



# **The IVUmed Resident Scholar Program: Aiming to “Teach one, reach many”**

by Catherine R. deVries, MD, FACS, FAAP

**A**s American urological training rapidly becomes more technical, trainees are losing skills once considered fundamental to a well-rounded surgical experience. Emphasis on cutting-edge technology such as robotics, magnetic resonance imaging, and positron emission tomography scanners is supplanting certain skills such as end-to-end anastomosis of bowel, open stone surgery, and open prostatectomy. This technological trend is more profound, considering that the gap between resource-rich and resource-poor surgical environments grows by the year, as a large number of surgeons worldwide are limited by the lack of availability of suture, stents, and catheters—even basic necessities such as instruments and electricity.

In an effort to bridge this gap, IVUmed, formerly known as International Volunteers in Urology, formed the Resident Scholarship Program in 1999 to give American trainees early in their surgical experience an opportunity to visit and participate in an overseas, mentored training setting. The long-term commitment to sharing educational and material resources will hopefully help to bridge the resource gap experienced by colleagues in developing countries. IVUmed's motto—"Teach one, reach many"—embodies that long view of surgical education.

## History

The IVUmed scholarship program was initially designed by a committee of urologists who personally served as volunteers in developing countries and became the first mentors. The purpose of the program was to strengthen the training of urology residents by exposing them to varied surgical environments and a range of techniques that they may not experience in their own training programs. By working with mentors from different training programs or private practice, they also would have an opportunity to interact with a broader range of surgical teachers. The on-site host surgeons invariably would teach trainees new approaches to dealing with surgical problems. The seed grant for the program's

Opposite: Dr. deVries (right) performing an operation in Nigeria with Sunday Lengmang, MD, medical director and director, vesicovaginal fistula program, Evangel Hospital, Jos, Nigeria.

**Table: IVUmed statistics, 1999–2008**

Year	Scholars	Mentors	Sites
1999	9	5	5
2000	16	12	11
2001	14	13	11
2002	10	11	6
2003	10	9	9
2004	16	13	13
2005	11	10	8
2006	13	10	7
2007	14 (11 residents, 3 fellows)	10	9
2008	12	10	9

## Host countries

Honduras	Nicaragua
Haiti	Mexico
Peru	Cameroon
Nigeria	Ghana
Mozambique	Jamaica
South Africa	Namibia
Morocco	Viet Nam
Mongolia	India
Bangladesh	Kenya
Tanzania	Yemen
Ethiopia	Egypt

inception came from the American Urological Association under the guidance of Charles McKiel, Jr., MD.

The program was designed for trips of 10 days to one month, with residents commonly traveling during research time or vacation, thereby making this experience an "away rotation." In recent years, funding has come from grants made by sections of the American Urological Association, industry foundations, and individuals. To date, 125 scholars from 64 different American training programs have matched in the program. One training program has sent six residents, but most others have sent between one and three. These scholars have visited 28 sites in 22 countries



Scholar Tim Davies, MD, demonstrates harvesting buccal mucosa for urethral reconstruction at Evangel Hospital, Jos, Nigeria.



Hanging X rays in the OR at State Central Clinical Hospital, Ulaanbaatar, Mongolia.

urological training but would like to spend an additional year traveling as a urologist in developing countries. The first fellow, Kristin Chrouser, MD, traveled to seven countries to acquire advanced experience in tropical urology and reconstructive surgery. She has subsequently gone on to earn a master's degree in public health with an emphasis on leadership in international surgery. IVUmed has now moved to include scholarships for advanced training in urology for surgeons from developing countries. The first two scholars, from Children's Hospital #1 in Ho Chi Minh City, Viet Nam, visited two American children's hospitals in 2007. Three pediatric urologists from Honduras will visit the U.S. in 2009 through the new Dr. Pieter A. deVries Pediatric Surgery Scholarship Fund.

### Program

Scholarships have been awarded annually to eight to 16 American residents depending on available funding and availability of mentors

*Residents:* Residents are selected through a rigorous process that requires recommendation by their program directors and an additional faculty member. Only a minority of applicants is fluent in a foreign language or has a specific interest in visiting a particular country. The IVUmed Resident

(see box on page 31 for a list of host countries); 42 urologists have served as mentors for their junior colleagues in these overseas experiences.

