NewsShare
Newsletter of the International Society of Travel Medicine
Winter 2007

ISTM News

Certificate of Travel Health (CTH) Examination

The ISTM urges you to consider sitting for the CTH examination.

The ISTM Certificate Exam will be administered next year just prior to the CISTM meeting on Sunday, May 20, in Vancouver. Materials are currently posted on the ISTM website that should assist everyone interested in sitting for the exam. In addition, there will be two short preparatory courses for the exam given in February, 2007 (www.istm.org).

The CTH program purposes are to:

- Establish internationally recognized standards of knowledge for travel medicine practitioners
- Assess the level of knowledge demonstrated by travel medicine practitioners in a valid and reliable manner
- Encourage professional development in the field of travel medicine
- Formally recognize individuals who meet the requirements set by ISTM
- Serve the public by encouraging quality travel medicine practice services, and
- Demonstrate the global validity of epidemiological data and preventive strategies

Already, 475 travel health professionals have earned the CTH credential. A survey performed in Lisbon showed that those who have

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CISTM10 Vancouver

Vancouver, British Columbia is the place to be this coming May if you are interested in travel medicine and related subjects. The International Society of Travel Medicine is holding its biennial conference, ISTM10, from May 20-24, 2007.

Yes, there will be updates on the bread-and-butter subjects – malaria, immunizations, air travel and such, given by world authorities on each subject. And there will be sessions not yet fleshed out in case there are exciting last minute events of importance to cover. But there will be much more! The local planning committee has arranged spectacular entertainment for you, the Simon Fraser Pipe Band, for example. This is the four-time world champion pipe band and they are truly unforgettable! And there will be Chinese dragon dancers who will lead the delegates upstairs at the convention center to the welcome get-together. Upstairs you will be greeted by a stunning display of food and a jazz quartet. Later on, the quartet will ramp up the music for dancing.

And please plan to attend the three outstanding "Meet the History" speaker presentations. Dr. David Patrick will discuss "The Impact of Imported European Diseases on Aboriginal Health". Chuck Davis will give a highly visual talk, "Twenty-three Things You Didn't Know About Vancouver." And John Atkins will talk about the history of Vancouver and offer walking tours so that you can relive the history.

For full details, visit the ISTM website at cistm10@istm.org.

Make your plans to attend ISTM10 now!

Suri Boraston, Chair, Local Organizing Committee

Air Travel and Health: Summary of a Conference

Karl Neumann, MD, FAAP

- Taking aspirin in conjunction with air travel to prevent deep vein thrombosis (DVTs) may or may not decrease the incidence of DVTs but probably increases bleeding episodes.
- Air travel is the safest form of mass transportation and is becoming safer. The next step in reducing mishaps is to study the health and cultural issues of the flight crew.
- Benzodiazepines are widely used in the treatment of phobias and may be particularly helpful in short-term use as an aid to overcoming flight anxiety.

This is a mere sampling of the thought-provoking material (see below for details about these and more), presented at the First International Conference on Air Travel and Health held in Eilat, Israel in November. About two dozen experts in travel and aviation medicine from 10 countries held 28 sessions covering virtually every aspect of the subject, with much time spent on DVTs, the current "hot issue" in the field.

The meeting was organized and chaired by Benjamin Brenner and Israel Potasman, and was sponsored/organized_under the auspices of a number of organizations including the ISTM and the Aerospace Medical Association. Israel (the person, not the country) is an active member of ISTM.

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"Air Travel and Health: Summary of a Conference," cont. from p. 1

The meeting venue, Eilat, is a tropical resort known for its warm weather, little rain, and water sports. It is situated at the southern tip of Israel on the Red Sea, (which, in fact, is deep blue in color and exceptionally clear.) Four countries abut here. The city of Acaba, Jordan is next door, the border of Egypt is 200 meters down the road from the convention hotel, and Saudi Arabia is easily visible across a narrow bay.

