

IDF ADVOCATE

THE NATIONAL NEWSLETTER OF THE IMMUNE DEFICIENCY FOUNDATION



PAGE 1

IDF funds vital research



PAGE 4

CME on the Internet



PAGE 5

West Nile virus: the basics



FPO

PAGE 6

Smallpox policy recommendations



This newsletter is sponsored by an educational grant from Bayer Corporation



Funding the Future



A CONTINUING SERIES ON IDF CORE SERVICES

In this issue of the *IDF Advocate*, we present a third article that focuses on IDF's Core Services Programs and how they improve the health and quality of life of people with primary immune deficiencies. This article explains the vital process of supporting and guiding research related to primary immune deficiencies, and the resulting benefits to patients and their families.

New ideas at risk

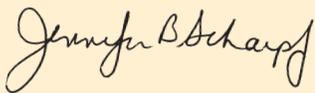
Let's say you're a young medical professional who has developed an interesting insight about the way certain molecules interact, or about the prevalence of a particular characteristic among patients who have a disease. You'd like to explore your idea further, for several reasons: your own curiosity; the hope that your idea could lead to a new diagnostic method or treatment that will help thousands or even millions of people; the opportunity to build your career and develop additional ideas.

Whether you will in fact explore your idea, and accomplish any of the other possibilities, depends largely on financial resources. And your ability to find those resources depends on the existence of funding sources that might see value in your idea, and your ability and determination to convince them to support your work.

All of which means that your idea, and all the potential it holds, is at risk of never being developed. That's a situation the Immune Deficiency Foundation seeks to remedy.

A MESSAGE FROM THE EDITOR

In this issue of *IDF Advocate*, you will learn about many of the resources and services offered by the Immune Deficiency Foundation. Whether you are a patient, family member or health professional, we encourage you to become actively involved with IDF to benefit from programs designed to meet your needs. We welcome families to attend local Operation Outreach meetings or Family Retreat weekends. Newly diagnosed individuals can contact IDF to request free publications, ask questions related to diagnosis or genetics, or talk with others affected by primary immune deficiency diseases. Health professionals, IDF now offers you the opportunity to earn continuing education credit on-line. These are just a few examples of why you should get connected with IDF. Visit www.primaryimmune.org or call 800-296-4433 to find out how IDF is working for you!



IDF ADVOCATE

EDITOR

Jennifer B. Scharpf, M.PH.

MEDICAL EDITOR

Jonathan Goldsmith, M.D.

IDF Advocate is published quarterly by the Immune Deficiency Foundation. To obtain a free subscription, please contact:

The Editor

IDF Advocate

Immune Deficiency Foundation
40 West Chesapeake Avenue, Suite 308
Towson, Maryland 21204

Toll Free 800-296-4433

Direct 410-321-6647

Fax 410-321-9165

E-mail idf@primaryimmune.org

Web site www.primaryimmune.org

Copyright © 2002 by the Immune Deficiency Foundation.

The Immune Deficiency Foundation is a publicly supported tax-exempt organization as described under Section 501(C)(3) of the Internal Revenue Code of 1954, as amended.

Supporting and guiding research

Despite the development of IGIV, bone marrow transplantation, and other therapies, many people with primary immune deficiencies still face significant health problems. States IDF Medical Director Jonathan Goldsmith, M.D., “To develop better therapies, and to find preventive measures and even cures, research is needed. Of course, there are individuals, foundations, and government organizations that support medical research. IDF has been instrumental in directing these sources’ funds to projects that benefit the immune-deficient population. But such support, while critical, is not enough to develop the innovative therapies we need. IDF must also fund research directly, which is why we reserve a portion of our Core Services Grants from industry to support research.”

By funding new research through competitively awarded IDF Research Grants and IDF Research Fellowships, the Foundation obtains four benefits: we ensure that research specific to primary immune deficiencies is performed; we attract bright young people to the field and retain them; we help researchers achieve successes that will enable them to qualify for larger grants from other sources; and we encourage the national discussion of primary immune deficiencies, and the new ideas that discussion generates.

