



The World Wide Web and Travel Medicine: An Overview

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The growth of travel medicine as a medical subspecialty has been paralleled by the growth of travel medicine on the world-wide web (WWW).

The WWW has excited consumer and professional alike with its advantages of increasing ease of access (especially internationally), user-driven navigation and content detail, and potential for being current. But there are disadvantage, too. The user of the web must differentiate fact from editorial opinion, and trust the source.

With ever-increasing numbers of people crossing international borders, the need for information to help travelers manage their health before, during and after traveling has increased. Travelers are frequently turning to the WWW before visiting their travel health practitioner. There are numerous websites offering travel and tropical medicine information for both the lay person and the health professional. Some of these websites are from respected, well-established scientific and governmental organizations, some are from private business enterprises, and others are from individuals hoping to make an impact on the field of travel medicine.

Travel Medicine on the Web

Currently, the prime focus for travel medicine web sites is on preventative health care: immunizations; precautions; medications, self-treatment; and disease outbreaks. Some of the more consumer-oriented sites offer additional educational content on a variety of topics ranging from insect repellents to altitude illness prevention. Among the most respected sites are the CDC, WHO, ISTM, ASTMH (American Society of Travel Medicine and Hygiene), ProMed, MedicinePlanet, Travax/Encompass (Shoreland), and Travelcare (International SOS). The last three are from private business organizations with whom an account must be established in order to utilize their resources.

As a new and growing enterprise in a previously unexplored realm, the web has both benefits and pitfalls. With the recent dot-com crash, it has become painfully apparent that businesses, organizations, and individuals are unregulated and practice as they wish. This raises two important issues: that private organization websites will have to follow sound business practices in addition to offering quality services and accurate information; and that Caveat Emptor still applies for consumers.

The lay person may find it hard to judge quality and accuracy, but by viewing the web site's sources of information, editorial board, and depth of coverage they should be able to make a fair assessment. Only ethical and high-minded web sites strive for a high quality service. But one finds confusion even in the most well-intended of sites.

In this issue..

The World Wide Web and Travel Medicine: An Overview	1
Society News	1
CISTM7 in Innsbruck, Austria	3
Prevention and Management of Traveler's Diarrhea in Children	5
Stress and the Frequent International Business Traveler	8
Letters to the Editor	10

Continued on page 2

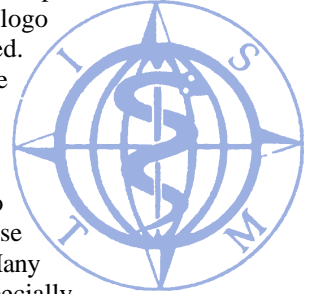
Society News

Charlie Ericsson, President, ISTM

Use of ISTM logo

I am pleased to report that our ISTM logo is now registered.

Please read the following ISTM policies regarding the use of the logo as well as the use of hyperlinks. Many people, but especially



David Freedman, deserve our thanks for their time and effort in developing this policy. If you have any questions, please contact the chairman of the Electronic Communications Committee or of the Publications Committee.

Policy on the use of the ISTM logo. The ISTM logo is a legally registered trademark of the International Society of Travel Medicine. Any reproduction whether in print, in advertising materials, on merchandise, in electronic media, or on internet websites is prohibited without the expressed written consent of the International Society of Travel Medicine.

The logo will be used only for official initiatives and activities of the ISTM as an organization. Because use of the logo implies an explicit endorsement by ISTM, permission to individuals or other organizations to display the ISTM logo in any media under any other circumstances, whether they be ISTM members or not, will only be granted in exceptional circumstances and only with specific approval of the Publications Committee and the ISTM Executive Board.

Permission to use the logo can be directed to the chairman or vice chairman of the publications committee, Christoph Hatz <hatz@keep.touch.ch> or Stephen Ostroff <smo1@cdc.gov>.

Continued on page 4

— “The World Wide Web and Travel Medicine: An Overview,” continued from page 1 —

“Among the most respected sites are the CDC, WHO, ISTM, ASTMH, ProMed, MedicinePlanet, Travax/Encompass (Shoreland), and Travelcare (International SOS)”

Often, there is difficulty in separating out an intention to assist the professional versus assisting the layperson. Overlap is common, and as a result neither intended recipient group is adequately satisfied.

It appears that more lay people use the web than professionals. As these consumers turn to the web for obtaining what they believe to be accurate and reliable medical information, they can readily be confused by conflicting information and language. The lay person is then forced to interpret the information without the proper background or resources to do so, and may become discouraged, follow the wrong advice or do nothing. It must be clear from the outset which population the website is serving. An old Japanese proverb warns that the hunter who chases two rabbits at once catches neither. Ideally a website should focus on one type of audience - the professional or the public. Otherwise the professional audience will not be informed or educated and the lay consumer may end up befuddled or overwhelmed.

