

# B HEPATITIS B

# INFORMED

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**CAUSE FOR A CURE**

We are a national non-profit organization dedicated to finding a cure and improving the quality of life for those affected by hepatitis B worldwide.

## Hepatitis B Foundation *Crystal Ball* Reflections of a Global Vision

When Bill and Melinda Gates learned that millions of people around the world die each year due to a lack of vaccines readily available to their own children, they were appalled. They took unprecedented action to correct this disparity by giving \$100 million to establish the Children's Vaccine Program (CVP) and recruiting the best leader in the field, Dr. Mark Kane, to spearhead this effort. Dr. Kane is credited with introducing the HBV vaccine into the immunization programs of 110 countries.

For these global initiatives, the Hepatitis B Foundation (HBF) awarded a joint **Founders' Award** to the **Bill & Melinda Gates Foundation** and **Mark Kane, MD, MPH**, at its Crystal Ball on April 27th. This annual gala evening is elegantly highlighted with an awards ceremony to honor those who have helped to advance the HBF mission.

Presenting the award, **W. Thomas London, MD**, HBF board member, noted that, "the developing countries bear 90% of the world's disease burden, but only have 10% of the resources to deal with them." He questioned, "What can we do? Curse the darkness or light a candle? Bill and Melinda Gates did a lot more than light one candle. They learned that a relatively small amount of money could have a big effect and that the single most cost-effective public health intervention is immunization."

Dr. Kane, who accepted the awards on behalf of himself and the Gates Foundation, explained that it was unacceptable that poor countries couldn't afford to establish an HBV vaccine program even after the cost of the vaccine was brought down to \$1 per dose. They needed help. Through the generosity of the Gates Foundation, the CVP program will

bring the hepatitis B vaccine to 74 of the poorest countries over the next 5 years. Dr. Kane was proud to report that, "especially exciting programs have been initiated for India, China and Indonesia that should result in all infants in those countries receiving the HBV vaccine."

Dr. Kane's commitment was confirmed in the award acceptance letter he read from **William Gates, Sr.**, co-chair of the Gates

Foundation. "We are working to ensure that all children everywhere will have access to the same vaccines available to children in the U.S.," wrote Mr. Gates, and "due to the efforts of many organizations such as the Hepatitis B Foundation we are confident that global control of hepatitis B will be one of the great legacies of our time."

In a gracious final note, Dr. Kane acknowledged, "There are people in this room who are gifted with great vision. They have come together to create the Hepatitis B Foundation, part of a global effort of dedicated individuals for whom control of hepatitis B is far more than a day job. All of us share this award today."



*Dr. Tom London presents HBF Founders' Award to Dr. Mark Kane (on left).*



## Message from the President

Timothy M. Block, Ph.D.

### Time for a U.S. Presidential Advisory Council On Viral Hepatitis

There are many worthy groups that offer valuable advice to the public. Such groups range from self-appointed committees on the environment to advisory panels convened by the Food and Drug Administration. The Hepatitis B Foundation has, for example, convened thought leaders to establish HBV research priorities.

So, to whom does the U.S. President listen? Official advice often comes from a "Presidential Advisory Council" that is created by "executive order" and composed of authorities in the field. Policy and budget issues can be influenced by a Council's recommendations and increased publicity about an issue can result. There are currently at least 20 such councils (that we could identify) dealing with AIDs, cancer, fitness, and more. To date, however, there is no council on viral hepatitis, despite the fact that this is a major public health concern.

Two years ago, Ms. Trish Parnell, director of PKIDs (Parents of Kids with Infectious Diseases), initiated the call for a Presidential Advisory Council on Viral Hepatitis. The Hepatitis B Foundation, American Liver Foundation, Hepatitis Foundation International, and the Gates Children's Vaccine Program were invited to join in this effort. Such an Advisory Council would gain the president's attention and would help to significantly raise the national profile of viral hepatitis. When leaders from these five non-profit groups met with president Clinton's health advisor in 2000, interest was high. Similarly, president Bush's administration was encouraging and discussions were advancing, until the awful events of Sept. 11.

Sadly, however, viral hepatitis is a relentless disease that does not delay or suspend activity because of world affairs. At a time when a great deal of the government's official attention must be placed on international and domestic terrorism, maintaining a united stream of voices from individuals focused on viral hepatitis is all the more important.

The HBF strongly believes that a Presidential Advisory Council on Viral Hepatitis is needed and we are actively working on this effort. Now is the time to renew a call for action. We are confident that the U.S. President does not want to overlook the 5 million Americans who live with chronic hepatitis B and hepatitis C.

## In The News



### Carrots Modified to Contain Hepatitis B Vaccine

German scientists have grown genetically modified carrots that contain the hepatitis B vaccine, which could dramatically cut the cost of preventing the disease in underdeveloped nations. "We can make 100,000 plants in 2 weeks and within 3 months they are ready to eat," explained Dr. Jafargholi Imani, from the research group at Giessen University, "and carrots are easy to store, transport, and consume raw." This makes them a more practical option in comparison to other vaccine studies using tomatoes, which are delicate, and potatoes that are difficult to eat raw (cooking would destroy the vaccine). Researchers say that the modified carrots are ready to be tested clinically, on animals and then people, to determine vaccine dosage and efficacy. Testing would likely take at least 2 years. (*Reuters Health, Berlin, 5/10/02*)

### FDA Warns that Kava May Cause Liver Damage

On March 25th, the U.S. Food and Drug Administration (FDA) issued a "consumer advisory" of the potential risk of severe liver injury associated with the use of kava-containing dietary supplements, which are promoted for relaxation, sleeplessness, menopausal symptoms, and other uses. Kava products have been associated with liver-related injuries, including hepatitis, cirrhosis, and liver failure. Four patients in the U.S. required liver transplants. Reports of these injuries have prompted regulatory agencies in Germany, France, Canada, and the UK, to take action, from warning consumers about the potential risks to removing kava-containing products from the marketplace. The FDA urges those who have liver disease or liver problems, or persons taking drugs that affect the liver, should consult a physician before using kava-containing supplements. To report an adverse event, contact the FDA's MedWatch program at 800-332-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch). (*FDA Consumer Advisory 3/25/02, www.cfsan.fda.gov/dms/addskava.html*)

### Drug Cocktail Prevents Recurrence of HBV After Liver Transplant

Results of a 17-year UCLA retrospective study of survival rates of 3,094 HBV post-liver transplant patients, published in the May '02 *Annals of Surgery*, showed that a "drug cocktail" of HBIg and lamivudine improves patient survival rates when compared to monotherapy or no therapy - and that long-term combination treatment dramatically decreases recurrence of the disease. "This is truly remarkable since - as recently as five years ago - patients with hepatitis B were not even being considered for transplantation," said Dr. Ron Busuttil, professor and director of the Dumont-UCLA Liver Transplant Center. In the past, liver transplantation for patients with HBV cirrhosis resulted in an 80 percent recurrence rate and poor patient survival. Many transplant centers did not consider HBV patients to be good candidates for transplantation and many insurance providers denied reimbursement. Chronic HBV often leads to end-stage liver cirrhosis and the development of liver cancer. Without a liver transplant, 5,000-6,000 people with chronic hepatitis B die each year in the U.S. (*Ascribe Newswire 4/29/02, HBV Research List*)

## Hepatitis B Foundation Honors Outstanding Individuals At Its Crystal Ball 2002

### Founders' Award



Mark A. Kane, M.D., M.P.H.  
Director, the Gates Children's  
Vaccine Program

**Dr. Mark Kane** has been a passionate advocate for the global eradication of hepatitis B for more than 20 years. Currently, he serves as director of the Children's Vaccine Program at PATH (Program for Appropriate Technologies in Health), which is funded by the Bill & Melinda Gates Foundation and located in Seattle, Washington. A major focus of this program is to improve hepatitis B immunization rates of children in the developing world.