In 2006, IVUmed launched a new fellowship program for urologists who have completed their

Scholars Committee reviews all applications and matches the scholars with mentors. An attempt is made to match specific interests, such as pediatrics, with mentors or teams traveling on similar service or training workshops. Currently the ac-



Top photo: D. Nyamsuren, MD, chief of urology, State Central Clinical Hospital, Ulaanbaatar, Mongolia, demonstrating anatomic nephrolithotomy to Drs. Southwick and Morgan. Bottom photo: The kidney stone after removal.

ceptance rate is approximately 50 percent and preference is given to more senior residents and fellows. In 2008, IVUmed received 32 applications for 12 scholarships.

*Mentors:* The criteria for mentorship are that a mentor must be certified by the American Board of Urology or be board eligible or must hold an equivalent certificate in his or her home country. Although most mentors are American urologists, a few are foreign nationals, some of whom have trained in urology in the U.S.

IVUmed's mentors currently reflect a balanced mix of 22 academicians and 18 private practitioners. A core group staffs the four to six annual trips to India and includes Gopal Badlani, MD, professor and vice-chair of the department of urology at Wake Forest University Baptist Medical Center, Winston-Salem, NC; Sakti Das, MD, emeritus professor of urology at University of California–Davis; Manoj Monga, MD, associate professor of urology, University of Minnesota, Minneapolis; and Raju Thomas, MD, professor and chairman of urology at Tulane University, New Orleans, LA. These "India Camps" are organized by a local Indian not-for-profit that provides urological services to the poor.

Richard Williams, MD, professor and head, department of urology, University of Iowa, Iowa City, has taken one or two residents to Haiti annually since the program's inception. John Gazak, MD, a private practitioner in Charlotte, NC, has mentored in Mongolia and Honduras. Annual trips to Viet



Mentor Andrew Southwick, MD, and scholar Todd Morgan, MD, during consultation at State Central Clinical Hospital, Ulaanbaatar, Mongolia.

Nam are coordinated through joint efforts with Friendship Bridge, primarily through Theodore Ning, MD, clinical professor of urology at University of Colorado, Denver, and Peter Bergreen, MD, a private practitioner from Eugene, OR. Other trips are organized as resources allow and are often initiated by the special interests and contacts of the mentor.

*Logistics:* Before each trip, IVUmed verifies with the host surgeons, the hospital, and (through the hospital administration) the Ministry of Health that the trainees are welcome to come to their hospital and to participate in surgery in the capacity of trainees. It is critical to the success of the program that the cultural norms of the host country be respected at both the social and professional levels.

Trainees are expected to have obtained all immunizations appropriate to the site being visited. They then usually travel with their mentors, who will have been in contact with the hosts about the details pertaining to the trip. The IVUmed program director coordinates most of these details. When they are working in teaching hospitals, they are often also mentored and supervised in cases by the local faculty who have current skills in such procedures as anatomic nephro-

lithotomy and other open stone cases. Scholars also learn from their hosts about patient expectations regarding surgery, pain management, and the panoply of cultural norms with respect to medical care. Many of these cultural practices diverge significantly from the norms at the home hospitals where the residents train, yet the quality of surgical outcomes may not differ significantly.

The amenities and resources at the sites vary widely. Whereas some residents travel to teaching hospitals, many travel to remote hospitals that normally do not offer urological service to patients. At these hospitals, all specialized urological equipment and supplies, such as scopes and

stents, must be brought with the team. In some hospitals, glycine irrigation for transurethral resection of the prostate (TURP) must be mixed by the visiting teams, whereas at others, water is still used for irrigation. Saline in small bottles is easily found in most locations. Sorbitol is rarely available. A sterilized can works well to hold irrigation solution when irrigation must be available in liter or multi-liter quantities, and irrigation tubing must be brought, as it is not standard equipment in many hospitals in developing countries. Suture is at a premium in most locales. It is standard in many countries that the patient is required to purchase all medicines and supplies, including surgical gloves and intravenous solutions, before surgery; but during the team visits, attempts are made by the visiting surgeons to bring many necessary supplies. This effort often means that the mentors and scholars carry extra suture, medication, catheters, and instruments, and it is not unusual to incur significant excess baggage charges with the airlines, particularly when flights connect through Europe.

Although there is some variability, typically a urology resident would scrub on several large open stone cases, open prostatectomies, and

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## Quotes from residents who participated in IVUMed

Who would have ever thought one could operate in flip-flops. Curious as to how it would work out, I graciously accepted them and entered the operating room. As usual, it was all I needed and became one of my fondest memories of operating in Viet Nam. The operating room, a place we are all familiar with and enjoy working in, was our common ground. It was a place to work together and share knowledge and experience. Working alongside each other allowed us to quickly build friendships that extended well beyond the hospital. The staff was wonderful. They were friendly, incredibly gracious, and generous with their time. It was a pleasure to get to know them both personally and professionally.... When I think back on my time in Viet Nam, it can be summed up in this: a big smile.

