



Management Issues in HIV-infected Patients with Unhealthy Alcohol Use

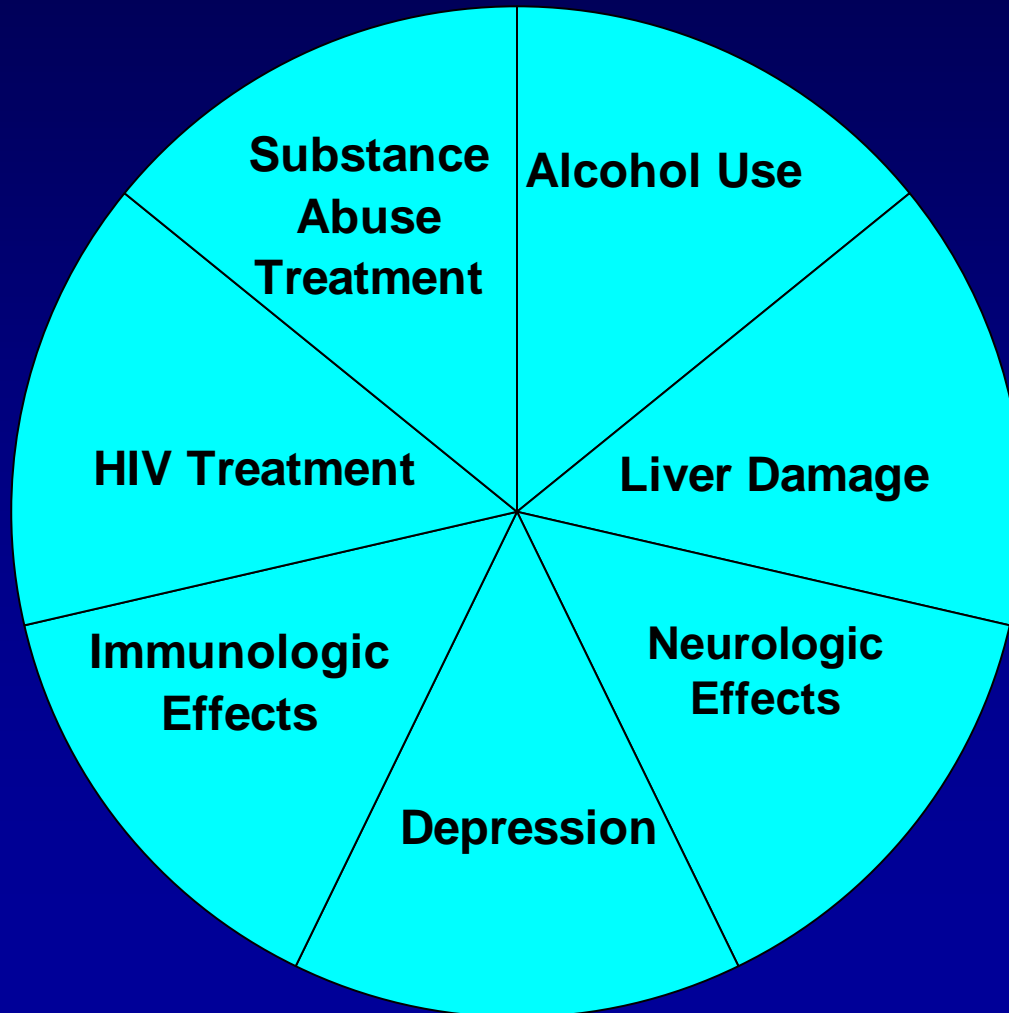
Jeffrey H. Samet, MD, MA, MPH

Chief, Section General Internal Medicine
Professor of Medicine and Public Health
Boston Medical Center
Boston University Schools of Medicine
and Public Health
Boston, MA