Another pitfall in this burgeoning electronic realm is that few sites are nimble enough to offer up-to-the minute information that can be essential to travelers' health. But this is more an issue with the web site organizations, than with technology. The main pillars of the travel medicine web community, the CDC and WHO,

are clearly the most reliable and steadfastly accurate sources for confirmation of outbreaks. But being large, political, and as such (and usually appropriately) conservative, they may wait several days or weeks until enough data has been collected to definitively identify an outbreak or other emerging health issues. Clearly, this conservative approach conveys credibility, reliability and consistency, and helps prevent rumors from causing political, medical and social problems.

However, at the same time the conservative approach may lead to delayed diagnoses, treatment, or vaccine recommendations in cases when a new problem arises but laboratory-confirmation has not yet been cemented. There is also a delay until the medical 'establishment' is informed. A case in point is the recent re-emergence of polio on Hispaniola in the countries of the Dominican Republic and Haiti in the Caribbean and the delay in its announcement. In contrast, smaller, private organizations have the ability to follow and publicize disease changes without the same constraints and responsibilities as the larger organizations. However, one must be sure that such web sites are reputable, with a good track record, and operate with high medical standards. Their sources should be competent and reliable and if subject to scrutiny, stand up well.

Away From Home

What resources are available on the web for those already in the middle of their journey? This is probably the greatest areas of challenge at present for WWW sites. It has become remarkably easy for the international traveler to gain internet access: tourist destinations have seen a proliferation of "internet cafes" and most high-end hotels have a Business Center with internet access at reasonable hourly prices. Some intrepid (and email-addicted) travelers go so far as to travel with their laptop computers and an assortment of phone and power adapters to ensure regular internet and email access. It is one author's experience (ELW) that using local Internet Service Providers (ISP) at the

hotel or at an internet café is considerably more reliable and less expensive than trying to go it on your own. Additionally, newer web-based email sites (mollymail.com, mailstart.com and others) allow you access your home email server from afar.

However, during travel is where too many unreliable and unregulated sites offer conflicting and even harmful information which can do the traveler ill. It can take a long time to search the web adequately for credible information. And if the information is found, even in a remote part of the world, it may turn out to be not very helpful - or harmful. In contrast, if the traveler is armed with the web address (URL) of one of the above reputable TM sites, there is considerable useful information to be found, ranging from disease information to databases of local embassies or consulates (at the present time, mostly limited to U.S.-centric information). There are several companies and/or agencies working on building databases of local medical providers and/or facilities, but this is challenging both in the scope of the project and the ability to provide assurances in quality of care.

After a traveler has returned, which sites can be trusted to offer advice and information that a travel medicine specialist or the traveler can turn to and feel safe? This group is for the most part the same as the pre-travel web site list previously mentioned. The ISTM and ASTMH are excellent resources for the public to find travel and tropical medicine expertise. It is terribly important to make the lay user of the web aware that the WWW is not a substitute for competent clinical medical care and that they should seek out a specialist, such as those certified by the American Society of Tropical Medicine and Hygiene, and hopefully, soon, the International Society of Travel Medicine.

The Future

What does the future hold for the web and travel medicine? This year was a 'wake-up call' for many web-based companies

Continued on page 3

“The World Wide Web and Travel Medicine,” continued from page 2

after the market crash with the realization that a dot.com business needs to generate realistic revenues just like any other company. As a result, there will likely be a shift and consolidation in the number of companies offering online travel health information. More optimistically, governmental agencies are reaping the benefit of new technologies and easier web publishing and putting more user-friendly and useful information on-line. The web is increasingly available internationally, both to those planning trips as well as those actually underway. The potential ability of the traditional internet to impact the health and safety of the traveler as well as the very field of Travel Medicine is very great indeed.

Even more exciting is the emergence of new technologies which will allow internet surfers to access web-based content without the need for phone lines. “Wireless” technology is becoming pervasive. In the next few years web access via wireless devices will surpass web access via traditional “wired” desktop and/or laptop computers. This is particularly true in Europe and Asia, where the mobile phone infrastructure is well-established, consistent and popular among the public.

In many parts of the world, “wired” technology will be completely skipped in favor of wireless web access. Most of the world remains without the benefit of being wired for phone service: wireless communication will most likely arrive in the more poor and remote portions of the globe long before traditional wired services. This again has important implications for the traveler. No matter where the traveler is, he or she will be able to get the same information as do at home, although it may not be as graphically attractive as on a large-screen monitor. Several companies are racing to take advantage of this new technology, excited by the prospects of providing the mobile user with services such as hospital and/or provider databases, electronic medical records, health news and alerts, interactive health tools, and even access to live medical personnel in case of emergency. These changes are not far away; some of

them already exist and are being put into use even as you read this. The future for travel medicine on the WWW is bright, and when backed by a reliable, established organizations, will become part of our routine medical practice.

