

## **Journal of the Binaytara Foundation**

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## **Binaytara Foundation Mission and Vision**

Binaytara Foundation (BTF) is an organization committed to the upliftment of people around the world. Our particular emphasis is on promotion of global health and education, which of course are inextricably connected to infrastructure, poverty, sanitation, and the availability of modern technology. At the core of BTF are physicians who themselves grew up in impoverished areas of the world, and who were edified by medical education and professional training in the United States. There is a sense of giving back to the community that allowed us the opportunity to become expert health practitioners. Even beyond healthcare, we have projects that aim to help impoverished and illness-stricken people around the world. We envision a future in which people everywhere have the opportunities of personal, economic, and social advancement.

BTF is pioneering the effort of global cooperation and communication in healthcare delivery and education via its web-based weekly telemedicine conferences, in which young physicians in Nepal present a clinical scenario to an assembly of U.S.-based experts and professors of medicine, who in turn comment on and explore various aspects of the case, thereby furthering education and communication. From the perspective of clinical medicine, this is a very rewarding experience, and is an opportunity for patients in impoverished areas of Nepal to receive specialist input on their care. BTF telemedicine cases are essentially oriented around adult internal medicine, with a special focus on malignant and infectious diseases.

In addition to organizing telemedicine conferences, BTF provides research grants to young scholars, is setting up a Physician Training Initiative for practitioners in Nepal to further their learning about operating a blood bank, and is setting the stage to create the first bone marrow transplantation center in Nepal.

This journal is a vehicle for communication and the spread of knowledge. We have several highly distinguished hematology/oncology specialists among our board members, and so there will be a slight emphasis on cancer-related topics in this journal. The other members are internal medicine specialists and infectious disease specialists, so we will work

hard to provide discussion on a variety of topics. In this issue we will also present future BTF projects, an original research abstract and publication, as well as editorials on a wide range of topics.

The abstract of proposed original research reproduced in this issue comes from a young researcher in Nepal who was awarded the 2011 BTF Medical Research Grant. The paper is a testament to BTF's commitment to evidence-based medicine.

We want to promote global health, not only by promotion of education in technologically-advanced areas of medicine such as cancer therapeutics, but also by the promotion of the healthy lifestyle. In developed nations, especially the United States and Europe, we face an epidemic of the so-called *diseases of civilization*, illnesses such as diabetes, obesity, atherosclerosis, arthritis, and cancer which are attributable to chronic inflammation, an increasingly toxic environment, sedentary lifestyles, and the ingestion of micronutrient-depleted processed food. Some of the patterns of living advocated in our regular column entitled *The Healthy Lifestyle* are actually gleaned from what we learn from the old country; after all, the culturally rich heritages of India and China advocate above all spiritual, emotional, and physical balance and harmony, and a plant-based diet.

Please join us in our collaborative effort to achieve these goals. Your input and contributions are essential to this work. If you would like to become involved in any BTF projects, feel free to contact us.

*Dushyant Viswanathan, M.D., Editor, Journal of the Binaytara Foundation*

## **BTF Global Telemedicine Project**

Binaytara Foundation continues its weekly telemedicine project in which young physicians in Nepal present cases to an expert panel of physicians around the United States. Robert Molokie, M.D. serves as moderator for the project. The weekly event invariably is an opportunity for further learning and collaboration, and the information shared goes back to serve the patients involved on follow-up. We will present one such case with each publication of this quarterly journal.

On Friday, September 2, Dr. Srijana Pradhananga, an internal medicine resident in Nepal, presented a case of a 50-year old housewife who presented on August 15 with swelling in the legs and belly. The swelling of the legs had been episodic over two years, and the abdominal distention started 1 month prior to presentation. The progressive abdominal distention led to pain, as well as shortness of breath due to limited lung expansion during inhalation. Significantly, there was no fever, cough, nausea, vomiting, purulent sputum production, palpitations, chest pain, bleeding, or jaundice. The patient's past medical history included treated pulmonary tuberculosis, symptomatic hypoglycemia (drop in blood sugars), and duodenitis (irritation of the small intestine that lead to bleeding), all of which occurred 2-4 years prior to the current presentation. Interestingly, the patient chewed tobacco, actively drank half a liter of alcohol daily (starting at age 25), and experienced menopause at age 44.

Upon examination, the patient was found to have yellow sclera (white part of the eyes), pallor, swelling, and relatively normal vital signs. Her abdomen was distended with fluid, and the veins of the skin were enlarged and dilated. The liver, but not the spleen, was noted to be enlarged. The abdomen in the area of the liver was found to be painful upon palpation. The neurologic, cardiovascular, and pulmonary exams were found to be unremarkable. Laboratory data revealed anemia and markedly elevated white blood cell count. Also occult blood was found in the patient's stool. Her kidney function was mildly impaired. Testing for Hepatitis B, Hepatitis C, and HIV were negative. No bacterial growth was noted in the blood and urine.