Dr. Kane represents the Children's Vaccine Program (CVP) on the board of the Global Alliance for Vaccines and Immunizations and has been instrumental in the establishment of the Vaccine Fund, where he served as chairman of the board.

Prior to joining CVP, Dr. Kane served at the World Health Organization (WHO) in Geneva. During his tenure at WHO, he successfully advocated for inclusion of the hepatitis B vaccine as the 7th vaccine on their list of official childhood immunization recommendations. This led to the vaccine being accepted worldwide. He is also credited with introducing the HBV vaccine into the National Immunization Programs of 110 countries. Dr. Kane began his distinguished public health career at the U.S. Centers for Disease Control and Prevention.

### Founders' Award

The **Bill & Melinda Gates Foundation** launched a global health revolution with a \$100 million donation to establish the Children's Vaccine Program at PATH in 1998. A year later, they made a stunning \$750 million gift to establish the Vaccine Fund, which is the financial arm of the Global Alliance for Vaccines and Immunization (GAVI) - a coalition of governments, the Children's Vaccine Program, drug manufacturers, the World Bank, private foundations and other public health organizations.

Although vaccines save 3 million children each year, GAVI estimates another 3 million die from lack of immunization. Currently, \$150 million of the Gates Foundation's pledge has been committed to vaccinating an estimated 4 million children against hepatitis B over the next five years. More than 500,000 children's lives will be saved by this important initiative.



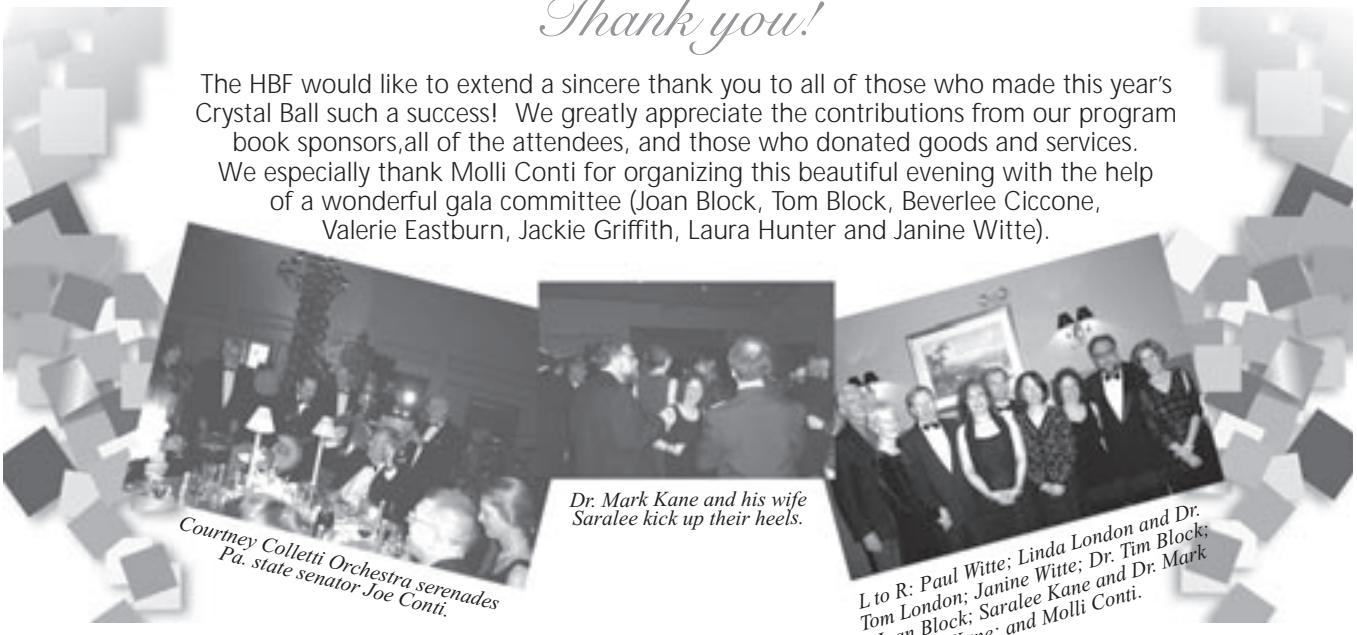
Bill & Melinda Gates

The Gates Foundation is making an enormous commitment to expanding access to traditional vaccines in the poorest countries and speeding delivery of new vaccines to improve the health of these nations. With the Foundation's financial support, lack of money will no longer be an excuse for children dying of vaccine-preventable diseases.

## Thank you!

The HBF would like to extend a sincere thank you to all of those who made this year's Crystal Ball such a success! We greatly appreciate the contributions from our program book sponsors, all of the attendees, and those who donated goods and services.

We especially thank Molli Conti for organizing this beautiful evening with the help of a wonderful gala committee (Joan Block, Tom Block, Beverlee Ciccone, Valerie Eastburn, Jackie Griffith, Laura Hunter and Janine Witte).



Courtney Colletti Orchestra serenades Pa. state senator Joe Conti.

Dr. Mark Kane and his wife Saralee kick up their heels.

L to R: Paul Witte; Linda London and Dr. Tom London; Janine Witte; Dr. Tim Block; Joan Block; Saralee Kane and Dr. Mark Kane; and Molli Conti.

# HBV Drug Watch

## Compounds in Development For Chronic Hepatitis B

Update June 2002

Links to the pharmaceutical companies are provided for your information only and are not intended as an endorsement for the therapies or the manufacturers listed below.

FAMILY/DRUG NAME	MECHANISM	COMPANY	WEBSITE	STATUS, USA
<b>INTERFERONS</b> Mimic naturally occurring infection-fighting immune substances produced in the body				
Interferon alpha-2b (Intron A)	Immunomodulator	Schering-Plough, Madison, NJ	www.schering.com	<b>FDA Approved 1991</b>
<b>NUCLEOSIDE ANALOGUES</b> Interfere with the viral DNA polymerase enzyme used for hepatitis B virus reproduction				
Lamivudine (Epivir-HBV)	Inhibits viral DNA polymerase	GlaxoSmithKline, RTP, NC	www.gsk.com	<b>FDA Approved 1998</b>
Adefovir Dipivoxil	Inhibits viral DNA polymerase	Gilead Sciences, Foster City, CA	www.gilead.com	Phase III
Entecavir	Inhibits viral DNA polymerase	Bristol-Myers Squibb, Princeton, NJ	www.bms.com	Phase III
FTC (Coviracil)	Inhibits viral DNA polymerase	Triangle, RTP, NC	www.tripharm.com	Phase III
DAPD (DXG)	Inhibits viral DNA polymerase	Triangle	www.tripharm.com	Phase II
L-FMAU (Clevudine)	Inhibits viral DNA polymerase	Triangle	www.tripharm.com	Phase II
AM365	Inhibits viral DNA polymerase	Amrad, Victoria, Australia	www.amrad.com.au	Phase II, Australia & Asia
LdT (Telbivudine)	Inhibits viral DNA polymerase	Idenix, Boston, MA	www.idenix.com	Phase III
monoval-LdC (Valticitabine)	Inhibits viral DNA polymerase	Idenix	www.idenix.com	Phase II
ACH-126,443 (L-Fd4C)	Inhibits viral DNA polymerase	Achillion New Haven, CT	www.achillion.com	Phase II (Central & Eastern Europe)
MCC478	Nucleoside analog " prodrug "	Eli Lilly, Indianapolis, IN	www.lilly.com	Phase I, Germany
Racivir (RCV)	Inhibits viral DNA polymerase	Pharmasset, Tucker, GA	www.pharmasset.com	IND Filed, May 2002
Fluoro-L and D nucleosides	Inhibits viral DNA polymerase	Pharmasset	www.pharmasset.com	Preclinical
Robustaflavone	Inhibits viral DNA polymerase	Advanced Life Sciences, Woodbridge, IL	www.advancedlifesciences.com	Preclinical
ICN 2001-3	Inhibits viral DNA polymerase	ICN, Costa Mesa, CA	www.icnpharm.com	Preclinical
<b>NON-NUCLEOSIDE ANTI-VIRALS</b>				
BAM 205	" Small Molecule "	Novelos, Newton, MA	http://novelos.com	Phase II/III China
XTL-001	Human monoclonal antibodies	XTL Biopharm, Rehovot, Israel	www.xtlbio.com	Phase II, Israel & U.S.A.
Imino-Sugars (Nonyl-DNJ) *Discovered by HBV scientists	Protein folding inhibitor	Synergy, Edison, NJ	Tel: 732-302-1111	Preclinical
HepBzyme	Nuclease resistant ribozyme	Ribozyme, Boulder, Co	www.rpi.com	Preclinical
<b>NON-INTERFERON IMMUNE ENHANCERS</b> Boost T-cell infection-fighting immune cells and the body's natural interferon production				
HE2000 <b>NEW</b>	Hollis-Eden	San Diego, CA	www.holliseden.com	Phase II, Singapore
Theradigm	Immune Stimulator	Epimmune, San Diego, CA	www.epimmune.com	Phase II
EHT899	Oral Viral Protein	Enzo Biochem, NY, NY	www.enzo.com	Phase II, Israel
Thymosin alpha-1 (Zadaxin)	Immune Stimulator	SciClone, San Mateo, CA	www.sciclone.com	Phase II w/lamivudine Orphan drug approval in US
HBV DNA Vaccine	Immune Stimulator	PowderJect, Oxford, U.K.	www.powderject.com	Phase I
HBV Antigen	Oral Tolerance	OraGen, Philadelphia, PA	Tel: 215-923-5124	Preclinical
HBV DNA Vaccine	Immune Stimulator	Jefferson Center, Doylestown, PA	Tel: 215-489-4949	Preclinical
<b>POST-EXPOSURE AND/OR POST-LIVER TRANSPLANT TREATMENT</b>				
BayHep B	HBV immunoglobulin	Bayer U.S., Pittsburgh, PA	www.bayer.com	<b>FDA Approved 1977</b>
Nabi-HB	HBV immunoglobulin	Nabi, Boca Raton, FL	www.nabi.com	<b>FDA Approved 1999</b>
Anti-hepatitis B	HBV immunoglobulin	Cangene, Ontario, Canada	www.cangene.com	<b>FDA Filing 2001</b>

