



International Dental Volunteer Guide

ADA American Dental Association®

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Cover and below photo courtesy of Dr. Freder Jaramillo.





International Dental Volunteer Guide

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Foreword

In 1971, the American Dental Association first published a pamphlet titled *Overseas Demand for Dental Personnel and Materials: Directory of Programs*. Since that time, the level of interest in and participation by dentists and others in international volunteer dental activities has shown a significant increase. Major changes in the organizations involved in placing volunteers overseas have also been made. The original monograph has evolved into this guide you are about to read and the ADA International Volunteer Website <http://internationalvolunteer.ada.org>. These are designed to help dentists and other dental professionals who are interested in volunteering overseas but who do not know where to start. It may also provide some guidance to experienced international volunteers who are interested in expanding the scope of their projects or getting involved in new areas.

Seasoned veterans in this type of work might have their own views or might disagree with some of the particulars presented here, but the general thrust of these comments should hold anyone in good stead. One seemingly obvious but often overlooked recommendation is that **it is imperative that anyone preparing to go on a volunteer project get as much specific information as possible regarding the sponsoring organization, goals of the project, dental needs of the local populace, availability of equipment and supplies, living conditions, transportation, and other matters before embarking on such a trip.** **It is of the utmost importance that volunteers act respectfully of the local culture and do not perform any procedures or tasks they would not be able to ethically perform in the U.S.**

While the material has been thoroughly researched, some of the information contained in this monograph could become outdated between editions. For that reason, in addition to reading this guide, volunteers are encouraged to consult the ADA International Volunteer Website, which was launched in 2008 and updated in 2014 at <http://internationalvolunteer.ada.org>. This Website will continue to provide updated and current information and includes a directory of over 130 organizations involved in international oral health programs.

In order to keep this publication current, we encourage readers to please provide staff in the ADA Division of Global Affairs with any revisions on the information provided. As always, questions or comments are most welcome.

Dentists, dental organizations, and allied groups wishing to donate equipment, particularly fixed dental units and chairs as well as materials, should check with staff members at the organization they select to determine the acceptability of specific items before they undertake a shipment.



Photo courtesy of Curamericas Global, Inc.

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Get Involved

There is a song that asks the age-old question, "Is that all there is?" After practicing dentistry and achieving a certain level of success and status, many practitioners ask themselves that very question. They have achieved their professional and financial goals and are looking for something else to provide continued stimulation and sustain their high level of commitment to and interest in dentistry. Boredom and stress are thought to be two of the major factors contributing to burnout among dentists. The truly successful dentist has learned how to stay dedicated to the profession by exploring other opportunities in the field.

One way in which dentists can revitalize their enthusiasm and simultaneously contribute to the global community is by volunteering their services for the betterment of others. Dentists and dental hygienists have been blessed with education and skills that are quite portable. With the aid of some basic equipment and instruments, they can set up a rudimentary dental clinic anywhere in the world, from the living room of a small hut, to a classroom with a corrugated zinc roof, or to a local government hospital. Colleagues in many developing countries are eager to learn from their U.S. counterparts and to teach them as well. Although most volunteers tend to be practitioners in their middle years or close to retirement, younger dentists may gain a lifetime of satisfaction by getting involved in volunteer activities while they are still in the early years of practice or teaching, and students in dental schools who volunteer can derive the rewards of volunteering as well.

This guide touches on some of the reasons people volunteer their time and talent and outlines various types of projects, along with suggestions for getting started. The mechanics of organizing and conducting projects, whether they involve training and educational activities or service-oriented programs, are discussed in detail. This information reflects the authors' experiences and is not meant to be complete. The goals of this guide are to help newcomers hurdle some of the barriers that sometimes stand in the way of participation and to give experienced volunteers additional insights into international volunteer activities. On the ADA International Volunteer Website <http://internationalvolunteer.ada.org>, which can serve as a supplement to this guide, a number of U.S. organizations involved in placing volunteers throughout the world are listed. Organizations with similar interests and experiences are encouraged to contact the Division of Global Affairs of the American Dental Association if they are interested in being included in this Internet-based directory.

One word of advice bears repeating: take advantage of the material in this guide and in materials supplied by your sponsoring agency and read the material well before the onset of your trip. Familiarity with your volunteer situation and some pre-trip planning will make you more effective in terms of both giving and getting as much from your experience as possible. Waiting to read the material on the plane is a preparation strategy that is a bit belated and ill-advised. Also, calling your sponsor to ask questions for which answers can be found readily in the materials the sponsor has already prepared and given you does little to inspire confidence in your ability to have a successful trip.

The Nature of Volunteer Activities

Volunteer projects provide participants with significant opportunities for new experiences. They allow participants to appreciate other cultures and ways of life while making a positive contribution to the target community, whether that community is in their own country or abroad. International volunteer work highlights the difference between being just a tourist and an enlightened traveler through life. The tourist stays with the tour, sees the major sights, and has experiences similar to those of other tourists on the trip. The traveler gets off the beaten path to explore both the geography and the people of the region he or she is visiting and tries to gain an understanding of the people and culture. By not taking advantage of such opportunities, the tourist is deprived of a large part of the enjoyment that can result from traveling and volunteering.

Challenges for Dental Volunteers

Dental volunteers, by their commitment and energy, transcend the roles of both tourist and traveler. Greater physical, intellectual, and emotional demands are made on dental volunteers, who must remain flexible and nonjudgmental at all times. There will be many instances when circumstances are different from the usual—not necessarily better or worse, just different. Those differences must be acknowledged, appreciated, and respected. First-time volunteers are especially vulnerable to any ambivalent feelings caused by those differences.



Photo courtesy of Dr. Eugenio Beltran

Ideal volunteers have these characteristics:

- cultural sensitivity
- flexibility
- patience
- the ability to relax
- creative thinking
- a willingness to share knowledge and skills
- a sense of humor.

Volunteers should approach their endeavors as “we” projects, not “us” and “them” projects. It is important for a project to fit into the local cultural and health context of the community. Coordination with and participation by representatives of the local community help to form a tighter bond between volunteers and those who are receiving their services. In many situations, the local hosts can be instrumental in ensuring that a project goes smoothly. They may provide housing, organize patients, assist with interpretation, provide transportation and significant pre-trip information, or they may be professional counterparts who are looking to share or upgrade their expertise. At times, the temptation may be to keep the local volunteer group insular to “make things run more smoothly,” but in the long run, that is counterproductive and inconsiderate. Also, it is not

possible to develop long-term relationships and a sense of project ownership without including the local community. It is by developing long-term relationships with representatives of the resident community that volunteers can bring true progress to a community or an institution.

Avoiding the “ugly American” label: American culture is by its very nature a can-do culture. When this philosophy is applied to a situation in another country without taking local cultural sensitivities into account, difficulties can arise. Tasks generally take more time, people might not be as well organized, or arrangements that have been painstakingly made from back home in the United States may not come to fruition. Patience, flexibility, and the ability to “put yourself in the other person’s shoes” can help volunteers remain calm and manage the unforeseen situations they may be likely to encounter.

Overseas volunteers must be sensitive to certain cultural differences in their host country. Certain customs will be very different from those practiced in the United States. For example, even the concept of personal space varies greatly in different regions of the world. In the United States, Americans tend to stand from 18 to 24 inches apart when speaking to each other. Many Asians prefer to stand about three feet apart or farther, and Middle Easterners and

Hispanics stand from six to 18 inches apart. In one Latin American country, it is not unusual to enter a church to find all of the people sitting in the same pew, right next to each other, with another person trying to squeeze into the already crowded pew. In the United States, worshippers tend to sit widely spaced apart until the church starts to fill up.

An overinflated sense of self will never be warmly welcomed in other countries or at home, for that matter. It is only natural to feel self-important and confident when bringing the latest knowledge and skills to a project, but that attitude must be tempered with the realization that the local counterpart may be as accomplished in the same area or in other areas. Self-congratulation after returning from a first trip also can have negative repercussions because many other people serve regularly as volunteers or have dedicated their lives to working in similar areas. Although volunteer activity is laudable, it is certainly not unique.

A survey of foreign nationals who have had experience working with U.S. experts listed the following complaints:

- They talk all the time, too much, too loudly and without thinking.
- They display a feeling of superiority; they think they know all the answers.
- They take sole credit for joint accomplishments.
- They are unwilling or unable to respect or adapt to local customs and cultures.
- They fail to innovate in terms of the needs of the local culture.
- They refuse to work through the normal administrative channels.
(All politics are local, but volunteers are not locals. They are guests.)
- They tend to lose their collaborative way of working.

Cross-cultural communication — There are several recommendations and considerations for people who are communicating across cultures:

- Do not assume sameness because that assumption could lead to some disastrous consequences.
- Monitor instincts; what is “natural” might be cultural.
- “Familiar” behavior can have different meanings.
- Do not assume that what is meant is what was understood.
- Do not assume that what is understood is what was meant.
- “Different” behaviors do not have to be accepted but should be understood in the context from which they originate.
- Most people behave rationally, but sometimes it is a challenge to find the rationale.

It is possible that some people in other countries will not understand the concept of volunteering. Indeed, in many languages that word does not exist. Occasionally, there may be some suspicion as to a volunteer’s motives. Local people may feel that the volunteer is there to take, not to give. That might be especially true at a site that has had no previous experience with volunteers or if the volunteer exhibits some of the aforementioned problematic behaviors or misjudgments in terms of communication.

A volunteer should have a clear understanding of the goals and objectives of the sponsoring organization. Some groups use the provision of health care as part of a wider effort to effect some social change or spread a particular religious, political, or social belief. However, goals should be clearly articulated and achievable. A first trip to a site might be used as much for assessing local needs and planning for future efforts as it is to try to accomplish lofty aims that may not be

able to be reached. Volunteers should not sign up with a sponsoring agency that does not agree with their philosophy, goals, or approach, because that can often lead to misunderstandings, hard feelings, or worse. Looking for a better match is a wiser choice.

Knowing when to be forceful to effect change comes with experience. At times in certain cultures, the more someone pushes, the more slowly things move. Volunteers must realize that most people will do their best to help but that, as a guest, a volunteer is an intrusion into the normal flow of activities. Local hosts still have their everyday responsibilities as well as the additional duty to accommodate the volunteers. Imagine having to provide hospitality to a stream of guests at your own home during the course of the year! A realistic orientation to goals and tasks, a sense of humor, and the ability to accept failure are also essential to completing a successful overseas assignment.

It is also important to use caution when using the word “work.” That, too, has different connotations in different areas. In many countries, to work means to labor for a wage. In some jurisdictions, volunteers might be required to obtain work permits if there is not a clear understanding about the nature of a project. Local licensing, notification regulations, or both must be followed. In some countries, volunteers are required to register with the local ministry of health or some other governmental agency in order to provide voluntary service. It is critical that volunteers understand and take care of those regulatory details beforehand. Running afoul of local regulations can put an entire project, or even certain individuals in jeopardy. An effective relationship with a sponsoring agency should answer those types of concerns. Volunteers who are traveling with an organization should ask about the organization’s relationship with the local ministry of health.

Advance preparation is a critical component of a successful volunteer assignment, but one not easily accomplished, because most volunteers are squeezing their trips into already busy schedules. Once volunteers arrive in their host country, briefings will usually be short because counterparts in the host country are busy. Volunteers should take steps to thoroughly prepare themselves both personally and professionally prior to departure.

First, volunteers should become familiar with the history and culture of the country they will visit. A simple Internet search is a good place to start, and the resource section of this guide lists a number of websites that provide valuable articles and references. Hosts will appreciate any efforts volunteers make to familiarize themselves with their country, culture, history, and customs. Knowing even a few words in the local language will bring nothing but good feelings from hosts and others.

Second, volunteers should talk with as many knowledgeable people as possible concerning their assignment in order to gather as much information as possible. Important sources of information are other volunteers who have traveled previously to the mission site, the project coordinator, and the on-site host. They can provide insight into the training program, its goals, volunteers’ responsibilities, and observations that might provide a more nuanced understanding of the country and its culture. E-mail and cell phones have made communication with people in all corners of the world much easier.

