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HEPP News, Vol. 4 No. 12

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HEPP NEWS

December 2001 Vol. 4, Issue 12

HIV & HEPATITIS
EDUCATION
PRISON
PROJECT

Sponsored by the Brown Medical School Office of Continuing Medical Education and the Brown University AIDS Program.

ABOUT HEPP

HEPP News, a forum for correctional problem solving, targets correctional administrators and HIV/AIDS and hepatitis care providers including physicians, nurses, outreach workers, and case managers. Continuing Medical Education credits are provided by the Brown University Office of Continuing Medical Education to physicians who accurately respond to the questions on the last page of the newsletter.

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*HEPP News is grateful for the support of the following companies through unrestricted educational grants:
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PREVENTION OF OPPORTUNISTIC INFECTIONS (OIs) IN THOSE WITH HIV INFECTION

Joseph Bick, M.D.*, Director, HIV Treatment Services, California Medical Facility, Vacaville, CA, California DOC

Prior to the availability of effective antiretroviral therapy (ART), most patients with HIV infection could expect to experience a fairly predictable and inexorable decline in their CD4 count. Once a patient's CD4 count declines significantly, prophylaxis for opportunistic infections is initiated and continues indefinitely.

Beginning in 1995, the availability of more effective protease inhibitor based ART forever altered this algorithm. With more potent ART, many patients experience significant and sustained improvements in immunologic function as evidenced by CD4 count increases and in vitro responses to antigenic stimulation. Soon the question arose whether those who during CD4 nadir met criteria for prophylaxis still required such agents after experiencing ART-induced immune reconstitution.

Initial anecdotal reports gave way to longer observational trials. When last reviewed in HEPP News,¹ some data existed that supported stopping primary and secondary prophylaxis in the setting of sustained ART-induced CD4 count increases. Subsequently, further information has accumulated that has now lead to a revision in the United States Public Health Services/ Infectious Diseases Society of America (USPHS/IDSA) Guidelines for the Prevention of Opportunistic Infections in HIV Infected Adults and Adolescents. The revised version of these recommendations, released November 28, 2001, is available at www.HIVATIS.org/trt-gdlns.html. Some important aspects of these guidelines will be summarized here.

INITIATING PRIMARY PROPHYLAXIS TO PREVENT OIS

The recommendations for prevention of disease related to *Pneumocystis carinii*, *Mycobacterium tuberculosis*, *Mycobacterium avium* complex, *Toxoplasma gondii*, *Streptococcus pneumoniae*, Hepatitis A and B, influenza, and Varicella are available and have not significantly changed from the prior guidelines. Some are summarized in Table 1 on page 2.

INITIATING SECONDARY PROPHYLAXIS TO PREVENT OIS

After treatment of active disease, secondary prophylaxis is recommended to prevent relapse of

many common OIs. These recommendations are also not significantly changed from prior USPHS/IDSA recommendations and are summarized in Table 2 on page 4.

CRITERIA FOR DISCONTINUING PRIMARY AND SECONDARY PROPHYLAXIS

For many of the most common OIs, data exists to support the discontinuation of secondary prophylaxis in those with sustained ART-induced immunologic recovery. Such an approach carries the potential for decreasing the potential for side effects, drug-drug interactions, total pill burden, and the significant costs associated with some prophylactic medications. (Per annum costs: clarithromycin 500 mg bid \$2,843; fluconazole 200 mg qd \$4,603; ganciclovir 1000 mg tid \$17,794.) Table 3 details updated recommendations for starting, discontinuing, and restarting primary and secondary prophylaxis for some of the most devastating HIV associated opportunistic infections. For many OIs, the evidence for efficacy of continued prophylaxis might not outweigh the potential adverse consequences.

Each patient must be approached on an individualized basis. Discontinuing prophylaxis carries some risk for those patients who will not have access to frequent medical evaluation and blood test monitoring. In some such cases it may be most prudent to continue prophylaxis until such time as the patient can be monitored more closely.

For patients who can be followed closely, data support discontinuing primary prophylaxis in those whose CD4 count in response to ART has for at least 3 months remained >100 (*Mycobacterium avium* complex) or >200 (*Pneumocystis*, *Toxoplasmosis*).

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OPPORTUNISTIC INFECTIONS...
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For patients who have experienced active disease due to Pneumocystis, Toxoplasma, Mycobacterium Avium, Cryptococcus, and Cytomegalovirus, criteria are provided for the discontinuing of secondary prophylaxis (see Table 3). Again, this should be undertaken on an individualized basis and only after the patient is educated about the risks and benefits involved with each approach. For some patients, the ability to be rewarded for good ART adherence by stopping prophylactic medications may serve as an additional incentive to continue to comply with ART.

RISK AVOIDANCE: SEXUAL AND INJECTION DRUG EXPOSURES

Recommendations intended to help HIV infected individuals avoid exposure to or infection with opportunistic infections is provided and categorized by risk group. Clearly, at least some prisoners will continue to be sexually active while incarcerated and some will engage in injection drug use (IDU). In spite of the fact that both activities are prohibited in correctional facilities, patients need more educational information than "just say no." Sexual and IDU abstinence is the safest option for those interested in reducing the risk for acquisition of CMV, HSV, HPV, HHV8, other HIV strains, HAV, HBV, HCV and a variety of other enteric pathogens. Acknowledging that risk behaviors continue during incarceration, prisoners should be provided harm reduction educational information detailing how to decrease health risks if they choose to continue to be sexually active and/or engage in IDU. Patients should be instructed about which sexual practices carry the greatest health risks to them and their partners. To decrease the risk for enteric infections such as cryptosporidium, salmonella, shigella, campylobacter, amebiasis, giardiasis, and hepatitis A, patients should avoid sexual practices that might result in oral exposure to feces. All non-immune prisoners should be offered vaccination for hepatitis B. Non-immune IDUs and men who have sex with men should be offered vaccination for hepatitis A. In those systems in which they are available, prisoners should use latex condoms during every act of sexual intercourse. [As this issue of HEPP News went to press, the Los Angeles county jail joined a handful of correctional facilities in this country that make condoms available to prisoners].