Sincere thanks to Brent Korba, Ph.D. (Georgetown University Medical Center, Rockville, MD) and Raymond Schinazi, Ph.D. (Emory University Medical School, Atlanta, GA) for their regular review of the HBV Drug Watch Update.

# Drug Notes

## New HBV Compounds In Development

### HE2000 In Phase II Study for HBV

HE2000, an immune modulator, is in phase II studies in Singapore. Up to 20 chronic HBV patients will receive HE2000 as a subcutaneous injection. A phase II study is being planned for Malaysia where a "transmucosal" formulation (e.g. a buccal tablet) will be used instead of an injection to evaluate different routes of administration. Transmucosal formulations are designed to provide the convenience of oral administration while achieving the rapid absorption seen with injectable formulations. HE2000 is a member of a proprietary class of Immune Regulating Hormones (IRHs), developed by Hollis-Eden (HE). IRHs are designed to address Th1/Th2 dysregulation at the cellular level. Working through the endocrine system, HE reasons that the IRHs appear to be the body's natural way of regulating immune response. It is hoped that hormonal therapies may be a safe and appropriate approach to restoring proper immune balance. Since this approach works on restoring the immune system rather than directly attacking the virus, there is less risk of viral mutation with HE2000. According to HE, this drug is generally well tolerated and is also being tested in clinical trials for HIV and malaria. (*HBV phone conversation on 5/22/02 with Mr. Robert Marsella, VP Business Development, Hollis-Eden*)

### Gilead Requests Priority Review of New Drug Application for Adefovir Dipivoxil

Based on the unmet medical needs of patients with chronic HBV, Gilead has submitted a request for a priority, or six-month, review of the New Drug Application (NDA) for adefovir dipivoxil. The NDA has been filed with the U.S. Food and Drug Administration for approval of adefovir 10 mg for chronic HBV, including treatment-naive and treatment-experienced patients. It is supported by data from Phase III studies in HBV patients who are eAg-positive, precore mutant eAg-negative, and lamivudine resistant. Precore mutant HBV infects up to approximately 50% of the 400 million chronic HBV carriers worldwide and is most prevalent in countries of the Mediterranean and Southeast Asia, where an estimated 30-80% percent of HBV patients are infected with this strain. In March 2002, Gilead announced the initiation of an early access program in the U.S. to provide adefovir to HBV patients who are lamivudine-resistant. Programs in Canada, Europe and Australia are being opened as well. (*Business Wire, Foster City, CA, 3/21/02*)

### ACH-126,443 Moves Into Phase II Trials

This phase two double-blind study will evaluate several doses of ACH-126,443 administered once a day to patients with chronic HBV, compared with lamivudine and placebo in multiple centers across central and eastern Europe. "The pre-clinical data on ACH-126,443 indicate potency against HBV strains that are both sensitive and resistant to lamivudine, the only currently approved oral anti-HBV drug,"

said Lisa Dunkle, MD, senior vice-president of Drug Development, Achillion. ACH-126,443 is an oral L-nucleoside antiviral that has demonstrated in-vitro activity against both wild-type and lamivudine-resistant strains of HBV. (*PR Newswire, New Haven, 2/28/02*)

### Viread (Tenofovir) Shows Promise Against HBV

Gilead announced data from two studies evaluating oral administration of Viread (tenofovir disoproxil fumarate) in patients co-infected with HIV and chronic HBV. Study results show that treatment with Viread was associated with a significant reduction in serum HBV DNA levels compared to placebo through 24 weeks of treatment and through 12 weeks in a second open-label study. "Approximately 10 percent of HIV patients are co-infected with HBV, and up to 50% of co-infected patients develop HBV resistance to lamivudine after two years," commented Dr. David Cooper, Director of the National Centre in HIV Epidemiology and Clinical Research, U. of New South Wales, Sydney, Australia. "The results seen in these patients are important because they indicate that Viread, a potent antiviral for the treatment of HIV, has significant activity against both wild-type and lamivudine-resistant HBV in co-infected patients," he reported at the 9th Conference on Retroviruses and Opportunistic Infections in Seattle. Viread is a nucleotide analogue reverse transcriptase inhibitor that received marketing approval in October 2001 for the treatment of HIV infection in the U.S. and was recently approved in Europe. (*Business Wire, Seattle, 2/27/02*)

## EASL International Consensus Conference on Hepatitis B Geneva, Switzerland September 12 - 14, 2002

The European Association for the Study of the Liver (EASL) will be hosting the first-ever consensus conference on hepatitis B this fall. The objective of the meeting is to provide a review of the most current scientific evidence on hepatitis B virology, epidemiology, natural history, and therapy, with a particular focus on the treatment of HBeAg positive and HBeAg negative chronic carriers. Key questions for discussion include which patients should be treated, what is the optimal treatment, and how should untreated and treated patients be monitored.