CGD and cognitive function: an IDF Research Grant

Maryland Pao, M.D. is a pediatrician and child psychiatrist. In collaboration with Steven M. Holland, M.D., an infectious disease specialist at the National Institutes of Health, she and a team of researchers evaluated kids with chronic granulomatous disease (CGD), observing that the children had behavioral and school problems. “We didn’t know the cause,” Dr. Pao

states. “Was it from being sick a lot and out of school? Or an aspect of the disease? There are immune deficiencies associated with mental retardation, but CGD isn’t one of them.”

Dr. Pao applied for and won an IDF Research Grant as “extension funding” so she could investigate further. Administering cognitive function tests and psychiatric screenings, her team found that a selected population of CGD patients had lower IQs than expected. In addition, many had behavioral problems. “Some CGD patients have problems in attention, learning or memory. These may be related to the biochemical aspects of the disease, but they might also be related to being sick and in the hospital, with all the disruption of school and home life that entails. We need to do more work to determine what the primary cause is. If we can, we may be able to intervene early and develop therapies to improve the quality of life for CGD patients.” These findings might be relevant to children with other primary immune disorders or chronic illnesses as well.

Dr. Pao cites the IDF Research Grant as critical to her investigations. “You need pilot data to get research going,” she explains. “If you’re a beginning researcher who is mainly a clinician and not a basic scientist, you need to limit your commitment to the clinic if you’re going to find time to translate your clinical observation into scientific evidence. Funding from IDF lets me do that. No other funding source would back this study at this stage. If we can assemble solid data with IDF’s support, we will be able to get other sources and centers to participate, and see the research through to completion.”

The WAS protein and gene therapy: an IDF Research Fellowship

The idea that a physician could inject a patient with a healthy gene to replace and correct the function of an unhealthy one is called gene therapy.

It is an approach with great potential for curing disease, but to date has proven limited in application. One major problem is our inability to understand the complex intercellular interactions that cascade from even a single gene's instructions, when many of the body's functions—and diseases—are controlled by more than one gene. The interactions of immune system cells are no exception, and IDF funds a number of different research projects attempting to define and make use of such information so that the potential of gene therapy might be realized for primary immune deficiencies.

Yatin M. Vyas, M.D. of the Memorial Sloan-Kettering Cancer Center is a pediatric oncologist whose research interests in cancer and immunology have led him to explore gene therapy and cell-cell interactions. He has established a technology called immunofluorescence digital microscopy which depicts cell cross-sections as small as 0.1 micron in width. The approach permits highly detailed visualization of cellular activity, without disrupting it. Because Sloan-Kettering is a tertiary care center, Dr. Vyas frequently sees children with primary immune deficiencies. In the course of treating boys with Wiskott-Aldrich Syndrome (WAS), he realized that the protein produced by the WAS gene in lymphocytes would be useful to explore cell-cell interaction.

"The WAS protein has tremendous influence over the inherent function of the lymphocyte," explains Dr. Vyas. "So you can really see what happens when you remove the protein from the cascade of gene-directed cell activities, and thus learn what gene therapy might accomplish. Plus, WAS is one of the few naturally occurring diseases with implications for understanding signalling defects as they occur in other immune deficiency disorders."

Dr. Vyas continues, "I was interested in single-cell analysis, had the instruments for it, and had the right place to start. But without the IDF fellowship I wouldn't have been able to move forward, because I work in a

basic science lab where the primary emphasis is not on WAS or monogenetic defects in humans. With the IDF fellowship, and then related grants from the American Society of Hematology and the NIH, I have been able to develop and expand the project, and hope one day to bring new therapies to the clinic."

How you can help

The Champions Circle of Support (see inset below) is a group of companies committed to assisting IDF in accomplishing its Core Services, including funding for IDF Research Grants and Fellowships. People with primary immune deficiencies and their families can further the cause of research in several ways: donating to the IDF research fund; participating in research studies; and advocating for increased research funding on a national level. If you would like more information concerning IDF research funding, research programs in your area, or how to ask your Congressional representatives to support increased funding, please contact Tamara Brown at 800-296-4433.