Prisoners with a history of IDU should be provided substance abuse treatment, and linked to community services at the time of parole. Recognizing the reality that many individuals will relapse to IDU during or following incarceration, patients should be

TABLE 1 : Opportunistic Infection Prophylaxis to Prevent First Infection
(Strongly recommended standard of care)²

Pathogen	Indication	First Choice Preventive Regimen	Alternative Preventive Regimen
Pneumocystis carinii	CD4+ count <200/ μ L or oropharyngeal candidiasis	Trimethoprim-sulfamethoxazole (TMP-SMZ) 1 DS or SS po qd (AI)	Dapsone 50 mg po bid or 100mg po qd (BI); dapsone 50 mg po qd plus pyrimethamine 50 mg po qw plus leucovorin 25 mg po qw (BI); dapsone 200 mg po plus pyrimethamine 75 mg po plus leucovorin 25 mg po qw (BI); aerosolized pentamidine 300 mg q month via Respigard II nebulizer (BI); atovaquone 1500 mg po qd (BI); TMP-SMZ 1 DS po tiw (BI)
Toxoplasma gondii	IgG antibody to Toxoplasma and CD4+ count <100/ μ L	TMP-SMZ 1 DS po qd (AII)	TMP-SMZ 1 SS po qd (BIII); dapsone 50 mg po qd plus pyrimethamine 50 mg po qd plus leucovorin 25 mg po qw (BI); atovaquone 1500 mg po qd with or without pyrimethamine 25 mg po qd plus leucovorin 10 mg po qd (CIII)
Mycobacterium avium complex	CD4+ count <50/ μ L	Azithromycin [†] 1200 mg po qw (AI), or clarithromycin 500 mg po bid (AI)	Rifabutin 300 mg po qd (CI); azithromycin 1200 mg po qw plus rifabutin 300 mg po qd.
Varicella Zoster Virus (VZV)	Significant exposure to chicken pox or shingles for patients who have no history of either condition, or, if available, negative antibody to VZV	Varicella zoster immune globulin (VZIG) 5 vials (1.25 mL each) im, administered <96 h after exposure, ideally within 48 h (AIII)	<i>Ratings:</i> A. Should always be offered B. Should generally be offered C. Optional D. Should generally NOT be offered E. Should NEVER be offered

Quality of Evidence:

- I. Evidence from at least one properly randomized, controlled trial
- II. Evidence from at least one well-designed clinical trial without randomization, from cohort or case-controlled analytic studies (preferably from more than once center), or from multiple time-series studies. Or dramatic results from uncontrolled experiments.
- III. Evidence from opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees.

educated to never share or re-use syringes, needles, or drug preparation equipment. Those who will be re-using injection equipment should be advised to clean all materials with bleach and water. Furthermore, inmates should be educated on syringe availability and encouraged to use services such as pharmacy purchase and needle exchange where available, and to explore the possibility of physician prescription when other services are not available.³ Non-immune IDUs should be vaccinated for hepatitis A and B.

RISK AVOIDANCE: OCCUPATIONAL EXPOSURES

HIV infected prisoners do hold jobs while incarcerated that can place them at risk for significant OIs. Those working in sanitation, janitorial or laundry positions can come into contact with body wastes, contaminated sharps, and other materials that can transmit diseases. All such workers should be

provided personal protective equipment and educated in its use. All non-immune workers should be offered vaccination against hepatitis A and B. As a rule, prisoners should not be involved in direct patient care. In those systems that allow such work, inmate workers should be provided hepatitis B vaccination.

In areas endemic for histoplasmosis, HIV infected prisoners should avoid activities that are associated with an increased risk for infection with this organism. Examples include cleaning or remodeling old buildings, disturbing the soil beneath bird roosting sites, and cleaning chicken coops. Similarly, in areas endemic for coccidioidomycosis, patients should avoid extensive exposure to disturbed native soil as might occur during agricultural work or building excavation.

LETTER FROM THE EDITOR

Dear HEPP News Readers,

This month, HEPP is addressing opportunistic infections and fevers of unknown origins. As the treatment of HIV has improved over the years, what we consider opportunistic infections has shifted considerably. Dr. Bick has done his usual excellent job in presenting our current and past thoughts on OIs. Although previous issues have discussed it, hepatitis is rapidly becoming our most lethal co-infection. More and more authors are including hepatitis as an opportunistic infection. Likewise, more and more correctional systems are having to face the reality of hepatitis C in their populations. All of us will be significantly relieved when we have better treatment regimens for this disease complex, especially the genotype 1 series that is so prevalent in our environment.

