cost of less than 20 dollars per surgery. I stayed in Nepal after my fellowship working at the eye hospital in Biratnagar and teaching Dr. Ruit's technique. When I returned to America in 1995 we formed the Himalayan Cataract Project, dedicated to eradicating needless blindness in mountainous Asia.

Rumors of this camp began circulating in the Golog County several months ago. Hundreds of elderly Tibetans and their families have gathered around the hospital. Their gazes combine a mixture of hope and doubt. No one has ever been cured of blindness here before.

The hospital has the sickly smell of many such Third World facilities, a mixture of the acrid odor of stale urine with the rich scents of excrement and antiseptic. The halls and tables are dusty. Filthy IV tubing and dirty needles litter the hallways. A welcoming committee of flies buzzes in every room. There is no heat. The power is out.

As the portable microscopes, generator, and other supplies are unloaded, Dr. Ruit looks across the barren dirt courtyard of the hospital and gives me a broad smile. Pointing at the blind crowd, he excitedly exclaims that everything is perfect. "This is where the people need us."

Twelve hours per day for the next three days Dr. Ruit and I operate side by side without any high tech equipment beyond a microscope. When the generator fails we keep working on eyes illuminated by assistants holding flashlights.

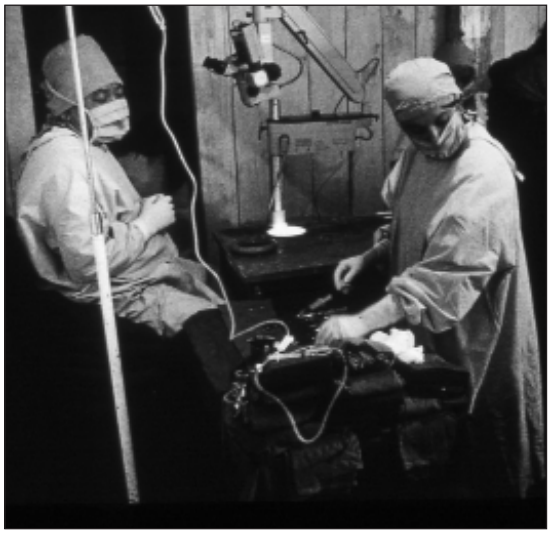
Technicians inject local anesthetic and prepare the patients for surgery. When a case is

finished the patient is rolled off one side of the table as the next patient is rolled on. The face is painted with antiseptic and the surgery continues. The turnover time between patients is less than a minute. Dr. Ruit sustains a pace of seven perfect surgeries per hour for the 12-hour operating day.

"There is a new sky for my eye! I am free from the hell of darkness!" exclaims Sonam Dechen, moments after the white gauze patch has been removed from her left eye. Tears of joy stream down her bronzed cheeks. Yesterday the 63-year-old widow was unable to see the shadow of a hand moving in front of her face. Today she can see well. With no living sons she had no one to take care of her, often going days without eating and falling in ditches. "Now," she proudly states, "I will be able to take care of myself."

In three days Dr. Ruit and I perform over 200 "miracles" in Golog. On the fourth day the local doctors begin operating on the second eyes of patients who have had sight restored to one eye. I assist at one microscope. Dr. Ruit continues restoring sight to the blind at his table. Dr. Sangye sits in the surgeon's chair and stares intently through the microscope. His eyes are focussed. An enormous turquoise charm box filled with Buddhist prayers bulges at the chest of his surgical gown. He tentatively scratches at the surface of the patient's eye with a blade. I encourage him to use a little more force. The initial incision is eventually made, but he has difficulty removing the cataract. We switch seats and I complete the case. After a few tries he is able to perform each step of the procedure. Ten eyes later he completes an entire surgery without my help.

In nine days a total of 506 cataract surgeries have been performed. There are no infections and no blinding complications. More importantly, Dr. Wong and Dr. Sangye have each completed more than 75 successful cataract surgeries.