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CISTM7 in Innsbruck, Austria, May 28-31

Still time to Attend

There is still time to make plans to attend what promises to be one of the best travel medicine meetings ever! Many of your fellow members are already packing for Innsbruck. If you are still undecided about whether to go, be forewarned that if you decide to stay at home, you will miss a truly informative and dynamic program. The fast growing international travel market coupled with perhaps the most intense migration in history, makes it imperative to keep up with the latest happening in travel medicine. The date: May 28-31.

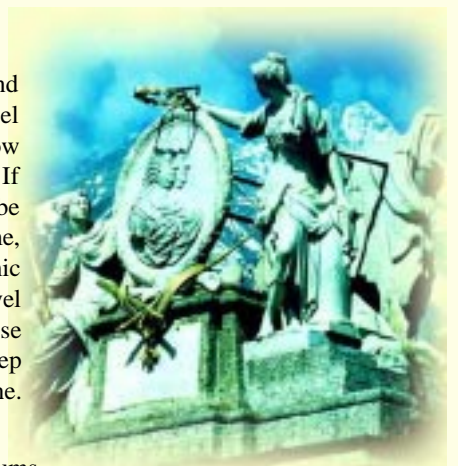
CISTM7 will have plenary lectures, symposiums, free communications sessions, posters, debates of the day, workshops (destination of the day workshops which focus in on a single country and ABC workshops for those new to travel medicine), cases of the day, meet the professors, and sessions of special interest to nurses. Consider coming one day early to attend the wilderness medicine pre-meeting course on May 26. This course features an excellent International/Austrian faculty – reason enough to attend the entire meeting. There will also be a wide selection of social events, exhibits, and excursions. If you wish, you will be able to immerse yourself in travel medicine from early morning until late at night. CISTM7 qualifies for credits towards continuing medical education in many countries.

Innsbruck is a fascinating city, an old university town that is at the center of Europe. The spectacular backdrop of the surrounding mountains and a successful blend of old world charm and ultramodern technology, including one of the most modern convention center in Europe, makes Innsbruck the perfect place for both education and recreation.

You can find up-to-the-minute details – program, downloadable forms for registration, hotel reservation, at www.istm.org.

There are many ways to get to Innsbruck. There are direct flights from some of the major airports in Europe. Innsbruck can also be reached via Munich International Airport (MUC) which is served by most major world airlines. Good deals are often available. The airport has both train and bus service to Innsbruck and no advanced tickets are necessary. Trains leave every hour and the trip takes about 1 hour and 50 minutes. Often you arrive much earlier in Innsbruck via the Munich airport than you do by changing planes somewhere in Europe and then continuing to Innsbruck.

See you in Innsbruck!



—“Society News,” continued from page 1—

Policy on hyperlinks to the ISTM web page

Permission will be routinely granted to all individuals and organizations who wish to place a text hyperlink to the ISTM website or to the Journal of Travel Medicine web page on their own websites. The hyperlink must be solely text based and cannot include display of the ISTM logo which is a registered trademark of the International Society of Travel Medicine. Requests for permission to establish text hyperlinks can be directed to the attention of the Chairman of the Electronic Communications Committee via e-mail at istm@mediaone.net.

NewsShare/Web Edition/Paper Edition

Our newsletter, NewsShare, is up and running and will be posted 6 times a year, on the first day of odd months. At present, we only have the electronic edition (www.istm.org) but there are ongoing discussions within the executive board and publication committee regarding a printed edition. The publisher of our Journal (Brian Decker of BC Decker Inc.) has been involved in these discussions.

There are two schools of thought regarding the written edition:

Against a printed edition: considerable cost of printing and mailing; not necessary now that access to computers and modems is widespread; requires advertisements to cover costs; few complaints from members about the lack of a printed edition. (However, members who do not have access to the web may not be aware of the fact that we have an electronic edition.)

In favor of a printed edition: prestige; costs can be reduced by mailing NewsShare together with our Journal; the newsletter can be handed out to potential members at meetings; little additional work in production; some members do not have access to the web or have difficulty downloading; many people look forward to and are more likely to read a print newsletter.

One solution suggested is to send the printed edition only to members who re-

quest it. While this may reduce costs of printing and mailing, it would be difficult to obtain advertisements for an edition received only by a partial list of the membership. Comments invited.

