

B HEPATITIS B

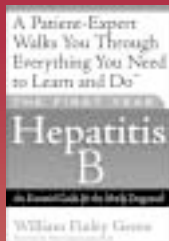
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CAUSE FOR A CURE

The Hepatitis B Foundation is a national 501(c)(3) non-profit organization dedicated to the cause and cure of hepatitis B through research, education and patient support.

INFORMED

Surf, Sand and Scientists

Annual Princeton Workshop Meets in Hawaii

In December 2001, the Hepatitis B Foundation (HBF) convened the 7th Annual Princeton Workshop for senior scientists and clinicians to discuss the issues they see as most critical in hepatitis B therapeutics. The participants, who are recognized as influential thought leaders in the field, are invited from academia, industry and the government. The small number and high caliber of attendees contribute to the meeting's continued success and prestige.

This workshop has always been held in Princeton, N.J., hence the name. However, the HBF moved the meeting to Hawaii this past year because many of the participants planned to attend the HepDART 2001 meeting in Maui (see pg. 5). A special session for the workshop was held just far away enough from the beach to avoid getting wet. It was structured as a wrap-up session to review research highlights from HepDART, as they related to advances in HBV therapeutics.

Although there were the trademark lively discussions, there was consensus about one thing - that the HBF should open a Hawaii Chapter! On a serious note, however, several of the challenges that were identified reflect priorities from the HBF's national research agenda that was generated at the

previous Princeton Workshop and reported in *B Informed*, Winter 2001.

Even though there are likely to be at least two new HBV therapeutics within the next few years, the greatest concern continues to

be the retention of efficacy against drug resistance. The current availability of pegylated interferon (peg-IFN) should immediately open the door for revisiting the use of interferon in the treatment of chronic HBV. Peg IFN has been shown to be far better than non-peg IFN in chronic hepatitis C, and early results suggest that HBV patients may enjoy similar benefits. In addition, another area of concern is now emerging - treatment of the e-antigen negative carrier.

The HBF thanks the following scientists for attending:

Devron Averett, Timothy Block, Nat Brown, Richard Colonna, Adrian Di Bisceglie, Geoff Dusheiko, Leslye Johnson, W. Ray Kim, Brent Korba, George Lau, W. Thomas London, William Mason, Robert Perrillo, Raymond Schinazi, Kathleen Schwarz, David Standing, and Lorne Tyrrell. We also thank Harvey Alter and Eugene Schiff, who contributed comments but were unable to attend the session.

Princeton Workshop 2001

The summary of the 7th annual Princeton Workshop (see pg. 3) clearly frames the state of the new wave of hepatitis B therapeutics as well as provides alerts regarding the most pressing research problems. Workshop co-chairs for this year were **W. Thomas London, M.D.**, Fox Chase Cancer Center, Phila., PA, and HBF board member; **Lorne Tyrrell, M.D.**, U. of Alberta, Edmonton, Canada; and **Timothy Block, Ph.D.**, Thomas Jefferson U., Phila., PA, and HBF president.

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Message from the President

Timothy M. Block, Ph.D.

Not to be Negative, But e-Antigen Negative Carriers Need Attention, Too

If one picture is worth a thousand words, then in the world of hepatitis B, the two words "e-antigen" are worth a thousand pictures. The e-antigen (eAg) is a protein derived from the hepatitis B virus and its presence in the bloodstream is associated with high viral titers.

Perhaps as few as 10% of all hepatitis B carriers are "eAg positive", which means their blood tests positive for the presence of the e-antigen. Yet, most antiviral treatments are intended for eAg positive individuals. This is because the goal of most therapy is to induce "seroconversion" from an eAg positive to eAg negative state, which is generally considered to be a favorable outcome for those with chronic HBV. Indeed, this is the usual standard endpoint for treatment. For example, eAg seroconversion has become the milestone at which time lamivudine may be stopped. Although eAg seroconversion can occur spontaneously, it is not common.

There is a growing appreciation, however, that the eAg negative population is still at risk for complications from chronic HBV. Recent studies suggest that nearly 50% of serious liver disease occurs in eAg negative individuals. This may be due to the emergence of mutant viruses or for other reasons not fully understood. Since there are many more eAg negative than eAg positive carriers, probability alone dictates that greater numbers of the sick will be in the eAg negative group. Although it important to remember that an eAg negative state is usually preferred, the eAg negative carrier must not be forgotten.

This was a topic of intense discussion at the recent Princeton Workshop in Maui, and it seems that if there was an appropriate therapeutic for eAg negative carriers, it would be used. The problem is that the two approved drugs for HBV, as well as the drugs likely to be approved in the near future, are primarily intended for eAg positive carriers.

This may mean that eAg negative individuals represent one of the great overlooked and underserved populations among chronic carriers. To avoid this possibility, we must make it a priority to answer the questions surrounding the conundrum of e-antigen negativity.

In The News



HBV Outbreak in New York City

At least 20 patients of the same doctor have been infected with HBV, prompting New York City health officials to urge hundreds of others to be tested. While hepatitis B is rarely transmitted in the medical setting, an investigation is underway to review medical charts and interview patients, officials said in a news statement. They also stated that although the source of exposure is unclear, "the outbreak could be related to the improper administration of injectable medications from multi-dose vials." [Associated Press 1/13/02]

More Blood Donors Get Bad News

In the weeks after September 11, the number of first time blood donors in the U.S. quadrupled. As a result, there have been many more people receiving letters from blood banks notifying them that they have tested positive for HBV, HCV, or HIV. In the state of New York alone, the health department reported that the number of new hepatitis B cases tripled one month after the tragedy. Yet, the American Red Cross assures the public that the overall rate of infection has not increased despite the swell in positive test results. They estimate that generally 2% of all blood donations cannot be used because of infectious disease. [New York Times 12/20/01]

Rape Victims Face HBV Threat

"Nearly two decades ago, Kansas City's notorious 'Westport rapist' terrorized the city by slipping through windows in the middle of the night and attacking women in their beds. Now, even though the rapist is dead, those women may again be victims." So begins the article about an attacker who died in custody from complications due to chronic HBV in early 2001. Relatives chose to publicize this information so that the victims, who may have unknowingly been infected by the assaults, could take steps to protect their health. Molli Conti, HBF associate director, was quoted as saying, "it is difficult to dig up old wounds, but it would be a good idea for any of those victims to be tested." [Kansas City Star 9/23/01]

Artificial Liver Could Save Lives

Exten Industries, a San Diego medical technology company, is working with subsidiary MultiCell Associates to develop an "artificial liver". Use of the Sybiol BioArtificial Liver Device would maintain vital liver functions, comparable to what kidney patients experience with renal dialysis. The goal is to help extend and improve the quality of life for patients waiting for liver transplantation. MultiCell is also developing specially engineered liver cells for injection into a patient's liver to stimulate growth of new healthy tissue. [HBF email 6/13/01]

Annual Princeton Workshop Highlights December 20, 2001, Maui, Hawaii

The Hepatitis B Foundation's annual Princeton Workshop continues to be a valuable meeting for advancing hepatitis B therapeutics (see pg. 1). The workshop stimulates important scientific decisions, including innovative collaborations, proposals for new NIH programs and fresh research directions for the participants' own work. This year's workshop summary was drafted by Dr. Timothy Block.