Clearly air travel continues to grow. The number of passengers flown each year worldwide will soon pass the 2 billion mark, bringing to the forefront many health issues. Flights of 15 hours or more are becoming commonplace, and aircraft are becoming larger. What used to be called "jumbo jets" will soon be dwarfed by the Airbus A380, which, coincidentally, was going through some of its final test flights at the time of the Conference and is expected to receive its airworthiness certification in the next few months. The first commercial A380 flight is scheduled for late 2007. The A380 will have a capacity of more than 700 passengers on two decks. Still being debated is whether the aircraft will have a medical facility on board and, if so, the type of facility and who will staff it, said Michael Bagshaw, one of the speakers and a consultant to the company building the aircraft. Michael is a physician, an aerospace medicine specialist, a teacher of physics at the college level, and a former captain for British Airways flying large jets. (He is also a musicologist and a singer.)

(However, even an A380Airbus filled to capacity will probably not hold the record for the largest number of passengers on any one flight. On May 24, 1991, in "Operation Solomon," an El Al Israel Boeing 747 transported 1087 individuals, almost all of them Ethiopian Jews, to Israel, said several speakers involved in the mission. The only medical event of note was that the aircraft arrived in Israel with one more individual than left Ethiopia: an infant was born during the flight, a miracle in the eyes of some. Also, in spite of the high incidence of tuberculosis among the Ethiopians and the severe crowding on the aircraft, in follow-up studies, no case of tuberculosis was detected in the dozens of Israelis among the flight crew and accompanying personnel.)

The introductory lecture at the conference was about air travel of a different type: bird migration. Because of its location at the juncture of three continents (Asia, Europe, and Africa), Israel lies in the pathway of numerous routes of migratory birds. In fact, according to the speaker (who was extremely interesting and humorous), Israel, per square kilometer, has more types and numbers of migratory birds stopping over than any other country. This makes Israel a "paradise" for bird watchers, but not for aviation, making bird watching an important endeavor, not merely a hobby. A better understanding of migratory routes for each type of bird, the times of the year birds fly, and where they decide to rest, may help aviation authorities to warn pilots about bird hazards. Several Israeli aviation mishaps have been blamed on birds.

Here is some of the other material presented by the speakers, all experts in their fields. Please note that the opinions expressed in this article are those of the lecturers.

- Infants. There are no known reasons for airlines to have lower age limits for allowing healthy infants to travel by air. Such limits vary from none to four weeks. There are no reports in the medical literature of a healthy infant having a health problem as a result of flying. And none of hundreds of travel and aviation medicine experts, including many medical directors of major airlines, queried at various conferences, is aware of a case.

  However, theoretically and based on studies done in non-aviation settings, infants who were born prematurely and infants who had significant neonatal pulmonary problems may be at risk in flight. Such infants, even those who are asymptomatic at home, may desaturate at the atmospheric pressures present in aircraft cabins at cruising altitudes, and may require supplementary oxygen. Whenever possible, such infants should not travel by air until they are 12 months of age.

- Outbreaks of gastrointestinal diseases during flight. Forty-one incidences of gastrointestinal diseases, with ten deaths, were reported before the year 2000 and none has been reported since, even though the number of flights and the number of passengers has increased significantly. The likely reason is better sanitation and more scrutiny. (Drinking water is now served from sealed bottles rather than from large jugs, for example.) However, many cases of intestinal illness occurring in flight may go unreported. Flights tend to be relatively short compared with the incubation period of common infectious intestinal disorders.

  Of the known outbreaks of gastrointestinal disease, many more occurred among first class passengers than economy passengers. First class passengers are served fancier foods, ones that require more handling in preparation and are more likely to become contaminated, fancy small sandwiches, for example.

  Many airlines recommend that their captains and co-captains eat food prepared in different catering kitchens to prevent both from being incapacitated at the same time should a virulent outbreak occur. However, in practice, the entire crew eats the same meals. Economics have forced most airlines to buy all food from a single caterer.

- Cosmic radiation. All possible precautions should be taken to minimize passengers' and air crew's exposure to cosmic radiation, including expensive (for the airlines) diversion during periods of increased solar activity. Such activity tends to be most common on routes over the extreme northern part of the North Atlantic in wintertime.

  However, present data suggests that the amount of radiation that passengers, even frequent flyers, are likely to receive is insufficient to cause problems. And, even flight crew seem to be at low risk. Nevertheless, many governments are studying the issue, and some have declared that being a member of an air crew is a hazardous occupation. Some studies have found an increase in the incidence of melanoma among air crew and an increase in the incidence of breast cancer in female air crew. However, life styles and other conditions specific to air crew may be responsible for these increases.