A sample of the fluid in her abdomen was removed and found to have a lymphocytic infiltrate (predominantly lymphocytes causing or reacting to inflammation) but no signs of peritonitis (bacterial infection of the fluid). The patient was diagnosed with subacute nonfulminant (nonlethal) liver failure and started on the usual treatment for this, including antibiotics (empirically for peritonitis), diuretics (to help remove retained fluid), antacids (to prevent acid from irritating enlarged veins in the lining of the stomach: *portal hypertensive gastropathy*), thiamine (a vitamin often deficient in alcoholics), blood transfusion (for the anemia due to gastrointestinal blood loss), and lactulose (which helps eliminate the ammonia that can build up in patients with damaged livers).

The question naturally arises- what is the underlying cause of the liver disease in this case? Likely this is a case of alcoholic liver disease causing cirrhosis (scarring of the liver). Dr. Molokie brought up the intriguing point that perhaps the hypoglycemic event from years past may have been a sign of complications of alcoholism, namely alcoholic ketoacidosis, which can cause elevated levels of ketones, severe dehydration, and can cause a drop in blood sugar levels (hypoglycemia). Paradoxically, the patient's albumin level was not decreased, a finding often found in patients with damaged liver cells, but the serum prothrombin time was elevated, a sign of impaired liver production of clotting proteins. Dr. Molokie cautioned about excess volume depletion which may occur in the setting of lactulose administration (volume loss from diarrhea) or excessively rapid removal of abdominal fluid.

The elevated blood white blood cell count was not easily explained; likely it was an inflammatory reaction rather than a sign of sepsis (bacterial infection). It may have been reasonable not to immediately treat with antibiotics since there were no signs of infection other than the alarmingly high white blood cell count.

Is the patient's liver irreversibly damaged? Dr. Molokie suggests this can be tested by administration of subcutaneous Vitamin K. If Vitamin K normalized the prothrombin time, then the patient has Vitamin K deficiency rather than a hepatic cause of the elevated prothrombin time.

Dr. Andrew Trotter suggested being very cautious to assume there isn't infection on board, since patients with impaired liver function do have impaired immunity, and alcoholics are predisposed to certain severe bacterial infections. He mentioned the higher frequency of *Klebsiella*, *Pneumococcal*, and anerobic infections in liver patients with alcoholism. Also he reminded the group that the patient has a history of tuberculosis, and although the history said that she was treated, it is something to keep in mind. Dr. Trotter agreed with the choice of antibiotics used by the Nepali residents, and said that the usual cause of a markedly elevated white blood cell count is bacterial infection, whether localized or spread through the body.

The resident physicians asked questions to the professors, and provided follow-up information, which stimulated more discussion. It was noted that after the hospitalization, the patient was followed up, and found to have a persistently high white blood cell count, but otherwise the patient was clinically improved. Dr. Molokie suggested broadening the differential diagnosis, including considering primary bone marrow disorders, in explaining the high white blood cell count. Dr. Trotter said infection should be obvious based on physical exam findings.

The mystery and beauty of clinical medicine was clearly revealed in this case and by the ensuing discussions. Thankfully the patient improved even though not every aspect of the case was understood. It truly is amazing that each patient presents a new opportunity for physicians to learn about the intersection between the human condition and the clinical pathophysiology which is our 'bread and butter' knowledge base.

*Dushyant Viswanathan, M.D.*

## **Malignant Hematology Review**

Hematology/oncology specialists in partnership with BTF are organizing an international review course covering many topics in the specialty, with an aim of fostering education among providers and improving outcomes among patients who receive care for cancer and blood disorders around the world. Specialists in conjunction with BTF will serve as faculty, and target audience will include practicing hematology/oncology specialists in India, Nepal, Bangladesh, Sri Lanka, and Pakistan. The web-based technologies will be able to connect twenty-five computers at once to the telemedicine review course.

Dr. Damiano Rondelli, director of the Bone Marrow Transplant Service at the University of Illinois, Chicago, will serve as coordinator of the project. Dr. Rondelli is a specialist in Transplant Immunology and Hematopoietic Stem Cell Transplantation.

The curriculum will begin with an overall introduction to and assessment of essential hematological diagnostic tests. This will be spread over two lectures. Then major hematologic malignancies will be discussed individually. Acute and Chronic Myelogenous and Lymphocytic Leukemias, Non-Hodgkins Lymphoma, Hodgkins Lymphoma, and Multiple Myeloma will each be explored. Genetics, clinical presentation, diagnosis, treatment, and prognosis will be addressed with each disorder, with a special focus on clinical practice and patient management. Further delineation of specifics of the curriculum will be released on the BTF website in the months to come. We thank all of the volunteer professors for their time in creating this course.