For information or to register, visit  
<http://www.easl.ch/hbv2000>.  
Deadline for the early registration fee  
is July 31, 2002

NAME	TYPE VACCINE	COMPANY	WEBSITE	STATUS
<b>Hepatitis B Vaccines</b> - Recommended for those at risk and patients with chronic HCV				
Engerix B	Recombinant HBV	GlaxoSmithKline Phila, PA	www.gskvaccines.com	Market, USA
Recombivax HB	Recombinant HBV	Merck West Point, PA	www.merck.com	Market, USA
GenHevac B	Recombinant HBV	Aventis Pasteur Lyons, France	www.aventispasteur.com	Market, Europe
Hepacare (formerly, Hepagene)	HBV preS1, preS2	PowderJect Oxford, U.K	www.powderject.com	Market, Europe
Bio-Hep B	HBV S, preS1, PreS2	Biotech. Gen. Corp Iselin, NJ	www.btgc.com	Market, Israel
<b>Hepatitis A Vaccines</b> - Recommended for those at risk and patients with chronic HBV and HCV				
Havrix	Inactivated HAV	GlaxoSmithKline	www.gskvaccines.com	Market, USA
VAQTA	Inactivated HAV	Merck	www.merck.com	Market, USA
Avaxim	Inactivated HAV	Aventis Pasteur	www.aventispasteur.com	Market, Europe
<b>Combination Hepatitis Vaccines</b>				
TwinRix (Adult)	HBV and HAV	GlaxoSmithKline	www.gskvaccines.com	Market, USA
Comvax (Pediatric)	HBV and HiB	Merck	www.merck.com	Market, USA
Hexavac (Pediatric)	HBV, DTP, HiB, Polio	Aventis Pasteur	www.aventispasteur.com	Market, Europe
<b>Hepatitis Vaccines In Development</b>				
Hep B Vaccine	ISS-linked to HBsAg	Dynavax Technology Berkley, CA	www.dynavax.com	Phase I/II
Hep B DNA Vaccine Px	HBV DNA Vaccine	PowderJect	www.powderject.com	Phase I

## Vaccine News

### Physicians Must Work Harder to Immunize Adults

Adults are 100 times more likely to die of a vaccine-preventable illness than children since they are far less likely to get the immunizations they need, reported doctors at the annual conference of the American College of Physicians (ACP) in April 2002. Adults usually visit the doctor for specific illnesses or injuries, therefore, neither the doctor nor the patient tends to think about immunizations. To correct this oversight, the ACP announced the start of a 30-month initiative to increase the rate of adult immunization in the U.S. It is estimated that 30-40% of adults who should be vaccinated against the flu and pneumonia are not receiving the vaccine. The number of people at risk for hepatitis B who are not vaccinated is probably greater than 40%. (*AP Newswires, Philadelphia, PA, 4/12/02. Visit [www.acponline.org/aii](http://www.acponline.org/aii)*)

### Routine Immunization Would Prevent Most HBV Cases

More than half the new cases of hepatitis B between 1987 and 1998 could have been prevented by vaccine programs in STD treatment clinics and correctional facilities, accord-

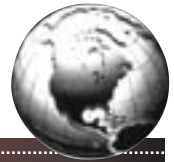
ing to a report in the *Journal of Infectious Diseases* (March 15th issue). New cases of hepatitis B have decreased substantially in recent years, but widespread programs to vaccinate high-risk adults could reduce the incidence even further. The report offers more information about risk factors and missed opportunities for prevention. The main risk factors for HBV infection in this study were heterosexual exposure to an infected partner (27.4%), IV drug use (18.2%), and men having sex with men (13.5%). The authors conclude, "Transmission of HBV cannot be eliminated until there is a nationwide program to vaccinate adults at increased risk for HBV infection." (*Reuters Health, New York, 3/18/02 and 3/26/02*)

### Hepatitis Immunization Guidelines For Chronic Liver Disease

The American College of Gastroenterology (ACG) has issued comprehensive guidelines for immunizing patients with chronic liver disease, including HBV and HCV. There are hepatitis A and B vaccines (see HBF Vaccine Watch) that can be given to both adults and children. An infection with either hepatitis A or B has been reported to cause more severe liver disease when superimposed on pre-existing chronic liver disease, such as chronic hepatitis B or C. *Visit the ACG website at [http://www.acg.gi.org/acg-dev/physicianforum/frame\\_publications.html](http://www.acg.gi.org/acg-dev/physicianforum/frame_publications.html)*

# Hepatitis B Around the World

**W. Thomas London, MD**, Director, Liver Cancer Prevention Center, Fox Chase Cancer Center  
Board Member and Sr. Medical Advisor, Hepatitis B Foundation



## HBV and Liver Cancer Studies in Senegal and China: What We Have Learned

### Liver Cancer Worldwide

In 1990, the International Agency for Research on Cancer estimated that there were 8,100,000 new cases of cancer in the world (not counting non-melanoma skin cancers) and that 5,179,000 people died of cancer. Of these, primary liver cancers (cancers that begin in the liver, not those that spread from another site to the liver) accounted for 436,000 new cases and 427,000 deaths. This means about 5 percent of all the new cases of cancer were liver cancers and 8 percent of all the cancer deaths were from liver cancer. In 2002, it is thought that there will be 500,000 to 600,000 deaths from liver cancer worldwide.



*Senegalese military personnel register for HBV studies.*

### HBV and Liver Cancer

From studies done in the 1970's, it was apparent that about 80 percent of all liver cancers occurred in the developing countries of the world, primarily east-Asia and sub-Saharan Africa. Those same studies showed that 75 to 80 percent of all liver cancer cases in the high-risk areas were associated with chronic infection with hepatitis B virus (HBV).

In the 1980's, reports of prospective studies showed that chronic carriers of HBV were 5 to 100 times more likely to develop liver cancer than uninfected persons living in the same environment, often doing the same job. As often happens in research, these studies raised a new question: why was there such a wide range in risks of liver cancer among HBV carriers? Were there other factors, in addition to HBV infection, that increased or decreased a person's risk of liver cancer?

To answer this question, we needed to find places where the risk of liver cancer was high and chronic infection with HBV was common in the population, but where the risks of liver cancer might be different. Senegal and China fulfilled those criteria, but launching studies in those countries was no simple matter.

### Senegal Study Enrolls Almost 20,000 Military Personnel

In 1989, I was asked by Professor Souleymane M'Boup at the University of Dakar in Senegal whether I would be interested in doing a study of HBV and liver cancer in his country. Prof. M'Boup knew that our group, previously headed by Dr. Baruch Blumberg, had done a number of studies on hepatitis B in Senegal. I told him that an investigation would be important to do. It would require, how-

ever, following a large number of hepatitis B carriers over time to identify factors that might be contributing to the risks of liver disease and liver cancer in the Senegalese population.

Prof. M'Boup suggested that we study the Senegalese Army, which was an immediately attractive proposal. Prospective studies had rarely if ever been carried out in sub-Saharan Africa because of the poor health infrastructures, the lack of vital statistics, and lack of individual identifiers, like social security numbers. Military personnel, on the other hand, have their own health service, their vital status and location are known, and they have identifi-

cation numbers. Therefore, in collaboration with Prof. M'Boup and the Senegalese Army Health Service, we designed a prospective study of Senegalese military personnel, and just under 20,000 men were enrolled in our study.

### Largest Liver Cancer Study in the World Enrolls 90,000 Chinese in Haimen City

Like Senegal, the initial contact for a study came from China. Professor Fu-min Shen, who is the leading genetic epidemiologist in China, contacted me about doing a study of risk factors for liver cancer in the Chinese population. He told me about an agricultural community, Haimen City, which had been shown by previous studies to have one of the highest liver cancer rates in China and to have an HBV carrier rate of greater than 10 percent. When I inquired about the feasibility of conducting a large study in Haimen, Dr. Shen assured me that if we collaborated with his program and the Anti-Epidemic Station (i.e. county health department), it could be done.

The public health and governmental authorities in Haimen were very supportive of any research that held promise of reducing the burden of liver cancer on their community. They were already well aware that liver cancer was the number one cause of death among adults in Haimen City and that HBV was the most important risk factor. In 1992 and 1993, we enrolled 90,000 men and women from Haimen in the largest prospective study of liver cancer in the world.

### Surprise Findings in China and Senegal

The first thing we learned from both locations was not a surprise - that chronic HBV infection was present in more

than 80 percent of the people who developed liver cancer. The presence of chronic HBV infection in both populations was also similar, 17% in Haimen City, 20% in Senegal.