- Melatonin and jetlag. Melatonin is frequently used by air travelers, and sometimes by air crew because it helps induce sleep and enhances resynchronization of the circadian clock. There are no known significant side effects or impaired psychomotor or cognitive functioning associated with melatonin. However, melatonin potentiates the adverse effects of zolpidem (Ambien) and, perhaps other hypnotics, and possibly alcohol. Because of these and other considerations, melatonin is not available in some countries.

- Fear of flying. Flight anxiety is a fairly common phobia, characterized by an excessive and irrational fear of flying. Effective treatments include various psychological and pharmacological approaches. Benzodiaz-

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epines are widely used in the treatment of phobias and are particularly helpful in short-term use as an aid to overcome flight anxiety. They can be started a few days before a planned flight to reduce anticipatory anxiety, and then taken aboard to reduce in-flight anxiety and reduce the risk of a panic attack. Long-term use is not recommended, as it carries the risk of habituation, dependence, and withdrawal-related problems. SSRIs (Selective serotonin re-uptake inhibitors) seem to be an excellent alternative; however these drugs need to be started about one month before the flight.

The worst time for flight for phobic passengers is when the doors close at the onset of the flight and while the aircraft taxis on the ground after landing, until the doors open and they can deplane.

- Deep Vein Thrombosis. The number of studies linking deep vein thrombosis and air travel is rapidly increasing, but the causative mechanism remains allusive. The vast majority of travelers who experience DVTs have well known risk factors for DVTs, and most are on long flights. Asymptomatic clots occur very frequently, as is shown by radiological studies. Lesser-known risk factors include women for several weeks after giving birth and short stature individuals. (The legs of short individuals do not reach the floor during sitting.)

  Controversy remains regarding preventative actions. Aspirin, to be effective, must be started several days before flights, and may increase bleeding tendencies. (A show of hands revealed that some attendees admitted to taking aspirin for air travel.) Elastic compression stockings, in order to be effective, must fit well and must apply the correct pressure. Low molecular weight heparin may be effective but the safety ratio (bleeding events) is not known. An intermittent mechanical compression device for the legs is now being studied.

- In-flight headaches. Almost 6% of air travelers experience severe headaches, some travelers on every flight that they take. Headaches most commonly occur during ascent and descent. Air travelers especially at risk are females and individuals with a history of severe migraine headaches. Migraine sufferers seem to experience more severe headaches during flight than at other times.

- Air travel safety. Accidents due to mechanical failure of the aircraft are decreasing more rapidly than accidents traced to human factors. Human factors that contribute to accidents are health of the air crew, especially mental health and cultural issues. Many experts believe that several crashes in aviation history were due to pilots committing suicide. Other accidents can be traced to first officers not intervening promptly when captains were operating the aircraft inappropriately. In some of these situations, the first officers' failure to intervene may have been influenced by cultural traditions that strongly disapprove of challenging superior authority.

Karl is the editor of NewsShare.

The convention hotel in Eilat is a pleasant, modern resort where the only challenge for the attendees - most of them with numerous degrees after their names - was how to use the elevators. At this hotel, there are no buttons inside the elevator to select your floor and only a few small signs in Hebrew, not a universally readable and understandable language.

In order to select your floor you must go to a computer sensor located near the elevator bank and pass your room "key" card in front of the sensor. The screen asks you which floor you want, and you press the appropriate button next to the screen. The screen then tells you which will be your elevator, A to E. You then wait in front of that elevator until the door opens, enter, and press no button, since there aren't any. The elevator doors close and it takes you to your floor. You do the same to leave your floor to go to the lobby. All this is in the name of security.

A further confounding event occurred for the foreign attendees on Friday evening and Saturday, the Jewish Sabbath. Some of the elevators are designated Shabbat (Sabbath) elevators, making stops at every floor, so that observant Jews need not use the computer or press the buttons on the Sabbath. The alternative was to walk up to your floor (there were sixteen of them), which, indeed, many attendees did, a healthy move, especially after the sumptuous meals served.