Why Volunteer?



Photo courtesy of Dr. Eugenio Beltran

The reasons that people decide to volunteer are as varied as the volunteers; motivations are very personal. These are among the reasons cited for volunteering:

- a desire to give something back to the world that has provided the volunteer with so many advantages
- a realization that there is something more in this life than going to work, driving the kids to soccer practice, or lowering a golf handicap
- the identification of a problem and the desire to participate in a solution to that problem
- an interest in traveling to new places, meeting new people, and doing something worthwhile at the same time
- a desire to support a church mission or a humanitarian or service-organization project
- an interest in sharing skills and knowledge with counterparts in practice or academic settings
- a desire to participate based on experiences related by someone who has had volunteer experience
- a desire to expand the traditional military presence to support local community-health projects by U.S. Armed Forces dental personnel.

Meeting the Oral Health Needs of the Local Population

Many people who return from a volunteer project feel that it is one of the most rewarding ventures they have pursued in their lives. Volunteers can experience a considerable sense of personal satisfaction and feelings of accomplishment by helping others and doing so under less than ideal circumstances. Many returning volunteers feel that they have gained much more than they have given. They also can achieve a greater depth of understanding of different cultures and regions of the world. Sharing knowledge and skills, having an opportunity to alleviate suffering caused by dental disorders, and being able to make new friends are other benefits that contribute to a positive experience.

Short-term humanitarian dental service projects usually have one or two objectives. One is to meet the urgent emergency oral-health needs of a specific group of people (e.g., a congregation at a site of worship, a village or small town, or sometimes a group of local children or orphans), and another is to provide education about dental health to similar groups of people. Rarely are there long-term objectives. Laudable as the short-term objectives might be, it is important for the organizers of all humanitarian dental projects to give consideration as to how lasting the benefits of their activities could be. Often that gives rise to the idea that, instead of performing only tooth extractions and providing dental health education, it would be better to move beyond that emergency-care phase to something more permanent, such as providing simple restorations or establishing oral hygiene or other prevention-focused programs. Little, if any, consideration is usually given to the evidence that supports the longer-term benefits of dental education alone. An important part of such a sustained effort should include a concentration on the prevention of disease. That multifaceted approach includes an analysis of why there is so much disease, usually caries (i.e., because of poor nutrition, including ready access to refined sugars, poor hygiene conditions, or a lack of fluoride); a survey of available resources, including personnel, such as community health workers and dentists, availability of fluoridated salt, toothbrushes, and floss; alternative preventive methods; and then development of an appropriate program to reach the target group. In all societies, the prevention of disease is significantly less expensive than the costs associated with treatment of disease.

In 2002, the WHO, through the CCOHC Planning and Future Scenarios, along with Dutch oral health care professionals, prepared a booklet titled Basic Package of Oral Care, which presents a simple approach to the issue of oral health. Three basic components, which in different formats should guide the development of primary oral health care services, are described: oral urgent treatment, affordable fluoridated toothpaste, and atraumatic restorative treatment. The principles of the suggested approach are summarized next, and readers can consult the original document and consider how they might work toward developing that approach during their next humanitarian assignment.

With these three basic elements and simple sustainable approaches, volunteers in any humanitarian project can provide a community with a manageable primary oral health care package. The basic package of oral health care is not an end in itself, for much more is needed in poor communities if better oral health is to be achieved for everyone, but it provides a solid foundation for communities as they begin to make changes to the determinants of oral health for the longer term. Volunteers also can provide local credibility for oral health care professionals working in disadvantaged communities, where it is important to build training programs for local community workers who can take charge of aspects of the programs and ensure that the programs will be sustained over the long-term.

Oral urgent treatment: Oral urgent treatment, in simple terms, is the relief of pain and oral infection and referral of complicated cases. The most common cause of pain or infection of oral origin is untreated dental caries. In its simplest form, oral urgent treatment means the provision of some form of analgesic, and in its more complex form, it is the first stage of care. On humanitarian missions, the most common treatment of choice is tooth extraction. The principle is for dental professionals on a humanitarian mission to provide a level of care that is practical for a specific community by using an approach that provides care to a large group of people—ideally all those who need it (i.e., a population approach). In addition, volunteers should use a method that can be sustained over a long period of time; this may mean that consideration should be given to returning again and again to the same site to continue the service that has been started. Repeated visits are the only way to effect long-term changes in a community. In the context of sustainability, the ongoing benefits of becoming involved in the training of local people to provide some level of oral health care must be considered as well (see the section titled “Training and Education Programs”).

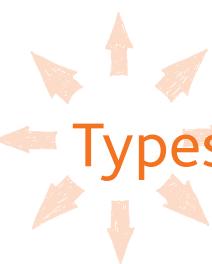
Community fluoride: It is important for volunteers to realize that there are different ways of doing things other than the way they are done in the United States. Oral health education alone, including counseling on how to reduce sugar consumption, is rarely beneficial in terms of reducing dental caries over the long-term in a population. Adequate exposure to fluoride has been proven to be effective in preventing caries by inhibiting the demineralization of sound enamel and enhancing the remineralization of enamel damaged by acid. Fluoride is available through a number of delivery systems. Local or regional conditions, or both, as well as cultural preferences can influence which delivery system is the best for a given population. There are two types of fluoridation, water and salt, each with its own advantages. Water fluoridation, which is extensively practiced in such countries as Australia, Brazil, Canada, Ireland, and the United States, potentially reaches the entire population and provides benefits without the need for any action on the part of individuals. Salt fluoridation is currently available in some European countries, such as France, Germany, and Switzerland, as well as in the Caribbean region (i.e., Dominican Republic and Jamaica) and in the Central American countries of Costa Rica and Panama. Further information can be found concerning the Oral Health Group reports on fluoride at the Cochrane Centre under “reviews and protocols” (see <https://oralhealth.cochrane.org/oral-health-evidence>). Salt fluoridation is extremely cost-effective and easily sustainable in low-income countries that do not have centralized piped water systems. Other fluoride delivery systems include fluoride toothpaste and fluoride varnish, both of which are effective alternatives.

Atraumatic restorative treatment: Atraumatic restorative treatment (see http://www.paho.org/hq/index.php?option=com_content&view=article&id=7411&Itemid=39633&lang=en) is a simple form of restorative care that has been much-discussed in the dental literature and should be given careful consideration from the outset of any program. In essence, this technique uses hand instruments to excavate caries, and a glass ionomer material is used for the restoration. Significant evidence supports the efficacy of this technique in underserved areas.

“

Everybody can be great because anybody can serve. You don't have to have a college degree to serve. You don't have to make your subject and your verb agree to serve. You only need a heart full of grace, a soul generated by love.”

—Martin Luther King, Jr.



Types of Projects

Volunteers can choose to work either in the United States or overseas; both arenas offer many projects from which to choose. Once a decision is made, project choices can be narrowed down by geographic or philosophical preference.

Most volunteer projects are service-oriented, which is not surprising insofar as most areas served are in desperate need of health care and most volunteers are clinicians. Projects tend to focus on oral surgery, exodontia, or both, for the relief of infection and pain. Often, toothbrushes are also distributed to the local populace. Some projects might also include teams of surgeons who will repair cleft lips and palates, but those services depend on the types of local facilities that are available and governmental restrictions in the host country. Many projects are very short-term, one to two weeks in length, and any follow-up services may not be available during the year immediately after the mission or even from one year to the next. The true long-term impact on the community of some of those short-term projects may be minimal. (Refer to the earlier discussion titled "Meeting the Oral Health Needs of the Local Population" for some suggestions on increasing the impact of short-term projects.)

Some projects also focus on the training and education of various people in the local community. Those projects might concentrate on dentist-to-dentist training but are more likely to involve training of other health personnel, such as community-based health promoters, nurses, medics, and health care providers. Involvement in training and education projects has the goal of teaching participants about the long-term components of good oral health care for the long-term, not just giving them short-term solutions for their acute needs on one day.

Service Projects

The Dominican Dental Mission Project: The Dominican Dental Mission Project (DDMP) is a service-oriented project conducted under the auspices of the Catholic Medical Mission Board, Inc., of New York (see www.cmm.org). The project, which is one of the most durable projects in the country, has been in continuous operation for 33 years (as of 2014). The DDMP was started in 1982 with one volunteer who spent four weeks providing care in mountain villages in the Dominican Republic. With rudimentary supplies, the volunteer performed exodontia in village homes, and limited restorative dentistry services (i.e., amalgams and autopolymerized composite resin restorations) were delivered in the local hospital dental clinic. Except for a dental unit with a creaky high-speed handpiece, equipment was lacking. A mortar and pestle and a squeeze cloth were used to mix amalgam. The volunteer returned from that first trip wondering whether he had done more for the Dominicans or whether they had done more for him.

After the initial trip, several dental students learned about the project and expressed an interest in participating, so the mission board and local missionaries, who were approached about that offer, thought the students could be accommodated. A portable dental unit and compressor, along with more supplies, were purchased. In 1983, one dentist, one hygienist, and three dental students participated. Since that time, with the assistance of the local Dominican community, Catholic missionaries, as well as interested volunteers, the project has expanded to as many as 40 participants working at three different sites in the Dominican Republic annually.

The project has become completely mobile, so that each day volunteers leave the mission compound for remote villages high in the mountains. Preventive services, exodontia, operative dentistry (i.e., amalgams and light-cured composites), endodontic, pediatric (pulpotomies and stainless steel crowns) and prosthetic services (e.g., transitional dentures to replace maxillary anterior teeth and complete dentures using denture templates and monoplane teeth) are delivered in schoolrooms that have been converted into dental clinics for the day. The project incorporates a variety of portable units, compressors, generators, chairs, and other equipment to make the services a reality, and all of the dentistry is done in

villages with no consistent source of electricity or running water. The local health committee of the town's development association and local missionaries are responsible for scheduling the villages that will be visited, recruiting and organizing volunteers to help with registering patients, assisting dentists, cleaning instruments, cooking, and providing transportation.

After having treated about 250 people that first year, the first volunteer felt his efforts seemed like only a grain of sand on the beach. However, 33 years later, more than 60,000 people have received approximately US\$18 million worth of dental services through the project. Eight Dominicans who originally worked as helpers have gone to dental school and have been partially supported by the project. Several of these dentists continue to work with the project. Preventive programs, including placement of sealants and administering fluoride, are in place in most of the local elementary schools, where each classroom has a toothbrush rack.

As the project evolved, some communities no longer had a great need for the visiting dental teams because Dominican-trained dentists have been able to provide the necessary services. As some villages became more self-supporting, new villages were added to the itinerary. As the initial leaders of the project stepped away and then returned, other project veterans stepped forward to continue the work. In addition, several Americans who had volunteered for that project have subsequently developed projects of their own in other countries.

Training and Education Programs

The other type of project focuses on training and education, which emphasize the concept of capacity building for the region served. Capacity building involves leaving local people in a region stronger and more capable of treating their own populations after a volunteer has returned home. Only a few volunteer organizations concentrate in this area. The Oral Health Initiative programs of Health Volunteers Overseas (HVO) (see www.hvousa.org), a Washington, D.C.-based private nonprofit volunteer organization, are sponsored by the American Dental Association (ADA). The HVO website has useful information for all volunteers, not just those working with HVO.

Health Volunteers Overseas Program: Health Volunteers Overseas, founded in 1986, is a private nonprofit organization committed to improving health care in developing countries through training and education of local health care workers. By emphasizing teaching, HVO education programs aim to create an indigenous group of trained health workers who can teach others so there is an ongoing capability that will benefit the population long after volunteers have departed.