What was a surprise was that the risk of liver cancer was six to seven times greater for men in Haimen than the military men in Senegal. The liver cancer death rate was also seven-fold higher for HBV carriers in Haimen than in Senegal. In Haimen, of the more than 4,000 people who have died since they enrolled in the study, almost 30% died from liver cancer and 10% from cirrhosis or chronic hepatitis. Among the hepatitis B carriers, 55% of the deaths were from liver cancer or chronic liver disease.

### Suspected Risk Factors for Liver Cancer Not Proven

One factor that had been proposed to increase risk of liver cancer was exposure to a toxin (aflatoxin) produced by moldy corn or peanuts. We found, however, that the Senegalese had very high levels of aflatoxin in their blood, whereas the Haimenese had little or no detectable aflatoxin. Peanuts are the major cash crop in Senegal and they are stored on the ground in huge mounds. This method of storage guarantees growth of mold and florid aflatoxin contamination. From these observations, we would have expected the Senegalese to have a much higher rate of liver cancer than the Chinese, not the opposite.

Also, although the Haimen population smokes more and drinks more alcohol than the Senegalese, neither drinking nor smoking were associated with liver cancer risk in the Haimenese. The risk factors that we did identify in Haimen as being related to liver cancer risk were occupation - farmer as opposed to factory or office worker, family history of liver cancer, and history of having had acute hepatitis as an adult.

### Impact of HBV DNA Levels on Liver Cancer

In collaboration with Dr. Bill Mason at Fox Chase, we found that the Senegal and Haimen populations did differ in a way that may be responsible for the higher liver cancer risk in Haimen. In most populations, the proportion of hepatitis B carriers that have complete virus particles circulating in their blood declines progressively with age. HBV DNA in serum is a good surrogate marker for circulating whole virus particles. We found that in the Chinese population, this HBV DNA declined very slowly - at age 25 years, about 30% of the carrier population was HBV DNA positive and by age 60 it declined to just 25%. Among the Senegalese, however, only 15% were HBV DNA positive at age 20 and by age 30 it was down to less than 4%.

We know from earlier studies that in Asia mother to child transmission of HBV is very common. When that happens, babies test positive for hepatitis B surface antigen (HBsAg) by 3 to 6 months of age. In Africa, however, babies become infected later, usually between 6 months and 2 years of age. We think that the Chinese who acquire the infection soon after birth are more tolerant of the infection and less able to mount an immune response to the virus. The Senegalese, by acquiring the virus later (probably by contamination of breaks in their skin from scratched mosquito bites), are able to eventually make some sort of immune response. This may account for the difference in HBV DNA levels with age among carriers in China and Senegal. We are still testing this theory.



Dr. Tom London with Dr. Wen-yao Lin, chief physician, Haimen City Anti-Epidemic Station and project manager in Haimen for the HBV Studies in China.

### Vaccination Key to Reducing HBV and Liver Cancer

In the meantime, all newborn babies in Haimen City are being vaccinated against HBV and have been for the last 10 years. Senegal still does not have a nationwide hepatitis B vaccination program, but through the efforts of the Bill & Melinda Gates Foundation and the Children's Vaccine Fund, it soon will have. Therefore, we can foresee the day when the scourge of hepatitis B and liver cancer will be a relic of the

past in both Haimen City and Senegal.

*Editor's Note: When asked why Senegalese babies are infected at a later age than Chinese babies in regards to perinatal transmission, Dr. London, wrote, "There is very little perinatal transmission in Senegal. The reasons are not entirely understood. Partly it is because the frequency of HBeAg positivity and HBV DNA positivity is much lower among Senegalese and other African HBV carriers than among Chinese in Haimen and among Asians generally. Even when a woman in Senegal is HBeAg(+), she is still unlikely to infect her baby before 6 months of age. Most transmission is thought to be horizontal - from infected sibling to younger brother or sister. How this happens is also not really understood. The conjecture is that all kids in Africa have multiple insect bites that they scratch. Often they have open running sores. When they play with each other, infected blood or serum from one child comes in contact with a break in the skin of the other.*

## Fast Fact

Hepatitis B is listed as the 9th leading cause of death by the World Health Organization.

# Foundation at the Forefront

## HBF Bruce Witte Lecturer 2002 Dr. Frank Chisari



*L to R: Paul & Janine Witte, HBF co-founders; Dr. Chisari, speaker; Chari Cohen, HBF program coordinator; and Dr. Tim Block, HBF president.*

There was standing room only to hear **Francis V. Chisari, MD**, professor and director, Division of Experimental Pathology, Scripps Research Institute, La Jolla, CA, speak about **"Immunopathology of Hepatitis B"** as the HBF's Bruce Witte Distinguished Lecturer on May 4th. Dr. Chisari was in great form and in a great mood, having just learned that he had been elected to the U.S. National Academy of Sciences. He is regarded as one of the fathers of the field "Viral Immunopathology" and revolutionized our understanding of the way the body interacts with the hepatitis B virus (and now hepatitis C virus).

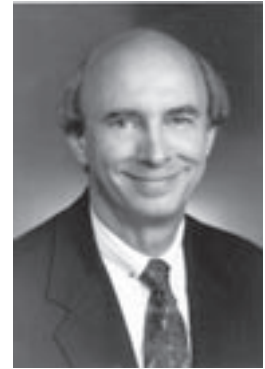
Dr. Chisari has been on the frontier of a revolutionary hypothesis: chronic infections could be the cause of an immune response rather than the consequence. He described his research studies that help explain how the human immune system responds to an HBV infection, and why some people recover while others develop chronic infection and liver disease. The role of CD8 lymphocytes ("killer cells") was highlighted as being a major factor in the pathogenesis and outcome of HBV infections.

When asked about the future of HBV therapeutics, Dr. Chisari said there is great hope with all of the advancing research. He believes, however, that success will ultimately come with the development of compounds that help boost the immune system and turn the liver into an interferon gamma production factory. The *"Bruce Witte Distinguished Lecturer"* was established by HBF co-founders **Paul and Janine Witte**. Previous Witte speakers include **Dr. Raymond Schinazi** (2000) and **Dr. John Gerin** (2001).

**Editor's Note:** Coincidence? We think not! Five of the seven scientists who have been recent guests at the HBF were subsequently elected to the U.S. National Academy of Sciences: Drs. Harvey Alter, Frank Chisari, Peter Cresswell, Tom Shenk, and Jesse Summers. Congratulations to all for this distinguished honor!

## Dr. Harvey Alter Elected to the National Academy of Sciences

Congratulations to **Harvey Alter, MD**, for his election into the U.S. National Academy of Sciences (NAS), which is considered to be one of the greatest honors that can be bestowed upon a U.S. scientist! Candidates are nominated by their peers for outstanding scientific achievement. Dr. Alter is a world-renowned physician/scientist who has played a key role in the discovery of HBV, HCV, and most recently the hepatitis G virus. He is chief, Infectious Disease



*Dr. Harvey Alter*

Section and associate director, Research Department of Transfusion Medicine at the National Institutes of Health; clinical professor of Medicine at Georgetown University; and, a member of the HBF Medical and Scientific Advisory Board.

## Dr. Anna Lok Presents Special HBF Seminar

Internationally renowned hepatologist, **Anna Lok, MD**, professor and director of Clinical Hepatology, University of Michigan, Ann Arbor, MI, presented a special seminar at the HBF on May 30th titled **"Epidemiologic and Clinical Significance of HBV Genotypes"**. Dr. Lok spoke about the relationship between HBV genotypes and their potential role in disease progression. Currently, seven HBV genotypes have been characterized, A through G, with others likely to be discovered as more work is done or as the virus mutates.



*Dr. Anna Lok*

The prevalence of a genotype varies with geographic location and is strongly correlated with ethnicity, explained Dr. Lok.

Genotypes B and C are the predominant forms in Asia. Genotype D is found in the Mediterranean (including southern Italy) and Western Europe. Genotypes A, B, C and D are all found in North America. Typically, individuals with one genotype usually do not become infected with another.