The Way it Was

Travel Medicine...1843: A Cure for Seasickness

A letter to the Editor of Lancet, July 6, 1843

Sir:

On a recent aquatic excursion I was, as usual very sick. I tried brandy, soda water, coffee, etc, without the slightest benefit.

A lady aboard was using brandy and salt for some purpose which I did not inquire about, but by mistake she put the salt (one teaspoon) in a wineglass about half full of vinegar. This I mistook for my brandy, which was by its side, and swallowed.

In a few minutes I was delighted to find the sickness much abated and on taking a second dose was perfectly relieved, having soon afterwards a good appetite, and feeling not the slightest nausea after eating a hearty dinner and drinking two glasses of sherry.

I recommended the same remedy to a gentleman who was also very sick. It did not so completely restore him as it had done to me, but he told me that although he had made many voyages, was always sick, and had tried everything that is usually recommended, he had never experienced so much benefit as he had from the vinegar and salt.

I have no opportunity of giving it a more extensive trial, but hope that some of the readers of Lancet will give us the result of further experience, with information as to whether the salt or the vinegar, taken singly, will have the same effects.

Yours,

A Freshwater Sailor

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the credential already feel the benefits: 1. international recognition of expertise, 2. professional development, and 3. enhanced professional credibility. Some feel that it has also assisted in patient referrals and promotion of their travel clinics.

There have been a number of inquiries from time to time regarding translation of the exam into other languages for the benefit of travel medicine practitioners who are not proficient in English. ISTM as an international society has taken these inquiries very seriously and has looked into the possibility of offering the exam in other languages. The steps needed to be followed are quite complex and involve to and fro translation of the exam into another language with comparative analyses. All exam materials including the body of knowledge would need to be available in that language. A small subcommittee of travel medicine experts who are native speakers, who have taken the exam, and who would also be fluent in English would be required to go over the accuracy of the translation and then after the exam, review questions that did not perform similarly to the English version. Queries would need to be answered, scores transmitted and results provided in the other language and a completely separate grievance committee of native speakers would also need to be formed.

ISTM is run on volunteer efforts and it has been felt that exam administration in another language would not be possible at this stage. The CTH exam will continue to be offered only in English at this time.

If there are questions or concerns, please do not hesitate to contact the Committee at exam@istm.org.

Phyllis E. Kozarsky, MD Chair

ISTM Research Grant Competition

Research grant applications are now being accepted by the ISTM Research Committee. The Deadline for grant applications is 31 March 2007. A copy of the application is available at www.istm.org under the Research Grants tab on the left side of the ISTM Home Page. Ideally the application should be submitted by email to the Chair of the Research Committee (amccarthy@ottawahospital.on.ca).

The ISTM Research Committee fosters research in travel medicine, in keeping with the mission and goals of the society, including the promotion of international collaboration. The committee provides moderate grants ($1,000 - $10,000) through a peer-reviewed comprehensive process. These grants are designed to stimulate travel medicine research by supporting comprehensive research projects or, for larger projects, providing support for pilot studies to enable researchers to collect data/test hypotheses so that they can then apply to other agencies for more substantive research grants.

Requirements of Applications:

- Research must be travel medicine-oriented.
- One of the investigators must be an active ISTM member.
- Application and protocol proposal must be scientifically sound and must be in accordance with international ethical guidelines.
- There must be no conflicts of interest for any of the investigators who apply for research funding.

Grant applications will be accepted until 31 March 2007. Grants will be awarded at CISTM10 in Vancouver in May 2007.

Anne McCarthy
Chair, Research Committee

Practice and Nursing Issues (PNI) Committee

Getting Ready for CISTM-10 Vancouver May 2006

- Nursing CE (Contact Hours). An application has been submitted to the Georgia Nurses Association for approval of 21 contact hours. Nurses requiring proof of CE for attendance will be provided with instructions, evaluation packets and certificates of attendance on-site during the conference. There is no need to sign up for CE in advance. Please contact Lisa Astorga, CISTM 10 Conference Secretariat at 856-423-7222 ext 217 for more information.
- Nursing Welcome Reception. Sunday May 20th, Vancouver. All nurses attending the Conference are invited to the Nursing Welcome Reception to take place in the mid-late afternoon before the CISTM 10 opening ceremony/reception. The time and location (central to the conference venue) will be announced in the near future. Meet and greet nurse colleagues and listen to some brief presentations from nurses worldwide. Refreshments will be served.