*Dushyant Viswanathan, M.D.*

## **Physician Training Initiative in Blood Bank services**

Arrangements are being made to have BTF-designated physicians from Nepal to go to India to learn the technical essentials in operating and managing a blood bank. Dr. Divyesh Mehta will head up the project aimed to improve the quality and availability of blood bank services available in Nepal. Blood bank services are commonly employed for routine inpatient care, and are central to the management of cancer and hematologic illness.

BTF is making arrangements to have two Nepali physicians go to modern blood banks for hands-on training, including learning about financing, staffing, equipment, and technical aspects of having a blood bank. Training in logistical matters will be followed by at least one month of learning by the side of a blood bank technician. Essential skills to be learned include collecting and storing blood, making use of refrigerated centrifuges for separating blood components, storage in sub-freezing settings, diagnostic testing for hepatitis B, hepatitis C, and HIV.

*Dushyant Viswanathan, M.D.*

## Stem Cell Transplantation

Bone marrow transplantation is a procedure in which donor stem cells are given to suitable recipients suffering from certain hematologic diseases. Stem cells are a special type of cell that are pluripotent- they have great potential of multiplication and can mature into any other form of cell. Most stem cells that generate blood cells are found in bone marrow (that is present inside the flat bones of our body), peripheral blood (blood in our vessels), and cord blood (blood in the umbilical cord).

Various medical conditions require stem cell bone marrow transplantation (SCT). SCT may be required when the production of all three cell lines in the bone marrow is impaired as in aplastic anemia, or in the setting of malignant conditions such as *lymphoma* or *leukemia*. Bone marrow transfusion can be curative if successful.

The procedure of Stem Cell Transplantation is as follows:

1. First the HLA matched donor is found. HLA are protein molecules on the surfaces of cells that are genetically unique to each person. The chance of siblings being HLA-matched is high. Sometimes non siblings can also be HLA matched donor. The National Marrow Donor Program manages the registry of people, and performs the match according to HLA compatibility.
2. Stem cells are taken from a healthy donor
3. The recipient undergoes wiping of his/her own bone marrow by use of chemotherapy or radiotherapy. This is done to ensure that recipient white blood cells do not mount an attack on donor stem cells.
3. Donor stem cells are transfused through a central vein in the recipient.
4. If the cells find their way to the bone marrow, they start regenerating blood cells. It takes several weeks to repopulate the body's blood cells.

The National Marrow Donor Program (NMDP) facilitates the process of stem cell transplantation. It maintains the registry of people who are willing to donate bone marrow. It matches patient with donors, facilitates health education, and conducts various research. "Be the Match" is the world's largest adult bone marrow registry. It has listed more than 9 million people. It lists the people who are potential bone marrow donors and also the people who have donated cord blood units.

Obviously SCT has risks. They are as follows:

1. Chemotherapy to wipe clean the recipient's bone marrow makes the patient immunocompromised (there is no immune system since all the native white cells are destroyed). Consequently there is increased risk of infection.
2. Sometimes a condition called graft versus host disease (GVHD) can occur. In this condition, the cells from the donor start destroying the body cells of the recipient patients. It may manifests as diarrhea, liver problems etc.
3. Sometimes patients who are undergoing SCT can develop severe and complex medical complications that require prolonged hospitalization.

Benefits of the procedure are that it can offer cure in patients with aplastic anemia, sickle cell disease, lymphoma, leukemia, and other blood disorders.

Why should we register for the bone marrow registry? The answer is that as many as seventy percent of patients who need SCT cannot find an HLA-matched donor within their own family. They must find a suitable match in the population at large. The NMDP maintains the list of possible donors.

For More information, explore <http://marrow.org/Home.aspx>

*Anup Shrestha, M.B.B.S.*

## **Pemetrexed-induced aseptic meningitis**

The research team of BTF Founder Binay Shah, M.D. reported in an article published in *Acta Oncologica* a case of aseptic meningitis associated with intravenous (IV) administration of pemetrexed.

Pemetrexed is a chemotherapy drug classified as a folate antimetabolite. It is chemically similar to methotrexate. Pemetrexed is approved for the treatment of mesothelioma, locally advanced and metastatic non-squamous non-small cell lung cancers.

As an increasingly large number of patients are exposed to any new drug, uncommon but serious adverse drug reactions may come to light. To the best of our knowledge, this is the first case of pemetrexed-induced aseptic meningitis. Healthcare providers should be aware of this severe adverse event of pemetrexed.