The following highlights, taken together with a lively discussion as to which drugs should be used for first line HBV treatment, underscore the remaining need to call for consensus from thought leaders to guide the hepatitis B community in answering the critical questions as to who should be treated and when, and with what drug.

Clinical Highlights

New Antivirals - New antivirals for the treatment of eAg positive HBV carriers are moving through development and perhaps two or more are likely to be available within the next five years. Significantly, antiviral suppression appears to be sufficient, in some cases, and results in at least a degree of reversal of fibrosis.

Resistance To Conventional Antivirals - Advances in chemotherapy will be undermined by the emergence of resistance, if appropriate new drugs are not developed. Except for the modified interferon alpha (pegylated), current antivirals are mechanistically similar. However, the different nucleoside inhibitors could still complement each other's action, despite all being polymerase inhibitors, since they may prevent different functions of the HBV pol. The pol has several discrete functions, such as priming and elongation, and a drug active against one step may complement the action of another. Resistance to any drug that targets a specific viral gene product remains a serious possibility.

Adefovir Dipivoxil Most Likely To Be Approved - Adefovir is fortunately active against conventional lamivudine-resistant virus and is the next best HBV antiviral most likely to be approved by the U.S. Food and Drug Administration (FDA).

Entecavir Moves Into Phase 3 Trials - Entecavir and clevudine are notable for their ability to have a sustained impact upon viremia for a period of time well after end of therapy. These results, which were observed in woodchucks, are now being seen in human trials. In woodchuck studies, cccDNA was reduced, probably to an even greater extent than could be explained by the reduction in viremia and re-infection. This suggests that other mechanisms of action, beyond inhibition of the viral polymerase, may be in play. The therapeutic and toxicological implications of these other mechanisms, should this theory be correct (which could involve a degree of cell destruction), are not clear.

Combination Trials Should Become A Priority - In this regard, it is noted that some companies are themselves sponsoring combination studies. The need for combination studies cannot be overstated.

Promising Ldt/Ldc Compounds Moving Forward - These are a pair of compounds that are highly and specifically active against the HBV polymerase and are now in human trials. Although other such stereoisomers have been developed, the "L-nucleosides" are so named because of their unnatural "L" isomeric properties. In woodchuck studies, they have been shown to be efficacious alone and in combination. Combination studies of the two L-nucleosides are also being planned, presumably reasoning that they either complement each other by targeting different functions of the HBV pol or have complementary pharmacological properties.

Vaccine and Immuno-Modulation Therapies - Therapeutic vaccination for HBV as well as other non-interferon based immuno-modifying strategies remains an extremely important and underdeveloped area for HBV. Although there was only limited discussion about this, it is clear that chronic HBV infection remains one of the most compelling indications for immuno-modifying therapies to be attempted (see DNA Vaccines pg. 8).

What If Any Therapeutics Are Indicated For eAg Negative HBV Carriers? - The standard endpoint for antivirals (interferon as well as nucleosides) is seroconversion from e-antigen (eAg) positive to e-antigen negative. Discontinuation of lamivudine therapy, for example, may be indicated after seroconversion occurs. The eAg negative population, however, is generally not included in treatment plans because there is no clear therapeutic endpoint for these individuals and they are perceived to be at lower risk for progressive liver disease than eAg positive carriers. Yet, there is a growing appreciation that almost half of all liver cancer that occurs does so in those who are eAg negative. Therefore, the need for treatment options for this population is clear (see President's Message, pg. 2).

Basic Science Highlights

Non-Traditional Interferon Pathway May Mediate An Antiviral Activity

Non-Cytopathic Lymphocyte Response May Be Insufficient To Account For Viral Clearance in the Natural History Of HBV

HBV Drug Watch

Compounds in Development For Chronic Hepatitis B

Update February 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
INTERFERONS Mimic naturally occurring infection-fighting immune substances produced in the body				
Interferon alpha-2b (Intron A)	Immunomodulator	Schering-Plough, Madison, NJ	www.schering.com	FDA Approved 1991
NUCLEOSIDE ANALOGUES 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	FDA Approved 1998
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	Inhibits viral DNA polymerase	Novirio, Boston, MA	www.novirio.com	Phase II
LdC	Inhibits viral DNA polymerase	Novirio	www.novirio.com	Phase I
MCC478	Nucleoside analog "prodrug"	Eli Lilly, Indianapolis, IN	www.lilly.com	Phase I, Germany
Fluoro-L and D nucleosides	Inhibits viral DNA polymerase	Pharmasset, Tucker, GA	www.pharmasset.com	Preclinical
Racivir (RCV)	Inhibits viral DNA polymerase	Pharmasset	www.pharmasset.com	Preclinical
ACH-126,443 (L-Fd4C)	Inhibits viral DNA polymerase	Achillion New Haven, CT	www.achillion.com	Preclinical
Robustaflavone	Inhibits viral DNA polymerase	Advanced Life Sciences, Woodbridge, IL	www.advancedlifesciences.com	Preclinical
ICN 2001-3 NEW	Inhibits viral DNA polymerase	ICN, Costa Mesa, CA	www.icnpharm.com	Preclinical
NON-NUCLEOSIDE ANTI-VIRALS				
BAM 205 NEW	"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 HBF scientists	Protein folding inhibitor	Synergy, Edison, NJ	Tel: 732-302-1111	Preclinical
HepBzyme	Nuclease resistant ribozyme	Ribozyme, Boulder, Co	www.rpi.com	Preclinical
NON-INTERFERON IMMUNE ENHANCERS Boost T-cell infection-fighting immune cells and the body's natural interferon production				
Theradigm	Immune Stimulator	Epimmune, San Diego, CA	www.epimmune.com	Phase II
Thymosin alpha-1 (Zadaxin)	Immune Stimulator	SciClone, San Mateo, CA	www.sciclone.com	Phase II w/ lamivudine Orphan drug approval in US Approved in 24 countries
HBV DNA Vaccine	Immune Stimulator	Jefferson Center, Doylestown, PA	Tel: 215-489-4949	Preclinical
HBV DNA Vaccine NEW	Immune Stimulator	PowderJect, Oxford, U.K.	www.powderject.com	Phase I
EHT899	Oral Viral Protein	Enzo Biochem, NY, NY	www.enzo.com	Phase II, Israel
HBV Antigen	Oral Tolerance	OraGen, Philadelphia, PA	Tel: 215-923-5124	Preclinical
POST-EXPOSURE AND/OR POST-LIVER TRANSPLANT TREATMENT				
BayHep B	HBV immunoglobulin	Bayer U.S., Pittsburgh, PA	www.bayer.com	FDA Approved 1977
Nabi-HB	HBV immunoglobulin	Nabi, Boca Raton, FL	www.nabi.com	FDA Approved 1999
Anti-hepatitis B	HBV immunoglobulin	Cangene, Ontario, Canada	www.cangene.com	FDA Filing 2001

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 HBF Drug Watch Update.