There is evidence that genotype C is associated with the most aggressive form of HBV. However, Dr. Lok quickly notes that outcomes cannot be predicted based solely on genotype, since there is tremendous overlap in the clinical pictures of people with different genotype infections. Although genotyping is not routinely ordered, and assays are not yet commercially available, Dr. Lok's pioneering research will help us understand more clearly the potential role of genotypes in predicting the prognosis and treatment responses of chronic HBV patients.

## HBF Attends the CDC 2002 Hepatitis Partners Meeting

**Molli Conti**, HBF associate director, and **Chari Cohen**, MPH, program coordinator, attended the Hepatitis Partners Meeting sponsored by the Centers for Disease Control and Prevention (CDC), April 7 -10, in Atlanta, Georgia. The primary purpose of the meeting was to bring the CDC and hepatitis organizations together to increase collaborative efforts for the prevention of viral hepatitis in the U.S. The hepatitis B sessions focused on the integration of HBV screening and vaccination into existing STD and HIV clinics, drug treatment programs, and correctional facilities to reach high-risk adolescents and adults. Such programs would help identify those already infected and increase vaccination opportunities to prevent disease. During this meeting, the CDC reported statistics that support this new approach to reach high-risk adults.

In the U.S., currently 55% of all new HBV infections occur in those who report treatment for an STD (36%) or incarceration in prison (19%). In 1996, 12-15% of all inmates were infected with HBV and 155,000 of these infected individuals were released into the general community. Additionally, 80% of IV drug users are infected with HBV within 72 months after beginning their drug habit. Clearly, this high-risk population requires targeted vaccination programs. To aid in this effort, the HBF will work with other CDC hepatitis partners to help increase awareness about the importance of adult HBV immunization and support HBV vaccine legislation.

## Kathleen Smith - Farewell and Thank You!



*Kathleen Smith*

The HBF bids a sad farewell to **Kathleen Smith** who resigned from the Board in May. Kathleen joined the HBF in 1996 as an outreach coordinator but was quickly promoted to associate director in 1998. After stepping down in 2000, Kathleen graciously accepted an invitation to join the Board. Her organizational and

creative talents are legendary! She inaugurated the HBF's PR efforts with press conferences and news releases; helped to develop the OLiver mascot program that was incorporated into school-based HBV vaccine initiatives; and created an effective system to respond to information and referral requests. Most importantly, however, Kathleen has been 150% dedicated to the HBF mission. She has been a wonderful asset and a valuable partner in our growth over the past 7 years. Thank you Kathleen and our best wishes as you move forward to new opportunities!

## Hepatitis B Foundation B Informed 2002 A Gathering of Friends June 27 - 30, 2002 Doylestown, PA

We are pleased to offer, in collaboration with the Hepatitis B Information and Support List (HB-L), the second annual conference for adults who live with chronic HBV and their loved ones, parents of children with HBV, and any person who is interested in learning more about this disease.

Our goal is to help nurture a strong hepatitis B community through this annual gathering of friends!

### Program Highlights

#### Thursday June 27

- Evening Welcome Reception

#### Friday June 28

- Welcome & Tour of the HBF
- Drug Watch of New Compounds
- HBV Civil Rights Issues
- Four Mothers' Stories
- "Integrating HBV Knowledge and Data of West and East", Sharat Misra, MD

#### Saturday June 29

- HBV Variations, Mutations & Co-Infections
- Clinical Treatment Updates from Drug Companies
- Immunization Issues & Liver Transplantation
- Book Signing by Will Green, Author of "The First Year: Hepatitis B"

#### Sunday June 30

- River Cruise and Tour of New Hope, PA

**Registration is limited, so please contact the HBF for information at [info@hepb.org](mailto:info@hepb.org) or call 215-489-4900. See you soon!**

# In The Spotlight



## Visit the New On-Line HBF Bookstore at [www.hepb.org](http://www.hepb.org)

The Hepatitis B Foundation has launched an On-Line Bookstore to make it even easier for our readers to order copies of the new hepatitis B books! After decades of near silence about hepatitis B, there are now three excellent books currently available. So, be sure to stock up on all of these as early holiday gifts, or anytime gifts, for your family, friends and health care providers. Happy Reading . . .

### Hepatitis B: The Hunt for a Killer Virus

Baruch S. Blumberg, MD, PhD  
Hardcover Available NOW! (\$32, includes S/H)

The discovery of the deadly hepatitis B virus and the vaccine against it was one of the great triumphs of twentieth-century medicine. And it almost didn't happen. Dr. Blumberg, who won the Nobel Prize for this discovery in 1976, shares the exciting story in his scientific memoir. This is a fascinating chronicle of a major discovery and illuminates the trail of remarkable "accidents" that happen when scientists seek answers to interesting questions.



### First Year: Hepatitis B

William F. Green  
Paperback Available NOW! (\$20, includes S/H)

Will Green has written a book that pulls you in and keeps your interest, almost like a good novel. Drawing upon his own personal experience of living with chronic hepatitis B, he provides insight for both the newly diagnosed and the experienced veteran. The "living and learning" sections of each chapter are very effective in addressing the emotional and intellectual responses to each phase of this life-altering journey.



### Living with Hepatitis B: A Survivor's Guide

Gregory T. Everson, MD, and Hedy Weinberg  
Paperback Available NOW! (\$20, includes S/H)

This excellent patient guide walks readers through the process of diagnosis, ongoing care, and treatment. Dr. Everson provides the medical facts, and Hedy, who lives with hepatitis C, is able to address firsthand the unique challenges of living with a chronic illness. She successfully translates the medical jargon into language that everyone can understand. Of special note is that the book includes conversations Hedy had with many "hepBers" from the on-line HBV support list.



### PKIDs Pediatric Hepatitis Report

Available NOW! (530 page report is \$45, includes S/H)

For the first time ever, there is now a single comprehensive resource for all those seeking reliable information about children living with viral hepatitis A through E. This is a publication of the national non-profit agency PKIDs (Parents of Kids with Infectious Diseases) released in Dec. 2001. To place an order, call PKIDs at 1-360 695-0293 or visit [www.pkids.org](http://www.pkids.org) to download a free PDF version.

## Making a Donation to the Hepatitis B Foundation is as Easy as Ordering a Book!

For every book that you order, 50% of the purchase price will be credited as a donation to the HBF.

Visit our website at [www.hepb.org](http://www.hepb.org) and order all 3 books using our Secure On-Line Form.

Please include the name (s) of the book and quantity you want on your order form. Credit cards or checks are accepted. (shipping limited to the U.S. at this time)

**Order Your Books Today!**  
You can never have too many . . .

Call the Hepatitis B Foundation at **215-489-4900** or email [info@hepb.org](mailto:info@hepb.org)



## Speaking Personally

**Steve Bingham**

Co-Owner of the Internet Hepatitis B Information and Support List (HB-L)

### Newly Diagnosed Wondering What's Next . .

The World Health Organization estimates there are 400 million people worldwide living with chronic hepatitis B. But when it's you who are diagnosed with HBV, it can feel awfully lonely. I remember the feeling when I was first diagnosed in 1981. I had never heard of HBV and didn't know if it meant that I was going to live or die. But now, 21 years later, I'm still going strong and get a great deal of satisfaction from helping others realize that there is life after hepatitis B.

Newly diagnosed patients usually come to our on-line support group in a panic. Not only are they worried about themselves and their families, but in many countries, they can become societal outcasts. HBV has been the cause of engagements being called off, marriages ending, pregnancies terminated, and jobs lost. There is also a lot of fear among the "newbies", as we affectionately call the newly diagnosed. Most are afraid that they're going to die or that their life, as they know it, is over. Some doctors feed into this by telling them how long they can expect to live. Many are afraid of interferon, hearing horror stories of the side effects. Others are really afraid of a liver biopsy. Everyone obsesses about how they got infected with HBV.