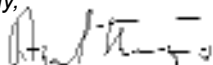
We all hope that with better and better control of HIV disease, with mechanisms to make sure our patients get every dose every time, with newer and easier regimens, and with more potent anti-virals, that opportunistic infections that plagued us just five years ago and destroyed our patients' lives and quality of life, will be a distant medical memory. In some significant sized systems, there has not been a case of CMV retinitis in over two years. Although it will be unlikely because of late diagnoses in some of our patients, hopefully PCP pneumonia and Mycobacterium avium complex will become important only in the history of medicine textbooks.

Fevers of unknown origin (FUO) is a very complex subject that is addressed very succinctly in this issue. The challenges presented by a patient with an FUO are enough to make the hardest diagnostician quake, especially when other signs and symptoms, laboratory analyses, and radiography are not helpful.

After reading this issue, health care providers should understand the steps involved in working-up a fever of unknown origin and the various treatment regimens recommended for opportunistic infections.

Please enjoy this issue. Not only is it another intellectually stimulating and challenging presentation, but this journal touches us all right where we live. It is so relevant to our daily lives. The authors and editors have done a great job in making this journal the top of the line in its field.

Sincerely,



David Thomas, M.D.

Published monthly and distributed by fax, HEPP News provides up-to-the-moment information on HIV and hepatitis treatment, efficient approaches to administering treatment in the correctional environment, national and international news related to HIV and hepatitis in prisons and jails, and changes in correctional care that impact HIV and hepatitis treatment.

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The editorial board and contributors to HEPP News include national and regional correctional professionals, selected on the basis of their experience with HIV and hepatitis care in the correctional setting.

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NAME: _____

FACILITY: _____ (Optional) # of HIV-Infected Inmates: _____

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OPPORTUNISTIC INFECTIONS...

(continued from page 2)

RISK AVOIDANCE: FOOD RELATED EXPOSURES

Prisoners commonly store food in their cells, and rarely have access to refrigeration or a way to reheat leftovers. Patients should be warned about the risks associated with eating food that has been improperly stored or cooked. Prisoners may receive food during visits or in packages from home. Soft cheeses such as Mexican style queso fresco carry a risk for listeriosis and should be avoided by those who are HIV infected.

Correctional staff should routinely monitor the facility's kitchen practices to ensure that all meat and poultry are appropriately cooked (to an internal temperature of 180° for poultry, and 165° for meat.) All produce should be washed, and procedures should be in place to ensure that uncooked meat and poultry does not come into contact with other foods. All counters, cutting boards, knives, and utensils should be thoroughly cleaned after being used to prepare uncooked meat, poultry, and fish. Although there is no medical justification for the exclusion of those with HIV, hepatitis B, or hepatitis C from working in food service, those with diarrhea, open lesions on their hands or arms, or acute hepatitis A should not work as food handlers. Providers may consult the NCHC guidelines, including "P-16: Kitchen Sanitation and Food Handlers" for further recommendations.

In conclusion, HIV-infected prisoners are at significant risk for a wide variety of OIs. Information exists which can assist our patients to avoid exposure to and infection with many of these organisms. Through patient education and the appropriate use of immunizations, morbidity and mortality due to OIs can be avoided. Data are also accumulating to support the discontinuation of OI prophylaxis in those who have experienced ART-induced immunologic recovery. The USPHS/IDSA guidelines provide guidance to clinicians and patients who are considering withdrawing preventive therapy for the most common OIs.

*Nothing to disclose.

‡ During pregnancy, azithromycin is recommended instead of clarithromycin due to the teratogenicity of clarithromycin in animals.

References:

1. "Prevention of Opportunistic Infections." HIV101, HEPP News. 2000 October.
2. 2001 USPHS/IDSA Guidelines for the Prevention of Opportunistic Infections in Persons Infected with Human Immunodeficiency Virus. On the web at <http://www.hivatis.org/guidelines/other/OIs/OIGNov27.pdf>
3. Burris et al. *Ann Intern Med.* 2000;133:218-226.

TABLE 2: Prophylaxis to Prevent Recurrence of Opportunistic Disease in Adults (Secondary Prophylaxis)