## **BTF Research Grant Award, 2011**

BTF will be awarding its 2011 research grant to Smith Giri, M.B.B.S. of Tribhuvan University Hospital, Nepal, who proposed a research project aimed at investigating the incidence of Intrauterine Growth Retardation (IUGR), as well as the major maternal and socioeconomic risk factors associated with it. One of the aims of the research is to provide data that can be used to generate policy recommendations to greater serve the general public.

Dr. Giri provides an excellent background summary of the problem itself:

*The “World Health Organization” has defined Low Birth Weight (LBW) as the weight less than 2500g at birth regardless of gestational age. Broadly, the birth weights may be low because the baby is born small for gestational age (SGA), as a result of intrauterine growth retardation (IUGR) or because birth is preterm. In the developed countries, majority of LBW infants are preterm, whereas in the developing nations, including South Asia, the reverse is the case.*

*Low birth weight (LBW) is a challenging public health problem. Globally, LBW contributes to 40-60% of newborn mortality. In terms of incidence, there are wide regional disparities with developing countries bearing the major brunt. Asia has the lowest mean birth weight babies in the world. South Asia has the highest prevalence of LBW and the disparity in comparison to developed countries and some developing regions (Africa) is obvious. In fact, the latest projections indicate that more than half of the world’s LBW babies are born in South Asia.*

*Nepal, being a developing country, has a high incidence of Low Birth Weight and IUGR. In Nepal, studies have shown that LBW is highly prevalent ranging from 11.9% to 32%. A multi hospital based study in Nepal 2000 found the overall prevalence of LBW at 27% out of which 70% were due to IUGR.*

*Low birth weight (LBW) puts a newborn at increased risk of death and illness and limits*

*their potential in the adulthood. These babies are at an increased risk of asphyxia, hypoglycemia, polycythemia, hyperviscosity, hypothermia and are more prone to have impaired neurodevelopment and increased risk of diabetes mellitus in adult life. Such babies remain a burden on government expense in developed countries and a permanent problem for their families in developing countries.*

*Several maternal and socio-economic factors have been identified as major risk factors for LBW and IUGR. Some of them are low maternal weight and height, primiparity, short birth interval, chronic health problems in the mother, smoking and alcohol use, maternal/fetal infections, placental insufficiency, inadequate maternal weight gain, socio-economic factors such as low income and lack of education.*

*(from Dr. Giri's abstract)*

## **A Comment regarding human micronutrient intake**

Human beings, like any primates, require micronutrients for optimal cellular health. Cellular health, in turn, is necessary for organ system health and overall organismal health. There is considerable epidemiologic and retrospective evidence to indicate that insufficient micronutrient intake is an essential etiologic factor in the pathogenesis of the chronic disease and obesity epidemics that are threatening to overwhelm our species.

By micronutrients, I refer to essential cofactors, enzymes, vitamins, minerals, substrates, amino acids, nucleic acids, and fats that are the basic fuels that power each individual cell. I refer to cobalt, phosphatidylcholine, chromium, manganese, acetyl cysteine, cholecalciferol, ascorbic acid, zinc, glutamine, etc. When the human being doesn't eat enough of such basic fuels, maladaptive physiologic processes occur due to cellular stress and disease. Such stress goes on to affect multiple organ systems and physiologic processes. For example, relative cobalt deficiency leads to gastrointestinal estrogen loss. This is significant to the millions of post-menopausal women dealing with estrogen insufficiency.

Another example is inadequate anti-oxidant intake which leads to oxidative stress that overwhelms mitochondria. The net effect of such cellular disease is the release of inflammatory cytokines, another maladaptive mechanism which leads to more disease. It is now understood that chronic inflammation due to cellular stress and influenced by epigenetic mechanisms is the basic cause of all diseases of our modern world, from atherosclerosis to cancer.

Unfortunately it is not known how much micronutrient intake is optimal for a human being. We can observe how non-human primates eat, and this should be quite educational, since it is the micronutrient intake of primates which led to the evolution of the primate brain and hence the advent of the human brain. What do primates eat? Fortunately, primatologists have explored this question with more scientific precision than have their counterparts who study our species. An article published out of UC Berkeley in 2003 in *Comparative Biochemistry and Physiology* delineates the details:

