
 **19th Annual HIV CONFERENCE**
May 14-15, 2010 • Orlando, FL

Hepatitis and HIV Coinfection

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Disclosure of Financial Relationships

This speaker has no significant financial relationships with commercial entities to disclose.

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This slide set has been peer-reviewed to ensure that there are no conflicts of interest represented in the presentation.

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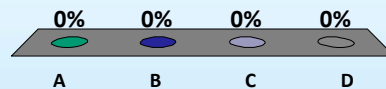
Select Professional Designation

- 0% A. MD/DO
- 0% B. ARNP/PA
- 0% C. RN/LPN/MA
- 0% D. MSW/LCSW
- 0% E. Licensed Mental Health Counselor
- 0% F. Pharmacist
- 0% G. Pharmaceutical employee
- 0% H. Other



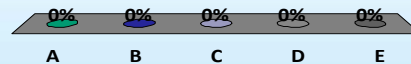
Which best represents your clinical setting for HCV coinfecting patients?

- A. We manage and treat both HCV & HIV within our practice.
- B. We refer coinfecting patients for Hepatitis C evaluation and treatment.
- C. We treat the coinfecting patients that we feel we can and refer the more complicated to specialists for treatment.
- D. We are not treating our coinfecting patients for Hepatitis C nor are we referring them to specialists for evaluation



If not treating Hepatitis C within your practice, which statement is most correct as to why?

- A. Lack of knowledge
- B. Lack of payment source for treatment
- C. Lack of Staff or Staff Time
- D. Lack of interest in treating this population of patients
- E. Lack of mental health and substance abuse treatment support



Session Objectives

- Impact of Hepatitis C
- Determining who is and is not a candidate for treatment
- Important patient counseling points
- Dosing, monitoring and managing side effects
- Treatment duration

HCV Sources of Infection

- **Blood exposure/perinatal/sexual**
 - HCV 10 X more infectious than HIV on blood exposure
 - HCV sexual transmission inefficient
 - Mother to infant in 2-5% of deliveries

MMWR, Vol 58 (early release) March 24, 2009



Hepatitis C

- In U.S., 4 million HCV+ → 85% chronic
- If chronic → 20% cirrhotic @ 20 years
 - Once cirrhotic → 25% hepatocellular carcinoma (HCC)
(0.5% of total HCV+)
- Alcohol (>20-50 g/d) & HIV worsen prognosis
- Usually no symptoms
 - sometimes fatigue, RUQ ache, difficulty concentrating or isolated ↑ ALT/AST

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



Hepatitis C

- 6 Genotypes
 - Genotypes 1-3 are most common in US, W. Europe:
 - 75% are 1 (accounts for 90% of AfAm cases)
 - 25% are “Non-1”
 - Most are 2 & 3
 - 4-6 Middle East/Africa/Spain
- African Americans less likely to achieve sustained virologic response (SVR) to treatment
 - 28% AA
 - 52% Cauc

H S Conjeevaram, M W Fried, L J Jeffers, et al. *Gastroenterology*. 131(2): 470-477. August 2006.

SM Martinez, et al. *Clin Microbiol*. 43(10): 5403-5404 October 2005.

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. *MMWR*; April 10, 2009, Vol. 58, No. RR-4



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HIV and HCV

- Meta analysis 37 studies showed prior to HAART, HCV liver disease did not significantly increase mortality.
- Post HAART, HCV liver disease increases mortality and has become the most common cause of non-AIDS related death among HIV patients

MMWR, Vol 58 (early release) March 24, 2009



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Compared to HCV Monoinfection, HIV/HCV→:

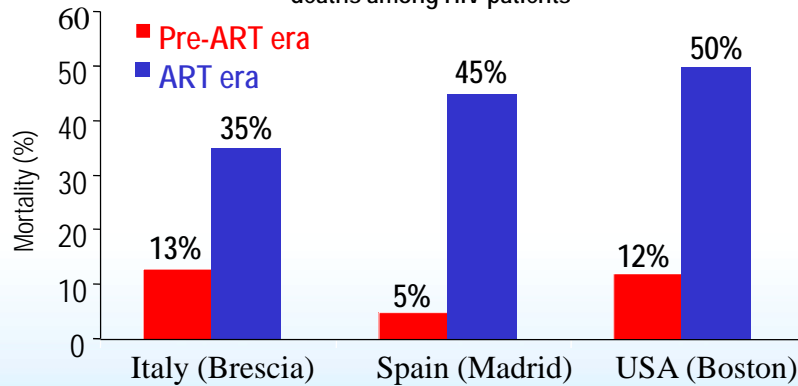
- More rapid progression to
 - Cirrhosis
 - Decompensated liver disease
 - HCC
 - Death

Merchante, N., J.A. Girón-González, M. González-Serrano, et al., Survival and prognostic factors of HIV-infected patients with HCV-related end-stage liver disease. *AIDS*, 2006. 20(1): p. 49-57.



Liver Disease: A Major Cause of Death

Death from end-stage liver disease (ESLD) as a percentage of all deaths among HIV patients



Bica I et al. *Clin Infect Dis*. 2001;32:492-497.
 Puoti M et al. *J Acquir Immune Defic Syndr*. 2000;24:211-217.
 Soriano V et al. *Eur J Epidemiol*. 1999;15:1-4. Soriano V et al. *Curr Opin Infect Dis*. 2005 :18:550-60.
 Martin-Carbonero L et al. *AIDS Res Human Retrovirus*. 2001;17:1467-1471.ca



ART-Associated Hepatotoxicity

- Elevated transaminases mostly with PIs, but also w/ NNRTIs
- Sometimes “hyperimmunity” or “immune restoration syndrome”
- Often subsides over several months
- HIV/HCV⁺ 3-5-fold more likely to develop severe transaminitis



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Other Possible Interactions Between Hepatitis C & HIV

- HCV does not appear to *consistently* affect progression of HIV disease
- Chronic HCV does not appear to *consistently* affect CD4 response to combination ART (cART)
- Cirrhosis suppresses immunity—may affect CD4
- May be associated with changes in psychiatric fxn.,
↓ QOL, ↑ prevalence diabetes

N Soriano-Sarabia, A Vallejo, S Molina-Pinelo. AIDS 21(2): 253-255. January 11, 2007.

B H McGovern, Y Golan, M Lopez, et al. Clinical Infectious Diseases 44(3): 431-437. February 1, 2007.

Daar ES, et al. 7th Conference on Retroviruses and Opportunistic Infections, 1/30-2/2/00, San Francisco, CA. Abstract 280.
Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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Viral Hepatitis in HIV+ Patients

- Acute viral hepatitis may be severe or fatal
- Acute viral hepatitis may add to liver damage already present from other causes
 - e.g. - Acute hepatitis A on chronic hepatitis C may be deadly
- **Vaccinate if not Immune**
 - Assess response to vaccination
 - Best response when CD4 >350
 - Consider double dose Hep B vaccine

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



Only answer if you are not currently treating your Hepatitis C patients in YOUR HIV clinic:

Do you feel it is possible for you to treat the Hepatitis C patient within your HIV practice?

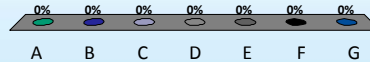
A. Yes

B. No



If you answered yes or no, what do you need in order to start treating HCV in your HIV clinic?

- A. Training
- B. Mental Health and Substance Abuse treatment support
- C. Additional staff
- D. 1 & 2
- E. 1 & 3
- F. 2 & 3
- G. All the above, 1, 2, & 3



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Diagnosing HCV in HIV

- Do not rely on transaminases! There is no correlation between transaminase levels and disease severity.
- + HCV ELISA Ab screen → “infected at some point”
 - in *advanced* HIV, may be *falsely negative*
- HCV RNA PCR confirms or excludes active disease
 - + Viral load means “active hepatitis”
 - Quantitative HCV VL does not correlate with degree of liver damage and is not a surrogate marker for disease progression
 - If + obtain HCV Genotype

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4

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EVALUATING FOR TREATMENT



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HCV Screening

- Genotyping & Hep C VL are helpful in predicting response to therapy
 - 1 (& 4) is more refractory to treatment
 - If VL <4-500,000 IU/mL Geno 1 easier to treat
 - 2 & 3 are very responsive
- HIV should be controlled and ARV stable
 - Attempt to get CD4>200 with cART
 - Pts with CD4% >25 are more likely to have SVR
- PHQ-9 Depression Screen – hx of suicidal ideation – MH referral



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HCV Screening

- Preg. test (unless hysterectomy or tubal ligation) & must be willing to use Birth control
- CBC, Platelet – Hgb must be >10.5 g/dL, ANC >1000/ μ L, and Platelets > 50k. Use of hematopoietic growth factor OK.
- LFT, PT, PTT, INR – if coagulopathy, \uparrow bili, encephalopathy, ascites refer to transplant center.
- Cr. Cl. > 50cc/min.



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HCV Screening

- TSH (autoimmune thyroiditis potential complication of therapy)
- Hx Sarcoidosis is contraindication to tx.
- Rule out other causes of liver disease if liver enzymes are abnormal
 - Autoimmune hepatitis (ANA, AMA, ASMA)
 - Biliary disease (ultrasound of liver)
 - Hemochromatosis (Ferritin, Iron, TIBC, %Sat)



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Hepatitis C Screening

- Insulin level
 - HOMA IR calculator at:
<http://homa-calculator.software.informer.com/2.2/>
 - Insulin resistance reported as neg. predictor to achieve SVR
- Uncontrolled cancer or cardiopulmonary disease is contraindication
- Baseline ECG if hx. pre-existing cardiac ds. or ≥ 50 y/o
- Ophthalmology Exam –IFN retinitis

Modifiable contraindications to treatment should be assessed at regular intervals to evaluate candidacy for treatment.