Topics

Current Research - Clinical Implications - Research Opportunities



Cohorts

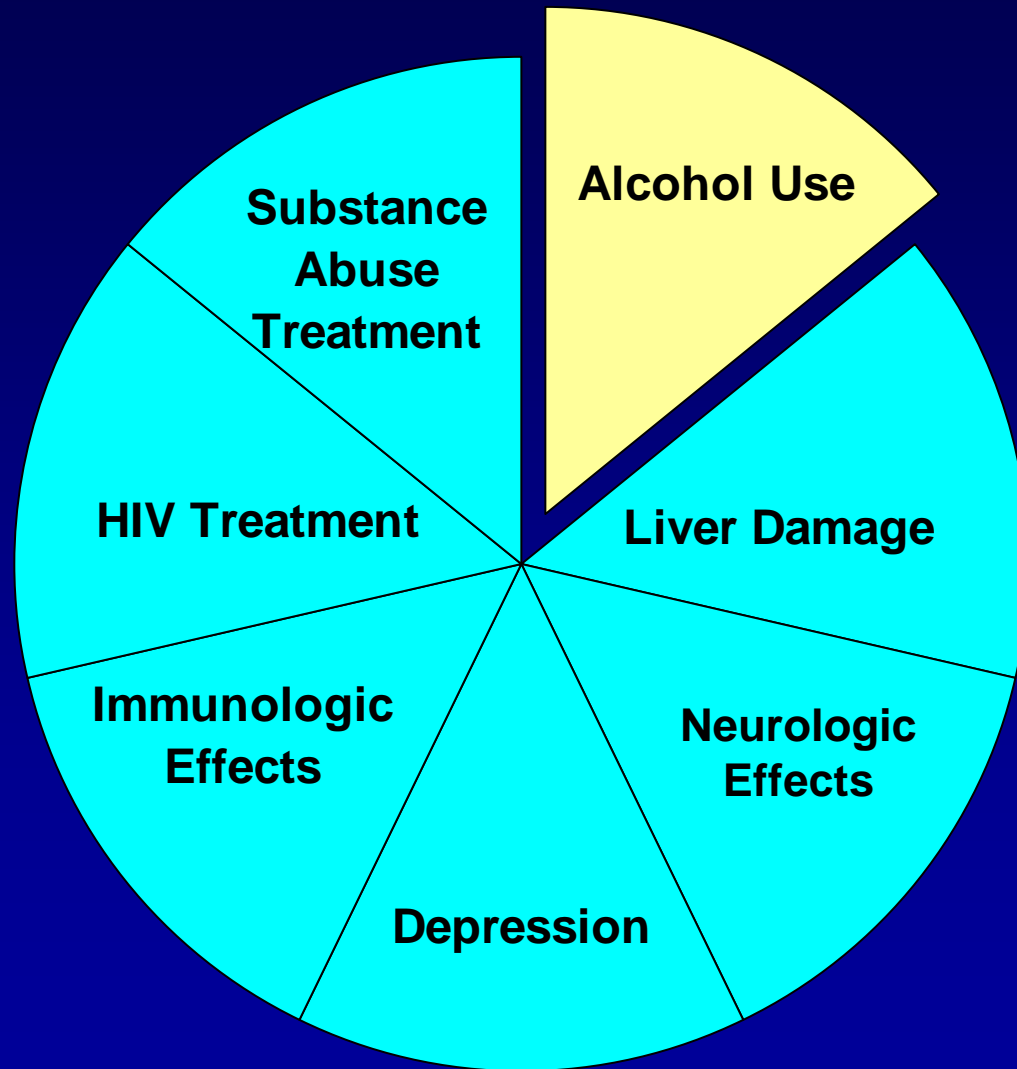
- Boston (HIV-ALC & HIV-LIVE)*
 - 595 HIV-infected adults with current or past alcohol problems (349 HIV-ALC, 400 HIV LIVE)
 - HIV-LIVE: 50% hepatitis C (HCV), 25% women
- VACS**
 - >7000 HIV-infected veterans and non-infected controls, 8 sites, 98% men
- Johns Hopkins AIDS Service***
 - >3000 patients, 34% women, 76% African American

*Samet JH, et al. *J AIDS*. 2007;46:194-199.

** Justice AC, et al. *Med Care*. 2006; 44(Suppl 2):S13-S24.

***Lucas GM, et al. *AIDS*. 2002;16:767-774.

Topics



Alcohol Problems Among HIV-Infected Persons

- VACS (n=881)*
 - 36% – current “hazardous” drinkers
- HIV-infected patients establishing primary care (n=664)**
 - 42% – history of alcohol problems (CAGE 2+)
- HIV Cost and Services Utilization Study (HCSUS, n=2864)***
 - 8% – heavy drinkers
 - Of those who drink, cocaine/heroin users more likely to be heavy drinkers (28% vs 12%)

*Conigliaro J, et al. *J AIDS*. 2003;33:521-25.

**Samet JH, et al. *AIDS Res Hum Retroviruses*. 2004;20:151-55.

***Galvan FH, et al. *J Stud Alcohol*. 2002;63:179-86.

Alcohol Use Among HIV/HCV-infected Persons

- VACS: 30% (88/300) reported current alcohol consumption
- MDs aware of drinking for 33% (29/88) (sensitivity 18%; specificity 93%)

Alcohol Use Among HIV/HCV-infected Persons

- HIV-LIVE (n=400)
- Those reporting being told of HCV diagnosis were more likely to report
 - Abstinence (AOR=1.60; 95% CI: 1.13 – 2.27)
 - Not drinking unhealthy amounts (AOR=1.46; 95% CI: 1.01 – 2.11)

Alcohol Use and Risky Sex

- HIV-ALC (n=345)*
 - 38% reported inconsistent condom use
- VACS, HIV-infected males (n=1009)**
Intoxication before intercourse associated with
 - >5 sex partners, past year (OR 1.8, 95% CI 1.1–2.8)
 - Inconsistent condom use (OR 1.8, 95% CI 1.2–2.7)
- Sexually active HIV-infected women (n=181)***
 - Binge alcohol use associated with inconsistent condom use (AOR 2.60 95% CI: 1.04 - 6.54, $P < 0.05$)