Expert Opinion in Travel Medicine-Nurse Author: Practice Issues.

ISTM nurse member, Gail Rosselot NP, authored the most recent ISTM Expert Opinion of the ISTM Education and Training Committee.

Case #4 Vaccine Administration Quality Measures. This is an excellent, well-organized review of some of the most critical issues in vaccine administration and travel clinic practice including a very useful resource list. All expert opinions are archived on the ISTM website (www.istm.org) under the Education and Training tab.

Please keep in touch with us. The committee's main charge is to address issues of interest and concern to nurse members and enhance collaboration. We look forward to hearing from you.

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Jane Chiodini (UK)
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Travel grants for attending CISTM10

The ISTM Host-Country Committee is pleased to announce the availability of up to 6 travel grants of $1,500 each for individuals who are current residents of developing countries in order to present an abstract at CISTM10 in Vancouver in May.

Criteria for selection in the competition are:

1) Financial need

2) Abstract accepted as poster or oral presentation for CISTM10

3) Demonstrated commitment to travel medicine currently and in the future

4) Potential for the support to be leveraged into the growth of travel medicine in the home country.

Scientific Abstracts must be submitted in the usual way with all other abstracts on the CISTM10 website by the usual deadline date of January 15, 2007

A separate defined application form for the Travel Awards will be available on the CISTM10 website by mid-January.

ISTM Secretariat

The Royal College of Physicians and Surgeons of Glasgow Faculty of Travel Medicine Landmark Occasion

Sandra Grieve RGN
RGN RM BSc (Hons) Dip.Trav.Med MFTM (RCPSG)

Awards given to three husband and wives teams at the ceremony to inaugurate the Faculty of Travel Medicine at the Royal College of Physicians and Surgeons of Glasgow. From left to right: Dr and Mrs Alex Grieve, Professor and Mrs Peter Chiodini and Dr and Mrs Steve Riley.

The year 2006 will be recorded as a historic year in the world of travel medicine as the Royal College of Physicians and Surgeons of Glasgow (RCPSG) confirmed the establishment of its multidisciplinary Faculty of Travel Medicine.

On 19 July the sun shone brightly on Glasgow as the first Fellows, Members and Associates were admitted to the Faculty. Prior to the ceremony, the inductees were invited to tour the College, founded in 1599. College fellows were on hand to inform guests of the College's history and activities. The RCPSG enjoys the unique distinction among other Colleges in the UK in that only physicians, surgeons and dentists make up its membership and fellowship. Now, for the first time, nurses have been admitted to this illustrious body. A new chapter in the college's history has begun, said Professor Sir Graeme Teasdale, RCPSG President.

The Ceremony of Admission took place at Glasgow University's historic Bute Hall. The University was founded in 1451 and is the second oldest University in Scotland, the fourth oldest in Britain. The visitor centre, the Hunterian Museum, and the Art Gallery provided interesting insights into the history of the University. Perhaps of special interest for travel medicine practitioners is the collection of medical and scientific material, part of a collection assembled by pioneering obstetrician William Hunter, an Honorary Fellow of the College. The collection includes treasures from ancient Egypt, Africa and Roman Scotland.

Appropriately, Dr Eric Walker of Health Protection Scotland (HPS) was the first person to receive the award, the Fellowship of the Faculty of Travel Medicine. Dr Walker is well known in the field of travel medicine and has been proactive in travel medicine education for many years. This award was a fitting tribute to his enormous contribution to the discipline.

The first nurses to receive Fellowship awards included two members of the Royal College of Nursing Travel Health Forum Steering Committee, Chair Jane Chiodini and Lorna Boyne. Committee members Sandra Grieve and Alexandra Jordan received the award of Membership of the Faculty. Among other Fellowships awarded on the day was one to nurse Fiona Genasi from HPS. Fiona, Jane and Lorna have been and continue to be at the forefront of travel health education in the UK, and are well known nationally and internationally. An additional thirteen individuals were honoured with Membership and seven with Associateships.