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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Look for Complications of Chronic Hepatitis

- Extra-hepatic manifestations of Hepatitis C
 - Mixed cryoglobulinemia (rash, joint pain)
 - Membranous glomerulonephritis (proteinuria)
 - These may be reasons to treat BUT:
 - Extrahepatic manifestations may differ in HIV-HCV
 - May or may not improve

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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Treatment of Disease Benefit > Risk

If no contraindication to Peg-IFN/RBV

- HCV genotype 2 or 3
- HCV genotype 1 with HCV RNA <800,000 IU/ml
- Sig. hepatic fibrosis (bridging or cirrhosis)
- Stable HIV not requiring ART
- Acute HCV (< 6 mo. duration)
- Cryoglobulinemic vasculitis or membranoproliferative glomerulonephritis
- Patient motivated for treatment

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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CAH-C Evaluation

- Alpha-fetoprotein alone not enough to screen out HCC
- Abd. US to r/o mass, lesion, ascites, organomegaly
- Liver biopsy?
 - Gold standard in evaluating hepatitis and cirrhosis—how “close” to cirrhosis is your patient?
- Fibrosure™ & Fibroscan™ not validated in HIV yet, but non-invasive measures of fibrosis
 - Cannot rule out concurrent diseases, over-diagnoses fibrosis
 - Fibrosure™ may be affected by elevated bilirubin due to atazanavir or indinavir

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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PATIENT DISCUSSIONS



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Council Early and Often

- STOP ALL ETHANOL
- Consider methadone, naltrexone, or buprenorphine to reduce illicit drug use and its complications
- Assure vaccinated or immune Hepatitis A & B
- Counsel on condoms and safer sex
- Introduce risks vs. benefits of treatment
- Begin encouraging good support system in anticipation of Hepatitis C therapy

Hepatology, Vol. 49, No. 4, 2009



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Benefits & Goals of Treating Chronic Hepatitis C

- Viral eradication (“sustained viral remission”, SVR)
 - Delay progression of fibrosis
 - Prevent/delay bad clinical outcomes of cirrhosis
 - Liver decompensation
 - Hepatocellular carcinoma
 - Death
- Improve tolerance and *effectiveness* of HAART
 - Allows aggressive antiretroviral drug therapy
 - Enhanced immune reconstitution?
 - Increases survival



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Reasonable Accommodation

- Ex-IDU & needle-aversions, needle-fixations... in-office treatment is reasonable for weekly injections

McBride, A.J., Pates, R.M., Arnold, K. and Ball, N. (2001), Needle fixation, the drug user's perspective: a qualitative study, *Addiction*, 96, (7) pp 1051 -1060.



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Hepatitis C Treatment Response Rates

- In studies, sustained viral remission w/ newer treatments: PEG α IFN + ribavirin
 - Genotype 1 & 4 (~ 30 -70 % SVR)
 - Genotype 2 & 3 (>80% SVR)
- SVR with PEG α IFN + ribavirin reduces cirrhosis, HCC, transplant, death by 9-fold
- HIV disease is *not* affected by α IFN or ribavirin

L Martin-Carbonero, et al. CROI 2008. Abstract 1052.


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Hepatitis C Treatment Toxicities

Side Effects Related to Drug	
Pegylated α INF 2a or 2b	Ribavirin
<ul style="list-style-type: none"> •Flu-like symptoms •Depression/suicidal •Fatigue, dizziness •Anorexia, nausea/diarrhea •Bone marrow suppression •Serious infections •Autoimmune disease •Thyroid, diabetes •Hair loss, oral ulcers •Pulmonary fibrosis •Stevens-Johnson, hypersensitivity •Retinal hemorrhage, cotton wool spots 	<ul style="list-style-type: none"> •Anemia/hemolysis <ul style="list-style-type: none"> •dose dependent •2.5-3g \downarrow within 4 weeks •Erythropoietin •Depression •Embryocidal / Category X •Teratogenic for up to 6 months after treatment <ul style="list-style-type: none"> •FDA Ribavirin Pregnancy Registry


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So, you consider the patient ineligible for treatment, what now?

- Evaluate regularly for status change
- Consider team staffing
- Provide mechanism to work toward a readiness to treat
 - Counseling
 - Education
 - Remove barriers



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Advantages of Treating HCV in HIV Primary Care Setting

- Comfortable with clinic location & existing staff
- Enhanced likelihood of follow-up - blood draws, visits, HIV disease monitoring
- Familiarity with clinic related case managers, counselors and mental health professionals
- Most clients prefer integrated care at HIV clinic

Kresina TF, et al.; *Clinical Infectious Diseases*, 41 (Supplement 1): S83-S88; April 15, 2005

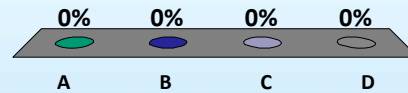


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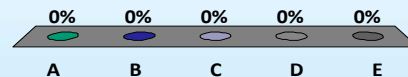
Which is false regarding Hepatitis C/HIV infection?

- A. Most US coinfecting patients are Hepatitis Genotype 1
- B. Hepatitis C is treated with Pegylated Interferon and Ribavirin
- C. Hepatitis coinfecting patients Genotype 1 and 4 are treated for 48 weeks, while 2 and 3 are treated for 24 weeks
- D. In 12 weeks of treatment, you can determine who is most likely to be successful in achieving a SVR



Which HIV medication listed poses the least concern for administration with Ribavirin and PegIFN?

- A. AZT
- B. ddI
- C. d4T
- D. TDF
- E. ABC



HCV Treatment Challenges in Patients Co-infected With HIV; Vachon, Qazi, Dieterich; www.medscape.com, Jan 12, 2009.

Treatment of HCV coinfection

PEG IFN α -2a (fixed 180 mcg) or α -2b (wt-based 1.5 mcg/kg)* subcutaneously every week

+

Ribavirin 1000 mg (wt. <75 kg)-1200mg mg (wt. >75 kg) all genotypes¹. Dose divided equal bid.

Duration all genotypes is 48 weeks.²

*Off-label in HIV/HCV. Wgt-based regimens may be more effective in morbidly obese patients.

¹EACS guidelines for the clinical management and treatment of chronic hepatitis B & C coinfection in HIV-infected adults; Rockstroh, et.al.; HIV Medicine (2008), 9, 82-88.

² Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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Ribavirin *Interacts* with cART

- ✓ **Didanosine (ddI)** should be **replaced** before treatment
 - ✓ Ribavirin will markedly increase ddI
 - ✓ Increased lactic acidosis, mitochondrial toxicity, peripheral neuropathy & pancreatitis
- ✓ **Zidovudine, stavudine** therapy should be monitored for failure, toxicity
 - ✓ RBV inhibits phosphorylation of pyrimidine nucleoside analogs and raises ZDV levels
 - ✓ Bone marrow suppression by ZDV + RBV may be additive
- ✓ **d4T increased risk lactic acidosis**



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Other cART Considerations with Hepatitis C

- NNRTIs (efavirenz, nevirapine, etravirine)
 - Increased severe hepatotoxicity is ~1% w/ NNRTIs
 - NNRTIs need not be withheld in HCV/HIV
- Tenofovir- Better HCV treatment response
- Abacavir lower SVR in cohort data? Impairment of RBV phosphorylation by ABC*

Sulkowski, et al, 8th COROI, #618 Dieterich et al, 2002

JJ Gonzalez-Garcia, et al. GESIDA 05/06 Study Group. CROI 2008. Abstract 1076

J Mira, et al. CROI 2008. Abstract 1074.

* Rockstroh, et.al.; *HIV Medicine* (2008), 9, 82-88



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Monitoring During Treatment

Monitoring:

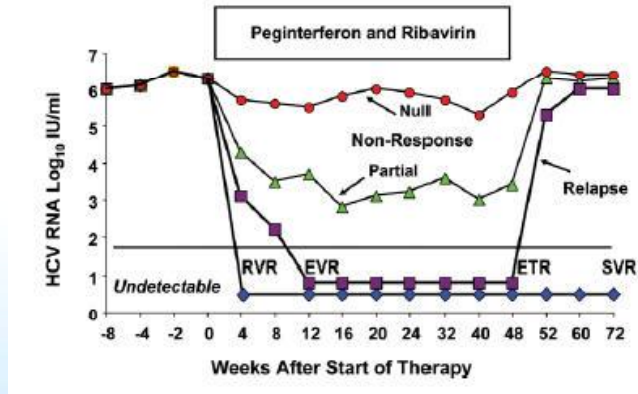
- Monthly
 - CBC & diff (& @ 2 weeks of start)
 - lytes, FBS, creatinine, liver enzymes
 - serum or urine β HCG
- @ 2, 6, 12, 24, and 48 week
 - Ophthalmology exam
- Routine HIV monitoring lab as indicated
- @ 4, 12, 24, 48, & 72 weeks
 - HCV RNA PCR
- Every 12 weeks
 - serum TSH



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Responses to Therapy



Ghany et al. Hepatology, April 2009; pp 1342



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Defining Response in HIV/HCV

- Lack of Early Virologic Response (<2 log₁₀ IU/mL ↓ HCV VL from baseline or undetectable) at wk 12 predicts virologic failure. (if not achieved <3% chance SVR)
 - Current guideline: discontinue treatment if EVR not seen
- If HCV undetectable @ 12 weeks (EVR) → continue
- If HCV undetectable @ end of tx (ETR) → repeat @ 72 weeks
 - If still undetectable → SVR!!



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Managing Adverse Effects

- Avoid dose reductions where feasible
- Moderate depression
 - ↓ PEG IFN α-2a to 135 mcg and further ↓ to 90 mcg may be needed
 - ↓ PEG IFN α-2b by 50%
 - Supportive counseling/antidepressant medication therapy
- Severe depression or suicidal – D/C Treatment!