*Ehrenstein V, et al. *Drug Alcohol Depend.* 2004;73:159-66

**Cook RL, et al. *Med Care.* 2006;44(Suppl 2):S31-S36.

***Theall KP, et al. *AIDS Behav.* 2007;11:205-15.

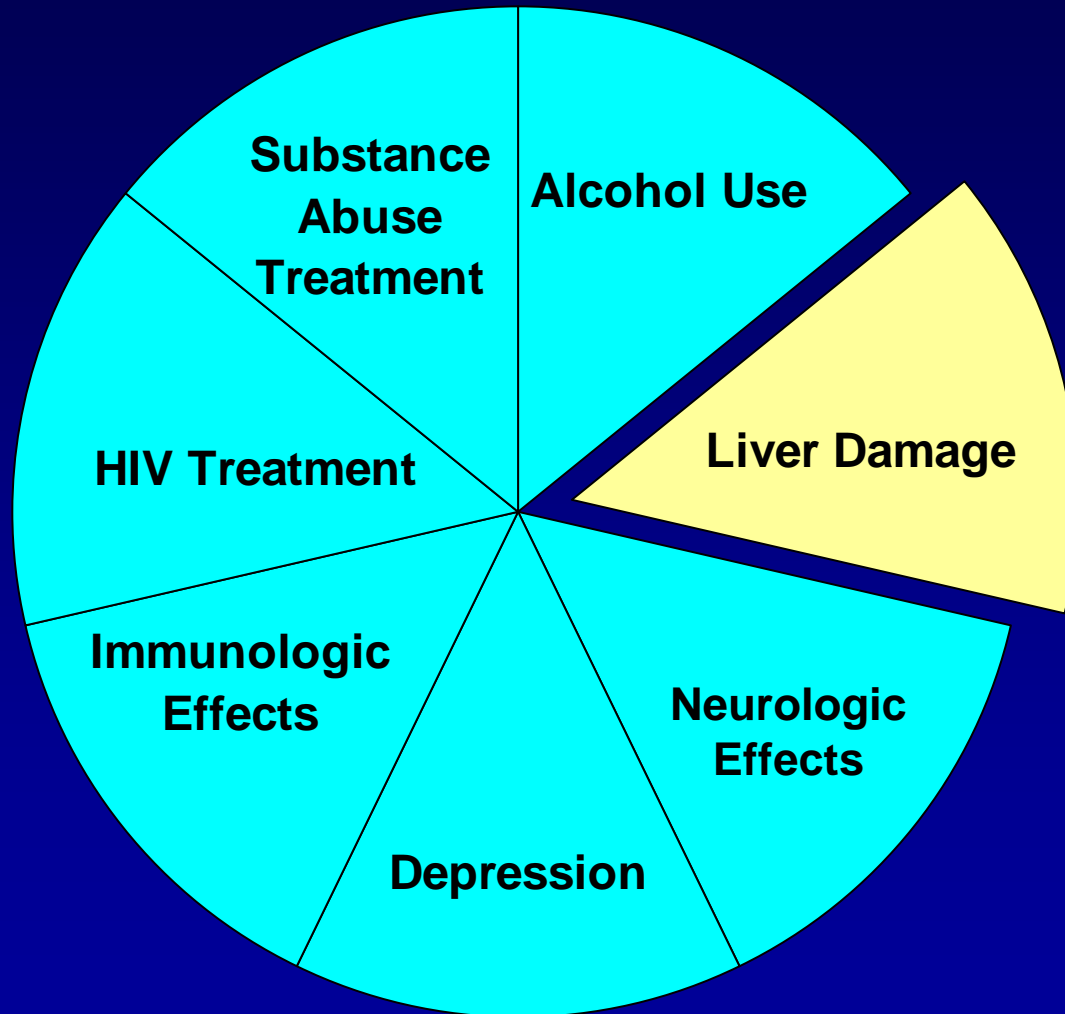
Clinical Implications

- Standard screening for alcohol and drug use is needed*
- Informing patients of their positive HCV status may lead them to drink less
- Asking about intoxication before intercourse can inform about risky sexual behavior
- Efforts to reduce alcohol use may also result in less HIV sexual risk-taking

*Fiellin DA, et al. *Arch Intern Med.* 2000;160:1977-89.

*NIAAA. 2005. Helping Patient's Who Drink Too Much: A Clinician's Guide. Available at: <http://www.niaaa.nih.gov/Publications/EducationTrainingMaterials/guide.htm>

Topics



HCV

- HIV/HCV co-infected persons on ART (n=44)*
 - Alcohol use (>50 g/day) associated with increases in HCV RNA (>0.6 log₁₀ IU/mL; p=0.04)
- HIV LIVE (n=396; 199 HCV RNA+)**
 - Among those adherent to ART, HCV associated with lower CD4 cell count (adj. mean diff. 46 cells/μL, p=0.03)