IDF RESEARCH SUPPORT

2002 IDF Research Grants

- Donald B. Kohn, M.D., Children's Hospital of Los Angeles, Division of Research: "Lentiviral Vectors Using the Wiskott-Aldrich Syndrome Protein Promoter"
- Maryland Pao, M.D., Children's National Medical Center, Washington, D.C.: "Cognitive Function in Leukocyte Disorders"
- Kathleen E. Sullivan, M.D., Ph.D., Division of Immunologic and Infectious Diseases, Children's Hospital of Philadelphia: "The Consequences of Thymic Hypoplasia in Chromosome 22q 11.2 Deletion (Di George) Syndrome"
- Naomi Taylor, M.D., Ph.D., Institut de Genetique Moleculaire de Montpellier, France: "Modulating T-cell Differentiation and Activation via Gene Transfer: Model of ZAP-70 Immunodeficiency"

2002 IDF Research Fellowship

Yatin M. Vyas, M.D., Memorial Sloan-Kettering Cancer Center: "Natural Killer Immune Synapse in Wiskott-Aldrich Syndrome"

Primary Immunodeficiencies Diseases Registry

This comprehensive record defines the minimum estimates of the prevalence of eight primary immune deficiency diseases in the United States, provides a comprehensive clinical picture of the diseases, and serves as a resource for clinical and laboratory research.

IDF CHAMPIONS CIRCLE OF SUPPORT

2002 CORE SERVICES

Services to Individuals and Families
 IDF Hotline
 Patient Advocacy
 IDF Local Volunteer Network
 Patient Notification System
 Scholarship Program

Public Policy

Blood Safety and Availability
 Access to Quality Health Care
 Support for Publicly Funded Research

Medical and Scientific Programs

Consulting Immunologist Program
 Fellowship Program
 IDF Research Grant Program
 Visiting Professor Program

2002 CHAMPIONS CIRCLE

Alpha Therapeutic Corporation
 American Red Cross
 Aventis Behring
 Baxter Healthcare Corporation
 Bayer Corporation
 FFF Enterprises, Inc.
 ZLB Bioplasma Inc.



IDF IN THE COMMUNITY

Second Annual "Spin for the Cure"

Connecticut volunteers Evelyn Maselli and Terri Lowell are gearing up for the second annual "Spin for the Cure" on Saturday, October 5, 2002. The inaugural "Spin for the Cure" in 2001 was a successful fundraising event and increased public awareness about primary immune deficiency diseases in the state. During the "Spin-a-thon" individuals gather pledges on behalf of the Immune Deficiency Foundation to ride stationary bikes in gyms throughout Connecticut. This year's event has expanded to the following locations:

- World Gym of Orange
- Venus of Milford
- World Gym of Branford
- World Gym of Trumbull.

In its first year, "Spin for the Cure" raised over \$6,200 to support IDF's Research Fund, which provides grants to clinicians and scientists researching primary immune deficiency diseases. In

2002, IDF awarded \$312,000 in support of research on primary immune deficiency diseases. Each year the fund continues to grow due to exciting and innovative programs such as "Spin for the Cure."

We need your support! If you would like to make a pledge to support "Spin for the Cure," please contact Jennifer Scharpf at IDF at 1-800-296-4433 or jb@primary-immune.org.

*Thank you to the "Spin for the Cure" sponsors:
A-1 Toyota, Baybrook Remodelers, Bayer Corporation,
HeartCare Association, J F Kelly Construction,
Milford Bank, Milford Podiatry, Yale University, Yale
New Haven Children's Hospital*

Operation Outreach

The Operation Outreach Program will soon travel to Madison, Wisconsin and Rochester, New York.

Operation Outreach, sponsored by Aventis Behring, provides educational and networking opportunities for individuals and families affected by primary immune deficiency diseases throughout the country. The day-long meetings will feature leading clinical immunologists addressing primary immune deficiency diseases and IGIV therapy, and insurance reimbursement specialists offering advice and resources to patients on how to work with health insurance companies. In addition, IDF representatives will introduce participants to the programs and services of the Foundation.

The following Operation Outreach meetings are planned for this fall:

Monona Terrace Convention Center
(Designed by Frank Lloyd Wright)
Madison, Wisconsin
Saturday, October 5, 2002

Bugundy Basin Inn
Rochester, New York
Saturday, November 2, 2002

"It's Not Really a Jungle Out There"

The 2002 IDF Family Retreats Program invites you to go on safari and seek out the latest information on primary immune deficiency diseases. In its fifth year, the Family Retreat Program offers a wonderful opportunity for individuals, families, physicians, and industry representatives to learn more about primary immune deficiency, and have a lot of fun at the same time.