Another "first" were the awards made to husbands and wives. Professor Peter Chiodini and his wife Jane received Fellowships while Dr Alex Grieve and wife Sandra and Dr Steve Riley

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The Irish Society of Travel Medicine

The Irish Society of Travel Medicine was founded in 1995 and now has 275 members from all parts of Ireland.

The Goals of the Society are:

- To address the health problems encountered by all travellers, including tourists, business travellers, diplomats, airline crew members, military personnel, expatriates, refugees, migrants, members and employees of voluntary and relief organisations, and of international corporations and organisations.
- To provide a scientific focus for those interested in travel medicine.
- To stimulate the practice of travel medicine at a high professional level.
- To organise regular scientific conferences.
- To promote free and rapid exchange of information on travel medicine issues.
- To facilitate international contacts between practitioners of travel medicine.
- To promote conditions that allow travellers to remain healthy in co-operation with national and international public health authorities and organisations, the media, the travel industry and travel organisations.

Presently the Society holds four seminar/conferences per year located at various sites throughout Ireland, runs a two-day Travel Medicine Course, and gives a certificate exam each year. The exam is open to doctors and nurses. The Society also issues three newsletters during the year to keep members up to date on matters relating to travel health. The current newsletter has eight pages, is attractive and professional, and contains the following articles: *Travelling in Health with Diabetes, Psychosocial Problems faced by Emergency Volunteers, World Round-Up (disease outbreaks), Test Your Knowledge of Travel Medicine and a Travel Medicine Conference Calendar.*

For further information, please contact: Mrs. Anne Redmond, 17 Lowtown Manor, Robertstown, Naas, County Kildare, Ireland. Email: annehredmond@eircom.net

To Eat or not to Eat Fugu

Gary Podolsky MD

In Japan and also in Korea, some restaurants serve that infamous and intriguing fish, fugu, a local delicacy, a dish where if your preparer is poorly trained or overloaded with saki, the meal could easily be your last.

But, today, more likely, eating fugu will cost you merely an arm and a leg (figuratively speaking, of course). While the fish is very expensive, fugu chefs are well trained and licensed. Moreover, according to most non-connoisseurs, the taste is very ordinary, and will leave you wondering why all the hoopla. Albeit, the experience of eating a potentially lethal dish makes for an impressive tale that travellers can tell back home, a tale of the magnitude of having challenged a sumo wrestler to a match.

The fish. In English, fugu is variously called blow/globe/puffer fish because of its ability to enlarge itself several times and assume a spherical shape, a defensive mechanism designed to ward off predators. The fish does this by filling its mouth with water, sealing its mouth and then pushing the water down the esophagus into an extremely elastic stomach. Depending on the species (there are 40 different types), the fugu can achieve an almost perfectly spherical shape.

In Japan, about 10,000 tons of fugu is consumed yearly, much of it grown in cages suspended in the ocean. Fugu prices rise in the fall and peak in winter, which is the best time to eat fugu, as they fatten to survive the cold. The fugu is shipped to restaurants alive and stored in large tanks, usually prominently displayed. As fugu are aggressive and have sharp teeth, their mouths are often sewn shut to prevent them from injuring each other. Allegedly, the most poisonous fugu, "tora-fugu," is the most delicious and very expensive. One fish can cost over one hundred dollars at a fish market, and much more at good restaurants.

Most fugu sold nowadays comes from fish with low concentrations of toxin. Selling or serving the toxic organs, especially the liver, is illegal in Japan, but it does happen, most often the work of amateur sellers or chefs, and sometimes with fatal results. After several homeless people died from eating organs discarded into an insecure trashcan, restaurants in Japan are now required to store the organs in specially locked barrels that are later burned as hazardous waste. Prepared fugu is now available in grocery stores. The stores must display official documents that they are licensed to so.

To become a licensed fugu chef requires two years of training, followed by a written test, a fish identification test, and a practical test of preparing fugu - and then eating it. Only 30 percent of applicants pass. The other 70 percent do not die from poisoning but fail, usually the result of making a minor mistake in the long and complicated procedure of preparing the dish.

Serving fugu. The most popular way of preparing the fish is fugu sashimi, also called fugu sashi or tessa. The fish is sliced so thin that the pattern of the plate can be seen through the meat. It is served with ponzu dipping sauce (a mixture of citrus juice and soy sauce). The plates are beautifully decorated giving diners pleasure to their palates as well as their eyes.