HepDART 2001 December 16 - 20, 2001, Maui, Hawaii

Excellent Science Rooted in Human Compassion

Invite a group of the world's leading hepatitis experts to a tropical island and what results is the highly successful meeting *HepDART 2001: Frontiers in Drug Development for Viral Hepatitis* that was held this past December in Hawaii. Nearly 300 scientists and clinicians, many of whom brought their families, flew in to attend the bi-annual international conference that focuses upon hepatitis B and C therapeutics.

HepDART is unique because the two co-organizers, **Drs. Jean-Pierre Sommadossi** and **Raymond Schinazi**, are not only committed to a high quality scientific program, but they also want to ensure that attendees leave with a renewed dedication to help those who are affected. To achieve this goal, they included a new "Public Health and Outreach" plenary session to highlight the efforts of patient advocacy groups, which nicely complemented the research presentations and provided an important human perspective.

The Hepatitis B Foundation (HBF) was one of three national organizations invited to participate in this well-attended session.



HepDART 2001 co-organizers break for festive luau. L to R: Dr. Schinazi and Dr. Sommadossi

Joan Block, R.N., HBF co-founder, spoke about our outreach efforts and provided a virtual tour of the HBF website to illustrate how we are reaching out to people across the nation and around the world. Leaders from the American Liver Foundation and Hepatitis C Caring Ambassadors also made presentations. In concluding, Dr. Schinazi reminded the audience that, "A stronger and UNITED coalition of scientists and advocacy groups will have the greatest impact as we successfully move forward."

The public health session generated a great deal of positive discussion and certainly helped to "humanize" the research problem of viral hepatitis. In fact, several scientists spoke with Ms. Block about how touched they were by the patient stories and the new motivation they felt towards their work.

By featuring public health programs at this conference, Drs. Sommadossi and

Schinazi successfully accomplished their goal of promoting excellent science that is rooted in human compassion.

Dr. Ananda Mehta, HBF's Bruce Witte Research Fellow, Reports Great First Year



Sharing good news. L to R: Dr. Anand Mehta and Paul Witte

With two papers accepted into prestigious journals, **Anand Mehta, D.Phil.**, has had a productive first year as the HBF's *Bruce Witte Fellow*. He has been studying the potential therapeutic value of a new class of anti-HBV agents, termed "alkovirs", which inhibit HBV replication by a yet unknown mechanism. Although this research is new, there is a lot of promise and excitement. The editors of *Hepatology* selected his paper on this topic for a special commentary (*Hepatology*, vol. 33, no. 6, 2001; 1488-1495). Dr. Mehta plans to also focus on his method of inhibiting the secretion of HBV "M" (a middle surface protein of the hepatitis B virus) into serum. Studies at Georgetown University have shown that effective (and antiviral) immune responses to therapeutic vaccination can be generated in conditions where "M"

protein levels are low. Additional experiments are already underway. The Bruce Witte Fellowship is a three-year grant to encourage beginning scientists to pursue hepatitis B research and was established by HBF co-founders **Paul** and **Janine Witte**.

Drug Notes

New HBV Compounds In Development

BAM-205 is a small molecule that possesses antiviral, immunomodulating and hepatoprotective effects and is indicated for acute and chronic hepatitis B and C. It was approved for use in Russia in 2001 after clinical studies in more than 250 Russian hepatitis patients demonstrated that it is safe and efficacious. Overall, more than 700 Russian hepatitis patients have been successfully treated with BAM-205. Novelos recently entered into collaboration with a Chinese pharmaceutical company to develop and commercialize BAM-205 in China. Late stage clinical trials in China are expected to begin in the first half of 2002. Novelos is currently seeking a well-capitalized collaborator to help them develop and commercialize BAM-205 in the U.S. for chronic hepatitis. [<http://novelos.com>]

ICN 2001-3 is a liver-targeting nucleotide analogue in pre-clinical development for chronic hepatitis B. Early data show that it is a promising candidate. This compound was formerly known as MB6866, a HepDirect Prodrug, which ICN Pharmaceuticals licensed from Metabasis Therapeutics in Oct. 2001. ICN is expected to continue development of the drug and may begin Phase I clinical testing in late 2002. [www.icnpharm.com]

Hepatitis Vaccine Watch

Winter 2002

NAME	TYPE VACCINE	COMPANY	WEBSITE	STATUS
Hepatitis B Vaccines				
Engerix B	Recombinant HBV	GlaxoSmithKline Phila, PA	www.gsk.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
Hepatitis A Vaccines				
Havrix	Inactivated HAV	GlaxoSmithKline	www.gsk.com	Market, USA
VAQTA	Inactivated HAV	Merck	www.merck.com	Market, USA
Avaxim	Inactivated HAV	Aventis Pasteur	www.aventispasteur.com	Market, Europe
Combination Hepatitis Vaccines				
TwinRix (Adult)	HBV and HAV	GlaxoSmithKline	www.gsk.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
Hepatitis Vaccines In Development				
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

Nevada Mandates Hepatitis A and B Vaccine For School Entry

All children entering public and private schools for the first time in Nevada must now be vaccinated against hepatitis A and B. The recommendations will go into effect July 2, 2002. The CDC recommends routine hepatitis A vaccination for children in states like Nevada, with a rate of hepatitis A infections that is twice the national average. [PR Newswire 1/7/02]

Multiple Infant Vaccines Are Safe

With the potential for infants to receive as many as 11 vaccines by two years of age, an expert panel, led by Dr. Paul Offit of Children's Hospital of Philadelphia, reviewed existing data to address parent concerns about multiple vaccinations. The published report concluded that an infant's immune system can safely handle multiple vaccines. It reassures parents that, "Although we now give children more vaccines, the actual number of antigens they

receive has declined. Whereas previously one vaccine such as smallpox contained about 200 proteins, now the 11 routinely recommended vaccines contain fewer than 130 proteins in total." [Reuters 1/7/02]

U.S. Infants To Receive HBV Vaccine At Birth

On Oct. 17, the federal Advisory Committee on Immunization Practices (ACIP) voted to recommend that all infants receive the hepatitis B vaccine at birth. "For the first time, ACIP is stating a preference for the birth dose," said Dr. Harold Margolis, CDC hepatitis chief. "This is an important step," he continued. The new recommendation provides a vital safety net for infants born to infected mothers whose HBV status is unknown or unreported. Infants who are exposed to the hepatitis B virus during delivery have a 90% risk of becoming chronically infected unless they receive the hepatitis B vaccine within the first 12 hours of life. [Hepatitis Control Report Fall 2001]

AASLD Practice Guidelines "Chronic Hepatitis B"

By Anna S. F. Lok, M.D., and Brian J. McMahon, M.D. Hepatology, December 2001

Physicians and other health care providers can now benefit from clear recommendations to help them in the diagnosis, management and treatment of chronic hepatitis B patients. Co-authors **Anna Lok, M.D.**, and **Brian McMahon, M.D.**, developed practice guidelines for chronic hepatitis B that were approved by the American Association for the Study of Liver Diseases (AASLD) and published in the December issue of Hepatology, a medical journal for liver diseases.