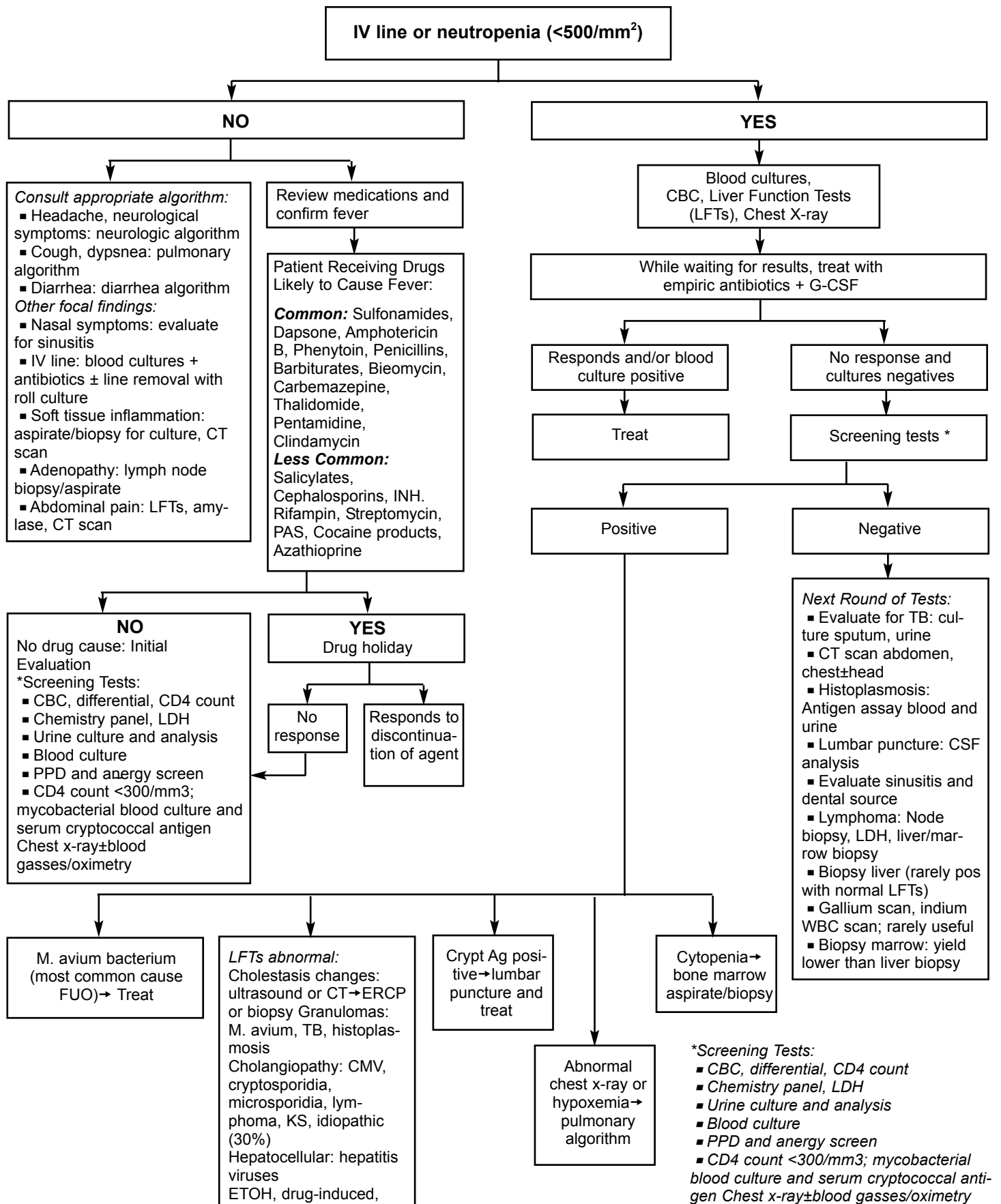
Pathogen	First Choice Preventive Regimen	Alternative Preventive Regimens
Pneumocystis carinii	same as primary prophylaxis; see Table 1	
Toxoplasmosis gondii	same as primary prophylaxis; see Table 1	
Mycobacterium avium complex	Clarithromycin [‡] 500 mg po bid (AI) plus ethambutol 15 mg/kg po qd (AII); ± rifabutin 300 mg po qd (CI)	Azithromycin 500 mg po qd (AII) plus ethambutol 15 mg/kg po qd; ± 300 mg po qd (CI)
Cytomegalovirus	Ganciclovir 5-6 mg/kg/day iv 5-7 days/wk or 1000 mg po tid (AI); foscarnet 90-120 mg/kg iv qd (AI); (for retinitis) ganciclovir sustained-release implant q 6-9 mo plus ganciclovir 1.0-1.5 g po tod (AI)	Cidofovir 5 mg/kg iv qow + probenecid 2 g po 3 h before the dose followed by 1 g po 2 h after the dose and 1 g po 8 h after the dose (total of 4 g) (AI); fomivirsen 1 vial (330 mg) injected into the vitreous then repeated every 2-4 wks (AI); valganciclovir 900 mg po qd (BI)

TABLE 3: Guidelines for Discontinuing and Restarting Primary and Secondary Prophylaxis for Opportunistic Infections²

Opportunistic Infection	Indications for Discontinuing 1 ^o Prophylaxis	Indications for Restarting 1 ^o Prophylaxis	Indications for Discontinuing 2 ^o Prophylaxis [^]	Indications for Restarting 2 ^o Prophylaxis
Pneumocystis carinii Pneumonia	CD4+ >200 cells/μL for ≥3 months (AI)	CD4+ <200 cells/μL (AIII)	CD4+ >200 cells/μL for ≥3 months (BII)	CD4+ <200 cells/μL (AIII)
Toxoplasma	CD4+ >200 cells/μL for ≥3 months (AI)	CD4+ <100-200 cells/μL (AIII)	CD4+ >200 cells/μL sustained (≥6 mo) and completed initial therapy and asymptomatic for toxo (CIII)	CD4+ <200 cells/μL (AIII)
Mycobacterium avium complex	CD4+ >100 cells/μL for ≥3 months (AI)	CD4+ <50-100 cells/μL (AIII)	CD4+ >100 cells/μL sustained (≥6 mo) and completed 12 mo of MAC therapy and asymptomatic for MAC (CIII)	CD4+ <100 cells/μL (AIII)
Cytomegalovirus retinitis	Not applicable	Not applicable	CD4+ >100-150 cells/μL sustained (≥6 mo) and no evidence of active disease and regular ophthalmic examination (BII)	CD4+ < 100-150 cells/μL (AIII)
Cryptococcosis	Not Applicable	Not Applicable	CD4+ > 100-200 cells/μL sustained (6 mo) and completed initial therapy and asymptomatic for cryptococcosis (CIII)	CD4+ < 100-200 cells/μL (AIII)

[^] After active disease.