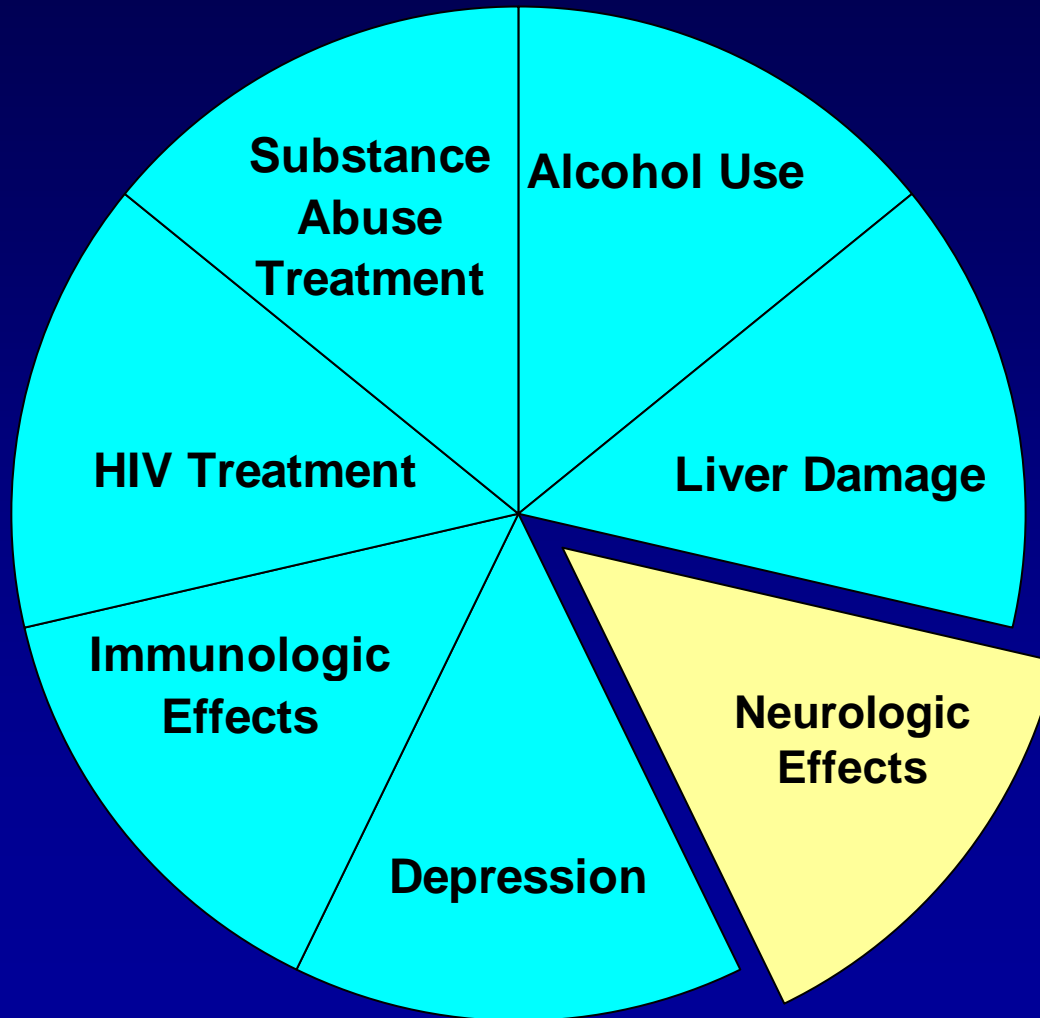
*Cooper C, et al. *Clin Infect Dis*. 2005;41(Suppl 1): S105-S109.

**Cheng DM, et al. *Alc Clin Exp Res*. 2007; 31:829-36.

Clinical Implications

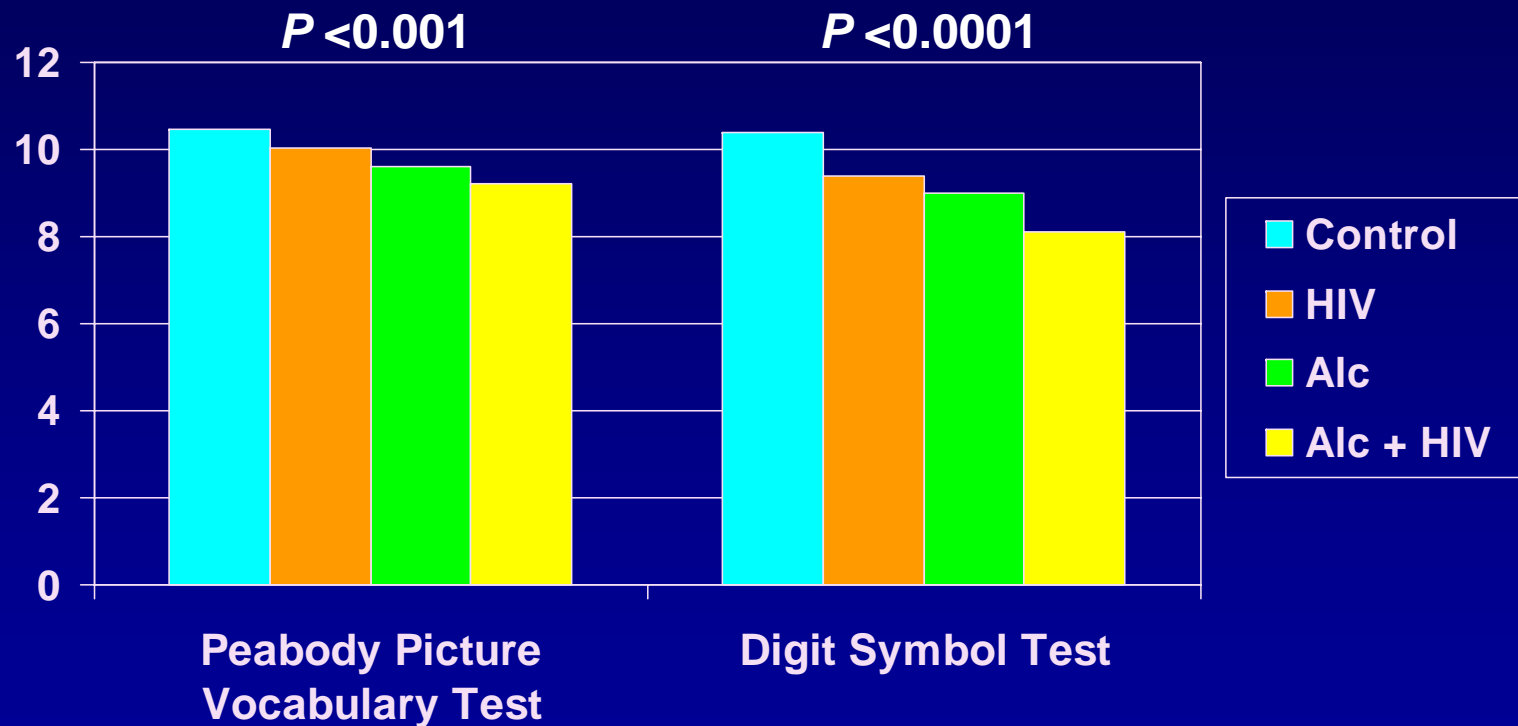
- Decreased alcohol use may decrease HCV RNA
- HCV RNA may accelerate HIV disease progression

Topics



Cognitive Function

- Healthy controls > Alcohol or HIV > Alcohol + HIV



Rosenbloom MJ, et al. *J Stud Alcohol Drugs*. 2007;68:115-25.