*Among primates, the great apes are most closely related to humans, and considerable data indicates that we shared a common ancestor 7 million years ago. The natural diets of wild orangutans, chimpanzees, and gorillas are composed almost exclusively of plant-based foods (>97%). The average chimpanzee diet is composed mostly of ripe fruits...all great apes are strongly herbivorous...dentition of fossil apes from 15 million years ago indicates a plant-eating way of life...Furthermore fruits available in the jungles of Panama, Samoa, and Cameroon contain more potassium, calcium, and phosphorus than do cultivated fruits available in the USA. Compared to cultivated Samoan fruits, wild Samoan fruits contain significantly more copper, iron, and calcium...plentiful data indicates that wild fruits available to primates contain more minerals than do cultivated counterparts...Howler monkeys take in significantly higher quantities of minerals compared to human RDAs (recommended daily allowances). A 7kg howler monkey, for example, will consume 600g of fruit and 400g of plant material, which together yields 614mg of Vitamin C. The human RDA for Vitamin C is 70mg for a 70kg human, implying that monkeys take in significantly more Vitamin C per kg body weight compared to human RDAs.*

I would like to highlight two take-away points from this: firstly that processed/cultivated foods are nutritionally depleted compared to fresh/wild counterparts, and secondly, that humans do not eat enough micronutrients.

Even if we don't know the micronutrient constitution of every edible thing in our lives, physicians must be able to provide basic common sense advice about micronutrient intake. The analogy I use when I speak with my patients is that of 'putting fuel in one's system.' Any of my patients acknowledge that pouring water or soda into a car gas tank is inappropriate, and that the outcome of such an action is obvious. The same applies to the human body. The human body requires the proper fuel- that fuel is rich in micronutrients found in vegetables, whole grains, fruits, fresh water, herbs, roots, and lean meats including fish. I especially adore the micronutrient treasure-troves found in yam, squash, beet, lentil, and shitake mushroom.

Micronutrients are noticeably absent in processed foods, junk food, processed red meats, packaged foods, and in foodstuffs containing carcinogenic substances such as high fructose corn syrup, phosphoric acid, indigestible starches, meal replacements: all human-made food-like substances that cannot be called 'food.'

Every day there are more obese children, more debilitated elders, and more chronically ill people living pain-filled, miserable lives via atherosclerotic blood vessels hanging off of osteoporotic bones. In the hospital we can temporarily stabilize the life-threatening problems engendered by disease-promoting lifestyles, but in the big picture, I fear we merely perpetuate the discrepancy. Please, talk to your patients about what they eat and how they live.

*Dushyant Viswanathan, M.D.*

## Clinical Application of Pranayama

One of the most practical, useful, and constantly overlooked therapeutic modalities we can offer patients is the application of mindful breathing techniques, the technical term for which is pranayama. Plentiful data exists in scientific literature attesting to clinical benefits as a result of performing these methods.

Pranayama actually is a general “umbrella” term encompassing a complex range of different breathing techniques. Examples include slow, deep breathing (slowing the respiratory rate to under six breaths per minute); holding the breath after inhalation to plateau pressure; rapid burst of large tidal volume inhalation and exhalation (aka fire breathing); alternate nostril breathing; and abdominal (diaphragmatic) breathing. Such methods are among the few available to humans that can significantly affect physiologic states immediately, and which can reliably lead to clinical goals in a relatively short amount of time.

A simple Google Scholar or PubMed search can reveal the actual trials evaluating clinical efficacy. There are RCT’s published in peer-reviewed journals such as Lancet, Journal of Alternative and Complementary Medicine, and Lung India. Since there is no financial profit in studying pranayama, we must rely on the work of courageous researchers interested in potential clinical benefits. So for any administrators or health-system scholars reading this, let me just say that while pranayama isn’t included in standard of care, it should be since the methods are safe and efficacious.

Any clinician can attest to the epidemic of anxiety and depression among patients who have high rates of medical utilization in this country. Physicians routinely prescribe dangerous benzodiazepines, which like alcohol, merely increase GABAergic and consequently glutaminergic neuronal activity in the brain, leading to dependence and often abuse. Cessation of benzodiazepine medication can lead to withdrawal seizures due to unopposed glutaminergic activity.

In addition to making use of counseling and referral to psychiatry, physicians trained in pranayama can make use of its techniques to bring about immediate anxiolytic

effects. These effects are thought to be mediated by parasympathetic (sympatholytic) mechanisms. In fact, it is natural to recommend slow, deep breathing to anxious patients — we all do it anyway.

Pranayama is a systematic methodology which can be taught to patients, especially high-functioning patients with significant anxiety. Furthermore, the breathing methods equip patients to handle stress without the reflex action of reaching for pills. One can only wonder if the use of pranayama may have been beneficial to the many people (including Heath Ledger and Michael Jackson) who died from overuse of anxiolytic and narcotic medication.

Any respiratory physiologist can attest to the influence breathing has on overall body physiology. Changes in tidal volume and respiratory rate as a result of pranayama cause the following effects (possibly due to vagal mechanisms): lowering of heart rate, lowering of systemic blood pressure, changes in patterns of cerebral vasodilation and vasoconstriction, electroencephalographically measurable changes in brain electrical activity, sympatholytic activity, changes in peripheral perfusion, and increased pulmonary vasodilation.