Another method of preparing fugu is to simmer it with vegetables and soup, fugu-chiri. Often the rather weak taste of the fish is difficult to detect with these other substances.

The toxin. Tetrodotoxin (anhydrotetrodotoxin 4-epitetrodotoxin) is what makes fugu potentially lethal, and in spite of this – or, perhaps, because of it – fugu is considered a delicacy. The highest concentrations of the toxin are found in the organs, especially in the liver and ovaries (which are never served, knowingly), but toxins also reside in the skin and muscles. Apparently, the skin and muscles are the tastiest parts of the fish, the parts which deliver just the right amount of toxin to give the desired and pleasing feelings of tingling and numbness on the diner's tongue.

The toxin is produced by a type of pseudomonas bacteria. Fugu acquires the toxin by eating other fish already contaminated with the bacteria, without itself being affected. Tetrodotoxin is also found in other marine animals, the blue-ringed octopus, cone snails and some newts, for example. Blue octopus bites and cone snail envenomations are medical emergencies, and can be lethal.

Tetrodotoxin is a potent neurotoxin, paralyzing muscles by shutting down electrical signaling in nerves. Some fish contain enough tetrodotoxin to kill 30 adults. The toxin is stable and not deactivated by heat. It does not cross the blood-brain barrier, leaving victims fully conscious while gradually paralyzing the rest of the body.

Symptoms of poisoning appear between 15 minutes to several hours after ingestion but, rarely, may surface up to 20 hours after ingestion. The earliest signs include paresthesias of the lips and tongue, which then spreads to the face and extremities, causing speech difficulties and numbness. This is generally followed by increased salivation, and gastrointestinal symptoms.

Examination of patients reveals the following: progressive loss of sensory and motor neuron function, ascending paralysis with respiratory depression, and cyanosis and hypotension. There are also various electrocardiographic abnormalities due to myocardial dysfunction. Severely toxic patients develop deep coma and loss of brain stem reflexes. Victims remain fully conscious throughout but cannot speak or move. Those that survive 24 hours usually recover completely. There is no known specific antidote - though much research is underway to find one. Treatment consists of emptying the stomach, administrating activated charcoal to bind the toxin, and providing standard life-support measures to keep the victim alive until the toxin effects dissipate.

NewsShare Member Profile: Leonard Marcus

Karl Neumann, MD

Like most ISTM members, Len Marcus has a long string of titles, accomplishments and travel-related interests associated with his name. But he is probably the only member whose titles include both an MD and a VMD, veterinary medical doctor. The textbooks in his consultation room are neatly divided into two categories: human and animal diseases – with Len having written important chapters for books in both categories.

While growing up in Philadelphia, by the age of five, he already had a small museum of "snakes, salamanders, bugs and anything else that I could find crawling under the rocks in nearby Fairmount Park." There was never a doubt in his mind that he would become involved in a profession that had to do with nature and animals. He became a veterinarian first. Why did he later become a physician? "I wasn't smart enough to take care of more than one species at a time. So I went back to medical school to concentrate on treating humans," says Len, with his usual wit and dry sense of humor.

Len's accomplishments and interests form a three-dimensional web, and there is no single field that personifies him. He is board certified in veterinary pathology. He has specialty training in tropical medicine and parasitology. He can draw together facts and well thought-out opinions that in other settings usually take an entire committee of different health professionals.

While Len no longer practices veterinary medicine – he doesn't even take care of his own cat ("That would be like taking care of family.") – he remains active in the field, giving lectures and seminars in parasitology, insect and tick-borne diseases, and zoonoses to lay, medical and veterinary audiences. He now spends most of his professional time practicing travel medicine.

Len says that questions about exposure to animals should be a routine part of the evaluation of a sick patient in infectious disease and tropical medicine practices. Patients do not always volunteer information about contact with animals, and health care professionals may not ask relevant questions. Len's veterinary training leads him to ask for details about exposure to animals that help him deal with the epidemiology or management of some of his most interesting cases.