HIV and Hepatitis Coinfections, Management & Treatment Guidelines; Raymond Johnson, M.D., Ph.D; www.hcvadvocate.org



Managing Adverse Effects

Lab Value ANC	G-CSF	Pegylated Interferon
750-1000	Wt. ≤ 60 Kg. 300 mcg SC q wk given 3 d before PEG IFN Wt. <60 kg. 480 mcg SC q wk given 3 d before PEG IFN	
500-749	↑ to BIW or TIW injection	↓ to 135 mg/wk (↓ Peg-Intron by ½)
<500	↑ to TIW injection	Hold Pegylated IFN

HIV and Hepatitis Coinfections, Management & Treatment Guidelines; Raymond Johnson, M.D., Ph.D; www.hcvadvocate.org



Managing Adverse Effects

Hemoglobin	Erythropoietin or Darbepoetin	Folic Acid	Ribavirin
≥ 10 – 11 CBC q 2 weeks	10,000 units – 40,000 units SC q wk	25→40→60→100 mcg SC q wk	Add 1 mg po qd if suboptimal response
≥ 8.5 – 9.9 CBC weekly	↑ dose	↑ dose	1 mg folic acid po qd
< 8.5 CBC weekly	↑ dose	↑ dose	1 mg folic acid po qd

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Managing Adverse Effects

Lab Value Platelet	Pegylated IFN	CBC
< 70,000		Every 2 weeks
25,000 to 49,999	135 mcg/week (↓ Peg-Intron by ½)	Weekly
< 25,000	Hold until Platelets > 70,000, then restart at 90 mcg/wk	Weekly

Eltrombopag?

HIV and Hepatitis Coinfections, Management & Treatment Guidelines; Raymond Johnson, M.D., Ph.D; www.hcvadvocate.org

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Managing Adverse Effects

CrCl	PEGASYS	Peg-Intron
30-50 mL/min		↓ dose 25%
< 30 mL/min		↓ dose 50%
Hemodialysis	135 mcg q week	↓ dose 50%

Note: RBV D/C if Cr.Cl. < 50 mL/min.

HIV and Hepatitis Coinfections, Management & Treatment Guidelines; Raymond Johnson, M.D., Ph.D; www.hcvadvocate.org



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Managing Adverse Effects

- ↑ALT above baseline – dose reduce IFN as in depression dose adjustment. If progressive ↑, stop tx.
- Premedicate midday of PEG IFN injection
 - Ibuprofen 600 mg or Acetaminophen 500-650 mg, then one with dinner and hs. Thereafter one tid prn
 - Diphenhydramine 25 mg tablet, one or two at bedtime day of injection prn sleep



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Managing Adverse Effects

- Insomnia
 - Doxepin 10 mg tablets 1-2 po hs prn sleep; may increase by one tab daily up to 5/day prn sleep
 - Note: if insomnia persists taper up in 25 mg increments to 150 mg q hs.



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Managing Adverse Effects

- Considerations for treating depression:
 - Citalopram (Celexa[®]) 20-40 mg po daily
 - Escitalopram (Lexapro[®]) 10-20 mg po daily
 - Fluoxetine (Prozac[®]) 20-40 mg po daily
 - Sertraline (Zoloft[®]) 50-200 mg po daily
 - Paroxetine (Paxil[®]) 10-50 mg po daily



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Managing Adverse Effects

- Nausea:
 - Dronabinol (Marinol®) 2.5-10 mg po bid for RBV induced nausea

Or

 - Premedicate with 12.5-25 mg promethazine (Phenergan®) or 5-10 mg prochlorperazine (Compazine®)



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What if ESLD develops?

- Liver transplantation may be a viable option in *selected* HIV+ individuals
- Experimental, outcomes similar to HIV-/HCV+
 - Need good HIV control, adherence
 - HCV recurrence is common in new liver
 - Re-treatment x 3 months after transplant
 - 5-year survival is 51% (vs.81% in HIV-/HCV+)

L Castells, J I Esteban, I Bilbao, and others. *Antiviral Therapy* 11(8): 1061-1070. 2006.



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Key Points about HCV/HIV

- ✓ HCV is worse in HIV/HCV
- ✓ Treat based on individual benefits vs. risks
 - If you or patient in doubt, hold off
 - Patient must be committed to birth control
 - Be aware of cART interactions
 - Be alert to & plan for toxicities
 - Continually revisit *contraception!*
- ✓ PEG α IFN + ribavirin x 48 weeks is standard
- ✓ Vaccinate all co-infected patients against HAV and HBV if seronegative



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CAH B Session Objectives

- **Impact of Hepatitis B**
- **Diagnosis and evaluation of CAH B**
- **When to treat and with what?**
- **Monitoring treatment and treatment duration**
- **Defining resistance and defining response**

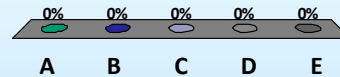


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CAH-B and HIV --- Which is TRUE?

- A. A Hepatitis B genotype should be done prior to starting Hepatitis B treatment
- B. cART must be started before treating CAH-B
- C. Lamivudine (3TC) has the highest genetic barrier against HBV mutations which confer resistance
- D. Unlike CAH-C and HIV, CAH-B does not result in more rapid progression of liver disease.
- E. Male gender is a risk factor for disease progression.




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Hepatitis B

Hepatitis B

- sex, perinatal, IDU, blood
- 350 million CAH-B worldwide
- 1.25 million CAH-B patients in U.S.
- Carriers increased risk of developing
 - Cirrhosis, hepatic decompensation, and HCC
- 15-40% of carriers will develop serious sequelae in their lifetime

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009


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Hepatitis B & HIV

- Acute HBV may be more severe
 - *Only 25% symptomatic*: acute jaundice, elevated liver enzymes, fatigue, N,V,D
 - 10% become chronic → cirrhosis/CA in 20-30 yrs
 - Ethanol, HIV, other hepatitis viruses
- ~10% of HIV⁺ have CAH-B
- HIV/HBV 19x > liver deaths than HBV alone
8x > liver deaths than HIV alone

Thio C, Seaburg E, Skolasky Jr. R, et al. Multicenter Cohort Study [MACS]. *Lancet* 2002;360:1921-26.



Hepatitis B & HIV

- 8 genotypes (A→H)
 - Genotype A
 - Most common in HIV/HBV in U.S.— 75%
 - may respond best to pegIFN- α
 - Genotype G
 - Least common in HIV/HBV in U.S. – 25%
 - Marker of rapid fibrosis

K Lacombe and others. *AIDS* 20(3): 419-427, February 14, 2006.



Hepatitis B & HIV

“Studies of nucleos(t)ide analogue therapies have not shown any relation between HBV genotypes and response”

Additional data needed before HBV genotype determination in clinical practice is recommended.

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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Serology of Chronic HBV

HBsAg	HBsAb	HBeAg	HBV DNA
+	-	+/-*	+

*Pre-core protein/core promoter mutation

- Do not express HBeAg
- Lower HBV DNA than eAg+
- Severe inflammation→cirrhosis
- Longer duration of disease→older
- More resistant to therapy
- Non-A genotypes, Asia/Europe



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Hepatitis B & HIV: “Occult” HBV

- Isolated HBcAb IgG positive

HBsAg	HBsAb	HBcAg	HBV DNA
-	-	-	+

- More common in HIV+ and HCV
- Diagnosed by HBV DNA positive
- If HBV DNA negative, vaccinate

Gandhi RT, Wurcel A, Lee H, et al. *J Infect Dis* 2005;191:1435-41.

AASLD Practice Guidelines; *Hepatology*, Vol.50, No. 3, SEP 2009



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Initial Evaluation

- **H&P, FH of liver disease or HCC**
- **CBC, platelet, PT,PTT, CMP**
- Urinalysis – if abnormal 24 hour urine for protein and creatinine
- **HBeAg, HBeAb, HBV DNA**
- **HCV Ab., HDV Ab [if from endemic area (Mediterranean region, South Africa), or IDU]**
- **Liver US, Liver Biopsy**

AASLD Practice Guidelines; *Hepatology*, Vol.50, No. 3, SEP 2009



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Liver Biopsy

- **Most useful in persons not meeting clear cut guidelines to treat**
- **HBV infected with LFT close to ULN (30 U/L for men; 19 U/L for women)**
- **Age > 40 y/o may have abnormal histology and be at increased risk of mortality**

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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Risk Factors for Cirrhosis in CAH-B

- HBV DNA > 10⁴ copies/mL [HR, 2.7] > 10⁵ [HR, 8.9-10.7]
- Male [HR, 3.0]
- Advanced age [HR, 3.6-8.3]
- Habitual alcohol consumption [HR, 2.6]
- HBV genotype C
- Coinfection with HCV or HDV or HIV

*Clinical Gastroenterology & Hepatology 2008; 6:1315-1341.
AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009*



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HCC Screening Recommendations

Asian men > 40, Asian women > 50, persons with cirrhosis, those with FH of HCC, Africans > 20, and any carrier > 40 y/o with persistent or intermittent ALT elevation and/or high HBV DNA > 2,000 IU/mL needs US examination every 6-12 months

AFP if US not available

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



Risk Factors for HCC in CAH-B

- Cigarette smoking
- Older age
- Reversions from HBeAb⁺ to HBeAg⁺
- Presence of cirrhosis
 - **30-50% HCC occur in absence of cirrhosis**
- HBV genotype C
- Core promoter mutation
- HCV coinfection
- Male gender
- FH of HCC

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



Who to Treat?

- Patient needs cART – treat the Hepatitis B regardless of Hep B VL level.
- If ART not required, then treatment indication is same as for HBV monoinfected patients



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Indications for Treatment

- Anti-HBV treatment indicated if ↑ ALT and HBV DNA level >
 - 20,000 IU/mL if HBeAg-positive
 - 2,000 IU/mL if HBeAg-negative
- Some experts treat any level of HBV DNA especially if ALT is ↑ or if significant inflammation &/or fibrosis on biopsy

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4



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Not Needing ART or Controlled on ART Without HBV Active Drug

- **HBeAg Positive**
 - pegIFN- α if CD4 \geq 500 cells/ μ L
- (OR)**
- adefovir
- **HBeAg Negative**
 - Adefovir
- (OR)**
- Earlier initiation of ART

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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When to Treat & With What

Ready for cART?