Upcoming Family Retreat weekends:

Midwest – October 18-20, 2002
The Homestead, Glen Arbor, MI

Southeast – November 22-24, 2002
Simpsonwood Conference Center,
Norcross, GA

For more information on Operation Outreach or the Family Retreats, contact IDF at 800-296-4433 or idf@primaryimmune.org.

IDF Launches Internet-Based CME Course

The Immune Deficiency Foundation is excited to announce the first of a series of Continuing Medical Education (CME) courses on primary immune deficiency diseases. The Internet-based CME course titled, *The Clinical Presentation of Primary Immune Deficiency Diseases*, is designed to help health care providers better understand and diagnose primary immune deficiency diseases. Through a series of illustrative case studies, biopsies, X-rays and laboratory overviews, the course provides a comprehensive overview of primary immune deficiency diseases.

Jerry Winkelstein, M.D., a leading authority on primary immune deficiency diseases, developed the course

curriculum and presents the on-line lecture series. Dr. Winkelstein is a Professor at the Johns Hopkins University School of Medicine and Director of the Division of Immunology in the Department of Pediatrics at Johns Hopkins Hospital. He also serves as Chairman of the Immune Deficiency Foundation's Medical Advisory Committee.

Upon course completion, physicians and nurses will earn 1.5 continuing education credit hours required for license renewal. The course is accredited through the University of California, Davis, School of Medicine. To access the course, visit IDF's website at www.primaryimmune.org and click on "Continuing Medical Education."

This program is supported through an unrestricted educational grant from the American Red Cross.

The West Nile Virus: What is Known About an Emerging Virus?

The West Nile virus has received increasing attention this year due to outbreaks in several states. Older individuals and those with underlying illnesses, including immune deficiency, seem to be at increased risk for the more severe complications of infection. These clinical signs of infection range from none to fever, nausea, vomiting, flu-like symptoms as well as meningitis and encephalitis (inflammations of the covering of the brain and of the brain itself). It has therefore become important to increase our understanding of the virus and its potential impact on those with primary immune deficiency diseases.



Background

While the West Nile virus was first isolated in Uganda in 1937, it did not appear in North America until 1999. The virus is a member of the Flavivirus family, which also includes the Japanese and St. Louis encephalitis viruses, Yellow Fever virus, and Hepatitis C virus. These lipid-enveloped RNA viruses may be transmitted by blood-feeding insects, such as ticks and mosquitoes. In the case of the West Nile virus in the United States, typically the *Culex* mosquito carries the virus and spreads it to birds such as crows, jays or any of over a 100 species. The birds have the virus in their blood streams for one to four days, during which time other mosquitoes can become infected following a blood meal. Humans are only involved incidentally and generally do not serve as hosts for the spread of the virus to other mosquitoes because there is usually a limited period when the virus is in the blood. Handling a dead bird

does not seem to spread West Nile virus to humans, however health authorities recommend avoiding barehanded contact with the birds. While dogs may become infected they do not seem to develop a clinical illness. Horses have a significant mortality rate following infection with the virus.

Current cases

As of late September, there were 1,745 cases of West Nile virus and 84 deaths reported for 2002 in the United States. 24% of the cases were reported from Illinois, 14% from Louisiana, and about 13% from Michigan. In contrast, there were 62 cases of severe disease in 1999, 21 in 2000 and 66 in 2001. Confirmed cases in animals, humans, mosquitoes, or birds have been reported in all except six western states.

CDC is currently investigating the first ever reports of possible person-to-person spread of West Nile virus through transplanted organs and blood transfusion. The West Nile

virus appears to have been transmitted through donated organs and probably can be transmitted by blood transfusion.

Safety of IGIV

An important question for those with primary immune deficiency diseases is whether IGIV could be contaminated with West Nile virus. The good news is that there appears to be little to no risk for transmission of West Nile virus through the use of IGIV, for several reasons:

- Potential blood and plasma donors with West Nile virus may be ill with fever and not allowed to donate
- There is only a small chance that an infected person would have virus in the blood stream
- Viral inactivation techniques used on all IGIV products, including pasteurization and solvent detergent treatment, should inactivate the West Nile virus if it were present.