HVO currently delivers educational programming in a wide variety of areas, including an Oral Health Initiative, which incorporates general dentistry, oral and maxillofacial surgery, as well as public health. Programs vary according to the needs of the country and the educational priorities identified. Certain principles, though, apply to all programs:

- Training is focused on local diseases and health conditions.
- Practices, procedures, and skills are relevant and realistic, and include, when appropriate, a focus on prevention.
- Programs promote lifelong learning.
- Whenever possible, programs focus on training local personnel who will assume the roles of both educator and provider.
- Programs focus on relevant preventive and clinical techniques that can be taught, learned, and practiced by the appropriate level of health care provider.

The American Dental Association and Health Volunteers Overseas: Because the ADA was interested in developing training programs that would give American dentists an opportunity to share their knowledge and skills, ADA staff approached HVO representatives. Since 1990, when the dental-education programs were initiated, ADA/HVO volunteers have completed or assisted in the completion of three national oral-health surveys; provided faculty for the University of the West Indies School of Dentistry in Trinidad and for the Dental Auxiliary School in Jamaica; assisted in the formal

training of the first orthodontist in Vietnam; developed a dental public-health training program for Vietnam, Cambodia, and Laos; and presented continuing-education and foundation courses to dentists and dental school faculty in more than 20 countries. In addition, they have provided journals and other educational materials to most sites where they have conducted educational programs. A total of 454 HVO oral health volunteers have been placed in 1,007 volunteer assignments for 42 dental/oral and maxillofacial projects in 28 countries. By design, the programs seek to establish long-term relationships with the host countries and institutions.

As part of their role in training and education, HVO and the ADA periodically sponsor a training workshop for volunteers. The workshop, presented by experts in international volunteer dentistry, brings together volunteers and potential volunteers from the ADA membership for 1.5 days just before the ADA Annual Meeting. There are group sessions, in which everyone participates, as well as discipline-specific breakout sessions. The program has been invaluable for novice and veteran volunteers alike and has made available many opportunities for all of the volunteers to share their knowledge, information, and experiences. Those who are interested in volunteering but have not yet done so can speak to dentists and others with many years of experience. To learn when the ADA will hold its next volunteer training workshop, e-mail the ADA Division of Global Affairs at international@ada.org.



Infectious diseases know no borders; fighting global disease directly protects the United States. And improving the health of people in the developing world drives economic growth, fights poverty, and strengthens communities, which in turn reduces the instability that can fuel war and conflict."

—In recognition of World Health Day 2011,
comments by USAID Administrator Rajiv Shah



Sharing Knowledge in an International Volunteer Program

Many international volunteer programs incorporate some teaching, and this can prove to be a most rewarding experience for volunteers. Practicing clinical dentists should not feel intimidated by the prospect of teaching, as that experience can create a rewarding lifelong professional relationship and collaboration for volunteers with the health care professionals in the regions being served. Teaching during a volunteer project might not consist of a formal lecture series but could include chairside teaching to fellow professionals or to other health care workers. The idea of teaching might initially be daunting to volunteers, but they should keep in mind that all dentists are involved in teaching during their everyday professional life, whether it is explaining new procedures to a chairside assistant or giving oral hygiene instructions and caries-prevention information to patients.

Before volunteers go to a project site, they should obtain as much information as possible about their upcoming trip by talking to the trip organizer and speaking with other experienced volunteers, if time permits. Former volunteers can be invaluable in terms of providing information on the conditions in which volunteers will be working or teaching or both; on the level of knowledge of the professionals and health care workers at the location of the volunteer mission; and on the level of local workers' interest in learning new techniques or more advanced study of previously acquired material. Some organizations maintain trip reports from experienced volunteers that can be reviewed. Moreover, previous volunteers or the program manager might be able to provide suitable topics for discussion or teaching, and sometimes a local contact person can also provide topics for instruction. The level of interest is likely to be high if the local group has suggested the topic.

When volunteers are planning for their teaching activities, they must find out as much information as possible about their audience and the audience's level of knowledge. Will the audience consist of university-trained clinicians or rural health care workers? Will the teaching be done in a large classroom setting or in small informal groups? Will dental equipment, typodonts, or patients for clinical practice be accessible? Are teaching materials available in the local language? Previous volunteers can provide information about what equipment and materials are available, as well as the level of dentistry that is practiced locally and the facilities that can be used for storage of materials, since some dental materials have a poor shelf life in conditions such as high heat or humidity or both. Teaching can have the greatest effect if it can be carried out easily, without great cost or extensive additional equipment after volunteers have left. The more information that volunteers can obtain about subjects of interest and the learners, the better they will be able to tailor their teaching to provide the greatest benefit while using the most appropriate technology.

These are important teaching guidelines that every volunteer should consider:

1. Keep the teaching simple. Sophisticated dentistry is not practical in most underdeveloped countries due to lack of functioning equipment, lack of materials, and the cost of those items, although practitioners in those countries often have great interest in learning about advanced techniques.
2. Never assume anything. Know who the learners are and the conditions under which they work. Find out why the teaching is needed and how the learners will use what they have learned after the volunteers have left. Always evaluate the audience to determine whether they understood and learned what was taught. Again, remember the principle that what is meant is not always what is understood, and what is heard is not always what the speaker intends.
3. Change comes slowly.

The aim is to teach basics that are easily understood by using simple terminology that is tailored to the level of the learners. For example, the diagnosis and treatment planning for a periodontal abscess will be approached differently for dental professionals than for a group of rural health care workers, due to the differences in the two groups' levels of education and familiarity with dental terminology. One advantage of volunteering is that volunteers can always return in order to evaluate how well previous teaching has been incorporated and to demonstrate more advanced techniques, if appropriate. Hosts greatly appreciate return visits.

The best way to start to plan for teaching is generally to reread current dental textbooks, as well as overview articles and handouts on the subject from continuing education courses. If necessary, volunteers should consider buying new textbooks on the subject, as donations of older ones (if they are not outdated) to hosts on a project will be gratefully appreciated.



Photo courtesy of Health Volunteers Overseas

Volunteers should also consider calling their alma mater or a local dental school and talking to professors in the field on which they intend to focus. Clinical professors often will be pleased to help volunteers plan a lecture in their subject area, and they may even provide some teaching aids such as images, PowerPoint presentations, or handouts.

Dental professionals acquire a great deal of dental knowledge and skill through small-group interactions and mentoring at the chair side. Volunteers should therefore try to duplicate that method as much as possible by using demonstrations in a clinical setting and allowing learners to participate as much as possible with close supervision. The aim is to teach small amounts of information each time and to use clinical examples and settings that would be easily recognized and appropriate for learners. Various ways to question learners can be implemented to see how successful the teaching is in helping them master the subject and recognize its relevance to their everyday practice. That goal is most easily achieved by planning instruction that follows logical steps. For example, if a clinical subject is being taught, the steps that a clinician would take to obtain a diagnosis and treatment plan should be explained. The differential diagnosis and treatment rationale should be communicated so that learners can understand what clinicians do in practice and why. That instructional method provides a great deal of clinical relevance, which can facilitate an understanding of the concepts. It

also puts teaching on a personal level, which is preferable to a review from a textbook. Such a process can make teaching more interesting and can also help volunteers in their own clinical practices at home, as they reevaluate their diagnoses and treatment planning in order to be able to explain them well to others.

Teaching should be as active as possible. Adults learn best by actively doing things rather than listening to lectures. Teaching methods vary from active to passive, so the most active method possible should be incorporated to achieve teaching goals. The following statement sums up the learning process:

If I **hear** it, I **forget** it.

If I **see** it, I **remember** it.

If I **do** it, I **know** it.

If I **discover** it, I **own** it.

Many dental subjects require teaching both knowledge and skills. A lecture is traditionally used for teaching knowledge, and to be most successful, lectures should:

- be kept simple, essential, and relevant,
- use simple language that a learner understands,
- remain focused on the information at hand and avoid digressions,
- be assessed frequently to see if the teacher and the information being taught are being understood.

Informal teaching often can be done in small groups at the chair side in a dental clinical area, whereas larger groups will require a more formal teaching situation. Informal teaching is much easier to do with small groups when teaching can be done in a discussion format that allows learners to show what they know and how they have addressed some of the problems that are being discussed. The advantages of working in small groups are that discussion will usually flow much more freely and there is a greater feeling of working collaboratively with a local audience, rather than teaching down to them. Volunteers are sometimes very surprised at the more novel or unusual approaches to solving problems that have been used quite successfully by local professionals and health care workers and that they might first hear about during a small-group discussion session. Whenever possible, participants should be asked to restate discussions on topics in their own terms, so volunteers can assess whether they have understood what was being said. If language is not a problem, volunteers can also consider a pretest and a posttest as a formal proof of learning.

Teaching clinical skills requires a far more active form of teaching than lecturing in a classroom. The best method is practice by small groups of learners on typodonts and patients under close, direct supervision, usually in a facility similar to that of a dental school with equipment that is available. Demonstrations, by volunteers, of the techniques that have been discussed also can be helpful, but they are not as effective as hands-on instruction. DVDs, online videos, CD-ROMs, and visual teaching aids are less effective but tend to be more easily understood by adult learners than information conveyed via the traditional lecture model.

Volunteers should take as many teaching aids as possible with them, including reference texts that can be left with the hosts. Information from the trip's organizer or the program director will help volunteers to determine what teaching aids would be feasible, and the aids should be kept as simple as possible. Handouts are valuable, but in some areas dental professionals will not have facilities for copying written materials. Volunteers who take CDs or DVDs should find out beforehand, if possible, what equipment will be available on which to play them. Although a computer and LCD projector might be available, there may be no electricity servicing the host facility, or the projector bulb might have recently burned out and might not be able to be replaced.

Volunteers should bring multiple forms of teaching aids, if possible. Volunteers who plan to use PowerPoint or a computer program should remember that the latest version of Windows, or the latest version of their preferred program, may not be available in the areas where they will be working, so they should bring their presentations saved in different formats. Saving files easily onto a CD or a thumb drive in multiple formats beforehand could avoid problems that a volunteer might otherwise have after arriving in the host country. Today, traveling with a laptop computer, iPad, tablet and small LCD projector is not unusual, so taking those pieces of equipment should be considered as well, although security for those particular items could be of some concern.

Teaching in some areas of the world might require the use of an interpreter. Volunteers should try to ascertain the level of language skills of the group with whom they will be working and determine whether an interpreter who is proficient in dental terms will be available and, if so, whether the interpreter will be available only for formal instruction or also for instruction in a clinical setting. Using an interpreter will take up time during lectures or chair side instructions, because everything that is said will have to be translated by the interpreter. If possible, volunteers should try to meet with the interpreter beforehand to make sure that the interpreter will repeat word for word what they are saying and that the interpreter does not try to paraphrase or introduce his or her own meaning. Volunteers should not speak directly to the interpreter but should address the patients or the learners directly, so that they can maintain eye contact and try to gauge how much is being understood. Talking in short sentences and using simple terms can facilitate interpretation. Instructors should avoid using colloquialisms, such as "Time is money," as they almost never can be translated appropriately into a foreign language. After introducing each idea, instructors should stop to allow the interpreter to do his or her job. Any written notes for a lecture that can be provided to an interpreter ahead of time would be advantageous, because notes can serve to inform an interpreter about the subject matter and can help him or her be better prepared for the translations.

The idea of teaching to a group can be daunting and intimidating; however, with some preparation and a good knowledge of the subject, dentists can be very effective teachers and share their enthusiasm for and knowledge of dentistry with others. Thorough preparation beforehand is the key to success.

“

Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.”

—Chinese Proverb



Get Started in International Volunteer Dental Health Programs

Deciding to become involved is the most difficult step. There are as many excuses not to get involved as there are days in the year. As one volunteer put it, "There was always an excuse, but in the end, all of the excuses boiled down to fear." There can be fear of the unknown, but preparation and speaking with other volunteers can assuage most of that anxiety. Once a volunteer makes a commitment, the details can be worked out. Many veterans can assist in the proper planning of the project itself and the myriad details of how to manage professional and personal matters back home while a volunteer is away. Many practitioners worry about their practices, but the practice will be there when the volunteer returns and patients may even view the dentist in a new light.