However, pranayama should only be taught by a properly trained physician. I have witnessed migraines and hyperventilation induced by improperly practiced breathing methods. So while the methods in general are safe, they must be properly performed.

I have also used pranayama to help patients with emphysema. Chronic lung disease patients are taught diaphragmatic breathing in pulmonary rehabilitation programs, and these methods have shown demonstrable benefits. For chronic heart disease patients, pranayama has also been shown to be useful. Dr. Dean Ornish, founder of the Preventive Medicine Research Institute, uses pranayama in his therapeutic program, which has been shown to significantly improve myocardial performance. Also, the methods are useful for chronic pain patients.

System designers and administrators must be aware of the narcotic medication and chronic pain epidemics sweeping this country. I include pranayama methods for all my chronic pain patients, all of whom feel the beneficial effects within minutes.

As physicians, we must be teachers. We must teach patients how to eat, how to maintain good posture (poor posture is an essential etiologic factor in chronic low-back pain and pain related to lumbar degenerative disc disease), and how to breathe. This should be part of basic, cost-effective primary care. You can prove this to yourself. Any human can feel the effects of the healthy lifestyle immediately upon its implementation. Pranayama is an important component of the healthy lifestyle and has been practiced in India and China for thousands of years.

*Dushyant Viswanathan, M.D.*

## Looking For C.U.R.E

Lookingforcure.org is a website dedicated to spreading information and knowledge about breast cancer. As co-founder Divyesh Mehta, M.D. says, “Breast cancer is our concern as it is yours. Your concern is valid and vital. It is only knowledge about this disease that will empower you or your loved ones to make smart choices. We want to provide you with unbiased scientific information about various aspects of this disease...in a sea of information, is there an island of sanity?” Clearly lookingforcure.org is such a refuge for those overwhelmed by the sea.

The site features factual information about prevention, screening, diagnosis, and treatment of the various types of breast cancer, and all materials are written by specialists and researchers in medical and surgical oncology, with contributions from internists and reconstructive surgeons. Contributors hail from house staff and faculty at the University of Illinois Medical Center, in partnership with its affiliated medical schools.

C.U.R.E stands for, “Cancer Patients Utilizing Resources and Education.” We live in age of patients making their own well-informed decisions. Thankfully patients no longer merely accept in the classic patriarchic sense the recommendations of their physician. People who find themselves or their loved ones dealing with breast cancer must equip themselves with information, resources, and support, and make the best choices, taking into account not only the purely scientific, but also the deeply subjective and personal factors. The autonomy of the individual is a central feature of modern American medical care. This point has recently been in the public eye with regard to the story of the late Steve Jobs’ battle with pancreatic cancer; his personal choice and autonomy was paramount while he received possibly the best medical care money could buy.

Lookingforcure.org is especially welcome in light of the overabundance of information on the internet about breast cancer, much of which is not up-to-date, evidence-based. Furthermore, the various articles take as a starting point the exact place a typical patient may find herself. Articles entitled “*I found a lump...what do I do now?*” and “*I was just diagnosed with breast cancer...now what?*” demonstrate deep empathy for patients, while providing the space to move forward.

Many people in America today find themselves having to face breast cancer. The author has had to address it both in his patients and in his own family members. No two tumors are alike, despite histopathologic similarities; many factors are involved, and we at BTF encourage reaching out to utilize available resources, as well as looking inward for emotional and spiritual support if you or your loved ones are dealing with this illness facing millions.

*Dushyant Viswanathan, M.D.*

## *Upliftment & Unity, Chicago 2012*

BTF will host a fundraising event in Chicago that will take place early summer 2012. Proceeds will be used toward the creation of the first Stem Cell Transplant Cancer Treatment Center in Nepal.

The evening will begin with a cocktail hour featuring a premium full bar, hors d'oeuvres, and an elegant dinner followed by a vibrant Indian classical dance presentation featuring world-renowned performer and Creative Director of Muvements Media & Arts, Priya Narthakii. This event will support the foundation's efforts of building a Stem Cell Transplant Facility that can provide allogeneic and autologous stem cell transplantation for the cure of certain blood disorders, leukemia, and lymphoma in Nepal.

Named *Upliftment & Unity* to highlight the interconnectedness of humanity and to honor Binaytara Foundation's mission to ensure that every human being in society has access to needed healthcare, the show will be choreographed especially for this event. It will showcase purely classical pieces in the south Indian classical dance style (Bharatanatyam) known for its brisk vigor, geometry, precision and intense expression. The avant-garde second half will focus on mythical creatures of civilizations past, summoned from the mystic totem to portray the collective story of man's upward journey toward inner peace.