NewsShare/Advertising

A somewhat related issue is whether or not to have advertisements in the NewsShare electronic edition, and perhaps on other pages of the ISTM website. Such advertising is becoming more acceptable, can be done tastefully and professionally, and helps pay costs, which are considerable – and increasing. Comments invited.

New Email address for ISTM

We are phasing out the old Email address for ISTM. Please use the new address: istm@mediaone.net.

ISTM Travel Clinics List

There is much interest from various organizations to “link” with ISTM and/or use ISTM’s travel clinic list. These are valuable resources. The ISTM President and executive committee are studying such proposals and will try to establish guidelines. Providing the public with greater access to these lists furthers the cause of travel medicine. Questions that require answering include: should ISTM receive a fee for making these lists available to commercial enterprises and/or should the lists be given free to reputable, non-profit organizations? Revenues would help keep the lists current. Also, how can ISTM protect against the lists being used in unauthorized ways? Comments invited.

Providing more travel medicine information to the public

Fiona Genasi (Scotland) writes: Providing information for the public is an important area for ISTM to develop. I appreciate that the Public Education committee has been working hard on this. I

have a few suggestions about how things might be progressed without over committing people and finances and with an eye to maintaining the “International” focus of ISTM .

For example: A website for the public provided by the ISTM would be feasible if it was limited to directing people to accurate sources of information, books, National Societies of Travel Medicine, etc. and, of course, the clinic directory. There is no need (and no point) in compiling a database of travel health information which could never be accurately country specific. However, a country by country guide to available resources would be incredibly useful. As part of the European Commission funded Travel Medicine Inventory Project (1999-2000) we collected this information for 17 European Countries. Thus we already have details of all the existing National Societies of Travel Medicine, public databases, publications (leaflet and books) aimed at the public, etc. on an Access database, about to be transferred to Oracle. Updating information could be the responsibility of a designated person in each country, with an overall editor, as happens with the Travel Clinics directory. (Fiona is at Genasi@scieh.csa.scot.nhs.uk She is Nurse Epidemiologist, Scottish Centre for Infection and Environmental Health, Clifton House, Clifton Place, Glasgow.

David Freedman answers: Fiona: We have already accomplished a large part of what you propose. If you go to the ISTM Web Page, click on non-ISTM links then click on Links to Key Travel/Tropical Medicine sites you get a full page of just the international resources you mention. Perhaps we can make it a little more user friendly. As for a country by country guide of available resources within that country, I agree that this would be the purview of National Societies to host on their own respective web pages.

If any of our readers are aware of such sites, please send the information to David Freedman, the chairman of the electronics committee at dfreedman@geom.ed.dom.uab.edu or Karl Neumann, the editor/webmaster at travhealth@AOL.com.

Prevention and Management of Traveler's Diarrhea in Children: Suggestions for Change in Management

John C. Christenson, MD

The Problem

Much of what we know about travelers' diarrhea (TD) and its epidemiology comes from studies performed in adults. Data regarding TD in children is somewhat limited. Pediatric caregivers have realized for years that children are not just "small" adults. Younger children appear to be at a high risk for severe disease. In addition, current published recommendations for the empiric management of TD in children suggest that trimethoprim-sulfamethoxazole (TMP-SMZ) be used.^{1,2,4} However, because of the rising rates of resistance to TMP-SMZ among bacterial enteric pathogens, fluoroquinolones (FQ) have become the recommended agents for adult travelers.^{1,3,5} The recommendations for children have in part been based on the concern over side effects. But why should children be treated as "second-class" travelers and receive a potentially inferior therapy? Also, can antidiarrheal medications such as BSS be used in children?

In the following paragraphs a change in the management of TD in children is suggested.

TD is a common problem encountered by international travelers. Up to 50 percent of individuals visiting developing countries will be affected by the condition. Persons become infected through the consumption of contaminated water, food and beverages.¹ A majority of episodes of TD are caused by enterotoxigenic *Escherichia coli* (ETEC). Other common pathogens are *Campylobacter jejuni*, *Salmonella* sp., *Shigella* sp., rotavirus, Norwalk virus, and *Giardia lamblia*.^{2,3}



Epidemiology

A retrospective study performed by investigators at the University of Zurich has given us a better understanding of the epidemiology of TD in children.⁶ They evaluated 363 pediatric travelers. Over 75 percent of travelers had a duration of travel of 4 weeks or less. Three-fourths of the children traveled to Latin America and Africa. The attack rate of TD varied according to age groups. Within 14 days of travel, 40 percent of traveling children under 2 years of age developed TD. The incidence of TD according to other age groups was, 8.5 percent for the 3-6 year age group; 21.7 percent for the 7-14 year group; and 36 percent for the 15 to 20 years group. Two-thirds of travelers to North Africa and India developed diarrhea. The severity of TD in the younger group was significant. While the average duration of TD was 11.5 days (median, 3), the mean duration of TD in the 0-2 years group was 29.5 days (median, 17.5). Approximately 20 percent of patients required confinement to bed and close to 15 percent required care by a doctor. Overall, 40 percent of travelers observed recommended dietary preventive measures. Only 60 percent of children under

2 years of age "observed" recommended precautions. In this study, young children appear to be susceptible to severe TD. Few patients received oral rehydration fluids.