In a recent article, *Emerging and Re-emerging Zoonoses in Veterinary Practice* that appeared in DVM: the News Magazine of Veterinary Medicine, Len says there are changing patterns in the interrelationship of diseases in humans and animals. For example, acquired immune deficiency syndrome and iatrogenic immunosuppression have resulted in a rapidly expanding reservoir of people susceptible to opportunistic infections, many of which are zoonotic. Examples of zoonoses that may be particularly severe in immunosuppressed individuals include toxoplasmosis, giardiasis, cryptosporidiosis, babesiosis and bartonellosis.

Immunosuppressed individuals and their families should be educated about the type of pets to own (and not to own), how to handle the pets (disposing of excrement, for example), and notifying the veterinarian when a family member becomes immunosuppressed. Also, more than half of the antibiotics that are manufactured in the U.S. are used for livestock production, very likely contributing to antibiotic resistance in humans. And international travel brings an increasing number of people in contact with exotic diseases. Animals and animal products are transported internationally with increasing frequency and speed. Illegal trade in wildlife is second only to illegal trade in drugs.

Len is also interested in the effects of zoonotic diseases on another subgroup of the population, pregnant women and their fetuses. In a sense these too are immunosuppressed. They are more susceptible to some infectious diseases, tend to have more severe cases, and may be more at risk from the side effects of the medications than the general population. He often consults on the likelihood of fetal infection from various parasitic diseases, and options of therapy during pregnancy.

Some years ago, Len and his wife Eugenia, a pediatrician, wrote an editorial for the New England Journal of Medicine, commenting on an article describing an epidemic among mostly premature infants in an intensive care nursery (ICU) caused by the yeast, *Malassezia pachydermatis*. The yeast was first described as a cause of exfoliative dermatitis in a captive rhinoceros and has subsequently been found to cause ear infections in dogs. Likely, in this ICU outbreak the yeast was brought into the nursery by a health care worker who acquired it from his/her dog. Culture of the dogs belonging to the workers employed in this ICU found that 12 out of 39 dogs carried the yeast. Besides the usual hospital infection control methods, health care workers should treat their pets when they are ill, says Len.

Len attended college at Pennsylvania State University, received his veterinary degree from the University of Pennsylvania in 1962 and his MD from the Albert Einstein College of Medicine in New York in 1969. He completed an internship in pediatrics at Stanford University and a two-year post-doctoral fellowship in Tropical Public Health at Harvard. He supervised the Parasitology Laboratory of the Massachusetts Department of Public Health and taught veterinary and medical parasitology at Tufts University before going into full time private practice.

Like most ISTM members, Len likes to travel and has done quite a bit of it. He has spent time overseas in various parts of the world doing research, teaching and providing health care to local people.

Len is a white water rafting and canoeing enthusiast and a certified SCUBA diver. He likes fishing, hiking and wildlife photography. He shares his interest in wildlife with his son, a wildlife biologist, and his daughter, a high school science teacher. He is an active member and supporter of a number of organizations involved in ecology, wildlife conservation, and the natural sciences.

"The Royal College of Physicians and Surgeons of Glasgow Faculty of Travel Medicine Landmark Occasion," cont. from p. 5

and his wife Cate received Memberships. The day ended with a reception in Hunter Hall. Inductees were welcomed informally and each was given a small gift from the College to mark the event.

The College is seeking to establish an appropriately qualified Founder membership. Experienced travel medicine practitioners are being invited to join as founding members. Building on the success of the University of Glasgow and the RCPSG Diploma and MSc courses, the Faculty aims to ensure high standards of travel medicine clinical practice through developing its examinations in the tradition of the College's high standards. These standards are to:

- Organise and support high quality ongoing continuing professional development;
- Encourage the incorporation of the specialty into undergraduate curricula;
- Relate closely to other involved institutions and specialties, such as general practice, nursing, public health and tropical medicine;
- Represent the specialty at all levels; and
- Develop constructive relationships with the public and the media.

Enquiries should be directed to James Beaton james.beaton@rcpsg.ac.uk or telephone 0141 227 3204.

Nurses with a Diploma in Travel Medicine or other similar qualification are invited and encouraged to apply. www.rcpsglasg.ac.uk/news/TravelMedicine/

Sandra is Newsletter Editor, RCN Travel Health Forum, Chair RCN Travel Health Forum, RM BSc (Hons) Dip.Trav.Med MFTM (RCPSG).

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