Rothlind JC, et al. *J Int Neuropsychol Soc*. 2005;11:70-83

Durvasula RS, et al. *J Clin Exp Neuropsychol*. 2006;28:383-404.

Green JE, et al. *Am J Psychiatry*. 2004;161:249-54.

HIV Peripheral Neuropathy (HIV PN)

- HIV PN associated with history of alcohol abuse or dependence (OR 4, CI:1.49-10.7)*
- HIV distal sensory polyneuropathy associated with alcohol abuse or dependence (54% vs 46 %, $p=0.02$)**

*Lopez OL, et al. *Eur J Neurol.* 2004;11:97-102.

**Morgello S, et al. *Arch Neurol.* 2004;61:546-51.

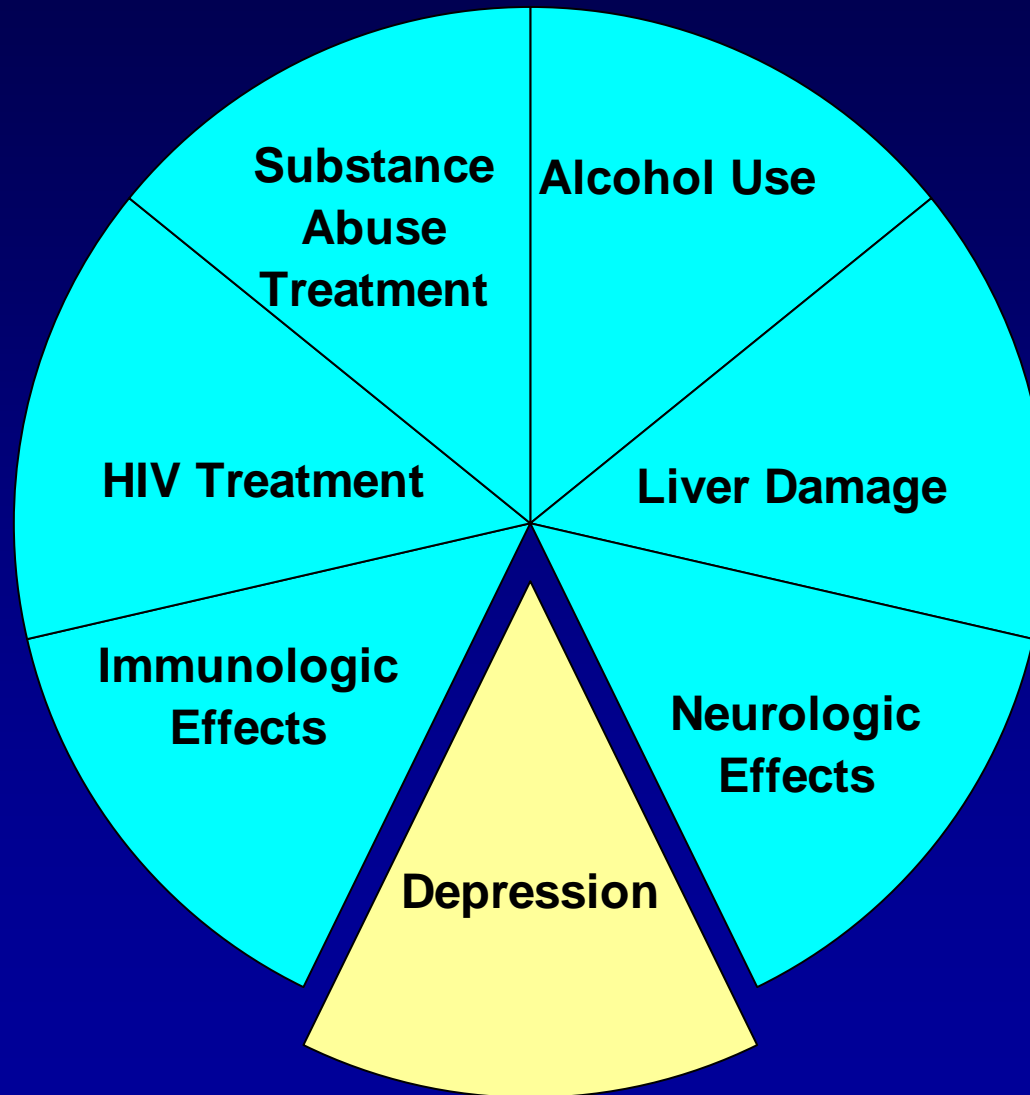
Alcohol Use & HIV PN Self Management

- International subjects with HIV PN (n=450)
 - 18% used alcohol for symptoms
 - African Americans 30%, Caucasian 28%, Hispanic 9%, Asian 0%
 - Those reporting substance use also had higher mean scores for PN intensity

Clinical Implications

- When cognitive or PN problems occur assess alcohol issues
- Explain to patients the relationship of alcohol use to neurologic outcomes
- Explicitly recommend avoiding self-treatment of neuropathy with alcohol

Topics



Depression

- In HIV-negative patients, alcohol problems associated with worse depression*
- HIV LIVE
 - Alcohol dependence associated with increased depressive symptoms (↑ CES-D 3.49; 95% CI: 1.76–5.22)**
 - HCV associated with increased depressive symptoms (CES-D 24.6 vs 19.3; $P < 0.001$)***

*Sullivan LE, et al. *Am J Med.* 2005;118;330-41.