Selecting a Site and a Sanctioning Organization

Before deciding on a specific organization, a volunteer must consider his or her own individual interests. What type of project—teaching or service—is preferred? What are the personal goals of participation and what are the project's goals? Is there a religious organization or service club (e.g., Rotary International) affiliation? Where are the locations of the organization's projects? What length of service is required? Can family members be accommodated as volunteers?

Once a decision to volunteer has been made, it is important to identify the type of project to participate in and to become affiliated with the appropriate established volunteer organization. It is usually unwise, at best, and impossible, at worst, to freelance that type of activity. Established organizations can provide guidance, contacts, legitimacy at the host site, medical evacuation insurance, and tax advantages for volunteers in terms of being able to deduct out-of-pocket expenses that otherwise might not be deductible. Volunteers can serve through nonprofit organizations; governmental agencies, such as the Peace Corps and the U.S. Armed Forces; or through universities, no profit churches, and other nongovernmental organizations.

Once an organization has been selected, volunteers may find it helpful to speak with people who have participated in other projects sponsored by that organization. Although it is rare, sometimes volunteers find that a project did not live up to their expectations of what the project's goals were or realized that the project organizers were primarily interested in their own personal agendas. Also, there may be some restrictions on personal behavior (e.g., smoking, consuming alcoholic beverages, dancing, playing cards) associated with some projects that volunteers should be aware of and consider before they make a voluntary commitment.

Site-selection considerations: Site selection involves several key factors. For example, some projects can be operated virtually anywhere in the world, so if geography is the key consideration, a project in a country of a volunteer's choice probably exists. Here are some other questions to ask:

- What is the political and social climate at the site (e.g., Is the location politically and socially stable? Is it friendly to North Americans?)?
- Can the country be reached by reliable commercial transportation?
- Are special licenses, registrations, or work permits needed? (For example, Jamaica requires all entering volunteers to have a temporary work permit issued by the Jamaica Ministry of Health that requires the submission of professional credentials well in advance of a volunteer's arrival in the country. Treating patients without official permits falls outside the law, so a volunteer could be subject to criminal sanctions. Remember, volunteers are subject to local laws; the U.S. Embassy may not be able to assist if laws have been broken.)

Photo courtesy of Dental Seminars and Symposia



- Are there appropriate logistics and services (e.g., ground transportation, housing, ability to communicate with home cell phones, Internet access, and food for the volunteers)?
- What health alerts or restrictions are there and what vaccinations are needed?
- Has the dental project been developed? Have the specific dental needs been defined? (It can be frustrating to prepare for a surgical project only to arrive on-site to find out that restorative services are the primary need.)
- Are dental materials and equipment available on-site, or does everything have to be brought in?
- What are the customs restrictions regarding the transport of dental supplies into the country? How might materials be shipped before volunteers arrive in the country?
- Is there a suitable facility in which to work? Will patients or professional colleagues be available at appropriate times?

Many good sources of information exist for obtaining answers to these questions. For example, the U.S. Department of State publishes travel warnings and consular information sheets at travel.state.gov. The Department of State website lists areas of pertinent interest under the home page. There are also sections about U.S. Passports, country information, things to keep in mind when abroad and handling emergencies while overseas (<http://travel.state.gov/>).

Providing up-to-the-minute international travel and security information is also an important focus for many private organizations. Companies such as Kroll Associates of New York (www.kroll.com) specialize in a wide variety of travel, security, intelligence, risk management, and other types of information for international travelers and businesspeople. Kroll travel-watch advisories are available 24 hours a day, seven days a week, year-round by fax or by subscription over the Internet. The reports detail local news, transportation options, currency-exchange information, upcoming festivals and events, health considerations, safety and security issues, and emergency telephone numbers.

Although vacation travel guides are generally not the best sources of detailed country information, particularly for travel off the beaten track, they may be helpful for planning the usual in-country touring that volunteers may wish to do either before or after a project. One commercial series that could be of more than passing interest is the Lonely Planet travel survival guides from Lonely Planet Publications (www.lonelyplanet.com), which are country guides that explore all aspects of a country from the traveler's, not the tourist's, perspective. The guides are packed with useful information not found in other more tourist-oriented publications and address topics such as culture, religion, language, as well as sights to see and places to stay that, while not targeted specifically to American tourists, are still acceptable and perhaps more reasonably priced than some accommodations in other strictly tourist-focused books. More than 500 Lonely Planet titles covering 195 countries are in print and available at local bookstores.

Assembling the Team

Once a site has been identified and the goals have been defined, it is then time to assemble a team to bring volunteer plans to fruition. That process is certainly much easier if a volunteer has joined a well-established group—an approach that is recommended for first-time volunteers. A volunteer is usually responsible for personal funding and perhaps some supplies and then for meeting the rest of the volunteer group at some central location.

The size of the team depends on the goals of the project, the availability and limitations in terms of local transportation and housing conditions, and the time frame that is involved. Service projects of short duration can usually accommodate more people. Training programs or long-range programs, that is, those lasting longer than a month, generally have fewer participants, quite often just one or two people.

Many international projects are very demanding physically. Volunteers should be made aware of the real physical stresses, and potential volunteers with any health problems should seek medical clearance before participating. Firsthand exposure to the local health care delivery system may not be what a volunteer has in mind when he or she sets out seeking a complete cultural experience.

When preparing for a project in a foreign country, everyone must do just a little bit more than their own share. When that occurs, all of the work gets done and there is no resentment. Malingers and complainers can do more damage to team unity than just about anything else. Every team member must not take each other or themselves too seriously. When every team member looks out for everyone else, the strength of the team can, at times, be awe-inspiring.

Team members can also provide mutual support. Veteran volunteers can serve as sounding boards for newcomers. Often, first-time volunteers experience situations or cultural differences that defy comprehension based on their usual life at home; talking about what they have seen or done can lead to a greater understanding of the situation. Sometimes such talks might focus on the day's activities. At other times, the conversation might delve into some fairly challenging philosophical territory. An evening roundtable discussion after dinner is an ideal time for volunteers to engage in these personal reflections on a daily basis.

Teams that work with local volunteers: If a volunteer is organizing the team, there are two approaches to team building. One approach uses mostly professional volunteers and then joins volunteers from the local site. The local people can assist in notifying surrounding communities about the presence of the dental team; organizing patients; registering patients; holding flashlights; assisting with restorative procedures; giving postextraction instructions to patients; cleaning up;

washing, disinfecting, and sterilizing instruments; interpreting; cooking; and performing other tasks as needs arise. In this cooperative approach, both the volunteers and local people are integrated into the project in which both groups then have a common interest, commitment, and feelings of accomplishment and ownership. In addition, fund-raising and local transportation and housing needs are lessened, as only clinicians will be coming into the country.

Teams that are assembled outside the host country: Another team-building approach involves bringing all team members from home. This type of team could include non-dentist family members, office staff, and representatives of the sanctioning organization as volunteers. This approach allows more volunteers without clinical skills to participate but may preclude the integration of local people into the project. Groups that become too large for the local conditions, no matter what their intent, can suffer from the laws of diminishing returns. Space and efficiency become problems. It is important to remember that not all family members see the project through the same lenses as a volunteer does. It is unfair to a family member and possibly detrimental to the project to include anyone on an international trip who does not want to be there.

Selecting the team leader: One person, usually the organizer of the group, should be designated the team leader. Some experienced volunteers have suggested that this person might not necessarily be a dentist. Primary considerations should be

that the person possesses good leadership and interpersonal skills, has a working knowledge of the project, and, preferably, is familiar to some of the local hosts. The team leader should serve as the spokesperson for the group, a role that can be critical when planning some activities, so that the host is not overwhelmed by a confusing diversity of opinions.

The selection of a team leader is perhaps the most important decision that a group will make. Besides having obvious organizational responsibilities, the leader must take a sometimes disparate group of people who do not know each other very well and develop a cohesive unit that will work well together. Ultimately, the leader must take responsibility for the day-to-day operations and tasks of the project. The leader must also be sensitive to team members who, for whatever reason, are having difficulty adjusting to either the local surroundings or who are in conflict with other team members.

“

There is a tremendous strength that is growing in the world through . . . sharing together, praying together, suffering together and working together.

—Mother Teresa

Get Prepared

Personal-Safety Considerations

The primary goal of every volunteer should be to return home safe and sound. Without achieving that, any other accomplishments would be diminished. It is not advisable to travel to countries for which the U.S. Department of State has issued a travel warning indicating that Americans should defer all nonessential travel. The U.S. Department of State Bureau of Consular Affairs web site <http://travel.state.gov> is an online resource that provides consular-information sheets as well as information on travel advisories, embassies, and consulates. The state department recommends that all travelers enroll in the Smart Traveller Enrollment Program (STEP). The CDC Web site <http://www.cdc.gov/travel/> also has important information on travel notices.

Key point to remember: Traveling outside the United States is not like being in Kansas anymore, and bad things can, indeed, happen to good people.

Travelers should use the same common sense when traveling overseas as they would at home and should be especially cautious in or should avoid areas where they are likely to be victimized, including crowded subways, train stations, elevators, tourist sites, marketplaces, festivals, and marginal areas of cities. Shortcuts, narrow alleys, or poorly lit streets should not be used. Avoiding traveling alone at night, staying away from public demonstrations and other civil disturbances, keeping a low profile, avoiding loud conversations or arguments, as well as avoiding discussion of travel plans or other personal matters with strangers are other wise precautionary measures.

If there is a confrontation with a thief, volunteers should not fight back. Money, credit cards, and passports can be replaced easily if a copy has been kept in a safe location somewhere else in country and also back home, but a volunteer's life cannot be replaced.

Up-to-date medical information can be obtained from the Centers for Disease Control and Prevention (CDC) www.cdc.gov/travel. In addition, several books could be of some help. The International Travel Health Guide (13th edition) by Stuart R. Rose, M.D., and Jay S. Keystone M.D., is now available for free online. http://travmed.com/pages/health_guide

Volunteers with any special health issues should ascertain whether those issues can be accommodated at the project site. Moreover, no one should underestimate the strenuousness of many projects. Being in good physical shape is not just a good idea at home but a great idea when traveling. Volunteers should take enough of their personal medications, especially prescription drugs, to last throughout the trip, as refills might not be available on-site. Traveler's diarrhea and the common cold are the two most common diseases to afflict volunteers. The best preventive measures against diarrhea are always being aware of what you eat and drink. Forgetting about the ice in a drink and using tap water to brush teeth are common mistakes that even seasoned travelers sometimes make. Constant hand washing in clean water or use of hand sanitizers are good practices for minimizing the chance of getting sick. Volunteers should be prepared to handle gastrointestinal disturbances and be sure to stay hydrated if they do get sick, as dehydration can be a dangerous sequela.



Photo courtesy of Dr. Dudley Cheu

Transportation Safety

Transportation safety is as important as are any other considerations. Any unnecessary risks regarding transportation within any country should not be taken. Some mountain and river roads are dangerous on a clear, sunny day, let alone at night in a driving rainstorm. Vehicles should have good brakes, including a hand brake, and a good spare tire. Riding in or on an overloaded vehicle is extremely dangerous. Unfortunately, on occasion, a volunteer has lost his or her life due to a transportation mishap. It might be helpful to carry an in-country cell phone that can be used to call for help, especially in remote areas. If a civil disturbance of some kind should occur, travelers should steer clear of it and find a temporary safe haven until the situation becomes calm.

Motor vehicle accidents account for a significant number of travel-associated deaths each year. Although there may be pressure to press on in adverse weather or road conditions, riding in an overloaded, poorly maintained vehicle at night in the rain on a twisting mountain road is a sure invitation for catastrophe. Using common sense is important, because assuaging short-term hard feelings can be dealt with, but death is permanent.