HEPPIGRAM: Management of Fever of Unknown Origin



M. avium bacterium (most common cause FUO) → Treat

LFTs abnormal:
Cholestasis changes: ultrasound or CT → ERCP or biopsy
Granulomas: M. avium, TB, histoplasmosis
Cholangiopathy: CMV, cryptosporidia, microsporidia, lymphoma, KS, idiopathic (30%)
Hepatocellular: hepatitis viruses
ETOH, drug-induced, CMV, HSV

Crypt Ag positive → lumbar puncture and treat

Cytopenia → bone marrow aspirate/biopsy

Abnormal chest x-ray or hypoxemia → pulmonary algorithm

**Screening Tests:*

- CBC, differential, CD4 count
- Chemistry panel, LDH
- Urine culture and analysis
- Blood culture
- PPD and anergy screen
- CD4 count <math><300/\text{mm}^3</math>; mycobacterial blood culture and serum cryptococcal antigen

Chest x-ray±blood gasses/oximetry

Next Round of Tests:

- Evaluate for TB: culture sputum, urine
- CT scan abdomen, chest±head
- Histoplasmosis: Antigen assay blood and urine
- Lumbar puncture: CSF analysis
- Evaluate sinusitis and dental source
- Lymphoma: Node biopsy, LDH, liver/marrow biopsy
- Biopsy liver (rarely pos with normal LFTs)
- Gallium scan, indium WBC scan; rarely useful
- Biopsy marrow: yield lower than liver biopsy

RAPID REPORT: NCCHC Shines in New Mexico

By Joseph Paris, M.D.*, Medical Director, GA Department of Corrections, Rebecca Nerenberg**, Managing Editor, HEPP News

The 25th National Conference on Correctional Health Care ended last month in Albuquerque, NM. The weather cooperated nicely and a string of beautiful days in very pleasant surroundings enhanced this premier correctional health care meeting, which lasted from November 10 through 14, 2001. Total attendance was close to the 2,000 mark.

Prior to the conference proper, there were a number of seminars including an in-depth look at the NCCHC Standards, a meeting of the Society of Correctional Physicians, and a well-attended HEPP symposium entitled "Bridging the Gap: Getting High Risk Patients into Treatment." The HEPP meeting covered current topics in infectious disease in corrections including the outbreak of hepatitis B in the Georgia Department of Corrections. Dr. Joseph Paris from the Georgia Department of Corrections related the episode, presenting Dr. Amy Kahn's, Centers for Disease Control, findings.

Dr. Paris stated that following the discovery of an acutely jaundiced male in a Georgia prison, the CDC interviewed and tested potential contacts at the same dormitory and was able to initially uncover an additional group of 5 more inmates acutely infected with hepatitis B but completely asymptomatic. Additional interviews and testing of the remainder of the prison population revealed the presence of another group of 5 acutely infected, asymptomatic hepatitis B patients. None of the 11 developed serious complications of hepatitis B. Risk factors for intramural transmission of hepatitis B in the prison settings were tattooing, homosexual sex, and body fluid exposures in general, activities that are clearly not condoned by the Georgia DOC.

This was the first completely documented example of intramural transmission of hepatitis B in prison settings. Furthermore, it seems that for every overt, symptomatic acute hepatitis B case, one would expect the presence of 10 more cases. However, testing and interviewing in a timely manner are necessary to discover these cases. Vaccination of the susceptible inmates did take place at the Georgia prison, but vaccination for the entire state prison population has not yet occurred; however, a budget for that purpose was requested by Dr. Paris and is being considered by the Appropriations Committee of the Georgia legislature.

A companion presentation on the national picture on inmate risk of hepatitis B was given by another of the CDC researchers involved in the outbreak, Dr. Robert Lyerla. Additional presentations at the HEPP symposium included a discussion of tuberculosis in corrections as presented by Dr. Anne De Groot, which highlighted the TB situation

in prisons with "real life lessons" learned from TB outbreaks in New York, South Carolina, and California. Dr. De Groot also gave a talk on HIV-infected women, highlighting the differences in the way HIV affects women and men including the new information on differences in viral load between men and women when they progress to AIDS.

Dr. Joe Bick of the California Department of Corrections gave a presentation entitled "Getting Transgendered Patients into Treatment" in which he explained the issues these patients face and described how their gender identification affects their HIV treatment.

Dr. Eric Avery, a psychiatrist from the University of Texas Medical Branch in Galveston, presented the various anti-depressant medications available along with their side effects. He also described how mental health and HIV treatment information must be available in pictorial form for incarcerated patients, as many of them do not read.

Dr. Michael Wong also gave a comprehensive presentation on Hepatitis C virus (HCV) in corrections at the HEPP symposium. Dr. Wong presented HCV as a single infection as well as the interaction of HCV and HIV in a coinfecting individual.

During the Conference proper, there were Plenary Sessions and Concurrent Sessions including HCV-related sessions delivered by Newton Kendig, MD Arthur Brewer, MD, Berel Arrow, MD, Joseph Paris MD, and Anne Spaulding MD; HIV-related sessions delivered by Bill Ruby, DO, John Bartlett, MD, and David Thomas, MD; a session describing Research in Corrections by Thomas Conklin, MD; sessions describing legal issues delivered by Roderic Gottula, MD, William Rold, JD; a session on Oral Health presented by Thomas Shields, DDS and John Battle, DMD; a session on Diabetes Monitoring presented by Michael Puerini, MD; and a session on Correctional Physician Productivity presented by Joseph Paris, MD. Other concurrent sessions tackled important issues in Nursing, Pharmacy, Mental Health, Education, Juvenile Offenders, Female Prisoners, Medical School Involvement, among others. The Conference provided a veritable cornucopia of timely topics and attendees had to make agonizing choices between outstanding, simultaneous sessions.