- (lamivudine or emtricitabine) + tenofovir backbone + ART drug
- Indefinite tx
- FLARES with stopping meds *or* onset of YMDD resistance — USE CAUTION
- 3TC resistant – ADV or peg-IFN added

Not ready for cART?

- Consider PEG α INF 2a x 48 weeks
 - advanced fibrosis
 - HIV/HBV/HCV
 - improves fibrosis
 - may clear virus
- Adefovir X 48 weeks
- Consider earlier HAART w/ HBV-active agent

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4




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MEDICATION	DOSING	PILL SIZE	
NUCLEOTIDES			
Adefovir (Hepsera®)	10 mg po qd	10 mg	Can be added to ART
Tenofovir (Viread®)*	300 mg po qd	300 mg	
NUCLEOSIDES			
Lamivudine (Epivir®)	150 mg po bid, or 300mg po qd	150 mg	0.5 for Nuc naïve without EPV resistance
Emtricitabine (Emtriva®)	200 mg po qd	200 mg	
Entecavir (Baraclude™)	1 mg po qd	0.5, 1 mg	
Telbivudine (Tyzeka™)	600 mg po qd	600 mg	
INTERFERONS			Contraindicated in cirrhosis
Pegylated interferon-α2a (Pegasys®)	180 mcg SC qwk x 1 year	180 mcg prefilled syringes	² HBeAg Pos. 16-24 wk HBeAg Neg. 12 mo. consider 24
Standard interferon-α2b (Intron A®)	5 million IU SC qd, or 10 million IU SC TIW x 16 weeks	Multidose pens for qd or TIW, 10 million IU vials	

* Not FDA approved for HBV therapy

HIV and Hepatitis Coinfections Management & Treatment Guidelines, Raymond Johnson, M.D.; 2007 Hepatitis C Support Project.
²AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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Monitoring Nucleos(t)ide

- LFT q 3 months
- HBV DNA q 3-6 months
- HBeAg and HBeAb at end of 1 yr treatment and every 3-6 months thereafter

Virologic Breakthrough - Defined as > 1 log₁₀ increase in HBV DNA from nadir during treatment

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009


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Resistance Testing

HBV genotype genome sequencing for polymerase mutations currently available:

Quest Diagnostics Test # 10529N
and
LapCorp Test # 551840

Processing Instructions

- 1.5 mL frozen plasma (PPT white-top tube); Plasma should be separated and frozen within 2 hours of collection.
- Alternatively, submit > 1.5 mL (EDTA purple top) frozen serum in a sterile, plastic, screw-capped, aliquot tube

HIV and Hepatitis Coinfections Management & Treatment Guidelines, Raymond Johnson, M.D.; 2007 Hepatitis C Support Project.



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Known Resistant Mutations

	Lamivudine/ Emtricitabine	Adefovir	Telbivudine	Entecavir	Famciclovir	Tenofovir
I169T						
V173L						
L180M	X		X		X	
A181T	X	X				
A181V	X	X	X			
T184G				*X		
A194T						X
S202I				*X		
M204I	X		X	X		
M204V	X			X		
V207I					X	
N236T		X				
M250V				*X		

HIV and Hepatitis Coinfections Management & Treatment Guidelines, Raymond Johnson, M.D.; 2007 Hepatitis C Support Project.
*AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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Remember

If altering ARV regimen do not discontinue HBV medications without substituting other HBV therapy unless HBeAg seroconversion has occurred

If stop HBV treatment, monitor closely for relapse

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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Defining Treatment Response

- Virologic response is HBV DNA
 - <2,000 IU/mL at 24 weeks if on IFN
 - Undetectable within 48 weeks on NUC
- Non-response is < 1 log₁₀ IU/mL decrease from baseline at 3 months
- Breakthrough is > 1 log₁₀ IU/mL increase compared to nadir

EASL Clinical Practice Guidelines: Management of chronic hepatitis B; Journal of Hepatology 50 (2009) 227–242



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Treatment Duration

- Tx. not on cART/HBeAg+ and become HBeAg – and eAB +, tx 6-12 months beyond eAg seroconversion.
- All pts on cART when HBV treated need to continue on HBV tx even if seroconverted to anti-HBe (Exception = pegIFN tx. Only 48 weeks)

Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4.



Pairs to Avoid

- Closely related with similar resistance profile:
 - emtricitabine + lamivudine
 - adefovir + tenofovir (closely related with similar resistance profiles)
- Inferior for all parameters of response as compared to telbivudine alone
 - (emtricitabine or lamivudine) + telbivudine

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



Combination Therapies

“Various combination therapies have been evaluated; to date, none of the combination therapies has been proven to be superior to monotherapy in inducing a higher rate of sustained response. Although several combination therapies have been shown to reduce the rate of lamivudine resistance compared to lamivudine monotherapy, there are as yet no data to support that combination therapies will reduce the rate of resistance to antiviral compounds that have a low risk of drug resistance when used alone.”

AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009



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Last words: Hepatitis A, B, C & HIV

Prevention is KEY

- Screen & vaccinate **early**
 - Lower CD4s will lower antibody response
 - CD4 < 200 ~15-40% antibody
 - CD4 >500 ~ 90% antibody
 - ?Re-vaccinate w/ double-dose (50.7% response in previous non-responders in Dutch prospective open-label study)
- Counsel about risk factors


TE De Vries-Sluijs, et al. JID 197(2): 292-94. January 2008.




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1. EACS Guidelines for the Clinical Management and Treatment of Chronic Hepatitis coinfection in HIV; 2008 British HIV Association HIV Medicine (2008) 9, 82-88.
2. Clinician's Guide to HIV & Hepatitis, January 2007; MountainPlains AIDS Education and Training Center
3. The Liver Care Clinic at Shands at the University of Florida Clinical Protocol for the Treatment of Chronic Hepatitis C; Version 5.0; March 29, 2007.
4. HIV and Hepatitis Coinfections Management & Treatment Guidelines, Raymond Johnson, M.D.; 2007 Hepatitis C Support Project; www.hcvadvocate.org
5. Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents. MMWR; April 10, 2009, Vol. 58, No. RR-4
6. American Association for the Study of Liver Disease (AASLD) Practice Guideline; Diagnosis, Management and Treatment of Hepatitis C; Strader, et.al., Hepatology, Volume 39, Number 4, 2004. www.aasld.org
7. AASLD Practice Guideline; Chronic Hepatitis B; LOK, et.al., Hepatology Volume 45, February 2007
8. A Treatment Algorithm for the Management of Chronic Hepatitis B Virus Infection in the United States: 2008 Update; Keeffe, et.al.; Clinical Gastroenterology & Hepatology 2008; 6:1315-1341.
9. Hepatitis B Virus and Hepatitis C Virus Drug Resistance ; Vincent Soriano; Medscape HIV/AIDS XV International HIV Drug Resistance Workshop; July 21, 2006
10. EASL Clinical Practice Guidelines: Management of chronic hepatitis B; Journal of Hepatology: 50 (2009) 227-242.
11. Chronic Hepatitis B: Update 2009; AASLD Practice Guidelines; Hepatology, Vol.50, No. 3, SEP 2009

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Hepatitis C / HIV Charting Forms

Maribel Gonzalez, ARNP
Hendry County Department of Health
Ryan White Part C Clinic



Disclosure of Financial Relationships

This speaker has no significant financial relationships with commercial entities to disclose.

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This slide set has been peer-reviewed to ensure that there are no conflicts of interest represented in the presentation.

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Visit Date:	Last Name:	First Name:	D.O.B./Clinic Identifier:
Screening Visit - Hepatitis C/HIV			
Subjective:			
Patient Health Questionnaire - 9 Score: <input type="checkbox"/>		Pain Scale (0-10): <input type="checkbox"/>	
Adherence / Counseling / Education <input type="checkbox"/> Medication List Reviewed and Updated <input type="checkbox"/> How many doses missed in past month? (Reason/circumstance?)			
Any History of: (If asked and Negative, Circle if Abnormal and describe.)			
<input type="checkbox"/> Fatigue	<input type="checkbox"/> Skin rashes/disorders	<input type="checkbox"/> Shortness of Breath	<input type="checkbox"/> Anemia
<input type="checkbox"/> Fever	<input type="checkbox"/> Joint pains	<input type="checkbox"/> Lung disease	<input type="checkbox"/> Thrombocytopenia cell cl.
<input type="checkbox"/> Jaundice	<input type="checkbox"/> Sleep disorder	<input type="checkbox"/> Thyroid disorder	<input type="checkbox"/> Psych disorder
<input type="checkbox"/> Esophageal varices	<input type="checkbox"/> Kidney disease	<input type="checkbox"/> Autoimmune disease	<input type="checkbox"/> Depression
<input type="checkbox"/> Hemorrhoids	<input type="checkbox"/> Chest pain	<input type="checkbox"/> Seizure disorder	<input type="checkbox"/> Suicide attempt
<input type="checkbox"/> Proctitis	<input type="checkbox"/> Heart attack/heart failure	<input type="checkbox"/> Diabetes	<input type="checkbox"/> HIV
Menses: <input type="checkbox"/> Regular <input type="checkbox"/> Irregular <input type="checkbox"/> M.P. <input type="checkbox"/> M.P. Menopause <input type="checkbox"/> Contraception			
Smoker: <input type="checkbox"/> No <input type="checkbox"/> Yes ___pd Alcohol: <input type="checkbox"/> No <input type="checkbox"/> Yes Amount 1 day / week / month _____			
Drugs: <input type="checkbox"/> No <input type="checkbox"/> Yes Type: _____ Amount 1 day / week / month _____			
Sex since last office visit: <input type="checkbox"/> No <input type="checkbox"/> Yes Risk: _____ Barrier method: _____			
Partner infected: <input type="checkbox"/> No <input type="checkbox"/> Yes			
<input type="checkbox"/> Flow Sheet Reviewed & Updated			
Physical Exam (For abnormal findings, circle system and describe)			
General <input type="checkbox"/> Well nourished <input type="checkbox"/> AD <input type="checkbox"/> Well groomed <input type="checkbox"/> Reviewed <input type="checkbox"/> Stable			
HEENT <input type="checkbox"/> Normal conjunctivae/ids <input type="checkbox"/> PERLA <input type="checkbox"/> SCLM <input type="checkbox"/> Color vision <input type="checkbox"/> Ear canals clear, TM normal <input type="checkbox"/> Oral cavity: mucositis, lesions, flu through <input type="checkbox"/> No stomatitis or sores			
Lungs / Chest <input type="checkbox"/> Thorax normal <input type="checkbox"/> Normal respiratory effort <input type="checkbox"/> Clear to auscultation			
Cardiovascular <input type="checkbox"/> Regular rate / rhythm <input type="checkbox"/> CRT, C2 normal, no S4, S4, murmur, gallop <input type="checkbox"/> JVP			
GI / Abdomen <input type="checkbox"/> Abdomen normal <input type="checkbox"/> Abdominal tenderness <input type="checkbox"/> Liver <input type="checkbox"/> Splenomegaly <input type="checkbox"/> No ascites			