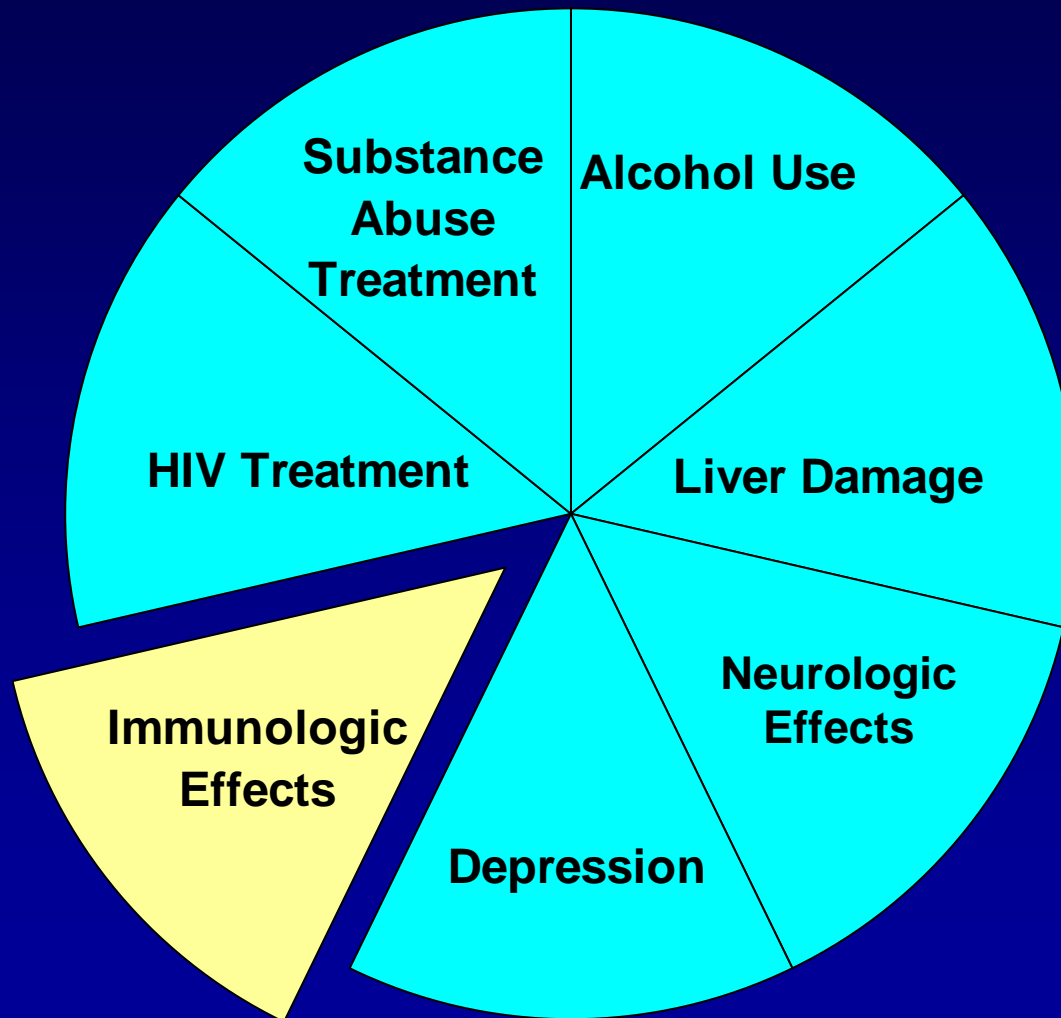
**Sullivan LE, et al. *Addiction.* 2008;103,1461-67.

***Libman H, et al. *Am J Gastroenterol.* 2006;101:1804–10.

Clinical Implications

- HIV-infected patients are at high risk for depression, a condition exacerbated by alcohol and HCV infection
- Depression diagnosis is an indication for an alcohol assessment

Topics



Alcohol and HIV Disease Progression

- Pre-HAART (MACS), no association found*
- Post HAART
 - Hopkins** (n=1711): alcohol associated with
 - Worse ART adherence (AOR 0.46; 95% CI: 0.34 – 0.63)
 - Less viral suppression (AOR, 0.76; 95% CI:0.57 – 0.99)
 - Boston: Among those not on ART, alcohol associated with a CD4 cell count decrease of 49 (n=240)***

*Kaslow RA, et al. *JAMA*. 1989;261:3424-29.