I try to reassure our new hep B friends with encouraging advice. If your doctor says that you have chronic HBV, then you need to become pro-active. Make sure your loved ones begin the 3-shot HBV vaccine series. Find a doctor that you feel comfortable with and who is knowledgeable about HBV. Ask for copies of your lab reports and have them explained to you. Most importantly, learn as much as you can about hepatitis B. After you've educated yourself about HBV and taken positive action, you'll start to feel less anxious. In my opinion, the more you know about the disease, the better your prognosis. Finally, the single best thing you can do for yourself is to give up alcoholic beverages.

HepBers can be optimistic because there are promising treatments in the pipeline. Even though the two approved drugs for HBV are imperfect, they can slow down liver damage and delay progression to more serious liver disease. So, a major decision you have to make is whether to start treatment or wait for something more effective to become available. It's important to note, however, that some adults with

HBV may not need nor qualify for the treatments presently available. Yet, most people don't seem to like the concept of "living with HBV". They would naturally prefer to be virus-free. Thus, sometimes we find patients and doctors embarking on exhausting treatments that have little chance of success. To keep track of HBV drugs in development, the Hepatitis B Foundation maintains an excellent "Drug Watch" that's included in every newsletter and on their website.

When you have a serious, chronic disease, you gain a greater appreciation for each day. My life, as I got more involved with becoming a patient advocate, has expanded from "Boise, Idaho" to "The World"! Facilitating the on-line HB-L support group, with co-owner Sheree Martin, goes beyond hep B. It's about bringing together individuals from all over the world to share their stories and learn as a big family. There are list members from 30 different countries, and we've become friends. If these 30 nations got along as well as we do, the world would certainly be a lot more peaceful.

Ultimately, balance is the key. We have to make sure that hepatitis B doesn't take over our lives, that we don't become our disease. Learn what you can, but also take time to enjoy life. This experience will help you to understand yourself and to appreciate things that you've previously taken for granted. Like me, you may find out that life after HBV can be even better than before.

My best wishes to all of you, **Steve**



## Internet Support Groups

### Hep B Information and Support List

<http://www.geocities.com/Heartland/Estates/9350/hblist.html> (case sensitive)

To subscribe, send a blank email to: [hepatitis-b-on@mail-list.com](mailto:hepatitis-b-on@mail-list.com)

Well-supervised list with useful information and lively exchanges between supportive members. For those with HBV, their caregivers, and anyone interested in or affected by HBV are invited to participate.

### HBV Adoption Support List

<http://www.onelist.com/community/hbv-adoption>

For adoptive or biological parents of children with HBV. This is a restricted list to protect the privacy of parents and children, and requires pre-approval by the list owner to join.

### PKIDS Support List

<http://www.pkids.org/>

For adoptive and biological parents of children with chronic viral infectious diseases, including HBV, HCV, and HIV.

# Hepatitis B Clinical Trials

**Hepatitis B Foundation HBV Clinical Trials**  
[www.hepb.org/clinicalinfo.html](http://www.hepb.org/clinicalinfo.html)

**National Institutes of Health Clinical Trials**  
[www.clinicaltrials.gov](http://www.clinicaltrials.gov)

**Centerwatch Clinical Trials**  
[www.centerwatch.com/studies/cat79.html](http://www.centerwatch.com/studies/cat79.html)

## **Open Enrollment for Phase III Trials of Entecavir**

Bristol-Myers Squibb (BMS) is conducting studies of this once daily oral drug in approximately 130 sites in more than 30 countries worldwide. Three different studies are being conducted based on the results of patients' serological status (hepatitis B antigen positive or negative), and whether the patient is currently on lamivudine therapy and has evidence of resistance to lamivudine. Patients will be randomized to receive either entecavir or standard therapy with lamivudine. Neither the patient nor the doctor will be aware of which treatment the patient is receiving. After completing the study, all participants will be monitored periodically for up to 5 years for survival and incidence of HBV-related complications.

Contact the HBF at 215-489-4900  
or e-mail: [info@hepb.org](mailto:info@hepb.org)

## **ACH-126,443 Study Seeks 36 Chronic HBV Patients**

This multi-center study is evaluating the safety and reduction in HBV viral load in patients infected with chronic HBV. Study 001 will examine multiple doses of ACH-126,443 administered once a day for two weeks daily to approximately 36 patients.

Contact: Scott Oshana, Manager, Drug Development, Achillion Pharmaceuticals at 203-624-7000.

## **NIH Sponsors Adefovir Clinical Trials**

Two studies evaluating adefovir dipivoxil 10 mg once daily are enrolling patients. Eligibility requirements vary for each study.

Contact: Liz Formentini, RNC, MSN at 1-800-772-5464 ext. 49905 or [eformentini@niaid.nih.gov](mailto:eformentini@niaid.nih.gov) (Washington, DC).

## **Stanford U. School of Medicine Entecavir Study**

A phase III study involving blood sampling and use of an investigational drug (entecavir vs. lamivudine) over 96 weeks is being conducted for chronic HBV carriers who are eAg+ or eAg-.

Contact: Lucinda Porter, RN at 1-650-498-4866 or [lucindap@leland.stanford.edu](mailto:lucindap@leland.stanford.edu) (Palo Alto, CA).

## **Columbia-Presbyterian Medical Center Entecavir Study**

The safety of Entecavir (BMS 200,475) will be evaluated in adults with chronic HBV. Those co-infected with HIV are not eligible to participate.

Contact: Tracy Roberts at 212-305-0914 or [trials@livermd.org](mailto:trials@livermd.org) (New York, NY).

## **Columbia-Presbyterian Medical Center Adefovir Study**

Comparison of adefovir dipivoxil to placebo for the treatment of adults with eAg+ chronic HBV. Those treated within 6 months or involved in an investigational drug trial two months prior to this study will be ineligible to participate.

Contact: Lenore Hamilton at 212-305-0914 or [trials@livermd.org](mailto:trials@livermd.org) (New York, NY).

## **Gilead Sponsors Study for HBV Liver Transplant Recipients**

Adefovir dipivoxil 10 mg is being studied for the potential treatment of lamivudine-resistant HBV infection in liver transplant recipients.

In the U.S. contact: Quintiles Clinical Monitoring Service at 703-526-8235. For Europe, Australia, Hong Kong and Singapore, contact Quintiles Clinical Monitoring service by dialing your international access code followed by (33) 388-774-456.

## **SPECIAL NOTICE!**

### **HBV Early Access Program Opens for Adefovir**

In March 2002, Gilead announced the initiation of an early access program in the U.S. to provide adefovir dipivoxil without cost to chronic hepatitis B patients with lamivudine-resistant HBV. A similar program opened in France in July 2001 and has enrolled 289 patients to date. Additional programs in Canada, Australia and in other countries in Europe will open in the coming months as appropriate regulatory approvals are obtained.

Physicians may call 1-800-GILEAD-5 or 1-650-574-3000, for more information or to request registration materials.

## **Fast Fact**

Only 5 in 5,000 compounds in laboratory testing are taken to human testing.