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Exit	<input type="checkbox"/> No pedal edema, clubbing, or cyanosis
Genital / Anal inspection	<input type="checkbox"/> Normal male genitalia <input type="checkbox"/> Normal female ECOBLS <input type="checkbox"/> No masses or lesions
Digital Rectal	<input type="checkbox"/> No discharge <input type="checkbox"/> Anus normal <input type="checkbox"/> Prostate normal on digital rectal exam Hemoccult done: <input type="checkbox"/> 0/3 - <input type="checkbox"/> 0/3 +
Skin	<input type="checkbox"/> No rashes or lesions <input type="checkbox"/> Heals without lesions <input type="checkbox"/> No petechiae, purpura or unexplained bruising
Counseling & Education (if assessed and discussed)	<input type="checkbox"/> Importance of 100% adherence <input type="checkbox"/> Drug resistance <input type="checkbox"/> Parental drug interactions <input type="checkbox"/> Avoid alcohol, drug/alcohol drug paraphernalia <input type="checkbox"/> Contraception <input type="checkbox"/> Cover cuts and wounds <input type="checkbox"/> Carefully dispose of bloody body fluids or blood <input type="checkbox"/> Condoms given <input type="checkbox"/> Sexual stimulation of self or partner without exchange of body fluids <input type="checkbox"/> Latex condom or barrier for oral sex <input type="checkbox"/> Inform sex partners of hepatitis C and HIV infections <input type="checkbox"/> Do not share razors, toothbrushes, nail files <input type="checkbox"/> Do not donate blood, organs, bone marrow, eggs or sperm <input type="checkbox"/> Anal sex, fisting, or anal douching/enemas prior to sex
Assessment for this Visit	1) Hepatitis C, CD4, T4, Genotype, 2) HIV/AIDS O42
Plan	<input type="checkbox"/> Basic HCV pamphlets given <input type="checkbox"/> Add ultrasound to assess liver surface nodularity and (if no mass, lesion, ascites, splenomegaly) <input type="checkbox"/> Liver biopsy, ultrasound guided (recommended). Use METAVIR scoring system to stage fibrosis. <input type="checkbox"/> Baseline ECG if history of pre-existing cardiac abnormality or > 50 yo <input type="checkbox"/> Antidysrhythmic therapy <input type="checkbox"/> Hepatitis A vaccine (if needed) <input type="checkbox"/> Hepatitis B vaccine (if needed) <input type="checkbox"/> Ophthalmology exam <input type="checkbox"/> Reinforced reduction/abstinence from alcohol/drug <input type="checkbox"/> Side effect of medications discussed
Next Office Visit	<input type="checkbox"/> In _____ weeks <input type="checkbox"/> In _____ months
Tests to be ordered today	a. If not done within last 90 days: <input type="checkbox"/> Hepatitis C viral load <input type="checkbox"/> CD4 <input type="checkbox"/> HIV viral load <input type="checkbox"/> Hepatitis A antibody total or IgG, if needed <input type="checkbox"/> If prior hepatitis A antibody screening negative and patient has received hepatitis A vaccine, repeat <input type="checkbox"/> Hepatitis A antibody total <input type="checkbox"/> Hepatitis B surface antigen, Hepatitis B core antibody - IgG, Hepatitis B surface antibody - IgG, if needed <input type="checkbox"/> If not available within the last one month: <input type="checkbox"/> AFP <input type="checkbox"/> AFP <input type="checkbox"/> PFT, Parke-Tyrosinase/tyrosinemia (PFT), INR b. Antinuclear antibody (ANA), Anti-mitochondrial antibody (AMA), Anti-smooth muscle antibody (ASMA) <input type="checkbox"/> Pregnancy test (confirm if hysterectomy or tubal ligation) <input type="checkbox"/> Thyroid stimulating hormone (TSH) <input type="checkbox"/> Alpha-fetoprotein (AFP) <input type="checkbox"/> Testing insulin level + fasting glucose <input type="checkbox"/> Urinalysis, urinal <input type="checkbox"/> Iron panel (Ferritin, Iron, TIBC, % Sat) <input type="checkbox"/> If not recent testing, if not available within last 6 months <input type="checkbox"/> Other:

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Visit Date:	Last Name:	First Name:	D.O.B./Clinic Identifier:
Baseline Visit - Hepatitis CHV			
Subjective:			
Patient Health Questionnaire - 9 Score: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Pain Scale (0-10): <input type="checkbox"/> <input type="checkbox"/>			
Adherence / Counseling / Education <input type="checkbox"/> Medication List Reviewed and Updated How many doses missed in past month? (Reason/circumstances?)			
Any History of: (If asked, negative. Circle if Abnormal and describe)			
<input type="checkbox"/> Fatigue	<input type="checkbox"/> Skin rashes/lesions	<input type="checkbox"/> Shortness of Breath	<input type="checkbox"/> Anemia
<input type="checkbox"/> Fever	<input type="checkbox"/> Joint pains	<input type="checkbox"/> Lung disease	<input type="checkbox"/> Hematocrit/white cell cts
<input type="checkbox"/> Abundant	<input type="checkbox"/> Sleep disorder	<input type="checkbox"/> Thyroid disorder	<input type="checkbox"/> Psych disorder
<input type="checkbox"/> Esophageal varices	<input type="checkbox"/> Kidney disease	<input type="checkbox"/> Autoimmune disease	<input type="checkbox"/> Depression
<input type="checkbox"/> Hemorrhoids	<input type="checkbox"/> Chest pain	<input type="checkbox"/> Seizure disorder	<input type="checkbox"/> Suicide attempt
<input type="checkbox"/> Pruritis	<input type="checkbox"/> Heart attack/heart failure	<input type="checkbox"/> Diabetes	<input type="checkbox"/> HTN
Safety Checklist:			
<input type="checkbox"/> Adequate oral control method understood	<input type="checkbox"/> No significant cardiovascular disease		
<input type="checkbox"/> CD4, absolute > 500 cells/mm ³	<input type="checkbox"/> No evidence of stroke or encephalopathy		
<input type="checkbox"/> High CD4 count > 500	<input type="checkbox"/> No evidence of acute or chronic hepatitis		
<input type="checkbox"/> No active uncontrolled alcohol or drug use	<input type="checkbox"/> No evidence of significant psychiatric illness		
<input type="checkbox"/> CD4 count > 500	<input type="checkbox"/> No evidence of hepatitis		
Menses: <input type="checkbox"/> Regular <input type="checkbox"/> Irregular <input type="checkbox"/> AMP <input type="checkbox"/> S/P Menopause <input type="checkbox"/> Contraception			
Smoker: <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> pd <input type="checkbox"/> Alcohol: <input type="checkbox"/> No <input type="checkbox"/> Yes Amount 1 day / week / month			
Drugs: <input type="checkbox"/> No <input type="checkbox"/> Yes Type: _____ Amount 1 day / week / month			
See since last office visit: <input type="checkbox"/> No <input type="checkbox"/> Yes Risk: _____ Barrier Method: _____ Partner Informed: <input type="checkbox"/> No <input type="checkbox"/> Yes			
Labs: <input type="checkbox"/> Reviewed with Patient.			
<input type="checkbox"/> ALT < 1000	<input type="checkbox"/> CD4 cell > 500 cells/mm ³	<input type="checkbox"/> CD4 > 200 cells/mm ³ or HAART therapy level response achieved	
<input type="checkbox"/> TB < 1000	<input type="checkbox"/> Not on HAART	<input type="checkbox"/> No AZT, ddI, or ABC unless use cannot be avoided	
<input type="checkbox"/> Platelet > 50,000			
Additional Lab comments:			
<input type="checkbox"/> Flow Sheet Reviewed & Updated			
Physical Exam (if abnormal findings, circle system and describe)			
<input type="checkbox"/> Vitals recorded <input type="checkbox"/> NO			
General	Vital signs: <input type="checkbox"/> Reviewed <input type="checkbox"/> Stable <input type="checkbox"/>		
HEENT	<input type="checkbox"/> Normal conjunctivae/sclerae <input type="checkbox"/> PERIORBITA <input type="checkbox"/> EOM <input type="checkbox"/> Color vision <input type="checkbox"/> Ear canals clear, TM normal <input type="checkbox"/> Oral cavity normal to 100% through <input type="checkbox"/> No lymphadenopathy or nodules		
Lungs / Chest	<input type="checkbox"/> Normal respiratory effort <input type="checkbox"/> Normal normal <input type="checkbox"/> Clear to auscultation		