Prevention

Much has been written about the prevention of TD. Just like with adults, an emphasis on basic preventive measures such as the proper preparation and consumption of food and beverages, avoidance of contaminated water, and proper hygiene are critical.^{4,5} This needs to be discussed with all traveling families. The prophylactic use of antidiarrheal agents such as bismuth subsalicylate (BSS) has been shown to reduce the incidence of TD among college students.⁷ While this approach, and the prophylactic use of antibiotics, may be appealing to some travelers, there are many arguments against its routine use. There are legitimate concerns, especially for the pediatric traveler, over side effects of various medications. These concerns include allergies, antibiotic-associated diarrhea, Reye syndrome, unnecessary costs, selection of resistant organisms, and a false sense of security resulting from a lesser than optimal adherence to dietary precautions (thinking they are covered by "prophylactic agents"). Proper hygiene is also key. Handwashing before and after using restrooms and before and after food preparation cannot be overemphasized. Young children should not crawl on the bare floor. Young infants tend to put "contaminated" hands and toys in their mouths.^{4,8} All family members should wash their hands before touching or playing with young infants.

Continued on page 6

“Prevention and Management of Traveler’s Diarrhea in Children,” continued from page 5

“When traveling, parents need to be prepared to provide proper and safe rehydration fluids to children with diarrhea. Following prevention, this is the most important aspect of therapy.”

Treatment

The “currently recommended” management of TD in children may need some revisions. The most important aspect of the management of TD at any age is proper hydration. Proper oral or intravenous hydration fluids are key to the prevention and treatment of dehydration. Various commercially-made or home-made preparations can be used. Parents need to be told to carry these when traveling with young children, and they need to be taught how to use them appropriately.

Antidiarrheal medications such as loperamide, BSS, and diphenoxylate hydrochloride are frequently used by adult travelers. These are usually not recommended for children due to the concern over side effects. Diphenoxylate-HCl is not used in children because it has been shown to cause respiratory depression. While loperamide can reduce the frequency and severity of diarrhea in children, in various studies, children experienced adverse effects such as drowsiness, irritability, personality changes, paralytic ileus, abdominal distension and vomit-

ing.⁹⁻¹¹ Probiotics like *Lactobacillus casei* sp. strain GG have been used to treat acute diarrhea. They also appear to shorten the duration of illness.¹² Kaolin-pectin has been found to be ineffective for the treatment of acute diarrhea.

BSS has been shown to be safe and effective for the treatment of TD in adults.¹³ The most commonly reported side effects in adults have been constipation, black tongue, and darkened stools. Mild insignificant tinnitus has also been reported. BSS is also effective in children. Treated children demonstrated a decrease in stool frequency and water content, with stools becoming significantly more firm and a shorter duration of illness.^{14,15} BSS was well tolerated. Much of the recommendations against the use of BSS in children is based on a potential for adverse events, salicylate poisoning and Reye syndrome. However, short courses of BSS (less than 7 days) have been shown to be safe in children.

As initial management, adult travelers are commonly prescribed an antidiarrheal agent such as loperamide or BSS. If symptoms persist or illness is severe, an antibiotic such as a fluoroquinolone (ciprofloxacin, norfloxacin, ofloxacin, or levofloxacin) is recommended.¹ As stated above, many authors are recommending TMP-SMZ for children. Antimicrobial resistance around the developing world has significantly influenced the recommendations for adults. A study in Thailand by Hoge and associates¹⁶ demonstrated that more than 90 percent of *Shigella* strains were resistant to sulfisoxazole and TMP-SMZ. Approximately 40 percent of ETEC and *Salmonella* isolates were also resistant. None of the isolates of *Shigella* sp. were resistant to ciprofloxacin or azithromycin. Only 1-2 percent of *Shigella* and ETEC isolates were resistant to nalidixic acid. In addition, they demonstrated that 84 percent of *Campylobacter* isolates were resistant to ciprofloxacin. Only 15 percent of these were resistant to azithromycin. In many parts of the world many of the bacterial enteric pathogens that may affect travelers are now resistant to TMP-SMZ. In my

opinion, this agent should not be used for the empiric treatment of TD in children.