# Calendar of Events



- June 10 - 12**    **Management of HCV: 2002**  
2nd Consensus Conference on HCV  
National Institutes of Health  
Natcher Conference Center, NIH, Bethesda, MD  
Co-Chairs: Drs. Jay Hoofnagle and Leonard Seef  
Contact: 301-592-3320 or  
hepc@prospectassoc.com  
http://consensus.nih.gov
- June 27 - 30**    **2nd Annual B Informed Patient Conference**  
Hepatitis B Foundation  
Delaware Valley College, Doylestown, PA  
Contact: 215-489-4900 or info@hepb.org  
www.hepb.org
- July 12**    **3rd Annual Joseph Nagy Golf Tournament**  
To Benefit the Hepatitis B Foundation  
Bunker Hill Golf Course, Princeton, NJ  
Contact: Kevin Drake at 1-800-344-2752  
ext 6029 or www.hepb.org
- July 18 - 19**    **Viral Hepatitis: An Emerged Epidemic**  
Hepatitis Foundation International  
Holiday Inn, La Mirada, Los Angeles, CA  
Contact: 1-800-891-0707  
www.hepfi.org
- Sept. 12 - 14**    **EASL International Consensus Conference on HBV**  
European Assoc. for the Study of the Liver  
(EASL) Geneva, Switzerland  
Contact: +41 22 908 0488  
hbv2002@easl.ch  
http://www.easl.ch/hbv2002
- Sept. 27 - 30**    **42nd Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC)**  
American Society for Microbiology  
San Diego, CA  
Contact: icaac@asmusa.org  
www.icaac.org
- Sept. 29 - Oct. 3**    **International Meeting of the Molecular Biology of HBV**  
Asilomar Center, Pacific Grove, CA  
Co-Chairs: Drs. Chiaho Shih and Volker Bruss  
Contact: Ms. Dora Salina at  
409-772-6546  
dsalina@utmb.edu
- Oct. 23 - 25**    **DNA Vaccines 2002: The Gene Vaccine Conference**  
International Vaccine Journal  
The Royal College of Physicians of Edinburgh  
Scotland, UK  
Chair: Dr. Freda K. Stevenson  
Contact: +44 (0)1-483-427770  
www.meetingsmanagement.com/  
dna\_2002/index.htm
- Nov. 1 - 5**    **Annual AASLD Meeting**  
American Assoc. for the Study of Liver Diseases  
Hynes Convention Center, Boston, MA  
Contact: 703-299-9766 or jdeal@aasld.org  
www.aasld.org
- Nov. 7 - 8**    **Annual Princeton Workshop**  
Hepatitis B Foundation  
Nassau Inn, Princeton, NJ
- Nov. 8 - 9**    **Hepatitis Magazine Conference**  
Houston Marriott North, Houston, TX  
Contact: Barbara Veres at 1-800-792-6397  
www.hepatitismag.com



## Get Out Your Soft Spikes Tee-Up For A Good Cause!

### 3rd Annual Joseph Nagy Golf Tournament

#### To Benefit The Hepatitis B Foundation

**July 12, 2002**

Bunker Hill Golf Course  
Princeton, NJ

Shotgun start, team prizes, door prizes and plenty  
of delicious food - come join the fun!

To help sponsor or to sign up, please contact:  
Kevin Drake at 1-800-344-2751 ext 6029

Or, visit the HBF website at [www.hepb.org](http://www.hepb.org)  
to download a golf registration form.

# Resource Roundup



## Hepatitis B Foundation

215-489-4900

[www.hepb.org](http://www.hepb.org)

[info@hepb.org](mailto:info@hepb.org)

Comprehensive website dedicated to hepatitis B. Facts, useful advice, Drug Watch, liver specialist directory, and a responsive email service. Includes new *Chinese and Korean Language Chapters*.

## American Liver Foundation

1-800-GO-LIVER

[www.liverfoundation.org](http://www.liverfoundation.org)

[webmail@liverfoundation.org](mailto:webmail@liverfoundation.org)

Information about all liver diseases, including viral hepatitis. Fact sheets, legislative advocacy, research funding.

## Centers for Disease Control, Hepatitis Branch

1-888-443-7232

[www.cdc.gov/ncidod/diseases/hepatitis](http://www.cdc.gov/ncidod/diseases/hepatitis)

The national authority for viral hepatitis information: epidemiology, disease facts, prevention, scientific studies, national recommendations, and more.

## CDC Hepatitis Immunization Hotline

1-800-232-2522 (English)

[www.cdc.gov/nip](http://www.cdc.gov/nip)

1-800-232-0233 (Spanish)

[nipinfo@nip1.em.cdc.gov](mailto:nipinfo@nip1.em.cdc.gov)

## Hepatitis B Research List

To subscribe, send a blank email to:

[HBV\\_Research-on@mail-list.com](mailto:HBV_Research-on@mail-list.com)

A free electronic research list maintained by Sheree Martin that provides abstracts, reports and notices.

## Hepatitis B Research Archive Website

[http://dispatch.mail-list.com/archives/hbv\\_research](http://dispatch.mail-list.com/archives/hbv_research)

Archived research bulletins posted on the Hepatitis B Research List, from 1998 until current year.

## Hepatitis B Virus Page

<http://www.globalserve.net/~harlequin/HBV/index.html>

Maintained by Robert Garces, Ph.D. Candidate in Virology, at the University of Toronto.

## Hep C Connection

1-800-522-4372

[www.hepc-connection.org](http://www.hepc-connection.org)

[info@hepc-connection.org](mailto:info@hepc-connection.org)

Comprehensive information to assist Hep C-challenged individuals and their families.

## Hepatitis Foundation International

1-800-891-0707

[www.hepfi.org](http://www.hepfi.org)

[mail@hepfi.org](mailto:mail@hepfi.org)

Information about viral hepatitis, support groups, research articles, and education programs.

## Hepatitis Magazine

1-800-310-7047

[www.hepatitismag.com](http://www.hepatitismag.com)

[editor@hepatitismag.com](mailto:editor@hepatitismag.com)

The only print magazine published bi-monthly for those affected by viral hepatitis.

## Hepatitis Neighborhood

[www.hepatitisneighborhood.com](http://www.hepatitisneighborhood.com)

[info@HepatitisNeighborhood.com](mailto:info@HepatitisNeighborhood.com)

Features a Town Hall with a Live Speakers Forum. Sponsored by Priority Healthcare Corporation.

## HIV and Hepatitis Treatment Advocates

[www.hivandhepatitis.com](http://www.hivandhepatitis.com)

Professional online publication with updates, conference reviews, free teleconferences, and an e-mail service.

## Immunization Action Coalition

651-647-9009

[www.immunize.org](http://www.immunize.org)

[admin@immunize.org](mailto:admin@immunize.org)

Comprehensive resource of immunization information. "IAC Express" is a free email announcement service.

## MEDLINE Plus Health Information

[www.medlineplus.gov](http://www.medlineplus.gov)

A goldmine of reliable health information from the world's biggest medical library of medicine, the National Library of Medicine. This database is maintained in collaboration with the NIH.

## National Center for Complementary and Alternative Medicine

1-888-644-6226

[www.nccam.nih.gov](http://www.nccam.nih.gov)

Sponsored by the National Institutes of Health (NIH), this site contains databases galore and research articles.

## Parents of Kids with Infectious Diseases

1-877-55-PKIDS (toll-free)

[www.pkids.org](http://www.pkids.org)

[pkids@pkids.org](mailto:pkids@pkids.org)

An excellent resource for parents and professionals. Pediatric clinical trials, research list and support listserv.

## PKIDS Legislative Action Center Website

<http://capwiz.com/pkids/>

This website makes it easy to contact your legislators and keep current about the latest legislation online! Just enter your zipcode and you're on the way to the Capitol.


## Fast Fact

Nearly 3 million children die worldwide each year from vaccine-preventable diseases.



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**HB FOUNDATION**  
700 East Butler Avenue  
Doylestown, PA 18901-2697



## Giving Hope to Millions Is As Easy As Giving...

... and we've Just Made It Easier!  
**Credit Card Donations Can Now Be Accepted**

The growing number of people seeking information and support each year continues to affirm the importance of the HBF's *Cause for A Cure* since we rely on the generosity of individual donations, we need your help to continue our work. Thank you!

Yes! I wish to join the *Cause for A Cure*. Enclosed is my tax deductible gift.

Name \_\_\_\_\_  \$40 Donor  
 \$75 Friend  
 Address \_\_\_\_\_  \$100 Supporter  
 \$250 Fellow  
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**HB FOUNDATION**  
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Doylestown, PA 18901-2697

*We are a national non-profit organization dedicated to finding a cure and improving the quality of life for those affected by hepatitis B worldwide.*

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