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Cardiovascular	<input type="checkbox"/> Regular rate / rhythm <input type="checkbox"/> S1, S2 normal, no S3, S4 murmur, gallop
GI / Abdomen	<input type="checkbox"/> Bowel sounds normal <input type="checkbox"/> Abt. soft, non-tender <input type="checkbox"/> RUQ non-tender <input type="checkbox"/> Liver <input type="checkbox"/> Splenomegaly
Ext	<input type="checkbox"/> No pedal edema, clubbing, or cyanosis
Genital / Anal Inspection	<input type="checkbox"/> Normal male genitalia <input type="checkbox"/> Normal female EC&US <input type="checkbox"/> No masses or lesions
Digital Rectal	<input type="checkbox"/> No discharge <input type="checkbox"/> Anal normal <input type="checkbox"/> Prostate normal on digital rectal exam Hemorrhoid: none <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
Skin	<input type="checkbox"/> No rashes or lesions <input type="checkbox"/> Nails without lesions <input type="checkbox"/> No petechiae, purpura or unusual nails

Counseling & Education (if asked and discussed)

<input type="checkbox"/> Importance of 100% adherence	<input type="checkbox"/> Condoms given
<input type="checkbox"/> Drug resistance	<input type="checkbox"/> Sexual stimulation of self or partner without exchange of body fluids
<input type="checkbox"/> Potential drug interactions	<input type="checkbox"/> Latex condoms or barrier for anal sex
<input type="checkbox"/> Alcohol and drug/alcohol use	<input type="checkbox"/> HIV risk partners of Partners, C, and HIV infections
<input type="checkbox"/> Contraception	<input type="checkbox"/> Do not share razors, toothbrushes, nail files
<input type="checkbox"/> Cover cuts and wounds	<input type="checkbox"/> Do not donate blood, organs, bone marrow, eggs or sperm
<input type="checkbox"/> Carefully dispose of body fluids or blood	<input type="checkbox"/> Anal sex, fisting, or anal douching/benegas prior to sex

Assessment for this Visit
 1) Hepatitis C Genotype: _____ 070.54
 2) HIV/AIDS: 042

Plan Side effect of medications discussed

PEGASYS (Peginterferon alfa-2a) and COPEGUS (ribavirin) weight-based dosing chart

Genotype	Weight kg	Pegavys dose	Copegus dose
1, 4, 5, 6	≤ 75	100 ug po qd	800 mg po bid
1, 4, 5, 6	> 75	100 ug po qd	1000 mg po bid
2, 3	all	100 ug po qd	1000 mg po bid

Peginterferon alfa-2b (1.5 ug/kg) plus Ribetrol (ribavirin) (13 + 2 mg/kg) weight-based dosing chart

Weight (kg)	Peginterferon (Peg-Intron) (1.5 ug/kg)	Ribavirin (Ribetrol) (13 + 2 mg/kg)
40-45 (88-99)	60 mg	4000 mg bid (8000 mg)
45-50 (99-110)	75 mg	4000 mg bid (8000 mg)
50-55 (110-121)	82 mg	4000 mg bid (8000 mg)
55-60 (121-132)	90 mg	4000 mg bid (8000 mg)
60-65 (132-143)	100 mg	4000 mg bid (8000 mg)
65-70 (143-154)	105 mg	4000 mg bid (8000 mg)
70-75 (154-165)	112 mg	4000 mg bid (8000 mg)
75-80 (165-176)	120 mg	4000 mg bid (8000 mg)
80-85 (176-187)	126 mg	4000 mg bid (8000 mg)
85-90 (187-198)	135 mg	4000 mg bid (8000 mg)
90-95 (198-209)	142 mg	4000 mg bid (8000 mg)
95-100 (209-220)	150 mg	4000 mg bid (8000 mg)

Visit critical visit: weeks months

Labs to be ordered today and/or in weeks:

<input type="checkbox"/> CD4	<input type="checkbox"/> HIV genotype	<input type="checkbox"/> Spot urine for RULN / creatinine ratio
<input type="checkbox"/> Viral load	<input type="checkbox"/> HIV phenotype	<input type="checkbox"/> Testosterone free (total)
<input type="checkbox"/> CD8	<input type="checkbox"/> Quantitative viral phenotype	<input type="checkbox"/> Hsp 90 Assay
<input type="checkbox"/> CBC	<input type="checkbox"/> RPR, reflex	<input type="checkbox"/> HIV VL Quant
<input type="checkbox"/> Anemia / Irones	<input type="checkbox"/> Urine for gram/nitrite/hemipia	<input type="checkbox"/> HIV VL Quant
<input type="checkbox"/> Lipid panel	<input type="checkbox"/> UA/Clear Catch with C&S if indicated	<input type="checkbox"/> High A1c
<input type="checkbox"/> T		

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Visit Date:	Last Name:	First Name:	D.O.B./Clinic Identifier:
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Hepatitis C/HIV Monitoring Visits

Week: 2 4 6 8 12 16 18 20 24 28 30 32 36 40 44 48 Other: _____

Subjective: _____

Patient Health Questionnaire - 9 Score: (Score 10-15 = Mild depression; 16-24 = Moderate depression; 25+ = Severe Depression)
 Pain Scale (0-10):

Adherence / Counseling / Education

Medication List Reviewed and Updated
 How many doses missed in past month? (Reason/circumstances?) _____

Any history of: (if asked and Negative, Circle if Abnormal and describe.)

<input type="checkbox"/> Fatigue	<input type="checkbox"/> Skin rashes/disorders	<input type="checkbox"/> Shortness of Breath	<input type="checkbox"/> Apenia
<input type="checkbox"/> Fever	<input type="checkbox"/> Joint pain	<input type="checkbox"/> Lung disease	<input type="checkbox"/> Tuberculosis/cell cts
<input type="checkbox"/> Jaundice	<input type="checkbox"/> Sleep disorder	<input type="checkbox"/> Thyroid disorder	<input type="checkbox"/> Psych disorder
<input type="checkbox"/> Esophageal varices	<input type="checkbox"/> Kidney disease	<input type="checkbox"/> Autoimmune disease	<input type="checkbox"/> Depression
<input type="checkbox"/> Hemorrhoids	<input type="checkbox"/> Chest pain	<input type="checkbox"/> Seizure disorder	<input type="checkbox"/> Suicide attempt
<input type="checkbox"/> Diarrhea	<input type="checkbox"/> Deep vein thrombosis	<input type="checkbox"/> Diabetes	<input type="checkbox"/> IHD

Menses: Regular Irregular AMP Menopause Contraception _____

Smoker: No Yes pd Alcohol: No Yes Amount: 1 day / week / month

Drugs: Yes No Type: _____ Amount: 1 day / week / month

Sex since last office visit: No Yes Risk: _____ Barrier Method: _____ Partner Informed: No Yes

Lab: Reviewed with Patient.

HIV > 1000 CD4 cell > 50 mL/mm Platelet > 50,000 Hsp > 10 g/dL

Additional Lab comments: _____

Flow Sheet Reviewed & Updated

Physical Exam (for abnormal findings, circle system and describe)

General: Well nourished JAD
 Vital signs: Reviewed Stable

HEENT: Normal conjunctivae
 PERLA
 ICDM
 Clear vision
 Ear: normal clear TM normal
 Oral cavity: mucosa/tonsils normal
 No dysphagia or odynophagia

Lungs / Chest: Normal respiratory effort Normal breath sounds
 Clear to auscultation

Cardiovascular: Regular rate / rhythm
 S1, S2 normal, no S3, S4 murmur, gallop or rub