Reducing the risk of exposure

For everyone, including those with a primary immune deficiency disease, the best way to avoid the West Nile virus is to avoid exposure to mosquitoes. Some ways to accomplish this are:

- Reduce time outdoors, especially in the early evening hours
- Wear long pants and long-sleeved shirts
- Apply mosquito repellent containing DEET (N,N-diethyl-m-toluamide) to exposed skin areas following the manufacturer's recommendations

for dosing frequency, application, and clean-up.

Public health authorities have also undertaken measures to destroy mosquito habitats and to spray insecticides that kill mosquitoes.

West Nile virus infection through IGIV therapy seems to pose little risk to individuals with primary immune deficiency disease. However, these individuals face the same risks as the general population if bitten by an infected mosquito. Those with severe signs of infection are treated using supportive measures. There is active research in the area of vaccine development.

Developing Policy on Smallpox Vaccination

Over the past several months, IDF has worked diligently with the federal government to determine the best strategy to vaccinate the public against smallpox amid the threat of bioterrorism. Recognizing the potential adverse consequences to the primary immune deficient community that could result from mass vaccination, IDF developed a series of issues that would need to be considered under any proposed vaccination policy and shared these ideas at all levels of the government.

Advocating on behalf of individuals with compromised immune systems, Jonathan Goldsmith, M.D., IDF's Vice President of Medical Affairs, testified and proposed the IDF's strategies to the Center for Disease Control's Advisory Committee on Immunization Practices and its Working Group. In addition, Melissa Schweitzer, IDF's Patient Advocate Manager, and Mike Nunke, IDF Volunteer Peer Contact, presented testimony at CDC's Community Forums on smallpox vaccination in New York City and San Antonio, respectively.

The CDC's Advisory Committee on Immunization Practices developed recommendations on a vaccination policy in June 2002 that reflected the strategies put forth by IDF, including the following:

- Encouraging the development of a new hyperimmune vaccinia immune globulin to provide prophylaxis treatment to immune compromised individuals and others who may experience complications from vaccination
- Implementing a study to evaluate the protective benefit of IGIV and developing a reserve stockpile
- Developing and implementing immunologic screening questions to identify at-risk recipients if a vaccination program is initiated.



Photo courtesy of the Baltimore Area Convention and Visitors Association

IDF NATIONAL CONFERENCE JUNE 19-21, 2003

Save the date! The second IDF National Conference will be held in Baltimore, Maryland on June 19-21, 2003. The meeting will take place at the beautiful Marriott Waterfront Hotel on Baltimore's Inner Harbor.

The conference will bring together over one thousand individuals affected by primary immune deficiency diseases. In addition to providing a wealth of information about specific diagnoses, scientific advances in treatment and therapies, and innovations in disease management, there will be many opportunities for participants to network with others affected by primary immune deficiency. Other conference highlights include an informative exhibit hall and Youth Program. Conference attendees are also invited to participate in IDF Day on Capitol Hill on Thursday, June 19, 2003.

Registration materials for the 2003 IDF National Conference will be mailed in November and available on the IDF website at www.primaryimmune.org. Please mark your calendars for this momentous event. We look forward to seeing you in Baltimore!

"The IDF was able to play an important role in the development of this policy because we identified it early on as important to our community," said Jason Bablak, Vice



President for Public Policy. "By sending a consistent and rational message, through formal and informal settings, that the government needs to be aware of at-risk communities, and by providing specific actions that could reduce the risk to these communities posed by the vaccine, we were able to have a positive effect on the development of this policy."

The CDC Advisory Committee's recommendations were reviewed by the Department of Health and Human Services, the arm of the federal government responsible for establishing an official policy on smallpox vaccination. Based on these recommendations and other considerations, federal health officials have recommended that President Bush adopt a multiphase smallpox vaccination program for emergency medical personnel considered most at risk in the event of a bioterrorist attack. Some officials estimate that as many as 500,000 hospital workers could be offered the vaccine. IDF will implement a communications plan to inform patients and health professionals as details of this plan are released. Please check with the IDF website at www.primaryimmune.org to receive the most up-to-date information on this and other current issues.