Over a 16-month period, Drs. Lok and McMahon conducted an extensive literature search of peer-reviewed articles to compile data in the development of their recommendations. In addition, the proceedings of a National Institutes of Health (NIH) workshop on the "Management of Hepatitis B: 2000" were considered by the authors (for a full report, see B Informed, fall 2001).

"Current therapy of chronic hepatitis B has limited long-term efficacy. Thus, careful balance of patient's age, severity of liver disease, likelihood of response, and potential adverse events and complications is needed before treatment is initiated. Except for patients with decompensated cirrhosis, either IFN or lamivudine may be used as initial therapy. The advantages of IFN include finite duration of treatment and lack of resistant mutants. The disadvantages of IFN are the costs and side effects. Lamivudine is more economical (if given for 1 year only) and well tolerated, but the durability of response and the long-term clinical significance of the resistant mutants are uncertain."

Final recommendations from "Chronic Hepatitis B", Drs. Lok and McMahon, Hepatology, December 2001

According to Dr. Lok, the "primary purpose of practice guidelines is that they will help physicians who are less familiar with the topic to know where things stand and to

provide them with useful guidelines for managing hepatitis B." Yet, "guidelines are guidelines and it is up to individual physicians to follow or ignore them," she added.

Drs. Lok and McMahon provide an excellent review of the current state of knowledge in their article "Chronic Hepatitis B", and conclude by answering the important treatment

questions as to who should be treated and with what therapeutic. The following table was also included in this article and nicely summarizes the AASLD approved recommendations, as developed by Drs. Lok and McMahon, for the treatment of chronic hepatitis B.

RECOMMENDATIONS FOR TREATMENT OF CHRONIC HEPATITIS B

HBeAg	HBV DNA*	ALT	Treatment Strategy
+	+	<2X normal	Low efficacy for both IFN- α and lamivudine treatment. Observe patient; consider treatment when ALT becomes elevated.
+	+	>2X normal	IFN- α or lamivudine therapy. In IFN- α nonresponders and patients with contraindications to IFN- α , lamivudine is preferred.
-	+	>2X normal	IFN- α or lamivudine. Long-term treatment required.
-	-	<2X normal	No treatment required.
+/-	+	Cirrhosis	Compensated: IFN- α (close monitoring required) or lamivudine. Decompensated: Lamivudine treatment. Optimal timing of therapy unknown. Liver transplantation.
+/-	-	Cirrhosis	Compensated: Observe. Decompensated: Liver transplantation.

*HBV DNA >10⁵ copies/mL. This value is arbitrarily chosen and may be lower for patients with HBeAg-negative chronic hepatitis B and those with decompensated cirrhosis.

Source: Table 8 in "Chronic Hepatitis B", by Drs. Anna Lok and Brian McMahon Hepatology, vol. 34, no. 6, Dec. 2001 (1225-1241).

Vaccines: Not Just for Prevention Anymore

DNA Vaccine Technology Shows Promise for HBV Treatment

Vaccines. This is a word that conjures up images of a quick shot in the arm to protect you from a contagious disease. Vaccines are just for prevention - right? Not anymore. Recent advances in vaccine technology have led to new "DNA vaccines" that not only offer a novel approach to disease prevention, but may also be useful in the treatment of certain diseases.

For hepatitis B patients, the hope is that "DNA vaccines" might stop the infection from worsening, or ideally, would even help to conquer the disease.

What Are DNA Vaccines?

It has been known for over a century that our own immune system can be used to attack viruses and bacteria. Many conventional vaccines use attenuated viruses that infect but do not cause disease (smallpox and chickenpox vaccines); others use killed viruses (Salk polio vaccine) or viral proteins (HBV vaccine) to mimic infection by the live viruses.

DNA vaccines, on the other hand, are crafted from inserting fragments of viral DNA into a plasmid that can be transferred to humans without causing infection. This new technology eliminates any risk of actual infection associated with some conventional vaccines. DNA vaccines can be administered as an injection or in a powder formulation that is propelled into the skin using a hand-held "gene gun".

Why DNA Vaccines?

Attenuated virus vaccines have traditionally offered a high degree of protection from disease. However, the rules for generating attenuated viruses that do not produce significant disease, yet provide protection have not been well formulated. DNA vaccines are an attractive alternative because they offer an opportunity to stimulate broad range immune responses as in a natural infection, but without the risk of causing actual disease. In addition, DNA vaccines can be produced at low cost; allow development and manufacturing of different vaccines easily; are extremely stable; and can be engineered to treat or prevent various diseases simultaneously.

Vaccines Scientists on the Forefront

C. Satishchandran, Ph.D., and **Catherine Pachuk, Ph.D.**, have spent the past nine years working on DNA vaccines, first at Wyeth-Lederle, and now as associate professors at the Jefferson Center of Thomas Jefferson University, which is also home to the Hepatitis B Foundation.

Their joint research is intended to create a therapeutic DNA vaccine that can cause the immune systems of people with chronic HBV to attack the virus and resolve the infection.

Conventional vaccines typically elicit only an antibody response, whereas, DNA vaccines trigger both an antibody response and a cellular response (similar to what happens during a natural infection except that the DNA vaccine will not cause any illness).

Dr. Pachuk explains, "In general, antibody responses can remove or inactivate a virus when it is outside of a cell. Once a virus is inside a cell, a cellular response is needed to eliminate the virus-infected cells. Stimulating a cellular response to attack the virus within the liver cell itself is believed to be critical in eliminating a chronic viral infection such as hepatitis B."

So far, DNA vaccines have performed well in nearly every animal in which they have been tested. The problem now is getting the vaccines to work well in people. Although found to be safe, DNA vaccines have been less successful in eliciting the desired immune response in people. For some reason, DNA injected into people seems to be "turned off" by the body.

Drs. Satishchandran and Pachuk believe they have not only found a way to overcome this hurdle, but may use it to an advantage. This "off-switch" mechanism can either be designed out of the DNA vaccine or perhaps can even be used to shut down the virus in the infected individual. The "off-switch" mechanism is called "gene silencing" in the lexicon of molecular biology and is, in itself, an extremely exciting field of study that these scientists are pursuing.