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GI / Abdomen	<input type="checkbox"/> Bowel sounds normal <input type="checkbox"/> Mild soft, non-tender <input type="checkbox"/> RUQ non-tender <input type="checkbox"/> Liver <input type="checkbox"/> Spleen <input type="checkbox"/> No ascites
Ext	<input type="checkbox"/> No pedal edema, clubbing, or cyanosis <input type="checkbox"/> Normal male genitalia <input type="checkbox"/> Normal female genitalia
Genital / Anal Inspection	<input type="checkbox"/> No masses or lesions <input type="checkbox"/> No discharge
Digital Rectal	<input type="checkbox"/> Anus normal <input type="checkbox"/> Prostate normal on digital rectal exam (DRE) Hemocult done: <input type="checkbox"/> 0B - <input type="checkbox"/> 0B + <input type="checkbox"/> No rashes or lesions <input type="checkbox"/> No chills without lesions <input type="checkbox"/> No petechiae, purpura or unusual nevi
Counseling & Education (if asked and discussed)	
<input type="checkbox"/> Importance of 100% adherence <input type="checkbox"/> Condoms given <input type="checkbox"/> Drug resistance <input type="checkbox"/> Sexual stimulation of self or partner without exchange of body fluids <input type="checkbox"/> Potential drug interactions <input type="checkbox"/> Latex condom or barrier for oral sex <input type="checkbox"/> Avoid alcohol, digoxin/phen drug paraphernalia <input type="checkbox"/> Inform sex partners of hepatitis C and HIV infections <input type="checkbox"/> Contraception <input type="checkbox"/> Do not share razors, toothbrushes, nail files <input type="checkbox"/> Come with sex partners <input type="checkbox"/> Do not donate blood, organs, bone marrow, organs, sperm <input type="checkbox"/> Carefully dispose of bloody body fluids or blood <input type="checkbox"/> Anal sex, fisting, or anal douching/irrigation prior to sex	
Assessment for this Visit	
1) Hepatitis C 0/0.5e 2) HIV/AIDS 0/2 3) Depression: <input type="checkbox"/> None <input type="checkbox"/> Mild 2/6-21 <input type="checkbox"/> Moderate 2/6-22 <input type="checkbox"/> Severe 2/6-33	
Plan	
<input type="checkbox"/> Return for Week: <input type="checkbox"/> 4 <input type="checkbox"/> 8 <input type="checkbox"/> 12 <input type="checkbox"/> 16 <input type="checkbox"/> 18 <input type="checkbox"/> 20 <input type="checkbox"/> 24 <input type="checkbox"/> 28 <input type="checkbox"/> 30 <input type="checkbox"/> 32 <input type="checkbox"/> 36 <input type="checkbox"/> 40 <input type="checkbox"/> 42 <input type="checkbox"/> 44 <input type="checkbox"/> 48 Labs	
Visit Specific Plans:	
<input type="checkbox"/> Depression dose adjustment <input type="checkbox"/> High dose adjustment <input type="checkbox"/> ANC dose adjustment <input type="checkbox"/> Platelet dose adjustment <input type="checkbox"/> Creatinine dose adjustment <input type="checkbox"/> Eye exam (in office) <input type="checkbox"/> CMP <input type="checkbox"/> CBC	
Week 4, 8, 12, 16, 18, 20, 24, 28, 30, 32, 36, 40, 42, 44 & 48: <input type="checkbox"/> Pregnancy test Week 12, 24 & 48: <input type="checkbox"/> Hepatitis C viral load	
Next Office Visit: <input type="checkbox"/> weeks <input type="checkbox"/> months	
Labs to be ordered today <input type="checkbox"/> and/or in <input type="checkbox"/> weeks:	
<input type="checkbox"/> 1) CD4 <input type="checkbox"/> 1) HIV genotype <input type="checkbox"/> 1) Spot urine for RULN / creatinine ratio <input type="checkbox"/> 1) viral load <input type="checkbox"/> 1) HIV phenotype <input type="checkbox"/> 1) Testosterone free (total) <input type="checkbox"/> 1) CMP <input type="checkbox"/> 1) Genotype/phenotype <input type="checkbox"/> 1) Hgb & Hct Count <input type="checkbox"/> 1) CBC <input type="checkbox"/> 1) RPR, reflex <input type="checkbox"/> 1) HIV VL Count <input type="checkbox"/> 1) Amelase / lipase <input type="checkbox"/> 1) Urine for gonorrhea/chlamydia <input type="checkbox"/> 1) HIV VL Count <input type="checkbox"/> 1) Lipid panel <input type="checkbox"/> 1) UA Clean Catch with CA&I if indicated <input type="checkbox"/> 1) High ANC	

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Last Name	First Name	D.O.B./Class Identifier					
Patient Management Flow Sheet - Hepatitis C/HIV Weeks 1-19							
Week	1	2	4	6	8	12	16
Date							
Lab Tests	Baseline	1-2	4	6	8	12	16
HCV Viral Load							
WBC							
ANC of < 1000, weekly, CBC's							
Weeks	1	2	3	4	5	6	7
ANC							
Lab Tests	Baseline	1-2	4	6	8	12	16
Hgb of < 11 ^g							
Uge							
Lab Tests	Baseline	1-2	4	6	8	12	16
PLT of < 100,000							
PLT							
Lab Tests	Baseline	1-2	4	6	8	12	16
ALT of increased above baseline values*							
Uridenine							
Pregnancy Test							
Serum Creatinine							
Creatinine Clearance if < 50							
Glucose							
Thyroid Stimulating							
Hemogram							
HIV Markers	Baseline	1-2	4	6	8	12	16
HIV Viral Load							
CD4 Count							
cDNA							
PRN or CD3-D score							

* see other side

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1.		
Lab Value ANC	G-CSF	Pegylated Interferon
750-1000	Wt. ≥ 60 Kg: 300 mcg SC q wk given 3 d before PEG-IFN Wt. < 60 kg: 480 mcg SC q wk given 3 d before PEG-IFN	
500-750	↑ to 600 or 1200 injection	↓ to 135 mcg/wk (1 Peg-Interon by 1/3)
<500	↑ to 1200 injection	Hold Pegylated IFN

2.			
Lab Value Hgb	Erythropoietin or Darbepoetin	Folic Acid	Ribavirin
≥ 10 - 11 CBC q 2 weeks	10,000 units SC q wk 40,000 units SC q wk	25-40 μg-wk-100 mg SC q wk	Add 1 mg po qd if suboptimal response
≥ 8.5 - 9.9 CBC weekly	↑ dose	↑ dose	Dose reduce to 800 mg q d
< 8.5 CBC weekly	↑ dose	↑ dose	Hold ribavirin

3.		
Lab Value Platelet	Pegylated IFN	CBC
<70,000	135 mcg/week (1 Peg-Interon by 1/3)	Every 2 weeks
25,000 to 69,999	Hold until Platelets > 70,000, then restart at 90 mcg/wk	Weekly
<25,000		Weekly


4
In patients with progressive ALT increases above baseline, the dose of PEGSYS should be reduced to 135 μg. If ALT increases are progressive despite dose reduction or accompanied by increased bilirubin or evidence of hepatic decompensation, therapy should be immediately discontinued.

5.		
COBI	PEGASYS	Peg-Interon
10-15 ml/min		1 dose 25%a
< 10 ml/min		1 dose 50%a
Hemodialysis	135 mcg q week	1 dose 50%a

a. Ribavirin should not be used in patients with creatinine clearance < 50 ml/min.

6.		
Depression Severity	Dose Modification	Visit schedule
Score 0-9 = non-depressed	No change	Weekly by visit or phone
Score 10-15 = mild depression		Weekly
Score 16-24 = Moderate Depression	Decrease Pegylated Interferon to 135 mcg (in some cases reduction to 90mcg may be necessary. Peg-Interon + by 1/3)	
Score ≥ 24 = Severe Depression	Discontinue pegylated IFN	Immediate Psychiatric consultation

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Last Name	First Name	D.O.B./ Clinic Identifier

Patient Management Flow Sheet (Continued) Hepatitis C/HIV Weeks 20-48

Week	20	24	28	32	36	40	44	48
Date								
Lab Tests								
HCV Viral Load								
WBC								
ANC of < 1000 weekly CBC ^a								
ANC								
ANC								
ANC								
Lab Tests								
ALT < 11 ^b								
High								
High								
Lab Tests								
PLT < 70,000 ^c								
PLT								
PLT								
PLT								
Lab Tests								
ALT if increased above baseline value ^b								
Bilirubin								
Pregnancy test								
Serum creatinine								
Coproporin C Serum < 4% ^d								
Cholesterol								
Thyroid stimulating hormone (TSH)								
Lab Tests								
HIV viral load								
Clinical event								
CD4 ^e								
PIRQ or CRQ-D score ^f								

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1.

Lab Value ANC	G-CSF	Pegylated Interferon
750-1000	Wt. \geq 60 kg: 300 mcg SC q wk given 3 d before PEG-IFN Wt. $<$ 60 kg: 480 mcg SC q wk given 3 d before PEG-IFN	
500-750	↑ to HIV or TDW injection	↓ to 135 mcg/wk (+ Peg-Interon by %)
$<$ 500	↑ to TDW injection	Hold Pegylated IFN

2

Lab Value Hgb	Erythropoetin or Darbapoetin	Folic Acid	Ribavirin
\geq 11 CHC q 2 weeks	40,000 units SC q wk	1 mg SC q wk	Add 1 mg po qd if suboptimal response
\geq 8.5 - 9.9 CHC weekly	↑ dose	1 mg folic acid po qd	Dose reduce to 800 mg q d
$<$ 8.5 CHC weekly	↑ dose	1 mg folic acid po qd	Hold ribavirin

3

Lab Value Platelet	Pegylated IFN	CBC
\geq 100,000		Weekly
25,000 to 99,999	135 mcg/week (4 Peg-Interon by %)	Every 2 weeks
$<$ 25,000	Hold until Platelets $>$ 70,000, then restart at 80 mcg/wk	Weekly

4

In patients with progressive ALT increases above baseline, the dose of PEGSYS should be reduced to 135 μ g. If ALT increases are progressive despite dose reduction or accompanied by increased bilirubin or evidence of hepatic decompensation, therapy should be immediately discontinued.


5


Creatinine	PEGSYS	Peg-Interon
10-50 mL/min		↓ dose 25%
$<$ 30 mL/min		↓ dose 50%
Hemodialysis	135 mcg q week	↓ dose 50%

* Eribavirin should not be used in patients with creatinine clearance $<$ 30 mL/min.

6

Depression Severity	Dose Modification	Visit schedule
Score 0-9 = non-depressed	No change	Weekly by visit or phone
Score 10-15 = mild depression	Decrease Pegylated Interferon to 135 mcg (in some cases reduction to 90mcg may be necessary. Peg-Interon \pm by %)	Weekly
Score 16-24 = Moderate Depression	Decrease Pegylated Interferon to 135 mcg (in some cases reduction to 90mcg may be necessary. Peg-Interon \pm by %)	Weekly
Score \geq 25 = Severe Depression	Discontinue pegylated IFN	Immediate psychiatric consultation


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INFORMED CONSENT PROCEDURE: LIVER BIOPSY

A liver biopsy is a test to obtain liver tissue for microscopic examination at a laboratory. It is performed in a wide variety of illnesses when it is important to have specific information about what is happening in the liver. There are different reasons for doing a liver biopsy, so please discuss this with your doctor.
The doctor has explained that you have the following condition: *(The condition is to be documented in the patient's own words by the doctor.)*


For a week before the biopsy do not take any aspirin. Your doctor will discuss any other medications that you may need to avoid before the biopsy. During the biopsy you will be asked to lie flat and put your right arm behind your head. The right lower side of your chest over the liver will be cleaned by the doctor. The doctor will then numb the area with a local anesthetic injected by a needle. You will be asked to hold your breath and not move while the needle is placed through the skin and into the liver. The doctor then removed a small core of tissue which remains trapped inside the needle. More than one piece of tissue may be required for the laboratory test. It is very important that you do not breathe or move during the biopsy. After the biopsy you will need to lie in bed (sometimes on your side) until the doctor feels you are stable to go home.