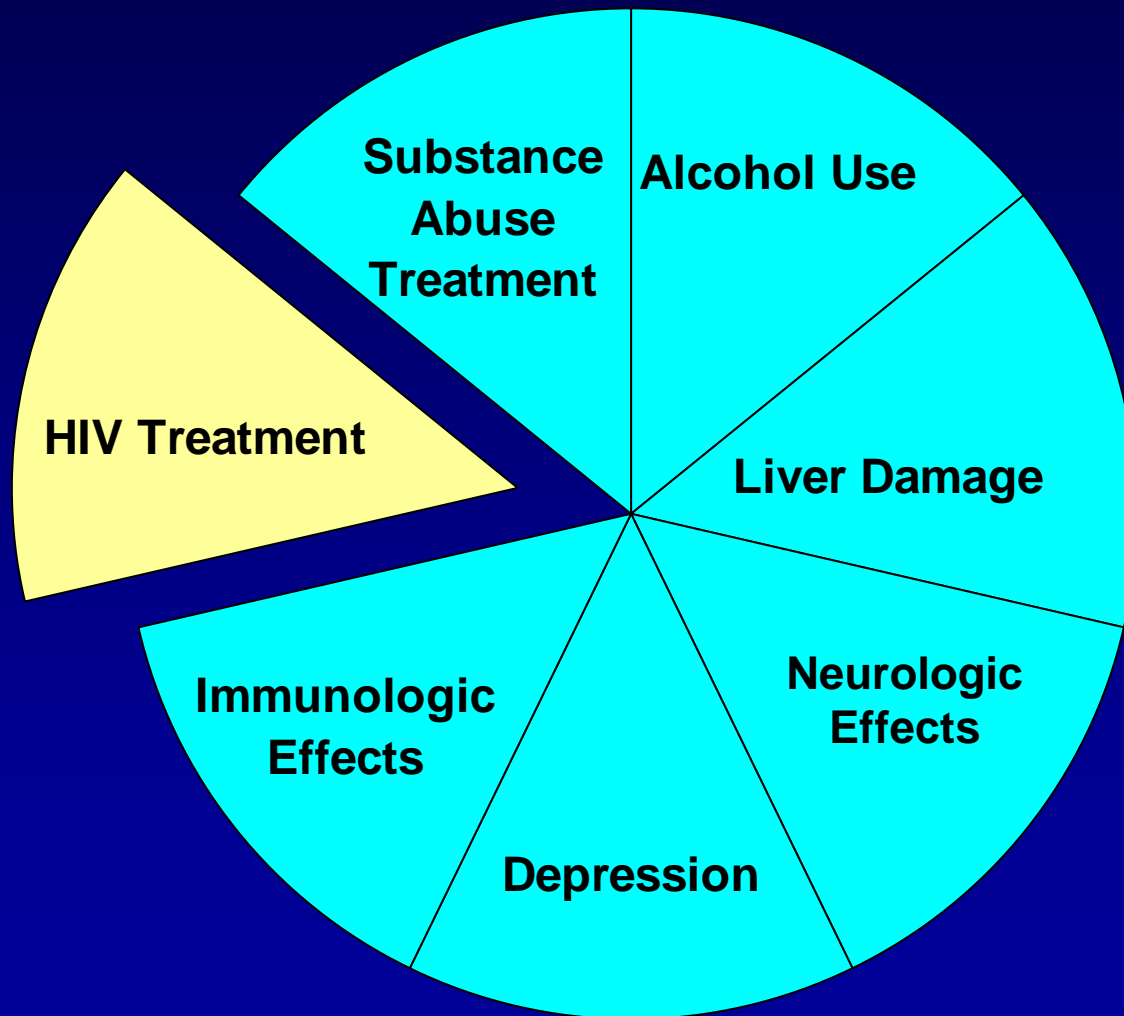
**Chander G, et al. *J AIDS*. 2006;43:411-17.

***Samet JH, et al. *J AIDS*. 2007;46:194-99.

Clinical Implications

- Alcohol's impact on accelerating HIV disease progression may be both behavioral and immunologic

Topics



Presenting to Medical Care



- 39% delayed medical care for >1 year, 32% >2 years, and 18% >5 years after diagnosis
- Characteristics associated with delay
 - History of IDU ($P < 0.001$)
 - History of alcohol problems in men ($P = 0.03$)

Maintenance of HIV Care

- Cohort of male veterans newly diagnosed with HIV, followed for >4 years (n=2619)
 - Poor retention in care predicted poorer survival
 - Those with alcohol abuse had fewer HIV primary care visits ($P < 0.01$)

Alcohol and ART Adherence

- HIV-ALC (n=267 on HAART)*
 - Alcohol consumption most significant predictor of adherence ($P < 0.0001$)
- Study of African-Americans about beliefs of alcohol and ART (n=82)**
 - “Alcohol and ART do not mix” (85%)
 - “I will not take my meds if I have been drinking” (51%)

*Samet JH, et al. *Alcohol Clin Exp Res.* 2004;28:572–77.

**Sankar A, et al. *AIDS Behav.* 2007;11:195–203.

Behavioral Interventions to Improve ART Adherence in Hazardous Drinkers

- RCT of 3-session visiting nurse intervention found no improvements (HIV-ALC subsample)*
- RCT of 8-session behavioral intervention (MI & CB) found adherence improvements in hazardous drinking patients at 3 months but not 6 months**