Volunteers should be aware of the driving traditions and rules in the country. Driving in some countries might be hazardous to a person's physical and mental well-being. The concept of right-of-way is often poorly understood or nonexistent. For example, in the rural mountains of one Latin American country, family members will hunt down and kill a driver who hits and kills one of their own. In some countries, it is necessary to have an international driver's license, which can be obtained through the American Automobile Association. If volunteers are hesitant to drive, a reliable local driver and vehicle can be hired; however, the price should be negotiated before getting into the vehicle. If a host site provides a driver, volunteers should understand exactly what the driver's responsibilities are and not just assume that the driver will also be serving as a personal escort or chauffeur.

Safeguards for Personal Health

Personal protection prior to departure: Immunizations are an essential part of prevention and infection-control programs before a trip. Dental health care personnel are considered to be at substantial risk for acquiring or transmitting hepatitis B, influenza, measles, mumps, rubella, typhoid, varicella, and yellow fever. Those diseases are preventable with vaccines. Volunteers should be vaccinated or have documented immunity to the diseases prior to a trip. Complete information about individual needs and U.S. and host government requirements can be obtained by going online and reading the CDC General Recommendations on Immunization at www.cdc.gov/travel.

Personal protection in the clinical area: All dental health care personnel who could possibly be occupationally exposed to infectious materials, including bodily substances, contaminated supplies, environmental surfaces, equipment, air, or water, during a trip should read or be informed about basic rules and recommendations prior to starting any clinical work. Important information is available at the Organization for Safety and Asepsis Procedures (OSAP) Web site at www.osap.org. OSAP is dedicated to promoting infection-control and safety policies and practices supported by science and research to the global dental community.

The universal precautions regarding infection control described in the next subsection are based on the concept that all blood and body fluids from patients should be considered to be infectious. Since most patients come from remote areas with few infection-control measures, patients can be asymptomatic or unaware that they are carrying any infectious disease, such as the human immunodeficiency virus (HIV) or hepatitis B and hepatitis C. The best protection for volunteers is to use proper standard precautions that include the following: 1) thorough hand-washing, 2) use of gloves, masks, protective eyewear, and gowns, 3) cautious handling of sharp instruments, and 4) possible use of some kind of rubber dam to minimize blood spattering.

Clinical accidents usually occur when an operator is in a hurry, is using an improper technique, or is tired. Conditions and the environment in the field might be completely different from those in a dentist's practice in the United States, so the

possibility of such accidents is even greater in a foreign country. Dental health personnel should take breaks from the clinic and make sure they remain hydrated and are getting enough rest.

Disinfection, sterilization, and infection-control guidelines: The most updated guidelines concerning disinfection, sterilization, and infection control in health care and dental care facilities are available online in the Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008, which can be found at www.cdc.gov/ncidod/dhqp/pdf/guidelines/Disinfection_Nov_2008.pdf and in the CDC Guidelines for Infection Control in Dental Health-Care Settings, which was published in the Morbidity and Mortality Weekly Report in 2003 and which can be accessed online at www.cdc.gov/mmwr/preview/mmwrhtml/rr5217a1.htm.



Photo courtesy of Health Volunteers Overseas

The survival of a virus can depend on its individual characteristics, the condition of the environment, and other factors. The Centers for Disease Control and Prevention has one of the best online sources for credible health information on many health topics, including viral disease, and can be obtained at www.cdc.gov/health/default.htm.

Percutaneous exposure:

A percutaneous exposure with a contaminated instrument can be a serious concern to a volunteer. Planning for this eventuality should be included in pre-trip preparations. Knowledge about the overall prevalence of HIV infection in the country and region where the

volunteer mission will be located should be obtained beforehand, and if a percutaneous injury should occur, the HIV status of the patient from whom an infection might have been spread should be determined. The penetrated site should be washed with soap and water or a disinfectant. The use of bleach at the site or squeezing the site to express blood is not recommended.

Although the risk of developing HIV subsequent to a percutaneous exposure is low (approximately 0.3 percent), fear of HIV exposure is perhaps the greatest cause of anxiety among volunteers who have been injured. The risks to an individual and the population as well as the risks of treatment versus the benefits must be weighed, however. Recommendations and further details for exposure and post-exposure prophylaxis against HIV, hepatitis B, and hepatitis C are available online from the U.S. Centers for Disease Control and Prevention at <http://stacks.cdc.gov/view/cdc/20711>. A volunteer may want to take an OraQuick HIV quick diagnosis test and a course of antivirals in case of exposure with an infected patient.

Safety considerations related to water: A source of clean, potable water is an important requirement. **Volunteers should not, under any circumstances, drink water directly from a pond or a running stream,** and it is not advisable to swim in those waters either. Boiled water can usually be supplied at the base of operations. Water that is brought to a rolling boil for one minute and then cooled is safe to drink. Bottled water with an intact seal, now available in many less-developed areas, is also safe.

Water can also be chemically treated or filtered; iodine is the most reliable chemical purifier. Potable Aqua tablets are widely available as well. Liquid chlorine bleach can also be used, but it may not completely kill Giardia or Cryptosporidium cysts, especially if the water is cloudy. A number of water-filtration kits are also available for purchase. Some combine both filters and iodine treatment of the water. The chosen system should remove bacteria as well as larger parasites and worm larvae. Several systems are available from Travel Medicine, Inc. (www.travmed.com).

It is especially important for everyone on the team to guard against dehydration. When people work in tropical locales, they perspire almost constantly. That may not be so noticeable if a breeze is blowing. If someone stops sweating or has deeply colored urine, dehydration is a distinct possibility, so drinking appropriate amounts of liquids is necessary. Highly sweetened soft drinks should be diluted because high concentrations of sugar actually inhibit the absorption of water. Oral rehydration therapy utilizes a simple but effective recipe of water, table salt, salt substitute, baking soda, and sugar. Gerber brand rice cereal mixed with water and salt is perhaps the best way to replenish liquids (see the www.travmed.com website for details).

Medical evacuation insurance: For a number of reasons, having plans in place for a medical evacuation in case of an emergency is a must. Volunteers who are sick or injured may not want to trust their health to well-meaning but poorly equipped or poorly trained health care personnel. Many organizations provide medical-evacuation insurance as part of their projects; however, buying it on an individual basis is relatively inexpensive, approximately several hundred dollars, when compared with having to pay the full cost of a medical evacuation if it were to be needed. Medical-evacuation trips from countries overseas can cost between \$10,000 and \$30,000 or even much more, payable in advance, if a person does not have insurance.

All volunteers, regardless of their age or health status, are strongly encouraged to obtain medical-evacuation insurance. If an insured person has a serious accident or a medical incident while overseas, staff at the medical-evacuation insurance company will arrange for immediate health care needs and transportation home. Volunteers should first check with their primary insurance carrier to see whether it has agreements with any of the major overseas evacuation-insurance companies, such as International SOS.

Photography Etiquette and Restrictions

Some basic rules of etiquette regarding photographs should be observed. For example, it is a good idea to ask permission to take someone's picture. Some people may decline due to cultural or religious beliefs, although very often the response is positive. Asking permission to take photos of people is not only courteous, but it also typically creates a better photograph—one in which the subject appears more animated. Moreover, the interaction elicited by seeking permission can give the photographer a greater understanding of and affinity for the people and the local culture. It is important to remember that in some countries it is unlawful to take photographs of the local airport, presidential residence, or other official installations. It is best to be mindful of those types of restrictions, as the consequences of not observing them could be quite unpleasant.

Food Considerations

In many cases, meals are provided by the host. In some situations, personal provisions or funds to obtain meals will be necessary. In all situations, it is advisable to pack some favorite snack foods because either they might be hard to find in-country or they might be very expensive.

There are some general rules regarding food consumption. Many rural areas use untreated animal or human manure, or night soil, as fertilizer, so raw vegetables or fruits that cannot be peeled should not be eaten. Salads containing lettuce or cabbage can be a problem. Fruit that has had its skin or rind punctured should not be eaten. The tip of a banana should be cut off before taking a bite because little flies or worms could be residing in the exposed end of the fruit. If food cannot be peeled, boiled, or cooked, it should not be eaten. Soda and beer bottles should be checked before drinking from them because sometimes reusable bottles have not been thoroughly cleaned or might have rust rings at the opening. Coffee

is usually not a problem, because the water is boiled in the process of brewing it. Lemonade with ice, though, could be a different issue altogether. Ice, an easily overlooked source of pathogens, should be avoided unless the water in-country is absolutely safe. It is wise to check on the availability of certain foods if there are special dietary requirements (e.g., diabetic, vegetarian).

Passports and Visas

A traveler's passport must be current; if it is not, an application for a new one should be made as soon as possible. The Department of State recommends applying several months in advance due to the high volume of applications its offices receive. Anyone needing a passport in less than two weeks should contact one of the U.S. Passport Agencies located in Boston, Chicago, Honolulu, Houston, Los Angeles, Miami, New Orleans, New York, Philadelphia, San Francisco, Seattle, Stamford, or Washington, D.C. Those offices now accept applications by appointment only. Applicants should be sure to call in advance to make an appointment and to ensure that they take the proper paperwork. Information on contacting the passport agencies can be found in the "Resources" section of this guide.

In addition, certain post offices are also authorized to accept passport applications, as are several thousand federal and state courts. Anyone who has an expired passport may be eligible to renew it by mail. To find out what the rules regarding eligibility for renewal by mail are, visit the website <http://travel.state.gov/content/passports/english/passports/apply.html>. New passports should be signed immediately after they have been received.

Remember that some countries will not issue a visa if a passport is due to expire within three to six months of the scheduled conclusion of a trip. Frequent travelers should make sure that they have a sufficient number of blank pages for the visas they will need because otherwise they may have to apply for additional pages to be added to the passport.

It is usually the responsibility of the volunteer to obtain all of the necessary visas for the trip. Be sure to talk to the director of the volunteer program about any special requirements with regard to filling out visa applications. In some cases, volunteers are urged to apply as "tourists" due to the complications that arise when applying for a business visa. For more detailed information on foreign entry requirements visit <http://travel.state.gov/content/passports/english/country.html>. When applying for a visa, be sure the passport is signed, or else it might be returned without the visa stamp.

Some individuals applying for a visa choose to use a visa-procurement service. Although there will be a fee involved, it means one less necessary detail to worry about before a trip. Visa-application services are especially helpful when someone needs multiple visas for the same trip.

Importance of Protecting Personal Effects

It is imperative to protect passports, plane tickets, and money. Passports should be left only in secure locations that are guaranteed to be safe, because U.S. passports are often the targets of thieves. Use photocopies of the passport and visa if anyone asks for identification. Keep copies of passports and visas in more than one place, as well as with someone back at home, in case the original is lost or stolen. Valuable items should be concealed inside shirts, blouses, or trousers in pouches that can be attached to a belt; however, fanny packs worn on the outside of clothing are tempting targets, so wearing them should be avoided. Travelers should be especially wary of pickpockets because they are everywhere; even small children and women carrying babies prey on unsuspecting victims. Sometimes a disturbance or scuffle will be created near an unsuspecting target and will serve as a diversionary tactic as others relieve the victim of anything they can get their sticky fingers on. No one should carry any amount more than a few dollars in any accessible pockets, pouches, or purses.

Volunteers who intend to travel either alone or in a small group to the mission site, should shop around when looking for their airline tickets to find the best deal and save some money. Many volunteers have found that their local travel agent might not have access to information about travel to such remote places as Bhutan, Malawi, or Bangladesh. Larger groups can negotiate a group contract with the airline of choice for tickets at a specified price. It is a good idea to avoid arriving in

the country of assignment late at night, as there could be security concerns. Also, volunteers must remember to reconfirm their flight home a few days before departure from the project site.

A copy of the itinerary should be left with family members at home or office staff or both, and two copies of the following should be made: the face sheet of the passport, information on any credit cards being taken along, as well as the serial numbers of traveler's checks, airline tickets, and on-site contact information. One copy should be given to family members and one should be taken on the trip and kept in a secure place separate from other valuables.

If possible, volunteers should give family members a telephone and a fax number, if those services are available, or an e-mail address where they can be reached, or volunteers should plan to call or send a message immediately upon arrival to help alleviate any concerns family members at home might have.