—*Jill Buckley, MD,*  
*University of California—San Francisco, 2005*

The operative experience [in Egypt] was nothing short of spectacular. Working with Drs. Sakti Das and Carlos Angel, both of whom were excellent technicians and teachers, was an incredible experience for me, and after doing nearly 30 consecutive hypospadias repairs of all varieties, I can safely say that I've had a fellowship's worth of training in that particular operation. The operative days were long and grueling, and the combination of old, elevation-challenged operating room tables and the height difference between Dr. Das and me unquestionably did some permanent damage to my cervical spine. But at the end of the day, all of us were equally exhausted—a good exhaustion, though—the kind where you know it means you've done something worthwhile with your time.

—*Brad Erickson, MD,*  
*Northwestern University, Chicago, IL, 2007*

reconstructive cases for urethral stricture or hypospadias. The quality of the learning experience is emphasized over the quantity of operations. In a two- to four-week rotation, residents may see unusual cases more often found in developing

countries, such as tuberculous kidneys, lymphatic filariasis, or bladder exstrophy presenting in older children.

## Outcomes

Outcomes of the resident scholar international surgical experience can be difficult to measure quantitatively. One measure might be the number of new procedures to which the scholars are exposed. Another gauge might be new insights into the difficulties experienced daily by colleagues in developing countries or different styles of operating room etiquette. A third measure might be the willingness of scholars to make a long-term commitment to a career that includes international collaborations. Another possible aspect to assess is service as mentors after completion of training. Measuring the experience from the host perspective would also be ideal. These outcomes measures have recently been implemented and will be reported as they gain sufficient data points.

## Scholars' obligations

In addition to the required trip report, pictures, narrative, and case log, many resident scholars also make presentations at the annual IVU Traveling Resident Scholar reception held at the American Urological Association (AUA) annual meeting. This reception honors the mentors, resident scholars, donors, and overseas hosts and serves as a point of introduction to new potential scholars and mentors. Scholars often also present their experiences at the AUA section meetings, especially when the sections have supported them. Occasionally they also present their experience to other sponsoring organizations.

A substantial majority of residents has expressed amazement at conditions in the hospitals where they worked. Having trained in situations where even the most impoverished American county hospitals usually have a ready supply of medication and basic instruments, the residents have found the need to bring ingenuity to their new situations. See the box on this page for comments some of the resident scholars have made about the program.

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In addition, scholars may now report in real time via a weblog on the IVUmed Web site, *www.ivumed.org*.

Scholars generally have found the host staff to be most generous with excellent food and good cheer, and despite difficult working conditions and fatigue, the sense of camaraderie has made them feel welcome in a foreign setting.

To date, 65 to 70 scholars have completed their urological training, fellowships, and board certification. One has pursued a master's degree in education, two have earned a master's degree in public health, and three have become mentors. Many scholars have expressed an intent to dedicate a portion of their careers to collaborate in developing countries. The lag time in the ability to assess career outcomes stems from the fact that most scholars still have two to five years of urology and fellowship training or precertification work experience before they again will have the time and resources to travel. As they become financially able to do so, past scholars are encouraged to support the scholarships of new scholars in order to increase the number of opportunities available to residents.

## Conclusion

The Traveling Resident and Fellow Scholarship Program embodies IVUmed's motto of "Teach one, reach many." The program allows residents to expand their experience and horizons by working with well-trained surgeons from other regions of the U.S. and the world. It benefits the hosts by expanding the network for collaboration beyond their own locale and often by bringing new technology to their geographic region. Although it has been operational for only nine years, the program is beginning to see its scholars choose to join a growing community of American urologists who share a commitment to collaboration with colleagues in developing countries.

Alice Tsao, MD, a scholar from the Mayo Clinic in 2006, captured the spirit of the program when she reported the following:

On our last day, we made hospital rounds on every patient we had operated. Although I could not understand or speak Hindi, I could see the

appreciation in these patients' eyes. With their eyes hopeful and thankful, they would press their rough, tanned, hardworking hands together vigorously to greet me. Then, they would lift their thin, worn blanket to show me their surgical site. Most of these patients lived in remote villages with limited access to health care, and some had waited over two years or longer to seek medical attention.... Despite the language barrier, cultural distinctions, and new surroundings, I saw the universal language of hope and humanity rooted in medicine. This experience has not only broadened my urological knowledge but also allowed me to give back to the community....

Alice Tsao, MD, Mayo Clinic



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