Therapeutic Promise of DNA Vaccines

DNA vaccines show promise as an HBV therapeutic because they can potentially be designed to avoid the problem of viral mutations, which is a major treatment issue with some of the currently available drugs. The hepatitis B virus is clever and can mutate so that drugs are no longer entirely effective in stopping its progress.

Although scientific research is leading to new compounds that might be helpful in dealing with drug-resistant mutations, wouldn't it be far better if treatment for hepatitis B did not create this secondary problem? Drs. Satishchandran and Pachuk think so. Both scientists are confident that therapeutic DNA vaccination will be successful in people and they expect to have a product in clinical trials within the very near future.

Editor's Note: DNA vaccine research is currently being conducted in other labs in the U.S., Japan, and France. For more information, visit www.dnavaccine.com

Meet the Scientists



Hooked on the Secrets of Science



Partners in a treasure hunt. L to R: Drs. Satishchandran and Pachuk

Catherine Pachuk, Ph.D.

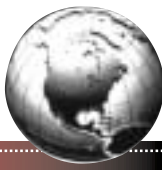
Sometimes I dream that I am walking through my home and find new doors opening to rooms that I did not know were there. This sense that discovery is always possible in

our field draws me forward. I never know when I will find a new doorway in our research that will lead to further study. My stamina comes from the fact that I keep learning something new. To me, research is like a treasure hunt. I keep searching, and then find a reward, which opens pathways to new questions for research and the promise of another reward. My work is perpetually enticing to me.

C. Satishchandran, Ph.D.

We all start in science like blind people feeling an elephant. After years of work, I can now envision the elephant: where we are going and how we will get there. It is true that I am interested in unraveling the disease mechanism. I have always been happy in the lab, pursuing questions, and doing science, but as we have come closer to our goal, there is an added dimension to our work. The real power of what we do is that our work may be so useful. Recently, I have developed a vision of a product that may be used by many people in the world, and therefore change world. We are almost there.

Hepatitis B Around the World



Hepatitis B Unknown But Common In Uganda

More than 3.5 million Ugandans are infected with hepatitis B, but don't know it, according to Dr. Issa Makumbi, health commissioner for immunizations. These findings were based on tests carried out on all blood donors throughout the country over several years. "This is a silent epidemic that requires urgent attention", he said. All children 5 years and younger will be universally vaccinated against HBV beginning 2002. [All Africa Global Media 1/7/02. Visit <http://allafrica.com/stories>]

Protecting Babies Against HBV In Cape Verde

Beginning January 1, 2002, infants under one year will be routinely vaccinated against HBV in Cape Verde, Africa. Newborns will receive the first of three doses within seven days of birth and complete the hepatitis B series six months later. The hepatitis immunization program is funded by a UNICEF grant of \$207,000 from the Italian government and is scheduled to continue through 2004. [All Africa Global Media 1/10/02. Visit <http://allafrica.com/stories>]

New HBV Vaccine Guidelines For African-Americans

In an effort to curb the threat of hepatitis in the African-American community, the National Medical Association (NMA) issued new guidelines for the prevention and treatment of viral hepatitis. The NMA consensus paper calls for universal vaccination to protect African-American children, adolescents and adults from hepatitis B. "Hepatitis A, B, and C are serious and debilitating diseases that have reached epidemic proportions in the African-American community," said Dr. Lucille Perez, president of the NMA. African-American infants are less likely to be vaccinated against hepatitis B than infants in other ethnic groups; HBV infection is up to four times higher among African-Americans adolescents than among Caucasians; and 65% of all cases of acute viral hepatitis occur among African-Americans. [National Medical Association press release 10/23/01]

Fast Fact



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

Foundation at the Forefront

B Informed 2002 in the Works!

Save the Date! Reserve the weekend of June 28 - 29 for the HBF's *B Informed Conference 2002: A Gathering of Friends* to be held in Doylestown, PA. **Steve Bingham** and **Sheree Martin**, co-owners of the online HBV Info & Support List, have once again offered to help coordinate the meeting, which promises to be as exciting and thought provoking as last year. The meeting will be scheduled over two full days to allow more time for Q & A sessions with experts, informal discussions, and rest breaks. Space is limited, contact us for more information at info@hepb.org or call 215-489-4900.

HBF Website Attracts More Than Surfers

The HBF's award-winning website had more than 400,000 visits in 2001, which represents a 62% increase from the previous year. Even more extraordinary is the fact that almost 20% of our visitors spent up to an hour on our site. If you consider that the average American surfs 90 minutes a day on the internet, excluding email, it is clear our website has a lot of stick! In addition, 70% were new visitors, 32 countries were represented, and the most popular pages were "information", "advice" and the "drug watch". These stats confirm that our comprehensive website is becoming a major portal of HBV information. Be sure to visit us at www.hepb.org

Korean Language Chapter Makes Debut

The new Korean Chapter on our website at www.hepb.org has been launched into cyberspace. Just click on the flag, and you can choose to read the chapter in either Korean or English. A PDF version is also available for free downloads in both languages. This is a customized chapter of information with multiple internal links, just like our Chinese Chapter that was posted last year. An article about hepatitis B and the Korean community, written by HBF medical advisor **Hie-Won Hann, M.D.**, is included as a special feature. The Korean chapter is the second in a series of Language Chapters that are being developed to achieve our goal of "trans-culturalizing" HBV information to reach at-risk ethnic communities here in the U.S. and abroad.



Oliver gets big hug at Winter Carnival Parade in New Hope, PA. L to R: Laura Hunter, Chari Cohen, Oliver, Paul Hunter and Paul Cohen (Feb. 2, 2002).

From the CIA to the HBF



Laura Hunter, a winning addition to the HBF family.

We are pleased to welcome Laura Hunter, our new outreach associate, who joined us this past October. Between answering email from around the world, preparing customized information packets, mastering the growing HBF database, and helping to coordinate the many details of our outreach activities, Laura is kept very busy. She is originally from the Washington, D.C. area, where for many years she worked in the international office of the CIA, but we really can't say anything more, or else . . .

HBF Scores A+ Scientific Review

Cutting-edge research, critical discoveries and unparalleled consumer education were all achievements cited in a formal scientific review of the Hepatitis B Foundation and the Jefferson Center of Thomas Jefferson University (TJU). The review confirmed that the unique collaboration between researchers and the HBF provides an important stimulus to the success of both. The distinguished international panel of scientists included **Thomas Shenk, Ph.D.**, Princeton University; **Raymond Dwek, D.Phil., FRS**, University of Oxford; and nobel laureate **Baruch Blumberg, M.D., Ph.D.**, Fox Chase Cancer Center. The hepatitis research and outreach activities located at the HBF and Jefferson Center are funded in part by a Pennsylvania Commonwealth grant.