The next NCCHC Meeting will be held in October 19-23, 2002, in Nashville, Tennessee.

*Nothing to disclose.

**Nothing to disclose.

RESOURCES & WEBSITES

Powerpoint presentations from the HEPP NCCHC preconference symposium available in electronic form. Topics include: the correctional side of HCV, HBV, TB, HIV in women, Mental Health in HIV-positive patients, and information on treating transgendered patients. Email HEPPNews@brown.edu

OPPORTUNISTIC INFECTIONS

USPHS/IDSA Opportunistic Infection Treatment Guidelines

<http://www.hivatis.org/guidelines/other/OIs/OIGNov27.pdf>

AEGIS Information on Opportunistic Infections

<http://www.aegis.com/topics/oi/>

AIDS Treatment Data Network Definitions of OIs

<http://www.aidsinfonyc.org/network/oisgloss.html>

CDC Fact Sheets on Drug Users in the US Criminal Justice System

<http://www.cdc.gov/idu/criminaljustice.htm>

Canadian HIV/AIDS Legal Network

Background and Information sheets available on testing of persons believed to be the source of an occupational exposure to HBV, HCV, or HIV. In English and French at <http://www.aidslaw.ca/Maincontent/issues/testing.htm>

HIV/AIDS Annual Update 2001

A collection of 11 clinical reviews now available on Medscape. <http://hiv.medscape.com/update2001>

HIV TREATMENT

AMFAR HIV/AIDS Treatment Directory, Summer 2001 Edition

For free copies, contact Barbara Good at barbara.good@amfar.org or fax a request to 212.806.1601

Updated Adult and Adolescent HIV Treatment guidelines

http://www.hivatis.org/guidelines/adult/Aug13_01/pdf/AAAUG13S.PDF

Treatment of Opportunistic Infections

The following are recommended as standard of care.^{1,2}

By Rebecca Nerenberg[^], Managing Editor, HEPP News

	Preferred Treatment	Alternative Treatment
Pneumocystis carinii	<ul style="list-style-type: none"> Trimethoprim (TMP) 15 mg/kg/day + sulfamethoxazole (SMX) 75mg/kg/day PO or IV x 21 days in 3-4 divided doses (typical oral dosage is 2 DS tid) 	<ul style="list-style-type: none"> TMP 15mg/kg/day PO + dapsone 100mg/day PO x 21 days Pentamidine 4mg/kg/day IV x 21 days (often reserved for severe cases) Clindamycin 600mg IV q8h or 300-450mg PO q6h + primaquine 30 mg/day base PO x 21 days Atovaquone 750mg suspension PO with meal bid x 21 days Trimetrexate 45 mg/m²/day + folinic acid 20 mg/m² or IV q6h
Toxoplasma gondii	<ul style="list-style-type: none"> Pyrimethamine 100-200 mg loading dose; then 50-100 mg/day PO + folinic acid 10mg/day PO + sulfadiazine or trisulfapyrimidime 4-8 g/day PO for at least 6 weeks 	<ul style="list-style-type: none"> Pyrimethamine + folinic acid (see preferred regimen) + clindamycin 900-1200* mg IV q6h or 300-450 mg PO q6h for at least 6 weeks Pyrimethamine and folinic acid (see preferred regimen) plus one of the following: azithromycin 1200-1500 mg/day, clarithromycin 1 g bid, or atovaquone 750 mg qid with food Azithromycin + 900 mg PO x 2 first day, then 1200 mg/day x 6 weeks, then 600 mg/day (patients <50 kg receive half dose) (salvage therapy)
M. avium complex (MAC)	<ul style="list-style-type: none"> Clarithromycin 500 mg PO bid plus Ethambutol (EMB) 15 mg/kg/day PO 	<ul style="list-style-type: none"> Azithromycin 600 mg/day PO in place of clarithromycin + Ethambutol (EMB) ± Rifabutin (RFB) (same doses) Combination treatment with amikacin 10-15 mg/kg/day IV or ciprofloxacin 500-700 mg bid
Varicella Zoster	<p><i>Dermatomal:</i></p> <ul style="list-style-type: none"> Acyclovir 800 mg PO 5x/day at least 7 days (until lesions crust) or famciclovir 500 mg PO tid or valacyclovir 1 g PO tid x ≥7 days <p><i>Disseminated, ophthalmic nerve involvement or visceral:</i></p> <ul style="list-style-type: none"> Acyclovir 30-36 mg/kg/day IV at least 7 days <p><i>Acyclovir-resistant strains:</i></p> <ul style="list-style-type: none"> Foscarnet 40 mg/kg IV q8h or 60 mg/kg q12h 	<p><i>Dermatomal:</i></p> <ul style="list-style-type: none"> Acyclovir 30 mg/kg/day IV Foscarnet 40 mg/kg IV q8h or 60 mg/kg IV q12h <p><i>Disseminated, ophthalmic nerve involvement or visceral:</i></p> <ul style="list-style-type: none"> Foscarnet 40 mg/kg IV q8h or 60 mg/kg IV q12h <p><i>Acyclovir-resistant strains:</i></p> <ul style="list-style-type: none"> Cidofovir IV Topical trifluridine
Cytomegalovirus Retinitis (CMV)*	<ul style="list-style-type: none"> Intraocular ganciclovir implant (Vitrasert) q6 months + oral valganciclovir 900 mg/day Foscarnet 60 mg/kg IV q8h or 90 mg/kg IV q12h x 14 to 21 days Ganciclovir 5 mg/kg IV bid x 14 to 21 days Valganciclovir 900 mg PO bid x 21 days, then 900 mg/day Cidofovir 5 mg/kg IV q week x2, then 5 mg/kg q 2 weeks + probenecid, 2 g PO 3 hours before each dose, 1 g PO at 2 and 8 hours post dose (total of 4 g) 	<ul style="list-style-type: none"> Alternating or combining foscarnet and ganciclovir Intraocular injections of foscarnet 1.2-2.4 mg in 0.1 mL (N Engl J Med 1994;330:868) or ganciclovir 2000 µg in 0.05-0.1 mL (Br J Ophthal 1996;80:214). Fomivirsen, 330 mg by intravitreal injection day 1 and 15, then monthly
Herpes Simplex	<p><i>Mild:</i></p> <ul style="list-style-type: none"> Acyclovir 400 mg PO tid or famciclovir 250 mg PO tid or valacyclovir 1.0 g PO bid; all given for 7 to 10 days <p><i>Severe or Refractory:</i></p> <ol style="list-style-type: none"> Acyclovir up to 800 mg PO 5x/day or 15-30 mg/kg/day IV at least 7 days Valacyclovir 1 g PO bid-tid 	<p><i>Severe or Refractory:</i></p> <ul style="list-style-type: none"> Foscarnet 40 mg/kg IV q8h or 60 mg/kg q12h x 3 weeks Topical trifluridine as 1% ophthalmic solution q8h <p>Alternative topical agents:</p> <ul style="list-style-type: none"> Cidofovir 3% and foscarnet 1% cream Cidofovir 5 mg/kg q 2 weeks (limited experience)