Priya Narthakii started her Indian classical dancing career by making her first stage appearance at the tender age of two and a half and has been acclaimed by critics and connoisseurs as a child prodigy. Under the meticulous and intense guidance of her mother and mentor - dance maestro [Guru Uma Suresh](#), Founder and Creative Director of Natya Priya Dance Academy and a disciple of grand masters 'Padmasri' Vazhuvoor Ramiah Pillai, 'Padmabhushan' Kamala, and Dr. Vempatti Chinna Sathyam-Kuchipudi, Priya has given over four hundred performances in prestigious venues around the world. Priya is currently the Creative Director and Founder of Muvements Media & Arts ([www.muvements.com](http://www.muvements.com)) an Illinois based organization committed to the use of dance, yoga, word and design as cornerstones for the creation of unique experiences that lead to personal renewal.

## The Healthy Lifestyle

Over the past one hundred years we have seen the progressive advent of chronic medical illnesses such as systemic atherosclerosis, cancer, heart disease, kidney disease, and metabolic syndrome that is directly concordant with increasingly unhealthy lifestyles. Specifically I refer to high stress, sedentary habits, and the ingestion of processed foodstuffs high in animal fat and synthetic chemicals. Every chronic illness we see today can be linked to the unhealthy lifestyle. Even with respect to cancer, only less than 5% of cancers are purely genetic in origin; the remainder is caused by damage to genes from insults that come from outside of the cell nucleus. Therefore, the theme of this column is to discuss essential aspects and emphasize the importance of the healthy lifestyle.

The healthy lifestyle is no secret to humanity nor to physicians; it has been the indubitable and reliable source of healing for thousands of years, and has been discussed by our ancestors and their physicians. Hippocrates said, “Walking is man’s best medicine; leave your drugs in the chemist’s pot if you can heal the patient with food.” More recent experts are in agreement. Dr. T. Colin Campbell of Cornell University has compiled a considerable amount of data attesting to the toxic effects of a processed meat and dairy rich diet, and the therapeutic benefits (unequaled by any medication) of a plant-based diet. Dr. Dean Ornish of the University of California, San Francisco has published data in numerous journals detailing how a comprehensive healthy lifestyle can not only prevent illness, but also reverse prostate cancer and ischemic cardiomyopathy.

Yet the majority of allopathic physicians rely almost exclusively on pharmaceutical drugs to treat medical illness. Simply put, this is colossally inadequate. Patients who receive care from allopathic physicians rarely heal, they become progressively sicker, and increasingly turn towards alternative and complementary forms of medicine: indeed the wellness industry has now blossomed into a trillion dollar industry.

My thesis is that the healthy lifestyle should be the 1<sup>st</sup> line treatment for any illness, and should be the 1<sup>st</sup> line of prevention for anyone who is headed for illness. In addition to having more substantiating data than any therapeutic modality known to mankind, the healthy lifestyle is exactly the lifestyle practiced by humans for millennia. Ingestion of fresh

vegetables, fruits, legumes, grains, fresh lean meats, being highly physically active, responding to stresses but not holding onto the mental impressions of those stresses thereafter, a sense of belonging to one's social network as well as to one's land, a healthy emotional life, and a sense of spiritual connectedness, continued learning even into one's elder years, and perhaps most important, a sense of having a purpose in one's life, are all components of the healthy lifestyle that will be explored here and in future essays.

Pathophysiologically all of this makes sense: to survive, the human organism must have healthy organs and tissues, including bloodstream. Buildup of toxins, remodeling hormones, inflammatory cytokines, heavy metals, and free radicals have been shown to be etiologic in the pathogenesis of most chronic illnesses plaguing our brethren today. These substances lead to disease at the cellular level, and DNA is frequently damaged. This is why there are alarming rates of increased cancer incidence in the world today, significantly increased compared to even a few decades ago. This is explained because as a species we have moved away from the healthy lifestyle espoused by our ancestors, the lifestyle essential for existence as a human being.

Sociologically and from a systems perspective, this makes sense as well. Major companies are realizing this and incentivizing their employees to quit smoking and practice the healthy lifestyle. Insurance companies should also fix premium rates according to lifestyle issues (especially now that pre-existing conditions cannot be a reason to deny insurance). Hospital administrators should institutionalize the healthy lifestyle, as it has been proven repeatedly to be the best method for healing chronic illness. A healthier person is less likely to be medically expensive, and even a very sick person who has acutely improved lifestyle and diet is less likely to have complications than a comparable sick person who has not made such changes. A simple and inexpensive method that can be done now is to change the food given to patients in hospitals and nursing homes. The only foods that should be served in such settings are plant-based, whole-grain diets with no dairy or meat.