What is the recommended agent for the treatment of TD in children? Can we use fluoroquinolones in children? Many studies have demonstrated the efficacy of fluoroquinolones (FQ) in the treatment of TD. Since their introduction, individuals have been cautioned about the use of FQ in children because of the risk for arthropathy and cartilage damage. While this has been demonstrated in animals, studies in children, mainly cystic fibrosis patients, have not demonstrated an increase in cartilage toxicity.^{17,18} FQ are frequently used by clinicians to treat infections by *Pseudomonas aeruginosa* such as chronic suppurative otitis media and urinary tract infections. No increase in reports of cartilage toxicity have been documented. Use of nalidixic acid in children also has failed to demonstrate an increase in cartilage damage.^{19,20} It appears that ciprofloxacin could be used as treatment of TD in children when no other alternative is available. However, the potential side effects of FQ should be discussed with the parents.

Driven by an increase in ciprofloxacin-resistance among *Campylobacter* isolates, many clinicians have demonstrated interest in the use of azithromycin as treatment of TD. Azithromycin is highly active *in vitro* against common enteric pathogens such as ETEC, *Campylobacter* and *Shigella*.²¹ Researchers at the Dhaka Diarrhoeal Treatment Centre have demonstrated that azithromycin is comparable to ciprofloxacin in the treatment of shigellosis.²² Clinical and bacteriologic successes were observed in over 80 percent and 90 percent of cases, respectively. Other clinicians have considered cefixime as a potential therapeutic agent for the treatment of TD in children. In one study the agent was found to be superior to TMP-SMZ in the treatment of shigellosis.²³ However, in another study cefixime was found to be ineffective in adults.²⁴

For years it has been suspected that antibiotic therapy may increase the risk of developing hemolytic uremic syndrome

Continued on page 7

“Prevention and Management of Traveler’s Diarrhea in Children,” continued from page 6

(HUS) in children with hemorrhagic colitis caused by *E. coli* O157:H7. A recent study confirmed this clinical observation.²⁵ The obvious question would be, how does this affect the pediatric traveler when visiting developing countries? Should we avoid the use of antibiotics? In reality, infections caused by shiga-toxin-like producing strains of *E. coli* (STEC) are rare outside of industrialized countries. In developing countries, a greater risk of HUS is probably observed when treating shigellosis with ineffective antibiotics.

Summary

Whenever possible, young infants should not travel to developing countries. When traveling, parents need to be prepared to provide proper and safe rehydration fluids to children with diarrhea. Following prevention, this is the most important aspect of therapy. Breast feeding should be encouraged when possible. Avoid tap water and follow dietary protective measures. Prophylactic antibiotics or antidiarrheal agents are not recommended for children.

Do *all* children with TD need antibiotic therapy? Probably not, many children can be managed with supportive care with oral fluids and an appropriate diet. However, a major reason for treating a child with TD is to shorten the duration of illness and to avoid complications. While BSS appears to be safe in children, the risk of Reye syndrome is real and caution is merited. Of available antibiotics azithromycin (10 mg/kg/day as single daily dose for up to 5 days) appears to be the preferred agent for the treatment of TD in children. For the macrolide-allergic individual, ciprofloxacin (20 mg/kg/day, divided in 2 equal daily doses for up to 5 days) can be used as an alternative. Nalidixic acid can also be used. However, its availability in many regions of the United States is limited. If diarrhea has resolved after 1-2 doses, antimicrobial therapy could be discontinued. Diphenoxylate and loperamide should not be used in young children. The risks and benefits of antidiarrheal and antimicrobial therapy need to

be discussed with parents during pretravel clinic visits.

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For your traveler clients. . .

Stress and the Frequent International Business Traveler

Karl Neumann, MD

Comfortable lounges at airports. Cushiony seats in the front of the plane. Limousines waiting at curbside. Jetting here and there and seeing the world – and having someone else pay the bill. Great work if you can get it?

Maybe not.

A majority of people who are frequent international business travelers experience stress-related symptoms which adversely affect their health, their work performance, and their professional relationships with their coworkers. Moreover, business travelers' frequent absences from home cause parallel but different psychosocial symptoms in their spouses and children which, in turn, further impact negatively on the business traveler, creating a downward spiral with increasing stresses on family cohesiveness and professional work performance.

In various studies of frequent business travelers, about a third report a "high" degree of stress, and another third report a "moderate" degree. "Being away from home" was easily the most frequently mentioned cause of the stress. Other common reasons cited included, "jetlag", "visiting developing countries", "length of trip." Conversely, fewer than ten percent of the business travelers and their spouses believe that business travel is a positive experience. And the ultimate affront, many international business travelers fly economy class and though there are no statistics, class of travel does not appear to have an appreciable effect on feelings of stress.