On a visit to Tibet's Golong County, Dr. Ruit and Dr. Tabin, along with their two surgeons-in-training, performed 506 cataract surgeries in nine days, with no infections or serious complications. *Michael Amendolia/Network Photographers*

We donate the microscopes, surgical instruments, and enough lenses for each doctor to restore sight to another 500 people.

The total cost of the skills transfer including bringing the local doctors to Nepal for training, transporting our team to Golog, buying all the microscopes and surgical instruments to donate, and restoring sight to over 500 eyes is less than $25,000. In Tibet there are no services for the blind. Sightless people require family members to care for them, an enormous economic burden. The life expectancy of the blind in this part of the world is less than half that of sighted people the same age. After surgery most patients can return to work or traditional roles within their family.

Over the past seven years we have trained 16 doctors to perform modern cataract surgery from Tibet, two from Sikkim, three from Bhutan, and one from Northern Pakistan. In Nepal, where we have worked with dozens of ophthalmologists to improve their cataract surgery skills, the number of cataract surgeries performed has increased from 15,000 in 1993 to more than 97,000 in 2001. Although other people and organizations have been working in the area, it is Dr. Ruit who is most responsible for the increase in quality, which has led to the increased volume of patients who come seeking surgery.

We work closely with several other non-government organizations, including The Central Asia Institute which helped us begin our work in northern Pakistan, SEVA, The Fred Hollows Foundation, The Christofel Blinden Mission, The Tibet Fund, Tibet Development Fund, and The Tibet Vision Project. Finally, we have had great support from other American and Australian ophthalmologists and several of the large ophthalmic pharmaceutical companies.

We are now branching out beyond simply teaching cataract surgery. In Nepal we are

One-day's supply of post-operation happiness among Golog County's Tibetan nomads.
Michael Amendolia/Network Photographers

training ophthalmic assistants as primary care health workers and setting up primary eye-care health clinics. We run a two-year course in conjunction with Kathmandu University that trains eye-care workers to refract and give glasses, screen patients, and treat common diseases and infections. The ophthalmic assistants refer serious and surgical problems to doctors. This will have an impact on preventable etiologies of vision loss. For instance, the leading cause of blindness in children is Vitamin A deficiency. More then half a million children go blind worldwide from lack of Vitamin A each year. Once blinded, the child's sight is lost forever. Prevention only requires a 75-cent pill to be given by the local health care worker once per year. The ophthalmic assistants are also playing a major role in preventing vision loss from Trachoma, the world's second leading cause of blindness, and from blinding corneal infections.

On the other end of the spectrum we are sending some of the best young ophthalmologists in Nepal for fellowships in America or Australia where they learn state of the art subspecialty care. We have trained doctors in corneal transplant surgery, retinal surgery, glaucoma management, and pediatric ophthalmology in the past three years. These doctors are returning to become the teachers of the next generation of ophthalmologists in the region. In the next few years we are planning on starting a full three-year ophthalmology residency program at the Tilganga Eye Centre in Kathmandu.

We are also mentoring several poor hospitals, working with them to help them become financially self-sufficient. At our base hospital, the Tilganga Eye Centre in Kathmandu, our surgical programs function without outside support through a cost recovery model where the wealthier patients help defray the costs for the destitute. Our full charge for cataract surgery is around $120 (U.S.). Nearly half of the patients in Kathmandu pay this fee. One quarter pay a lesser amount and one quarter receive totally free care. With high volume surgery and a material cost for each cataract surgery of less than 20 dollars this cost recovery system works in even the most impoverished regions of Nepal.

Seven years ago our task of overcoming preventable and treatable blindness in mountainous Asia appeared more daunting than any overhanging rock-and-ice wall I have seen. However, like a big climb that is slowly surmounted one step at a time, we are progressing one doctor and one eye at a time. We are far ahead of my most optimistic expectations from when we started our work. At our present rate of progress, mountainous Asia should be self-sufficient in cataract surgery within the next five years and able to eliminate the backlog of cataract blind within 10 years.

For more information please visit our website: www.cureblindness.org

Any contributions are most appreciated. Tax deductable contributions to:
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