Celebration of scientific review. L to R: Dr. Litwack, TJU vice-dean; PA state senator Conti, Dr. Block, HBF president; Dr. Leamer, DVC president; and Dr. Stein, Ben Franklin Technology vice-president (Jan. 18, 2002).

Welcome Aboard Dr. Harvey Alter



Molli Conti, HBF associate director, congratulates Dr. Harvey Alter, recipient of the HBF's Distinguished Scientist Award, at the annual awards gala 2001.

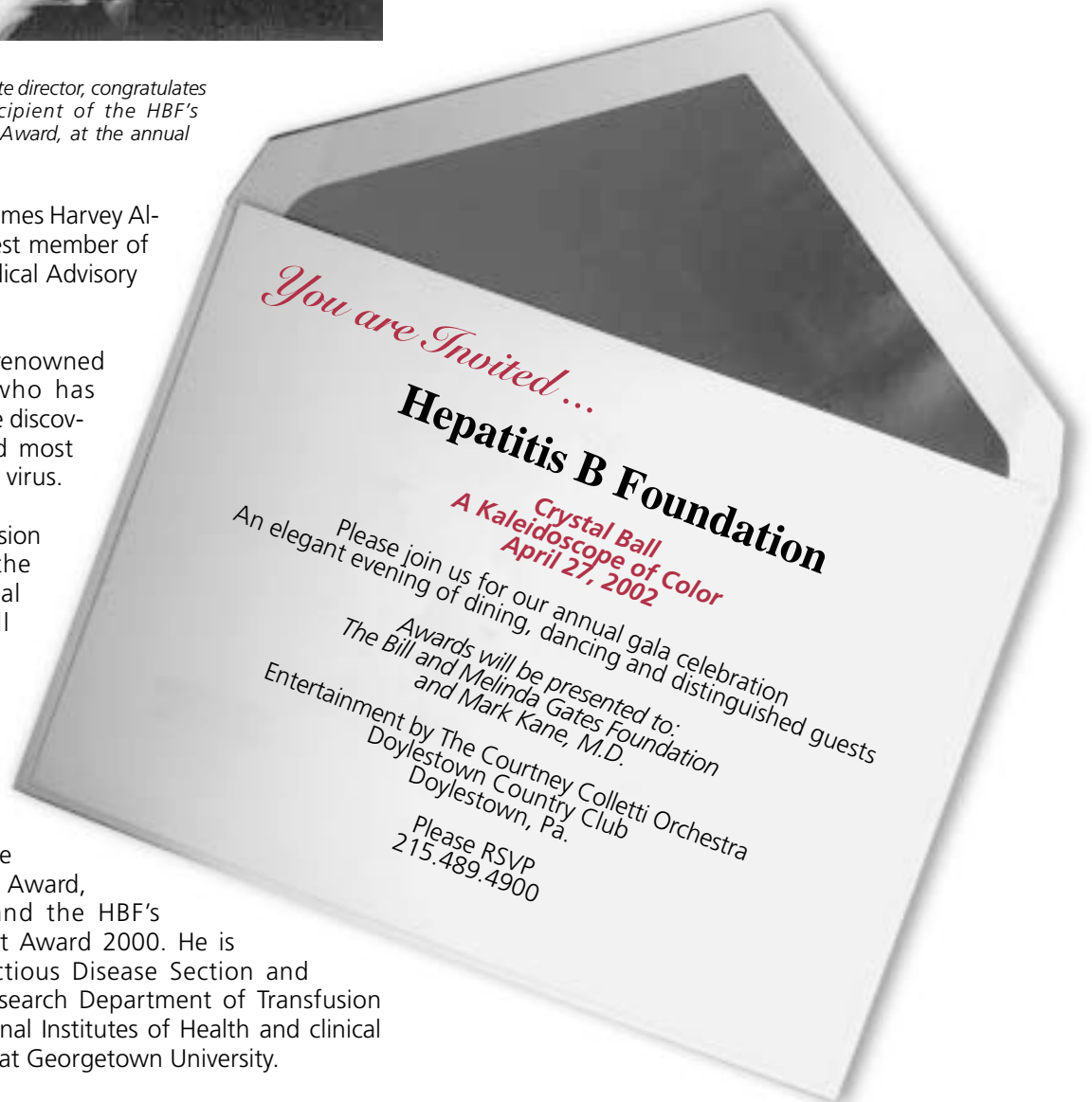
The HBF proudly welcomes Harvey Alter, M.D., as the newest member of our Scientific and Medical Advisory Board.

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.

In addition, his transfusion studies resulted in the creation of a national policy to screen all donated blood, making the nation's blood supply safer. For his many accomplishments, Dr. Alter has received the Lasker Award, Distinguished Service Medal, NIH Director's Award, Landsteiner Prize, and the HBF's Distinguished Scientist Award 2000. He is currently chief, Infectious Disease Section and associate director, Research Department of Transfusion Medicine at the National Institutes of Health and clinical professor of medicine at Georgetown University.

HBF To Honor The Bill and Melinda Gates Foundation and Mark Kane, M.D., The Gates Children's Vaccine Program

The HBF will present a joint award to The Bill and Melinda Gates Foundation and Dr. Mark Kane at our annual Crystal Ball gala celebration on April 27. The Gates Foundation has pledged \$150 million over five-years to immunize children against hepatitis B in 13 of the world's poorest nations. Dr. Mark Kane, director of The Gates Children's Vaccine Program, was instrumental in getting HBV vaccination accepted as one of the necessary infant immunizations as former head of the hepatitis B program at the World Health Organization. We are proud to publicly recognize these individuals for their outstanding contributions in advancing the cause and cure of hepatitis B.



In The Spotlight



Hepatitis B Book Bonanza!

After decades of near silence about a disease that affects billions of people, 2002 is shaping up to be a banner year for hepatitis B publications.

Soon you will be able to purchase interesting and affordable paperbacks about hepatitis B at your local bookstore, rather than slogging through dense medical textbooks that are more scary than reassuring. For those intrigued by thrilling scientific discoveries to those seeking advice, now there will be a book for everyone. Happy reading!



Making A Donation To The Hepatitis B Foundation Is As Easy As Ordering A Book!

For every book that you order from us, we will receive half of the purchase price as a donation.

This unique charitable opportunity is the result of a special arrangement with the book publishers.

So, be sure to stock up on extra copies of these books to give to family, friends, and yes, even to your doctor!

Order Your Books Today From the HBF!

You can never have too many . . .

Call us at 215-489-4900 or visit www.hepb.org

Fast Fact

The World Health Organization estimates up to 16 million new HBV infections occur each year as a result of unsafe injections.

Hepatitis B: The Hunt for a Killer Virus

Baruch S. Blumberg, M.D., Ph.D.
Available April 2002 (\$27.95)

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 shares this story in his scientific memoir, *Hepatitis B: The Hunt for a Killer Virus*.