These were some of the findings at a Symposium, "Stress, the Business Traveler, and Corporate Health," organized by the World Bank and held in Washington D.C.



The meeting drew almost a hundred experts - mostly from corporate medical departments but also from travel clinics and government agencies - to discuss the causes of stress in business travel and explore ways to minimize it.

International business travel is big business. The employees of some of the larger corporations log tens of thousands of international missions per year - "mission" is corporate parlance for business trip - making travel stress an important economic and human resource problem. The World Bank, for example, based in Washington, sends its employees on more than 18,000 overseas missions a year, the largest number of business travelers from one organization. (Their travel budget is a staggering \$120,000,000 per year.) Moreover, it is reasonable to assume that the countless business travelers who work for small companies or who work for themselves experience similar stress-related problems.

And the number of international business travelers continues to increase rapidly, perhaps doubling every decade or so, an increase that is likely to continue. To date,

the predicted large-scale replacement of business travel with ever more sophisticated telecommunications, including teleconferencing has not materialized, and may never do so.

The impetus for the World Bank to organize the Symposia were several findings among the Bank's employees, findings reported in two published studies. One study reports that employees who travel frequently see physicians and other health care providers about three times as often as a matched group of employees

who do not travel, and that stress-related complaints are strikingly more frequent in the travel group. (**Occup Environ Med 1997;54:499-503.**) The other report found that employees on missions tend to feel a strong sense of social and emotional concern for their families and a sense of isolation. The traveling employees also believe that there is a strong association between the stresses of business travel and their physical and emotional health. (**Occup Environ Med 1999;56:245-252.**)

Other findings in these studies include: stress-related complaints per mission per year tend to remain static for up to three missions but then complaints increase per mission; complaints are far more common in males than in females; age, parts of the world visited, and number of times zones crossed are not important determinants; feelings of isolation and mood changes are also common in spouses left at home; having children under the age of eighteen at home is only a small contributor to stress; and, in spite of the frequent complaints raised by business travelers, few

Continued on page 9

“Stress and the Frequent International Business Traveler,” continued from page 8

missions end in total failure. It is very rare for business travelers having to return home prematurely because of stress-related problems. But stress does seem to cause many hard-to-quantify, less-than-optimum work performances.

(Mission failures are far more common among employees posted overseas. “Posting” means away for more than 6 months, usually with ones, family. And in most cases such failures are due to coping problems experienced overseas by accompanying dependents rather than in employees. In financial terms, each such mission failure costs employers tens of thousands of dollars in actual costs – employee training and relocation expenses, for example, and additional losses from the disruption of business. However, the problems of employees posted overseas were not the focus of this Symposia.)

Causes of Stress

Surveys of frequent, long distance business travelers show that they experience two types of stress:

- The routine discomforts and annoyances that all long distance travelers encounter such as altered eating and sleeping patterns, changes in climate, and concerns about health and safety issues.
- Challenges unique to long distance business travelers. These fall into three general categories:
 - Concerns about the effects of frequent and extended travel on ones’ personal physical and psychological well being;
 - The effects of being away from home on ones’ family;
 - The workload that business travelers are expected to accomplish on each mission and the amount of work awaiting them upon their return to the office, workloads frequently perceived as “unreasonable.” During the mission, work-related stressful activities include having to make decisions away from the office without the usual

office support system, communicating in foreign languages, operating in an unfamiliar business culture, and spending long hours in negotiations, for example.

Strategies for Dealing with Stress

Here are some recommendations that came out of this Symposia:

- Better selection of employees for travel. Since about a third of business travelers do not complain of travel-related stress there are clearly differences in people regarding this issue, but little is known about these differences. Perhaps psychological tests could be developed to better screen job applicants for positions that involve extensive travel.
- Employers should be more candid with job applicants about how much travel a position requires, which is not always the case. But job descriptions change and non-travel positions can rapidly become travel intensive. Promotions within the organization can also change travel necessity. Job applicants should be apprised of the fact that in many organizations experience gained in missions is a consideration in promotions. Moreover, overseas travel is often appealing to a young job seeker but becomes tedious and stressful after time.
- Flexibility regarding travel schedules to allow more time at home. Corporate travel budgets are often “penny wise and pound foolish.” Cost considerations sometimes force travelers to be away on a Saturday night or to use an airline with limited schedule flexibility. Ideally, business travelers should be able to return home before weekends, and leave home after weekends. When possible, employees should be consulted about the timing of their missions. And there should be realistic limits to the amount of time spent away from home per year. In fact many organizations have such limits but they are rarely followed. And in spite of the official policy allowing employees to

refuse travel assignments, refusing is looked down upon by immediate supervisors.