GIFTS IN MEMORY OF...

Stella Anderson
Kiarah Dasque
Philip Jennings Miles
In Memory of Mother
D.J. Passalacqua
Harvey Preisler, M.D.
Andrew Valentine

GIFTS IN HONOR OF...

Allene C. Atwood
Mark H. Austin
Blaine and Noelle Marder's New Home
O'Colmain Wedding, in memory of
Gashaku Butoyi
Sara Pieser's Birthday
The Birth of Jeremy Scott Rosenberg
Judy Schott
Thomas Ryan Smith



Support "100 Holes of Golf for Charity"

The 2nd Annual 100 Holes of Golf For Charity will take place on October 10, 2002 at the River Run Golf Club in Berlin, MD. Nate Burdick, Tournament Director for the Middle Atlantic Section of the Professional Golfers' Association of America will play 100 holes of golf in one day to raise money for the Immune Deficiency Foundation and the Middle Atlantic PGA Junior Golf Foundation.

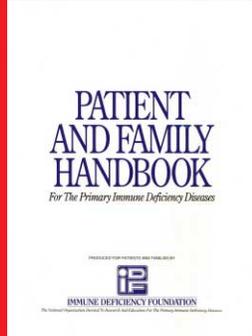
Nate created this fundraising event to support the charities that mean the most to him. Last year, in his first attempt, Nate raised over \$15,000, which was split evenly between the two charities. The Immune Deficiency Foundation benefitted greatly from Nate's personal effort as well as the generous donations of several hundred members of the Professional Golfers' Association of America.

Please consider making a per-hole pledge or flat-fee charitable donation to support the 2nd Annual 100 Holes of Golf for Charity. We strongly encourage our membership to make a tax-deductible pledge of any amount. To make a donation, please visit IDF's website at www.primaryimmune.org and click on "100 Holes of Golf," or contact Judy Flagle at 800-296-4433.

IDF ADVOCATE

How can IDF help you? RESOURCES FOR INDIVIDUALS AND FAMILIES

- National Toll Free Hotline: (800) 296-4433
- IDF web site: www.primaryimmune.org
- Educational Materials: *Patient and Family Handbook for the Primary Immune Deficiency Diseases, 3rd edition; Our Immune System; How to Keep an Infusion Log; IDF Advocate*
- Patient Advocate Manager/Genetic Counselor—provides direct casework and counseling on issues related to genetics, inheritance, diagnosis, treatment, and access to care
- Annual Scholarship Program for post-secondary education
- IGIV Safety Net Program—provides a reliable, emergency supply of IGIV
- Health Insurance Assistance Program—provides financial assistance, compassionate care IGIV, and access to a Reimbursement Helpline
- IDF Support Network—offers peer support to individuals and families nationwide
- Operation Outreach—regional educational outreach programs
- Patient Notification System—ensures direct patient notification of IGIV recalls. Call 1-888-873-2838 or register on-line at www.patientnotificationsystem.org



IDF BOARD OF TRUSTEES

- | | |
|--|--|
| Richard Barr, M.D.,
<i>Chairman</i> | Carol Ann Demaret |
| Aaron Ashcraft,
<i>Treasurer</i> | Bonnie Doak |
| Barbara Ballard | Jerry Hobson |
| John Boyle, Ph.D. | Robert LeBien,
<i>Vice Chairman</i> |
| Marcia Boyle | Patrick Schmidt |
| Arnold Chait | Jerry Winkelstein, M.D. |
| Kathy Crews,
<i>Secretary</i> | Tom Moran, IDF
<i>President</i> |

Address service requested

The Champions Circle consists of organizations committed to supporting IDF at the highest level. The Circle provides vital resources to fulfill the vision, mission, and core services of the Foundation.

- Alpha Therapeutic Corporation
- Baxter Healthcare Corporation
- American Red Cross
- Aventis Behring
- FFF Enterprises, Inc.
- ZLB Bioplasma Inc.

CHAMPIONS CIRCLE OF SUPPORT

Immune Deficiency Foundation
40 West Chesapeake Avenue, Suite 308
Towson, Maryland 21204



Non-Profit Org.
U.S. Postage
PAID
Baltimore, MD
Permit No. 6936