With wit and insight, Blumberg describes how he and a team of researchers found a virus they were not looking for and created a vaccine for a disease they previously knew little about - work that took the author around the world and won him the Nobel Prize. As he takes the reader through the investigative twists and turns of his journey, Blumberg recounts with immediacy the exciting moments in the lab and in the field - from a hair-raising flight to Africa to an unforgettable encounter with Alaskan sled dogs.



Hepatitis B: The Hunt for a Killer Virus is a fascinating chronicle of a major discovery and illuminates the trail of remarkable "accidents" that happen when scientists like Blumberg seek answers to interesting questions. Serendipity and his determined persistence resulted in discoveries that have generated a pharmaceutical industry, have global public-health applications, and continue to save millions of lives each year.

Editor's note: Dr. Blumberg is one of the HBF's founding scientific advisors and we encourage everyone to read about his discovery that changed our world. His commitment to completing the circle of discovery, from virus - to vaccine - to cure, is a vital source of motivation for us all.

For more information about this book, contact the HBF or Princeton University Press at www.pupress.princeton.edu

First Year: Hepatitis B

William F. Green
Available May 2002 (\$15.95)

First Year: Hepatitis B, by William F. Green, is a book that doesn't weigh you down with dozens of statistics and research reports about HBV treatments. Instead, Will has written a book that pulls you in and keeps your interest, almost

Hepatitis B Book Bonanza continued

like a good novel. Drawing upon his own personal experience of living with HBV, he provides insight for both the newly diagnosed and the experienced veteran.

Will's book *First Year: Hepatitis B* focuses on helping to build a solid foundation of knowledge so that you can make informed decisions about your health. Each chapter is divided into a Living and a Learning section. The Living section deals with the emotional experience. The Learning section aims for the left side of your brain - the side that is hungry for data and pure science. Personal stories are sprinkled throughout with just the right dash of humor to illustrate key points.

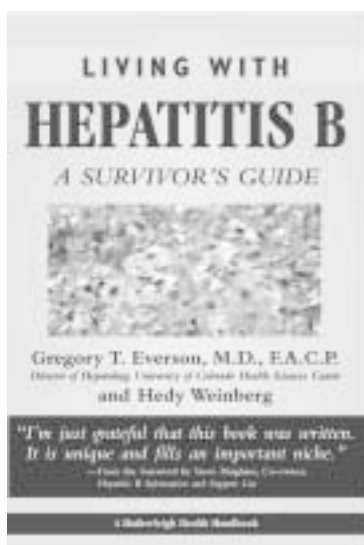
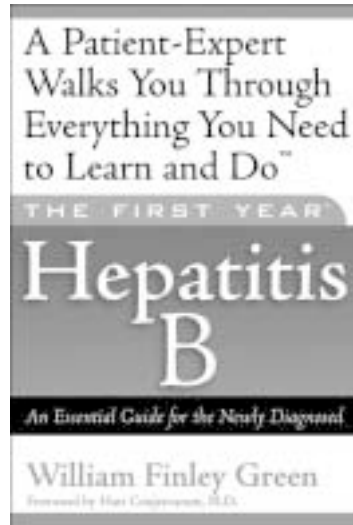
As Will explains, "I've written this book to answer the questions and provide the insights I desperately sought after my own diagnosis. When I was diagnosed, I went out to find a book about hepatitis B. There was nothing at the local library or bookstores. I was confused and felt alone. No one seemed to be able to tell me what was ahead as I embarked upon the HBV experience. So, after years of complaining about a lack of patient guides, I decided to stop whining and start writing."

For more information, please contact the HBF or visit Marlowe & Co. at www.marlowepub.com

Living with Hepatitis B: A Survivor's Guide

Gregory T. Everson, M.D., and Hedy Weinberg. Available upon request (\$15.95)

As the first in the hepatitis B book bonanza, *Living with Hepatitis B: A Survivor's Guide* is an excellent resource for everyone concerned. Co-authors Dr. Gregory Everson and Hedy Weinberg take the



reader step-by-step through the process of diagnosis, ongoing care, and treatment options. Taking care of yourself nutritionally, emotionally, and financially are separate chapters devoted to these important topics.

Hedy Weinberg, who lives with hepatitis C, is able to address firsthand the unique challenges of living with a chronic illness, and translates the medical jargon into language that anyone can understand. *Living with Hepatitis B* is full of many positive suggestions that will help people learn to live with their disease and not become their disease.

Read the complete book review by the HBF in our fall 2001 issue of *B Informed*, which is available on our website. For more information, contact Hatherleigh Press at 1-800-528-2550.

PKIDs Pediatric Hepatitis Report

New Resource About Children and Hepatitis

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. The Pediatric Hepatitis Report is a publication of the national non-profit agency PKIDs (Parents of Kids with Infectious Diseases) and was released December 2001.

PKIDs created this report, funded in part by the Centers for Disease Control and Prevention, for parents, social workers, teachers and health care providers to help them better understand what it means for children and their families to live with viral hepatitis. Each chapter includes basic disease facts; information about prevention, management, and treatment; and personal accounts written by parents of affected children.

Important non-medical issues are also addressed such as how and when to disclose a diagnosis to a young child; what civil rights protections are available to children with infectious diseases in schools, daycare centers and sports programs; how to practice standard precautions in every day life to prevent disease transmission; and how to ease children's anxieties about doctor visits.

"This report is the culmination of years of work and research," said Trish Parnell, Executive Director of PKIDs. "It is a wonderful resource that will help parents and others to understand these complex diseases."

To order a hardcopy version of the 530-page report, call PKIDs at 1-360 695-0293. For only \$45, which includes shipping, you will have a valuable resource for many years to come. Visit www.pkids.org to read the entire Pediatric Hepatitis Report online.

The mission of PKIDs is to educate the public about infectious diseases and to assist families whose children live with chronic, infectious diseases.

Speaking Personally

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

Help Yourself While You Wait . . .

No two ways about it, chronic hepatitis B can get you down. Faced with limited treatment options, myriads of "side effects", unsympathetic friends and family, imperfect doctors, and mounting bills, our first inclination is to just lock ourselves in a closet and never come out again. But closets can get pretty boring after awhile.

Some of us need help getting out into the fresh air. So Sheree Martin (co-owner of the HB-L) and I thought it might be useful if we posted an informal survey to ask folks what they do to feel better. Although we weren't trying to conduct a rigorous scientific



study, we thought this would give them a chance to share their thoughts and possibly help others in the process.

Fifty-eight members of our international Hepatitis B Information and Support List shared how they cope with chronic hepatitis B on a daily basis. They were asked to respond to the following topic: "Name three things you do to improve your physical or mental health."

While we're waiting for a hepatitis B cure, there are many things we can do right now to improve our quality of life. Why not try some of the above suggestions.