Safety considerations should begin when packing for a volunteer assignment. To avoid being a target, travelers should dress conservatively. A flashy wardrobe or one that is too casual can mark Americans as tourists. As much as possible, it is important to avoid the appearance of affluence, so jewelry should be left at home. Traveling light can ensure that volunteers will move more quickly and will be more likely to have at least one free hand. They will also be less tired and less likely to have to set their luggage down or leave it unattended, even if only for a very brief time.

Savvy travelers should carry a minimum amount of valuables necessary for a trip and plan to have a secure place or places to conceal them. Passports, cash, and credit cards are most secure when locked in a safe, but that may not be possible at many host sites. When it is necessary for travelers to carry valuables with them, they may wish to conceal their valuables in several places rather than put them all in one wallet or pouch. It is wise to avoid putting much of value, except for a small amount of easily accessible cash, in handbags, fanny packs, or outside pockets that are easy targets for thieves. Using inside pockets and a sturdy shoulder bag with the strap worn across the chest is somewhat safer. One of the safest places to carry valuables is in a pouch or a money belt worn under clothing.

Experienced volunteers suggest using brightly colored tags for names, addresses, and telephone numbers and placing the tags inside and outside each piece of luggage to enable travelers to identify their bags quickly and reduce the possibility of having bags switched by mistake or taken deliberately at busy airports.

Selection of Dental Equipment

Equipment selection can encompass items that apply to the professional goals of the project and those that are personal. Some items, such as flashlights, might serve a dual purpose. The selection of professional equipment depends on the scope of the project. It is best to keep tools and equipment as simple as possible, for whatever can break, will break! A short course in repairing dental equipment could be most helpful, unless one of the other team members is particularly handy with tools. Electricity and water are particularly important requisite utilities.

Considerations related to electricity: The United States has 110 volt 60 cycle current specifications. Some countries have 110 volt 50 cycle current, but electric appliances and compressors designed for use in the United States will run more slowly and overheat in countries with that type of current. Some countries or parts of countries may have 220 volt currents and either 50 or 60 cycles. For example, hotels in Ho Chi Minh City, Vietnam, have both 110-volt and 220-volt outlets, so it can be a challenge to figure out which is which in areas that have both types of outlets. A small voltage converter, available at any luggage store, is the solution for personal electrical appliances. A word of caution is that even when the voltage and cycles supposedly are the same as in the United States, unpredictable fluctuations in the current can occur. That could prove disastrous if a power surge damages some essential equipment. Heavy-duty surge protectors and spare fuses are of great necessity if local power is going to be used. A small multimeter will fit easily into luggage and could be invaluable if there is a need to assess the type of electricity that is available.

If the local source of electricity is unreliable—and assume it is until proved otherwise—or if the project is in a remote location, it may be necessary to provide electricity via gasoline- or diesel-powered generators. Diesel-powered generators are much heavier and more powerful. A 7,000- to 10,000-watt generator can run two $\frac{3}{4}$ -horsepower compressors, light-curing units, and amalgamators for two operators. Desirable features for generators include automatic idling, automatic low oil shutoff, a large fuel tank, brushless contacts, wheels (for heavier models), and rounded handles for ease of lifting and carrying. Those machines can weigh more than 200 pounds. They cannot be shipped as checked baggage but must go by airfreight. Generators can be shipped only if they have never had any gasoline or oil in them. They can often be purchased in-country as well. It is a good idea to purchase the highest-quality generator possible (Kubota and Honda generators are reliable but expensive). Also, 12-gauge, three-pronged plug, 50-foot extension cords are needed for the high-power requirements of compressors. Lighter-weight cords are a fire hazard and can cause heat buildup that can damage the equipment. Electric generators must be grounded before use. That can be done with a metal stake driven into the ground with a heavy-gauge wire welded to the stake and attached to the ground post of the generator.

Surgical Equipment and Supplies

The necessary types of surgical equipment and supplies will depend on the scope of the project and, to a certain extent, the personal preferences of the volunteer dentists. All instruments and supplies are usually supplied from home unless they are readily available in-country. In effect, an entire dental office, minus the furniture, is needed. It is the rare site that is already set up to treat patients except for the arrival of the volunteers. Sample lists of instruments and supplies for surgical and restorative projects are included next; amounts will depend on the size of the project. Preparing a checklist of supplies and equipment needed is a critical preparation step.

Nondisposable equipment:

- anesthetic syringes
- large and small elevators—straight, Potts, East-West, Crane picks (an essential instrument)
- root tip picks
- upper and lower extraction forceps (universals, cow horns, and others)
- bone chisel, mallet, and sharpening stone
- rongeurs
- periosteal elevators
- scalpel handles and blades (no. 15)
- mouth mirrors
- Adson (tissue-holding) forceps
- needle holders and tissue scissors
- bone files
- surgical curettes
- bite blocks
- large Kelly forceps for transferring instruments
- rechargeable electric surgical handpiece to section teeth or remove bone (This should be used only as a last resort due to the difficulty in controlling infection and pain. Electric handpieces that can be recharged using solar panels are now available from Bell Dental Products [see the products at www.belldental.com]).
- burs for the surgical handpiece
- sphygmomanometer and stethoscope
- large plastic basins for washing instruments, disinfection, and hand washing
- flashlights with spare bulbs and plenty of batteries (Flashlights should be stored with one battery in backward for transport to prevent draining of the batteries if the switch is accidentally pushed to the “on” position. Rechargeable batteries are not recommended. Also, buying batteries in a local shop should be avoided because the batteries there could be spent ones that had been meant to be thrown away but were “recycled” by the shop owner. Miners headlamps, which can be purchased at many camping supply stores or headbands that hold a small Maglite are also helpful in providing some pinpoint illumination while leaving hands free to treat patients.)
- operating loupes with a headlamp are perfect for providing excellent illumination

Disposable supplies:

- surgical handwashing soap
- disposable examination gloves in assorted sizes
- sterile surgical gloves in assorted sizes
- towels in which to wrap instruments for sterilization
- Gelfoam or Surgicel
- dry socket paste and iodoform gauze
- resorbable suture on a cutting needle
- 2x2, 3x3, and 4x4 gauze sponges
- anesthetic needles (27-gauge long will suit most purposes)
- local anesthetic cartridges in assorted types (Drugs with expiration dates have already passed should not be brought in-country. The World Health Organization prohibits the use of outdated medications, and many nations are sensitive about being used as dumping grounds for medications not suitable for use in developed countries.)
- sharps container
- Cidex or other disinfectant/sterilant solution (These solutions should be used only if there are no better forms of sterilization available. The bottles should be completely destroyed after they have been used to prevent anyone from retrieving them and using them for transporting drinking water.)
- antiseptic solution (Betadine)
- alcohol wipes and hand sanitizers
- surgical masks
- safety glasses
- plastic trash bags
- analgesics (nonnarcotic) and antibiotics (oral and intramuscular types)
- toothbrushes, toothpaste (Because toothpaste takes up a lot of room and is heavy to carry, these items should be the first ones to be left at home if space is limited. People can be taught to clean their teeth without the use of a dentifrice.)
- ammonia inhalants (In some areas and on certain days, patients or volunteers might be prone to fainting. Fainting might be caused by fear or the fact that a person has not had anything substantial to eat for an extended period of time. It is prudent to be prepared with soda, crackers, or cookies as well.)
- syringes (or other delivery device) of epinephrine and diphenhydramine (Either a patient or a team member could have an allergic reaction. Basic emergency procedures from a standard text should be reviewed before the team leaves home so they are prepared to deal with that type of medical issue.)
- paper towels or paper (copier paper is also good) on which to place soiled instruments while working

Restorative equipment and supplies:

- mouth mirrors
- explorers
- penlight (for transillumination)
- anesthetic syringes
- cotton pliers
- spoon excavators
- cement spatula
- temporary filling material (IRM and others)
- amalgam carriers
- amalgam condensers
- triturator
- Tofflemire matrix retainers
- matrix bands, Tofflemire and mylar

- wooden wedges
- amalgam and composite placement instruments and carvers
- composite with etchant, primer, and bonding agent
- composite brushes and/or sponges
- autopolymerizing and/or light-polymerizing composite
- composite curing light or wand with spare bulbs and fuses
- sealants
- mixing pads
- rubber dam material with frame, punch, clamps, and clamp forceps (These will come in very handy when doing several side-by-side Class III composites in the maxillary anterior.)
- pin kit
- cotton roll holders
- cotton rolls
- finishing strips and lightning strips
- polishing equipment—pumice, rubber cups, prophylactic angles
- high-speed and low-speed handpieces with push-button chucks (Bur tools, whether they are air-driven or electric, tend to get lost.)
- assorted burs with bur block
- periodontal curettes
- floss
- cotton pellets
- articulating paper
- patient mirror (Nothing is more rewarding than seeing a patient smile after having had some nice composites or after getting a new partial denture.)
- portable dental unit with compressor and spare parts (See the sections below titled “Toolkit for repairing equipment” and “Portable air compressors.”)
- portable dental chair with light (This is optional, as head-mounted illumination is often sufficient.)

Several considerations must be kept in mind while planning the equipment phase of the project. One of the major challenges in providing care is sharpening diagnostic acumen without the benefit of some normally available instruments. Making radiographs may be difficult, if not impossible, especially in a mobile project. A thorough clinical examination with transillumination using a penlight or a composite light and percussion of teeth often will give enough information to properly treat a patient. Although the services delivered will approach the quality of the services delivered in the dental office at home, as they should, there may be compromises due to the local conditions.

Disinfection and sterilization of instruments also can be problematic. Instruments can be sterilized by boiling, being placed in a pressure cooker, autoclaved, cleaned and soaked in bleach, or soaked in a glutaraldehyde sterilant or disinfectant. Although a steam autoclave is the best choice, that option may not be available on-site. In all cases, instruments should be washed thoroughly and be free of any blood or other contaminants and then sterilized or disinfected to maximize the chance of breaking the chain of contamination. Often, local volunteers are trained to manage those tasks.

Toolkit for repairing equipment: Having more than one piece of the most essential tools, machines, and equipment can be very worthwhile, because if one machine breaks down, the second could be placed into service. When purchasing or acquiring equipment, select the simplest model that can be repaired in the field, and then get the spare parts to fix whichever is most likely to fail. Most portable dental equipment is fairly easy to disassemble and repair with the proper parts and tools. A small toolbox with the following items would be most helpful:

- flat-head screwdriver
- Phillips head no. 2 screwdriver
- miniscrewdriver set

- slip joint pliers
- needle nose pliers
- Allen wrench kit (SAE and metric)
- Teflon tape
- electrical tape
- plastic tubing for the dental unit
- one of each valve in the unit, especially for the foot pedal
- assorted rubber O-rings
- assorted box wrenches (SAE and metric) or a Crescent wrench
- medium vise-grip
- electrical voltmeter/multitester
- tube of grease and handpiece lubricants

Equipment that is stored on-site from year to year in tropical areas can deteriorate because of the high heat and humidity. That is especially true for O-rings, plastic tubing, and valves. Parts for dental equipment can be purchased through a local dental supply dealer or a company such as American Dental Accessories (www.amerdental.com) that sells virtually everything needed to build and repair a dental unit.

Sources for Portable Dental Equipment

New manufactured dental equipment: Several manufacturers make portable dental equipment in a variety of price ranges. Portability, durability, ease cooperation and repair, and cost are the factors that should be considered. Aseptico of Kirkland, Washington (www.aseptico.com), A-dec of Newberg, Oregon (www.a-dec.com), DNTLworks Equipment Corporation of Centennial, Colorado (www.dntlworks.com), and Bell Dental Products LLC of Englewood, Colorado (www.belldental.com) are just four of the many manufacturers of portable dental units. Examining the equipment on display at the ADA Annual Meeting and speaking with others who have used the various units are the best ways to decide what to buy. Companies might be willing to extend a discount for units purchased for use in mission projects. A low-cost option is Rota-Dent service project of the Rotary Clubs of Newberg, Oregon (rota-dent.org), which will sell low-cost units to projects that meet certain criteria.