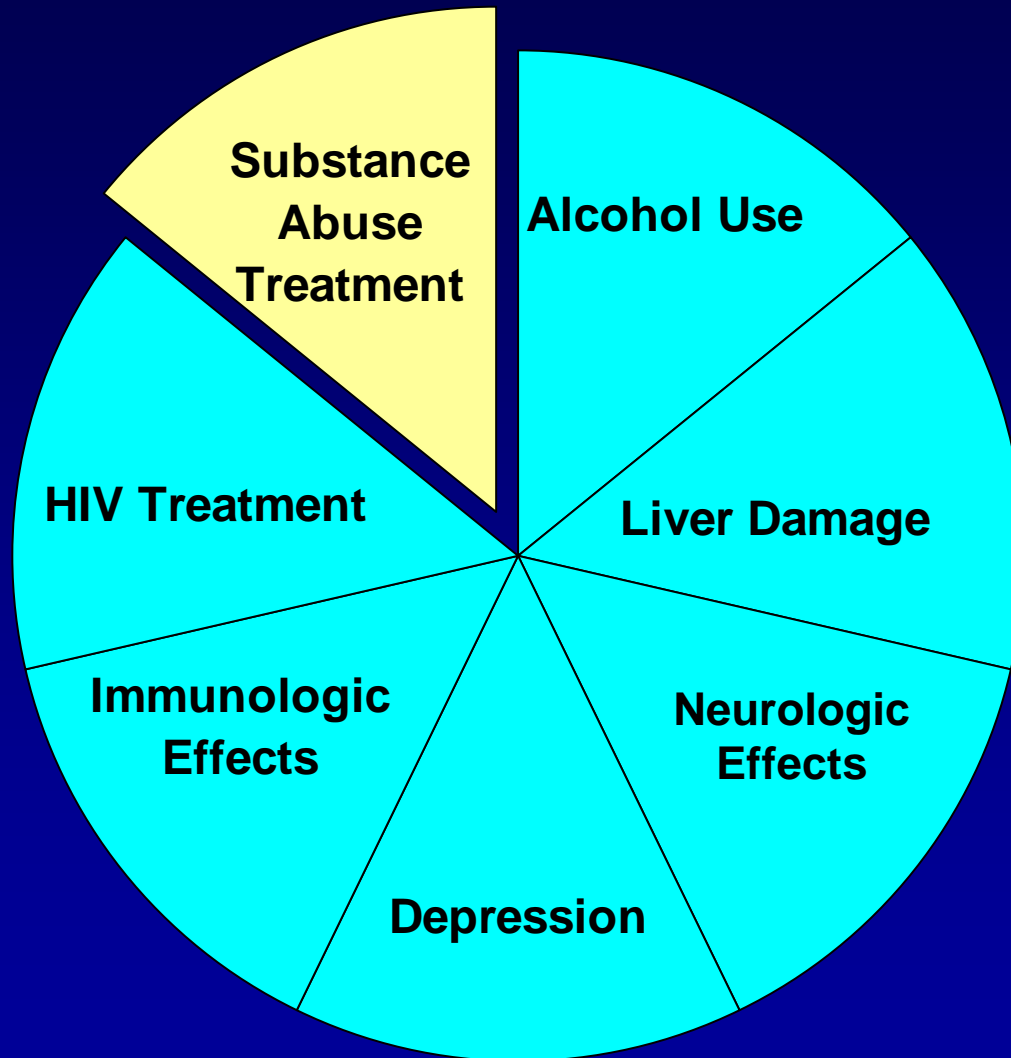
*Samet JH, et al. *Antivir Ther.* 2005;10:83-93.

**Parsons, et al. *J AIDS.* 2007;46:443-50.

Clinical Implications

- Addressing alcohol problems has potential to improve
 - Engagement and maintenance of HIV care
 - Adherence to ART
- But ideal interventions are challenging

Topics



Addressing Alcohol Abuse

- Pharmacotherapy*
 - Naltrexone
 - Acamprosate
 - Disulfiram
- 12-Step**
 - Focus on abstinence
 - Life long participation is emphasized
 - Use of sponsor encouraged
- No studies address use in HIV-infected patients

*Fiellin DA, et al. *Ann Intern Med.* 2000;133:815-27.

**Morgenstern J, et al. *J Stud Alcohol.* 2002;63:665-72.

Clinical Implications

- Consider alcohol pharmacotherapy
- Refer dependent patients to AA

Research Questions

- Do alcohol and HIV have a synergistic effect on the brain?
- What models facilitate improvement of health behaviors for HIV patients with alcohol problems?
- To what extent and by what mechanisms does unhealthy alcohol use lead to worse markers of HIV disease progression?
- Is SBIRT effective for HIV-infected patients?
- What are the mechanisms for alcohol's impact on HCV RNA?

Cognitive Function

- Cross sectional study of patients in SF
 - Alcohol dependence or abuse (n=44)
 - HIV infection (n=44)
 - Alcohol + HIV (n=55)
 - Healthy controls (n=41)
- General cognitive status measured
 - Peabody Picture Vocabulary (PPVT)
 - Digit Symbol Test (DST)
- Alcohol + HIV group
 - Worse than controls on DST and PPVT
 - Worse than Alcohol and HIV groups on DST
 - Worse than HIV group on PPVT

Neuropsychological Performance

- Cross-sectional data of HIV-infected men and women from SF (n=268)
 - 72 HIV-uninfected light/non-drinkers
 - 70 HIV-uninfected chronic heavy drinkers
 - 70 HIV-infected light/non-drinkers
 - 56 HIV-infected chronic heavy drinkers
- Greatest effects seen in HIV-infected heavy drinkers compared to HIV-uninfected light drinkers

Cognitive Function

- HIV-positive (n=50) and HIV-negative (n=30) gay/bisexual men, given battery of neuropsychological tests
 - 12 HIV-negative and 21 HIV-positive had history of alcohol abuse or dependence
 - More severe neurocognitive deficits in HIV-positive men with history of alcohol use:
 - Verbal IQ ($P < 0.03$), Verbal Reasoning ($P < 0.04$), Reaction time ($P < 0.04$)
 - No significant differences in cognitive function in HIV-negative men with and without history of alcohol abuse

The End



©1996 Smithsonian Institution; courtesy NMAA