**Best wishes,
Steve**

HB-L's Top 20

"Things I Do To Feel Better With Hep B"

1. **Eat healthily**
2. **Exercise - as energy allows, walking, yoga, swimming**
3. **Don't sweat the small stuff - learn positive thinking, avoid stress**
4. **Seek spiritual help - prayer, religion, meditation**
5. **Learn about hepatitis - take active role in treatment**
6. **Take naps - get plenty of rest**
7. **Don't let hepatitis control my life - try to forget I'm sick**
8. **Take one day at a time**
9. **Stay busy - job, family, hobbies, travel**
10. **Laugh a lot - use humor**
11. **Pester my doctors for help- be the "patient who won't go away"**
12. **Listen to my body - be aware of what makes me feel good and bad**
13. **Stimulate myself mentally - read, learn new things**
14. **Spend time with new and old friends**
15. **Avoid alcohol**
16. **List "fun things I like to do" and then do them!**
17. **Get out of the house**
18. **Avoid junk food**
19. **Help other heppers**
20. **Stay flexible - re-evaluate my life and priorities**

Fast Fact

Nearly \$700 million is spent each year in the U.S. to treat chronic HBV.

Fast Fact

Less than 1% of 18 million adolescents in the U.S. have been vaccinated against HBV.

Hepatitis B Clinical Trials

Hepatitis B Foundation Clinical Trials Watch www.hepb.org/clinicalinfo.html

The HBF maintains a list of clinical trials for hepatitis B.

National Institutes of Health Clinical Trials www.clinicaltrials.gov

The NIH maintains this comprehensive database about current clinical research.

Centerwatch Clinical Trials Listing Service www.centerwatch.com

Centerwatch is a Boston-based publishing company that focuses on the clinical trials industry.

New Clinical Studies Seeking HBV Patients

Bristol-Myers Squibb **Conducting Phase 3 Studies of Entecavir**

Adults with chronic hepatitis B infection are needed for this once daily oral drug study, which is being conducted in approximately 130 sites in more than 30 countries. Three different studies are being conducted. For additional information, contact: 1-877-41-STUDY.

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

Columbia-Presbyterian Medical Center **Studies Entecavir**

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 (NY, NY).

Stanford U. School of Medicine Sponsors **HBV Studies**

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

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

Columbia-Presbyterian Medical Center **Studies Adefovir Dipivoxil**

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 (NY, 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.

Northwest Kinetics Seeks Chronic HBV Carriers

Study to determine if a certain type of white blood cell (HBV CTL) could potentially strengthen HBV infected adults' immune systems. No drugs will be given - only blood samples are required. Contact: Coreen at 1-877-697-8839 or cwright@nwkinetics.com (Tacoma, WA).

Digestive Diseases Foundation Studies New HBV Drug

Study of a new drug to treat chronic hepatitis B. Contact: Maria Lopez at 1-800-900-5650 or gastrodoc@email.com (Tacoma, WA).

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

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

HBV Adoption Support List
<http://groups.yahoo.com/group/hbv-adoption/join>
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/listserv.htm>
For adoptive and biological parents of children with chronic viral infectious diseases, including HBV, HCV, and HIV.

Calendar of Events



- April 15 - 21** **EASL 2002 - The 37th Annual Meeting**
The European Association for the Study of the Liver
Madrid, Spain
Contact: 41-22-908-04-88 or info@easl.ch
www.easl.ch/cong_annu.htm
- April 27** **Hepatitis B Foundation Awards Gala Crystal Ball**
Kaleidoscope of Color
2002 Honorees:
The Bill and Melinda Gates Foundation and Mark Kane, M.D, Director,
The Gates Children's Vaccine Program
Doylestown, PA
Contact: 215-489-4900 or info@hepb.org
www.hepb.org
- April 29 - May 2** **The 36th National Immunization Conference**
Centers for Disease Control
National Immunization Program
Adam's Mark Denver Hotel, Denver, CO
Contact: 404-639-8225
www.cdc.gov/nip/NIC/default.htm
- May 3** **HBF Bruce Witte Lecturer Frank Chisari, M.D.**, Scripps, Research Institute
Hepatitis B Foundation, Doylestown, PA
Contact: 215-489-4900 or info@hepb.org
- May 19 - 22** **Digestive Disease Week**
DDW Administration
The Moscone Center, San Francisco, CA
Chair: Dr. Emmet B. Keefe
Contact: 301-272-0022
www.ddw.org
- 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>
- 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
- 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. 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



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

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

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

Resource Roundup



Hepatitis B Foundation

215-489-4900

www.hepb.org

info@hepb.org

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

American Liver Foundation

1-800-GO-LIVER

www.liverfoundation.org

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

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

1-800-232-0233 (Spanish)

nipinfo@nip1.em.cdc.gov

Hepatitis B Research List

To subscribe, send a blank email to:

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

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

info@hepc-connection.org

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

Hepatitis Control Report

www.hepatitiscontrolreport.com

After six years of excellent reporting, this newsletter ends with the Winter 2002 issue.

Hepatitis Foundation International

1-800-891-0707

www.hepfi.org

mail@hepfi.org

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

Hepatitis Magazine

1-800-310-7047

www.hepatitismag.com

editor@hepatitismag.com

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

Hepatitis Neighborhood

www.hepatitisneighborhood.com

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

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

Immunization Action Coalition

651-647-9009

www.immunize.org

admin@immunize.org

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

MEDLINE Plus Health Information

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

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

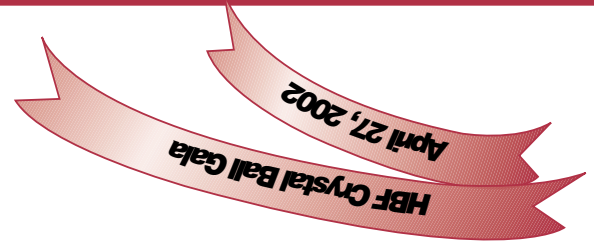
pkids@pkids.org

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.



Nonprofit Organization
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Doylestown, PA

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
 City _____ \$500 Patron
 \$1,000 Leader
 State _____ Zip _____ Other

Check MasterCard Visa Card # _____

Name on card _____ Exp. Date _____

Signature _____

Please make checks payable to: Hepatitis B Foundation
700 East Butler Avenue, Doylestown, PA 18901

**Contributions will be acknowledged in our Winter newsletter
unless otherwise requested.**

A copy of the official registration and financial information may be obtained by calling the Pennsylvania Department of State toll-free within PA at 800-732-0999 or out-of-state at 717-783-1720. Registration does not imply endorsement.



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

We are a national 501(c)(3) nonprofit organization dedicated to the cause and cure of hepatitis B through research, education and patient support.

Tele 215-489-4900 • Fax 215-489-4920
email: info@hepb.org • website: www.hepb.org

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