Discomfort is felt by most patients for a moment or two while other patients may have a persistent ache for a few hours. Medication can be given to help with the pain. Rarely, it is possible for some patients to have had pain which also can be helped with medication. While most of the time a liver biopsy is safe and performed without difficulty, like any medical procedure there are complications that can happen. These complications are unusual but you should know about them and include:

1. Irritation of the diaphragm muscle by the needle or a small amount of bleeding that causes pain often felt in the right shoulder. The pain may be treated with medication.
2. Excessive bleeding from the liver may occur but is rare. A transfusion or surgery to correct the bleeding may be necessary.
3. The gallbladder (if you still have one) or bile ducts may be damaged by the needle which could cause bile to leak into the abdomen.
4. The lung may be damaged by the needle which could cause air to leak from the lung.
5. The bowel or other organs in the abdomen may be damaged by the needle which may require more treatment or surgery.
6. Medication reaction, shock, and/or a convulsion (shock, an artery, and a vein in the liver can happen but are unusual).
7. If not enough tissue is obtained from the liver to perform the laboratory test, the biopsy may need to be repeated.
8. Deaths related to a liver biopsy have been reported but are very rare.

Although no medical procedure is absolutely safe, a liver biopsy can provide important information to treat liver problems. If you have any questions, please ask your doctor before signing this consent form.
My signature below indicates that I have read and understand the information above, my questions have been answered, and I agree to have a liver biopsy.

PATIENT SIGNATURE	DATE & TIME
PARENT OR GUARDIAN	DATE & TIME
COUNSELING PHYSICIAN	DATE & TIME
WITNESS	DATE & TIME


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Visit Date:	Last Name:	First Name:	D.O.B./Clinic Identifier:
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PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? (Use "N" to indicate your answer)

	Not at all	Somewhat less	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—such as a failure or having let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite being so fast or restless that you have been fidgety around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3
	Add Columns			
	TOTAL			

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
	0	1	2	3

PHQ-9 is adapted from PRIME, MD, TODAY, developed by Drs Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues, with an educational grant from Pfizer Inc. For research information, contact Dr. Spitzer at spitzer@psychiatry.columbia.edu. Use of the PHQ-9 may continue to be made in accordance with the Terms of Use available at www.phqscreeners.com. Copyright © 1999 Pfizer Inc. All rights reserved. PRIME, MD, TODAY is a trademark of Pfizer Inc.

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Visit Date:	Last Name:	First Name:	D.O.B./Clinic Identifier:
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Center for Epidemiologic Studies Depression Scale (CES-D), NIMH

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week. Score Total: _____

Please tell me how often you have felt this way during the past week:

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-4 days)	Occasionally or a moderate amount of time (5-6 days)	Most or all of the time (7-7 days)	Score
1. I was bothered by things that usually don't bother me.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
2. I did not feel like eating; my appetite was poor.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
3. I felt that I could not shake off the blues even with help from my family or friends.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
4. I felt lonely just as good as other people.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
5. I had trouble keeping my mind on what I was doing.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
6. I felt depressed.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
7. I felt that everything I did was an effort.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
8. I felt hopeful about the future.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
9. I thought my life had been a failure.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
10. I felt fearful.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
11. My sleep was restless.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
12. I was happy.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
13. I talked less than usual.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
14. I felt lonely.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
15. People were unfriendly.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
16. I enjoyed life.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
17. I had crying spells.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
18. I felt sad.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
19. I felt that people dislike me.	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	
20. I could not get "going."	<input type="checkbox"/> 0 Points	<input type="checkbox"/> 1 Points	<input type="checkbox"/> 2 Points	<input type="checkbox"/> 3 Points	

A score from 0 to 9 means you are in the non-depressed range, 10 to 15 puts you in the mildly depressed range, and 16 to 24 puts you in the moderately depressed range. A score over 24 means you are in the severely depressed range. If your score in the severely depressed range, you are thinking about suicide, or you have scored in the moderately depressed range 2 or more times.

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Prescriber Name
Office Address
Phone
Fax
License #
DEA #

Patient Name: _____ Date: _____

Weight: _____ kg

Pegasys[®] 180 mcg/mL solution #4 (four) vials
Sig: 180 mcg SQ once weekly **Refills:**

Pegasys[®] 100mcg/0.5 mL pre-filled syringes #1 (one) kit
Sig: 180 mcg SQ once weekly **Refills:**


Pegintron[®] powder for injection 50 mcg 80 mcg 120 mcg 150 mcg #4 (Four) vials
Sig: _____ mcg SQ once weekly **Refills:**


Ribavirin 400 mg tablets # 30 (thirty) and **Ribavirin** 800 mg tablets #30 (thirty)
Sig: 400 mg po q am and 600mg po q pm with food **Refills:**

Ribavirin 800 mg tablets # 60 (sixty)
Sig: 800 mg po bid with food **Refills:**

Ribavirin 400 mg tablets # 60 (sixty)
Sig: 400 mg po bid with food **Refills:**

Prescriber Signature: _____

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Prescriber Name
Office Address
Phone
Fax
License #
DEA #

Patient Name: _____ Date: _____

Weight: _____ kg

Colony Stimulating Factors:

Procrit[®] (epoetin alfa) 40,000 units/mL solution #4 (four) vials
Sig: 40,000 units (1mL) SQ once weekly **Refills:**


Neupogen[®] 300 mcg/mL vials #4 (four) #8 (eight) #12 (twelve)
Sig: 300 mcg (1mL) SQ once weekly twice weekly 3x weekly **Refills:**


Anti-nausea agent:

Dronabinol (Marinol[®]) 2.5 mg 5 mg 10 mg #60 (Sixty)
Sig: 1 cap po bid **Refills:**

Phenergan 25 mg tabs # 50 (fifty)
Sig: : one tab po q 4-6 h prn nausea **Refills:**

Prescriber Signature: _____

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Prescriber Name
 Office Address
 Phone
 Fax
 License #
 DEA #

Patient Name: _____ Date: _____

Pegylated Interferon Pre-Medication

Choose one anti-inflammatory agent.

<input type="checkbox"/> Ibuprofen 600 mg tabs # 90 (ninety) Sig: 1 tab po tid pm with food	Refills: Patient instructions: Take 1 tab with mid-day peg-interferon injection then 1 tabs with dinner, at bedtime, and upon awakening.
<input type="checkbox"/> Ibuprofen 400 mg tabs # 180 (one hundred eighty) Sig: 1-2 tabs po tid pm with food	Refills: Patient instructions: Take 1-2 tabs with mid-day peg-interferon injection then 1-2 tabs with dinner, at bedtime, and upon awakening.
<input type="checkbox"/> Acetaminophen <input type="checkbox"/> 500 mg # 90 (ninety) Sig: 1 tab po tid pm	Refills: Patient instructions: Take 1-2 tabs with mid-day peg-interferon injection then 1-2 tabs with dinner, at bedtime, and upon awakening.

Choose one sleep agent:

<input type="checkbox"/> Triazolone (25 mg) # 60 (sixty) Sig: 1-2 tabs po at hs on day of injection pm sleep Instructions: May increase by 25 mg increment slowly as needed to maximum dose 200 mg/d.	Refills:
<input type="checkbox"/> Temezepam (30 mg) # 60 (sixty) Sig: 1-2 tabs po qhs pm sleep	Refills:
<input type="checkbox"/> Zolpidem (5mg) # 60 (sixty) Sig: 1-2 tabs po qhs pm sleep	Refills:

Note: if significant hepatic impairment start at 5 mg hs dose.

Prescriber Signature: _____

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Prescriber Name
 Office Address
 Phone
 Fax
 License #
 DEA #

Patient Name: _____ Date: _____

Choose one antidepressant:

<input type="checkbox"/> Citalopram (Celexa) <input type="checkbox"/> 20 mg <input type="checkbox"/> 40 mg # 30 (Thirty) Sig: 1 tab po qd	Refills:
<input type="checkbox"/> Fluoxetine (Prozac) <input type="checkbox"/> 20 mg <input type="checkbox"/> 40 mg # 30 (Thirty) Sig: 1 tab po qd	Refills:
<input type="checkbox"/> Paroxetine (Paxil) [®] <input type="checkbox"/> 20 mg # 15 (Fifteen) Sig: 1/2 tab po qd	Refills:
<input type="checkbox"/> Paroxetine (Paxil) [®] <input type="checkbox"/> 20 mg <input type="checkbox"/> 30 mg <input type="checkbox"/> 40 mg # 30 (Thirty) Sig: 1 tab po qd	Refills:
<input type="checkbox"/> Mirtazepine (Remeron) [®] <input type="checkbox"/> 15 mg <input type="checkbox"/> 30 mg <input type="checkbox"/> 45 mg # 30 (Thirty) Sig: 1 tab po qhs	Refills:
<input type="checkbox"/> Venlafaxine (Effexor) <input type="checkbox"/> 37.5 mg #7 (seven) <input type="checkbox"/> 75 mg # (60) sixty	Refills:

Note: Dose increases of 75 mg per week to maximum of 375 mg/d if needed.

Note: maximum daily dose 450 mg/day if needed.

Sig: Take 37.5 mg po hs q day X 7d, then 75 mg/d X 7d, then 75 mg bid thereafter.

Sig: Take 100 mg po qd X 7 days, then bid X 14 days. Thereafter take 150 mg bid.

Prescriber Signature: _____

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Disclosure of Financial Relationships

Dr. Beal has no significant financial relationships with commercial entities to disclose.

Maribel Gonzalez, ARNP has no significant financial relationships with commercial entities to disclose.

This slide set has been peer-reviewed to ensure that there are no conflicts of interest represented in the presentation.



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