*Initial Treatment Recommendations of the IAS-USA (Arch Intern Med 1998;158:957). For information on maintenance and other forms of therapy, consult reference below.

[^]Nothing to disclose.

References:

- Bartlett JG and Gallant JE. 2001-2002 Medical Management of HIV Infection, Chapter 5. Johns Hopkins University, Baltimore, MD. 2001.
- 2001 USPHS/IDSA Guidelines for the Prevention of Opportunistic Infections in Persons Infected with Human

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9th Conference on Retroviruses and Opportunistic Infections

February 24-28, 2002

Seattle, Washington

Registration: Dec. 10, 2001-

Jan. 23, 2002

Call: 703.535.6899

Visit: www.retroconference.org

2002 National STD Prevention Conference

March 4-7, 2002

San Diego, California

Fee: before Feb. 8: \$140;

after Feb. 8: \$165

Visit: <http://www.stdconference.org/>

Call: Glenda Vaughn,

404.639.8260

Email: ghv1@cdc.gov

14th National HIV/AIDS Update Conference (NAUC)

March 19-22, 2002

San Francisco, California

Sponsored by (amfAr) American

Foundation for AIDS Research

Fee: Before Dec. 15: \$275;

Dec 15-March 1: \$325;

After March 1: \$375

(special rates available)

Visit: [http://www.amfar.org/cgi-](http://www.amfar.org/cgi-bin/iowa/nauc/index.html)

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International Conference on Emerging Infectious Diseases (ICEID)

March 24-27, 2002

Atlanta, Georgia

Visit: <http://www.cdc.gov/iceid/>

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Clinical Updates in Correctional Health Care

April 13-16, 2002

Fort Lauderdale, Florida

Fee: before Feb. 15, 2002: \$175

Academy members, \$250 non-

Academy members; after Feb. 15,

2002: \$225 Academy members,

\$300 non-Academy members

Visit: www.ncchc.org

Fax: 773.880.2424

XIV International AIDS Conference

July 7-12, 2002

Barcelona, Spain

Fee: before Feb. 1, 2002: \$850;

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May 1, 2002: \$1,050

Visit: www.aids2002.com

Email: aids2002.registration@congress.se

NEWS FLASHES

HIV

Tacoma-Pierce County Proposes Mandatory Testing of Inmates

Associated Press, 11/19/01

The director of the Tacoma-Pierce County Health Department in Washington, Dr. Frederico Cruz-Uribe, has proposed that all jail inmates arrested on drug- or sex-related charges be tested for HIV. Dr. Cruz-Uribe has proposed that these inmates, along with pregnant women and inmates who present with symptoms of STDs during a doctor's visit, be required to undergo HIV testing. Those who test positive would then be offered counseling and treatment advice; their sexual and needle-sharing partners would be notified. Although some experts support the proposal, likening the situation to the eradication of smallpox, other experts believe these policies undermine civil rights and that such a policy would not hold up in court.

New Zidovudine Resistant HIV Found in Treatment-Naïve Patients

PNAS, 2001; 98:24 (13907-13912).

Researchers from the CDC have detected a distinct group of HIV-1 viruses in 3.3% of treatment naïve, newly diagnosed HIV-1 positive patients. These viruses have mutations in the reverse transcriptase region of the genome that make these viruses more likely to develop drug-resistant mutations. These mutations are different from those known to cause zidovudine resistance, but indicate a significant potential for zidovudine (AZT) and possibly stavudine (d4T) resistance. This is especially troubling because zidovudine is commonly used in drug cocktails, experts report. Multi-drug resistant viruses will have a negative impact on the incidence of HIV and AIDS cases.