It is common sense isn't it? Well it isn't so common. Which necessitates the writing of this essay. I write this with an extraordinary sense of urgency. As an internal medicine

specialist working in an urban American hospital, all I see are diseases related to lifestyle. These diseases are not managed adequately by most physicians who simply prescribe pharmaceutical drugs. People are getting sicker, more depressed, and have a worsened quality of life when chronically ill. Medicare expenditures are rising in a failing attempt to meet this crisis. It is finally time to pay attention to the obvious. We must make comprehensive lifestyle changes the cornerstone of healthcare today. Future issues will elucidate the fine details of the healthy lifestyle as treatment for illness.

*Dushyant Viswanathan, M.D.*

## Global Perspectives from a young physician

*Education for a global perspective is that learning which enhances the individual's ability to understand his or her condition in the community and the world and improves the ability to make effective judgments. It includes the study of nations, cultures, and civilizations, including our own pluralistic society and the societies of other peoples, with a focus on understanding how these are all interconnected and how they change, and on the individual's responsibility in this process. It provides the individual with a realistic perspective on world issues, problems and prospects, and an awareness of the relationships between an individual's enlightened self-interest and the concerns of people elsewhere in the world. –Robert Harvey, 1776*

A global perspective is one that sees the big picture of what confronts the human species all around the planet today. Beyond ethnicity, nationality, race, clan, tribe, religious group, and all the affiliations with which humans have identified, it is becoming increasingly imperative to view things from the perspective of the *species* as one.

Global perspectives for a physician require and involve the knowledge or experience about various cultures and languages around the world, as well as an ability to be comfortable with patients from various parts of the world. Such a perspective puts the provider at ease while dealing with complicated patients. The significance of this increase in the context of the extraordinarily varied patient population an American physician encounters each day in the United States.

Global perspectives may be essential for the future of American medicine itself- and increasing number of physicians practicing in the United States are trained abroad. Nearly twenty-five percent of physicians in US allopathic training program in 2003-2004 were International Medical Graduates (IMG). The percentage of IMGs continues to increase to meet the high physician demand, especially in impoverished and destitute urban and rural areas throughout the country. International Medical Graduates hail from 127 countries. This has led to a global representation in physician demographics.

From the physician's perspective, training and working in various countries offers an opportunity to learn about other cultures. This comes in handy as routinely a physician may encounter persons speaking different languages, practicing different religions, and having different ethnic backgrounds while conducting daily rounds in the hospital.

Beyond training, working abroad is an increasingly popular career route for young physicians. There are various institutions that have prioritized their needs in global healthcare and work to meet these needs. One such organization is *Medicine Sans Frontiers*, aka *Doctors Without Borders*. Medicine sans frontiers is a secular humanitarian organization based in Geneva, Switzerland, which provides health care to war-stricken areas of world. This heroic organization was created by French doctors and journalists in the aftermath of Biafara Secession. The core idea of the institution is that *every person has the right for health regardless of race, creed, religion, or political affiliation*. As of 2007, MSF employed more than 26,000 medical and logistical experts who provide medical aid to more than 60 countries.

I consider myself a physician with a global perspective. I was born abroad, speak several languages, have traveled around the world, and I will be coming to the United States for residency training. I look forward to working with state of the art technology in some of the best hospitals in the world. I want to be of service to my fellow man, regardless of what country I am in. Fundamentally the essence and beauty of the medical profession lies in the service of human kind, regardless of creed, gender, nationality and political affiliation.

*Anup Shrestha, M.B.B.S*

## Online Blog

The official BTF website, <http://binayfoundation.org/>, welcomes regular blog writers, to write on topics related to clinical medicine, telemedicine, global health, humanitarian work, public health, international relations, upliftment of humanity, the history of medicine, comprehensive healing, or related topics. For more information, contact media contact Dushyant Viswanathan at [spirallydv8@gmail.com](mailto:spirallydv8@gmail.com)

## Donations

BTF is a collaborative effort bringing together talented people from diverse areas of interest and skill. We welcome you or anyone you know to become involved- whether you are a donor, physician, social worker, civil servant, or compassionate human being with a desire to serve his fellow man.

We live in a world replete with forces promoting inequality, class struggle, and the increasing chasm between those with resources and those who lack. In asking for donations and contributions, we appeal to our humanity, to the essential goodness within our hearts that compel us to act when we see our fellow human in states of preventable suffering and turmoil. Your donations contribute to the improvement of lives around the world!

All donations go directly to the projects. BTF workers are all volunteers, and do not use donations to fund travel and administrative expenses. BTF is a United States-based Illinois non-profit organization exempt from taxation pursuant to Section 501(c) (3) of the Internal Revenue Code. In addition to the telemedicine projects that will spread to more developing countries, BTF provides medical research grants to medical students and scholarships to underprivileged children every year.