Do-it-yourself dental equipment: An industrious volunteer can construct a portable dental unit from component parts for a fraction of the cost of a manufactured unit. A reliable suction unit can be made using a Shop-Vac type of vacuum and a collection of hoses. One volunteer group had its local vocational-technical high school students fabricate a suction manifold for the vacuum. Portable chairs can be fashioned from PVC pipe and some canvas. Reclining lawn chairs have also been used as patient chairs, although portable folding dental chairs work better.

Used manufactured dental equipment: There is one major caveat regarding the selection of dental equipment for use in a developing country. There are many well-meaning dentists who offer to donate their old equipment to a charitable cause after they have renovated or closed their offices. Used equipment should be accepted for a project only after very careful consideration. Be certain that the equipment can be used in the foreign country before accepting the donation. Many storage rooms in developing countries are jam-packed with donated equipment that could not be used because the equipment is incompatible with electrical current in that country, parts are missing, no utilities (i.e., water, electricity, and vacuum) are available, appropriate facilities are lacking, or neither spare parts nor trained technicians who can install and maintain the equipment are available.

Portable air compressors: Portable dental units that do not have a compressor built in will require a compressor. Compressors come in two main types: oil-less and those needing oil. Lubricated compressors run much more quietly but require some maintenance. Oil-less compressors are durable but are much noisier; units used with those machines should have longer air-hose connectors so that the compressors can be placed outside the treatment area. A $\frac{3}{4}$ -horsepower

oil-less compressor with a three- to four-gallon tank can adequately power one or possibly two dental units. With both types, it is important to drain the air tank of accumulated moisture after three to four hours of operation. In addition, the machines must be operated only with a reliable, steady source of electricity. More than one compressor has been damaged by voltage that is either too low or too high. A multimeter should be used to check the local current and also the output of the generators being used. Be sure to buy a compressor that is of a size compatible with the output of the available generator. High horsepower (i.e., > 2 hp) compressors need significant amperage, especially during start-up. An underpowered generator will cause a compressor to overheat, and both pieces of equipment will eventually be damaged.

Equipment and Materials for Training and Educational Projects

The type of equipment, materials, and supplies that will be needed depends on the specific nature of the training programs. The appropriate audience for the training should be identified, whether they are students or faculty at an educational institution or practitioners or health promoters in the community. It is helpful to provide the in-country coordinator with as much material in advance as possible so it can be translated and/or copied.

When introducing and teaching new techniques, it is important that the materials and equipment necessary to perform the work are available after the volunteers are gone. Initial gifts of equipment are fine, but most volunteers and sanctioning organizations are not in a position to be suppliers for an indefinite period. The true value of any learned techniques is diminished if they cannot be practiced and used on a continuing basis. Without requisite materials and equipment for their newly learned skills, trainees may also feel frustrated by their inability to exercise their new skills.

Internet access has expanded to the farthest reaches of the globe. Many educational presentations are now computer-based and use CDs as the transport medium. The American Dental Association, and all specialty organizations have large collections of educational materials available through their catalogs. Some manufacturers are willing to provide educational CD-ROMs or DVDs, demonstration models, and possibly even supplies to support training programs. Procter and Gamble's dental website, www.dentalcare.com, has instructional materials in several languages.

Most new dental textbooks have accompanying CDs. Other sources of materials are dental school-based and other dentistry-related websites that can be accessed. Companies such as Vital Source Technologies (www.vitalsource.com) offer a complete line of dental texts on CD-ROMs that can be updated over the Web. While transporting educational materials on CDs is relatively easy, it may be necessary to carry a laptop that definitely can run the educational program and an LCD projector to the site. However, availability and compatibility of the equipment with the in-country electricity could be a problem. Donations of computer-based materials could be limited if the site of the educational mission does not have local access to computers and the Web.

If a planned presentation is based on any type of electronic media, presenters must be prepared to speak without them. It is a prudent idea to make multiple copies of all presentations and save them on both a disk (CD or DVD) and on a thumb drive. Reliable electricity is often a problem as well, so flexibility is the key if things do not go according to plan.

Packing and Shipping Equipment

Issues related to equipment shipped separately: Once a large piece of equipment has been acquired, the next step is getting it shipped to the site of the mission. Equipment must be properly packed or crated and shipped by land, air, or sea or some combination thereof. The procedures are both time-consuming and potentially very expensive. In addition, arrangements must be made at the receiving end to ensure that the arriving equipment is stored properly and securely and will not be stolen. Duties may have to be paid in order to release the equipment from customs authorities. Careful inquiries ahead of time as to the many details regarding shipping, the customs process, and storage will help to ensure a safer and smoother transfer of the equipment to the mission site. It is important to note that the costs of shipping and customs duty can conceivably be greater than the value of the equipment being shipped. (See the section titled "Dealing with customs procedures" below in this section.)

Issues related to equipment and supplies transported as checked baggage: Packing for a project can present a significant challenge. It is human nature to overpack for any trip. Overpacking for a volunteer project can be a nuisance, at best, or cause problems in-country when there is no way to transport all of the baggage. Once the local living conditions have been determined, all volunteers should be informed of the accommodations and be limited to one piece of checked baggage and one piece of carry-on luggage per traveler. That will allow for equipment boxes to be checked as the traveler's second piece of checked baggage. In the past two years, rules and charges regarding checked baggage have changed. Volunteers should have a conversation with the general manager or station chief at the local airport for the airline on which they will be traveling to determine whether they might get some leeway in terms of what can be shipped and at what cost. Despite the many changes in air travel recently, many airlines like to support philanthropic efforts.

Practical tips: Packing all of the same type of equipment or supplies in one box is not advisable. Packing equal amounts of items such as needles, anesthesia, and instruments into two or more different boxes will lessen the chance of having to scuttle a project if one critical box, for example, one that contained all of the anesthetics that the project had allocated, is lost in transit. Boxes should be packed as tightly as possible. Soft items such as gauze, gloves, and masks can be used to protect more fragile items. Items can be put into waterproof plastic garbage bags to protect them against moisture. Hazardous materials, including anything combustible such as acrylic monomer, butane torch fuel, copal varnish, or other items that can fuel a fire, cannot be shipped by air under any circumstances. Check with the airline carrier for exact restrictions on shipped items.

Shipping boxes should be sturdy. Copier-paper boxes, dish-pack boxes from moving companies, or double-layered apple boxes are ideal for shipping items overseas. Resist the temptation to use a box that is too large or to pack it with too much so that it is very heavy. There is now usually a 50-pound limit for each item of checked baggage. Lockable plastic storage bins might be a superior choice, because they tend to hold up better with prolonged use on-site.

Reinforced strapping tape should be used to seal the boxes; the bottom of the box should be secured as well. Boxes should be marked so they can be easily identified. It is wise to carry a roll or two of strapping tape in carry-on luggage to reseal boxes that have been opened or damaged. Inexpensive tarpaulins should be included in the top of a few boxes in case the baggage must be transported in open trucks so the bags can be protected from the weather and, if the tarps are tied down, from thieves as well.

Two small boxes can be taped together to count as one piece; each individual box should be marked with the name, address, and telephone number of someone at the mission site. That way, the airline or other carrier can easily notify the group when a box that had been misdirected in transit eventually turns up.

Excess baggage presents a special problem. Some airlines will make allowances for excess baggage for charitable projects; however, be aware of any special restrictions during peak travel times. One major airline has an embargo on cardboard boxes going to the Caribbean each summer. That could prove disastrous if all items are packed in cardboard boxes or a special waiver has not been obtained ahead of time. It has been suggested that carriers based in the country in which the project is located may be more willing to cooperate regarding some of those issues.

It is essential that arrangements for extra baggage be made before the date of departure. Travel agents, sales representatives, and general managers for the selected airline at the airport can be instrumental in smoothing the way. Be advised, though, that there may be a limit to what courtesies can be extended to a traveling party. When budgeting for the project, some funds may be needed to pay for excess baggage fees.

There is now an effective alternative to trying to ship large amounts of material as checked baggage. In cities with large immigrant populations, shipping companies have sprung up to ship goods from the United States back to their home countries. Those companies will provide large boxes and instructions, ship the items to the country of choice (usually by boat, so items must be shipped several months in advance), clear customs, and deliver the boxes to the in-country address



Photo courtesy of Dr. Martin Hobdell

of choice. For example, the Dominican Dental Mission Project has been using those types of services for the past 10 years with no problems. From New York City to delivery in any town in the Dominican Republic, in 2014 the charge for a kitchen style moving box weighing 50–70 pounds delivered door to door was about \$70 including customs clearance. More information can be obtained from immigrants who use those services or perhaps from the in-country host.

Dealing with customs procedures: Once baggage and equipment have arrived at their destination, they must be retrieved for clearance through customs. It is imperative that volunteers know what the local customs restrictions are ahead of time. International standards dictate that the expiration dates of medications should be at least one year out from the current calendar date. Do not ship out-of-date medications or anything that might appear to be illicit drugs. Items that seem as innocuous to North Americans as CDs and DVDs might be viewed with great suspicion in other countries. Be polite and cooperative if any items are challenged by a customs agent. Most of the time, they are just doing their job and are being watched by someone else. In addition, occasionally a person's appearance fits a composite profile of a suspicious character, so body searches of completely innocent travelers can occur.

It is advantageous to have an in-country representative who will meet the arriving shipment or group at the airport to help with customs clearance. Without proper documentation or prior arrangements, there could be considerable difficulty or expense in clearing customs, especially if medications are in the shipment. In some countries, it might be possible to be cleared through special customs or diplomatic customs. Occasionally, a little "lubrication" is necessary. That is usually used as a last resort, because demands for the amount of bribes can escalate quickly. Usually, with a little planning, the process will go smoothly.

Personal Items

Being prudent in terms of the number of personal items that are packed is important because everyone has a tendency to overpack. A piece of advice is to pack two bags and then leave one at home! The personal items listed below depend on the anticipated living conditions and recreational possibilities in the country where the mission site is located.

- toiletries, including soap, shampoo, shaving cream, razors, a small mirror, deodorant, toothbrush, toothpaste, floss, feminine-hygiene items, sewing kit, emergency toilet paper
- towels, bed linens, and mosquito net (Check ahead as many sites might provide these items.)
- sunglasses, including an extra pair
- prescription eyeglasses, including an extra pair (In dusty areas, wearing contact lenses may be uncomfortable. Bring a copy of the prescription in case the eyeglasses are lost or damaged.)
- camera (Be sure to bring plenty of film or large-capacity memory cards and extra batteries for the newer automatic cameras.)
- appropriate clothes for the climate and culture (Check information about local customs, as they are quite variable. Local traditions often date back to colonial times, i.e., more formal attire might be appropriate for presentations in former British Commonwealth countries than in some Latin or Asian countries.)
- scrubs (These are the most comfortable clothes to work in. Be careful not to work in shorts, for some small creatures [e.g., head lice, ticks] could find their way into some uncomfortable spots.)
- music (This could include a larger CD radio for general use as well as MP3 player or iPod. Having background music is nice when treating patients.)
- personal flashlight and batteries (A pocket flashlight or penlight should be carried at all times. They come in handy, for example, when examining a person in the village square who has a dental problem or definitely at night when the lights suddenly go out. This item should be kept apart from flashlights used for dental treatment.)
- sunscreen (Do not underestimate the power of the sun, especially at tropical latitudes and in the mountains.)
- swimming gear, especially a mask and snorkel if there is a beach nearby (Beware of swimming in any freshwater, such as streams or lakes.)
- dictionary and phrase book (Most people are appreciative of attempts to speak their language.)
- recreational items for relaxation, such as books, playing cards, Wiffle ball set, music, iPod/iPad, etc.
- balloons and trinkets as gifts for young patients
- personal medications, particularly prescription drugs in sufficient quantities (Do not assume that these medications will be available in-country.)
- two to six extra passport photos
- basic first-aid kit
- mosquito nets and mosquito repellent (with DEET)
- water-purification tablets—halazone or tincture of iodine
- medicine for altitude sickness and/or pills for motion sickness
- flip-flops to wear in the shower
- electric adapter plugs
- earplugs (Dogs, chickens, burros, and other creatures can be very noisy at night.)