Connecticut to Begin HIV Tracking by Name

Hartford Courant, 11/7/01

The Connecticut Department of Public Health will begin gathering data, including names, of HIV-positive adults in order to track these individuals. Individuals do have the option to request anonymity. Health care providers and clinics will have the responsibility of informing patients of that option. Although the state commissioner of public health believes that this new plan serves the needs of the HIV-positive community, other experts claim that the new system will discourage some individuals from seeking testing.

HIV Viral Load in Genital Tract and Blood Not Parallel

Lancet 2001; 358: 9293 (1593-1601).

A study from the Women's Interagency HIV Study cohort reports that women who have low levels of HIV in their blood may still have high levels of virus in their genital tracts. One-third of

women whose blood viral load was lower than 500 copies/mL still had high levels of HIV in their genital tracts and experienced genital tract viral shedding, increasing the rate of transmission through sexual encounters and pregnancies. Some experts believe that genital tract HIV levels may better estimate the chances of HIV transmission.

HEPATITIS

Oregon Inmates Sue for Hepatitis C Treatment

Portland Oregonian, 11/2/01

A group of 11 inmates in Oregon have filed suit against the state Department of Corrections over the state's treatment of inmates with hepatitis C. The group of inmates from the Salem, Oregon State Penitentiary are claiming that the policies of the DOC exclude inmates from HCV treatment and testing. The inmates are seeking \$17.5 million for the treatment of HCV-positive inmates and mandatory testing of all new inmates. Corrections officials do not believe the inmates will win the suit, explaining that no system in the country has a similar policy.

TUBERCULOSIS

Recurrent TB Infection More Likely in HIV-positive Patients

Lancet, 2001; 358: 9294.

A study of goldmine workers in South Africa has revealed that HIV-positive individuals were more likely to experience recurrent tuberculosis (TB) infection, even after successful completion of TB therapy. Approximately 27% of the HIV-positive mineworkers experience recurrence of TB compared to 13.7% of the HIV-negative participants. Recurrence due to relapse was more common in the HIV-negative participants, while recurrence due to reinfection was more common among the HIV-positive participants. However, there was a large number of cases for which the cause of recurrence was unknown among the HIV-positive participants. HIV infection was shown to be the most significant risk factor for reinfection with TB, according to the study.

CORRECTION:

The titles of the Nelfinavir and Amprenavir columns in the **November 2001 HIV 101** were swapped. The information under the Nelfinavir column applies to the drug Amprenavir, and vice versa. The new version of the November 2001 issue with the correct table is now available online at <http://www.hivcorrections.org>. The entire table will be reprinted in the January 2002 edition of HEPP News.

SELF-ASSESSMENT TEST FOR CONTINUING MEDICAL EDUCATION CREDIT

Brown Medical School designates this educational activity for 1 hour in category 1 credit toward the AMA Physician's Recognition Award. To be eligible for CME credit, answer the questions below by circling the letter next to the correct answer to each of the questions. A minimum of 70% of the questions must be answered correctly. This activity is eligible for CME credit through June 30, 2002. The estimated time for completion of this activity is one hour and there is no fee for participation.

CME IS NOW AVAILABLE ONLINE AT WWW.HIVCORRECTIONS.ORG

1. True or False:
There is now data that support the discontinuation of secondary OI prophylaxis in those patients who experience sustained ART-induced immunologic recovery.
(a) True
(b) False

2. In areas endemic to histoplasmosis, which of the following activities should HIV-positive prisoners avoid?
(a) cleaning chicken coops
(b) folding laundry
(c) disturbing the soil beneath bird roosting sites
(d) cleaning or remodeling old buildings
(e) a, c, and d

3. Which of the following are screening tests that should be performed in the work-up of a fever of unknown origin?
(a) CBC
(b) urine culture
(c) blood culture
(d) liver function tests (LFTs)
(e) all of the above

4. If a patient experiences a fever whose origin is unknown, and is receiving dapsone as part of a treatment regimen, what should be the physician's next step?
(a) take a chest x-ray
(b) put the patient on a "drug holiday"
(c) put the patient on empiric antibiotics
(d) treat the patient with penicillin
(e) perform a CT scan of the abdomen and/or the head

5. What is the preferred treatment regimen for treating a mild herpes simplex infection in an HIV-positive patient?
(a) acyclovir 400 mg PO tid for 7-10 days
(b) acyclovir 800 mg PO tid for 7-10 days
(c) no treatment recommended
(d) valacyclovir 1 g PO bid
(e) acyclovir 400 mg PO bid for 7-10 days

6. Which of the following is (are) a preferred treatment regimen(s) for treating Cytomegalovirus retinitis infection?
(a) Intraocular ganciclovir implant q6 months + oral valganciclovir 900 mg/day
(b) Valganciclovir 900 mg PO bid x 21 days, then 900 mg/day
(c) Foscarnet 60 mg/kg IV q8h or 90 mg/kg IV q12h x 14 to 21 days
(d) Cidofovir 5 mg/kg 1V q week x2, then 5 mg/kg q 2 weeks + probenecid, 2 g PO 3 hours before each dose, 1 g PO at 2 and 8 hours post dose
(e) all of the above

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HIV 101	5 4 3 2 1	5 4 3 2 1
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