- Travel schedules and work assignments should be overviewed by senior staff members who have “been there, done that.” Realistic scheduling from a human resource point of view may require days off from work before a mission and again on return in order to take care of both family chores and office matters. Family chores may involve seemingly mundane chores such as bill paying, servicing the car, and other task that, ideally, should not be left for the stay-at-home spouse. Female business travelers seem to have a tougher time preparing for their absences than males. Females are generally being more involved with baby sitters and carpool arrangements, and freezing food for future meals, for example.
- Less workload immediately before and after trips. Office workload tends to increase just before a mission – routine work plus preparing for the mission - and immediately on return. Optimum office scheduling may require that several days before the trip are devoted to the mission with no other work assignments, and a day or two of “debriefing” upon return, and another day or so to handle work that has piled up on the desk and in the computer.
- Minimizing trip cancellations and date changing. Extremely disruptive to frequent business travelers’ personal lives is repeated changes in travel schedules, something that happens quite frequently, albeit, many of the changes are unavoidable. Rescheduling missions often requires rescheduling family obligations that have already been changed. Employees should be given the option to decline missions if this happens often.
- Counselors to help with the “nuts and bolts” of overseas travel. Experts can help travelers cope with many of the basic travel issues, the health and safety

Continued on page 10

“Stress and the Frequent International Business Traveler,” continued from page 9

concerns, for example. In fact, many corporations already have in-house medical departments, sometimes even travel clinics, and some organizations have extensive web sites to help business travelers better plan trips – but often, the travelers do not make use of them.

- Minimizing the impact on the family of being away. The effects of a parents’ frequent absence from home on children are not well understood, but the absences appear to have a negative affect on the children. (According to one boy who was interviewed, “My father being away on a trip makes little difference. When he is home he spends so much time at the office, that he is never home anyway.”) The impact can, perhaps, be minimized by scheduling special family events prior to departure – a day in the park, a day trip, or a visit to a favorite restaurant, for example. Also beneficial may be for children to accompany the departing parent to the airport, discussing the itinerary and looking at maps, and providing children with books and videotapes about the countries the parent is visiting.

Coping overseas and staying in touch with home

Travelers should stay in close touch with spouses and children back home, using the mail, the telephone, and E-mail, regardless of cost to themselves. Some organizations cover the cost of daily E-mail and telephone; the ones that do not, should. Children like to receive mail even if the parent calls or E-mails them everyday. E-mail appears to be a very effective way for a parent to stay in touch with a child old enough to use a computer. Sending audiocassettes and videos from overseas may help smaller children.

Children appear to require more personal attention while one parent is away. They appear more comfortable with the routines that they are accustomed to and do not take well to additional changes, a new baby sitter or staying with a relative, for example. Some children seem to find

comfort in marking off the days on the calendar until the parent returns home.

Support groups consisting of other families of business travelers working for the same corporation and living in the same neighborhood appear to be very helpful for spouses at home.

Close to a 100% of spouses describe their returning mate as being irritable and withdrawn when they return home, probably the effects of fatigue and stress. Awareness of such behavior helps dealing with

it. Coming home celebrations, if any, are best postponed for a few days. Travelers should try to come back home before a weekend, if possible.

Karl is editor of NewsShare and webmaster for ISTM. He is Associate Clinical Professor of Pediatrics at the Weill/Cornell Medical College and Associate Clinical Attending Pediatrician at the New York- Presbyterian Hospital. This article is reprinted from the newsletter, *Traveling Healthy*, with permission.

Letters to the Editor

A Common Sense Approach to Patient Teaching: Drinking Fluids During Air Travel

Lynne Bunnell, RN

To the Editor:

Recent studies have noted that an individual’s water loss during air travel is not as great as a previously believed. Thus, some have said that the old recommendation of “drink a lot of water on a flight” is faulty, and should be discontinued.

I disagree. Perhaps the way we teach should be modified to say that flying on airplanes, per se, does not cause dehydration. What causes the symptoms of dehydration (and the resulting problems during travel) is the fact that people drink *less than they would have* if they were not sequestered on a plane. This is true for a number of reasons:

- On many flights, fluids are not continually available, except in the business or first class sections. Also, caffeinated beverages and alcoholic drinks may be consumed, which are diuretics, and worsen dehydration.
- People drink less to avoid having to climb over seatmates to go to the toilet and to avoid discomfort during long stretches when passengers are told to remain seated – during take-off and landing and periods of turbulence.
- The stresses of embarking on a trip often contribute to the traveler’s dehydration even before leaving for the airport, no time to take in fluids, for example. Then not taking in adequate fluids during the trip, further worsens the dehydration.

We should continue to encourage travelers to keep themselves well hydrated before and during air travel to minimize associated discomforts such as constipation.

Lynne is nurse manager for International Health at CitiGroup in New York City.

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