What to Expect While Serving on a Volunteer Project

After all of the preparation, sometimes the trip itself seems almost anticlimactic. Each visit to a different land, however, is a unique experience. Many volunteers find that after working on a project or two, the urge to continue sharing their skills with the rest of the world becomes almost irresistible.

Culture Shock

First-time volunteers should be aware of the probability of having some culture shock, which can be lessened by gathering as much information about the project and location as possible but is still not completely avoidable. There are several distinct phases to this change of awareness:

- initial euphoria at being in and functioning in an unfamiliar environment,
- irritation and hostility at the situation and conditions (This can be especially pronounced if a volunteer is tired or sick. There is an overwhelming urge to change everything so that conditions are the same as they are in the United States.),
- gradual adjustment and the development of a level of comfort with the culture and situation,
- adaptation, or biculturalism, after having come to an understanding of the situation on local terms, not the volunteer's terms.

One additional challenge, especially for first-time volunteers, is the rapid realization that not everyone who presents themselves for help can be assisted either because of the complexity of the problem, lack of resources, shortage of time, or energy level of the volunteer team. Volunteers must be aware that they must pace themselves so they do not work at breakneck speed the first two days only to hit the wall and be ineffective from the third day onward.

Lasting improvement in health conditions of a populace is made through small increments of sustained effort as the local community develops a stake in the development project, not by one supercharged flurry of activity. A relationship of mutual trust and understanding usually develops over a considerable span of time. Progress is often not noticeable until a volunteer takes the time to reflect on what has happened over the years. It is for this reason that return visits over time to the same location are critical for sustainable improvement in a community.

While You Are Away

It is important, too, to realize that when a volunteer returns home, he or she will find that most people will not share their own enthusiasm or interest in the project. A returning volunteer should not be disappointed if others do not appreciate his or her newfound point of view. It is usually other volunteers, those who have been there themselves, who will most appreciate what a returning volunteer has recently experienced. When a volunteer has returned from a trip and describes his or her experiences, most people will listen politely for a few minutes and then want to talk about things related to themselves.

When planning a project, volunteers should plan for adequate time for travel, sightseeing, shopping, and resting, as well as for working. The American impulse is to jump right in and get to work. Much can be missed by putting blinders on and not investigating what a country has to offer. Rest is also important, both while volunteers are in-country and after they return home. Volunteers often do not realize the considerable amount of energy they have expended, but it is quite evident to their spouses, children, patients, and office staff.

While on the project, volunteers will develop new friendships with team members and with local people. Often, the friendships last for years; they become stronger if the volunteers continue to return to the same village on a regular basis. Even without those friendships, all who participate in a project share a common bond. It is the rare volunteer who does not think volunteering is a worthwhile experience.

One volunteer received this thank-you upon his "second home" in San José de Ocoa, Dominican Republic:

"Your 13 years of work in benefit of our country have given birth [to] a baby that is growing up more and more. Thanks to your support, you can see this baby smile in the mouths of all the mountains that surround our city of Ocoa and its campos. You and your crew have given us all the chance to show our healthy and white teeth and smiles, and only you and your people could have made of this dream a possible reality."

We cannot pay you with money for what you have done for us, but at least we can say 'thank you' and pray [to] God and ask Him to bless you now and forever....our smiles will always be our most valuable treasure, and only you have made it possible."

With gratitude such as this, the rewards can far outweigh any volunteer's effort.

Many volunteers have written about their experiences upon their return home. The ADA News and state dental journals periodically run articles about international and domestic volunteer projects. This website will also highlight "volunteer stories" that have been collected from past and current volunteers. Anyone who would like to submit a volunteer story should send it via e-mail to international@ada.org. Reading articles and stories and contacting the participants are good ways for anyone thinking about volunteering to get some firsthand information. Then, as a well-known commercial advertisement says, interested dental practitioners should "**Just do it!**"

Handling an Absence from the Dental Practice

One of the major hurdles to participation in a project is a practitioner's perception that 10 days to four weeks away from the practice will be disastrous, but that is usually not the case. With proper planning, a volunteer mission need not be a financial hardship. Patients will still be there upon the dentist's return and may actually have a more favorable view of their practitioner. If such volunteering becomes routine, patients are likely to inquire as to the success of the last trip or even about plans for the next one. It can also generate a significant amount of interest in and curiosity about the office, especially if some other staff members are on the team as well. When a dentist is away, practice activities can continue, especially if he or she is in a group practice, because the other practitioners can cover emergencies and hygiene patients. In solo practices, it is possible to hire a semi-retired or retired dentist or a recent dental school graduate who has some time available. Often, the local dental association will have a list of locum tenens dentists who will be able to cover the practice during the dentist's absence. The hygiene practice can continue, and with proper notification, other patients could be scheduled as well. The other option is, of course, to shut the office down completely and have all staff take their vacation days at the same time.

Funding and Procurement of Supplies

Most volunteers incur both direct and indirect financial costs. Direct costs include airfare, ground transportation, lodging, food, and the purchase of some equipment and supplies. Indirect costs include time away from the office and, perhaps, time away from family members as well.

Direct costs can be covered in a number of ways. Some volunteers pay their own expenses. Those out-of-pocket expenses can be converted into a charitable deduction if the volunteer is affiliated with an appropriate IRS-registered, nonprofit organization. As of 2014, expenses incurred for international volunteer efforts are not directly tax-deductible by an individual volunteer unless they are channeled through an appropriate 501(c)3 nonprofit organization.

“

I shall pass through this world but once. Any good therefore that I can do or any kindness that I can show to any human being, let me do it now. Let me not defer or neglect it, for I shall not pass this way again.”

—Mahatma Gandhi

Other sources of funding include church sponsorship; sponsorship by a local or state dental society; support from service organizations, such as Rotary International; and help from local dental suppliers. Many local suppliers might be willing to provide some of the expendable supplies needed for the project; requesting items nearing, but not beyond, the expiration date is a good way to solicit donations. Patients or family members may be willing to make monetary contributions. Other dentists might be willing to donate supplies as well. Often, retiring dentists are an excellent source of both supplies and instruments. Experience has shown that many people are willing to help simply if they are asked.



Resources

Unlike most monographs, this one has not been referenced within the text due to the nature of the information. The information listed in this section, referred to in the text, will provide readers with in-depth knowledge about conducting volunteer projects. The authors do not endorse any of the organizations, companies, or products listed herein.

American Dental Association (ADA) Division of Global Affairs

Official Website: www.ada.org
E-mail: international@ada.org
Volunteer information: <http://www.ada.org/en/member-center/intl>

Centers for Disease Control and Prevention (CDC)

Official Website: www.cdc.gov
Travel advisories and health information for specific destinations: www.cdc.gov/travel

Guide for Safety and Infection Control for Oral Healthcare Missions A reference for planning and implementing a safe mission trip for patients and healthcare workers.

Available online: <http://www.osap.org/?page=ICOralHCMissions>
E-mail: office@osap.org

Health Volunteers Overseas (HVO)

Official Website: www.hvousa.org
E-mail: info@hvousa.org

International Association for Medical Assistance to Travelers (IAMAT)

Official Website: www.iamat.org
E-mail: info@iamat.org
Visa information: <http://travel.state.gov/content/visas/english.html>

Organization for Safety & Asepsis Procedures (OSAP)

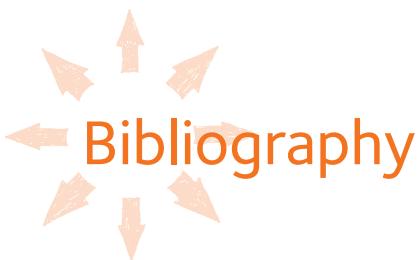
Official Website: www.osap.org

U.S. Department of State

Official Website: <http://www.state.gov/>

For more information on the primary oral health package, use Google search keywords:

Portable Dental Equipment, Dental Caries in Developing Countries



Bibliography

American Dental Association Catalog. Chicago: American Dental Association, 2013. (This is available from the Member Service Center, American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611, 800.621.8099.)

Axtell, Roger E. *Do's and Taboos Around the World: A Guide to International Behavior.* Hoboken: John Wiley & Sons, Inc., 1993. 389135 (Written primarily for business travelers and tourists, this book takes a humorous look at the peculiarities of many countries and Americans' reactions to them. Roger Axtell has written several other books on similar topics. Many of them are available at amazon.com.)

Brunette, Gary W., Phyllis E. Kozarsky, Alan J. Magill, and David R. Shlim. *CDC Health Information for International Travel 2010.* Amsterdam: Elsevier, 2009. (Widely known as "The Yellow Book," this concise and user-friendly resource equips both travelers and physicians with essential information on preventing, recognizing, and managing travel-related health problems. It is available at: www.travmed.com.)

Dickson, Murray. *Where There Is No Dentist.* Berkeley: Hesperian Foundation, 2009. (This is the classic work on teaching basic dental techniques to nondentists. It is written for village and neighborhood health workers, schoolteachers, parents, and dentists who are looking for ways to share their skills. It is available from the Hesperian Foundation, 1919 Addison Street, Suite 304, Berkeley, CA 94704, telephone 510.845.1447, www.hesperian.org. The Hesperian Foundation also publishes other books along the same lines in English, Spanish, and other languages.)

Frencken, Jo E., Christopher J. Holmgren, and Wim H. van Palenstein Helderman. *The Basic Package of Oral Care.* Nijmegen: College of Dental Sciences, University of Nijmegen, World Health Organization Collaborating Centre for Oral Health Care Planning and Future Scenarios, 2002.

A Guide to Volunteering Overseas. 5th ed. Ed. Nancy A. Kelly. Washington, DC: Health Volunteers Overseas, 2007. (This guide can be obtained from Health Volunteers Overseas at 1900 L St, NW, Suite 310, Washington, DC 20036, telephone 202.296.0928, www.hvousa.org for US\$25. Health Volunteers Overseas dedicates itself to the training and education of health professionals throughout the world. This guide covers the goals of HVO, the role of the volunteer, teaching how to teach, getting ready, and other relevant topics. This guide is a must-read for rookies and veterans alike. Rookies can avoid making some common mistakes and veterans can chuckle when they realize they are not alone in "learning the hard way.")

Jong, Elaine C., and Christopher A. Sanford. *The Travel and Tropical Medicine Manual.* 4th ed. Philadelphia: Saunders, 2008. (This manual is a detailed account of various tropical diseases and their treatment. It contains suggestions regarding prevention and treatment for travelers and covers various diseases in great depth. There is an extensive list of water-filtration devices and comments about each one in the chapter on water disinfection. This book is recommended for those interested in the complete picture of travel and tropical medicine and is available at www.travmed.com.)

Kohls, L. Robert. *Survival Kit for Overseas Living.* 4th ed. London: Nicholas Brealey Intercultural Press, 2001.

McCann, Daniel. "Volunteerism: The Gift of Hope." *Journal of the American Dental Association* 120 (1990): 128-139. (This article describes the activities of several volunteer dentists who were involved with projects both in the United States and overseas. The narratives give a good flavor of what it is like to participate in volunteer programs.)

Oral Diseases in the Tropics. Ed. Soro Prabhu, D.F. Wilson, D.K. Daftary, and N.W. Johnson. Oxford: Oxford University Press, 1992. (This is basically an oral pathology book using the tropics as a focal point. Many of the diseases discussed are not found in U.S. textbooks but may be common in certain other countries.)

Rose, Stuart R. and Keystone, Jay S. *International Travel Health Guide.* (This book is a complete health guide to international travel. The online book covers trip preparation, jet lag, food and drink safety, traveler's diarrhea, various diseases, insurance, medical care abroad, and emergency medical transport. http://travmed.com/pages/health_guide)

World Health Organization. *International Travel and Health 2009.* Geneva: World Health Organization, 2009.

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