HCV in Key Populations: Men Who Have Sex With Men

Incidence and Risk Factors for HCV Infection Among Men Living With HIV Infection Who Have Sex With Men

Several outbreaks of sexually transmitted HCV infection among men living with HIV infection who have sex with men (MSM) have been reported since 2000 (Ingiliz, 2024); (Popping, 2022); (Wandeler, 2012); (van de Laar, 2010); (Urbanus, 2009); (Matthews, 2007). A systematic review reported an HCV prevalence of approximately 7% among MSM who are living with HIV infection (Shabil, 2024), similar to a 2017 meta-analysis that found an HCV incidence of 6.35/1000 person-years among MSM living with HIV infection (Jin, 2017). The determinants of sexually transmitted, incident HCV among MSM living with HIV infection have not been thoroughly characterized but risk factors have been identified. Among MSM with HIV infection, group sex practices that can cause trauma to rectal mucosal tissue (eg, receptive anal intercourse without a condom and receptive fisting) and rectal bleeding are associated with HCV transmission (Shabil, 2024); (Daskalopoulou, 2017); (Page, 2016); (Apers, 2015); (Vanhommerig, 2015); (Witt, 2013); (Wandeler, 2012); (CDC, 2011); (Schmidt, 2011); (Danta, 2007).

The proliferation of chemsex (also known as party and play, or PNP)—use of crystal methamphetamine, mephedrone, or gamma-hydroxybutyrate, sometimes with phosphodiesterase type 5 inhibitors (which lowers inhibitions, creates feelings of invulnerability, increases stamina, and inhibits ejaculation) before or during sex—has also been associated with incident HCV infection (Schmidt, 2024); (Gonzalez-Serna, 2021); (Pufall, 2018); (Hegazi, 2017); (NHS, 2014). These HCV infections have been occurring especially in men who already have ulcerative and rectal sexually transmitted infections including syphilis, lymphogranuloma venereum, and genital herpes (Bottieau, 2010); (van de Laar, 2007); (Gambotti, 2005); (Götz, 2005); (Browne, 2004); (Ghosn, 2004).

While it is not completely clear why higher rates of incident HCV have been reported in MSM living with HIV compared with MSM without HIV infection, behavioral factors such as serosorting (sex between partners of the same HIV status with the aim of minimizing HIV transmission risk) and increased rates of anal sex without condoms by men living with HIV infection have been implicated (Mao, 2011). In a study among 33 MSM with HIV/HCV coinfection, one-third shed HCV in their semen (Turner, 2016). In addition to being found in semen, rectal shedding of HCV has also been reported in persons with HIV/HCV coinfection (Foster, 2017b).

Incidence and Risk Factors for HCV Infection Among Men Without HIV Infection Who Have Sex With Men

Acute HCV infections have been reported among MSM without HIV infection who present for HIV pre-exposure prophylaxis (PrEP) (Hoornenborg, 2017). These HIV-uninfected men became infected with HCV strains known to be circulating in HIV sexual transmission networks. Thus, there is growing concern that with the implementation of PrEP, high-risk MSM without HIV infection may be at increased risk of incident HCV infection through unprotected sexual intercourse with MSM with HCV infection. The risk factors for acute HCV infection in these persons remain unknown but may be similar to those reported in MSM living with HIV infection.

Testing

Recommendations for Testing and Prevention of HCV Infection in Men Who Have Sex With Men (MSM)	
RECOMMENDED	RATING
Annual HCV testing is recommended for sexually active adolescent and adult MSM living with HIV infection. Depending on the presence of high-risk sexual and/or drug use practices, more frequent testing may be warranted.	IIa, C
HCV testing at HIV pre-exposure prophylaxis (PrEP) initiation and at least annually thereafter (while on PrEP) is recommended in MSM without HIV infection. Depending on sexual and/or drug use risk practices, more frequent testing may be warranted.	IIa, C
All MSM should be counseled about the risk of sexual HCV transmission with high-risk sexual and drug use practices, and educated about measures to prevent HCV infection or transmission.	IIa, C

Screening for HCV Infection Among MSM

Practitioners treating adolescent and adult MSM with HIV infection should be on high alert for acute HCV infection, which is most often asymptomatic (see the HCV in Children section). In accordance with US Centers for Disease Control and Prevention sexually transmitted infections (STIs) guidelines (Workowski, 2021), HCV screening should be performed at least annually and may be done more frequently depending on the presence of local and individual factors such as high HCV prevalence and/or incidence locally, high-risk sexual behavior (eg, unprotected [by a condom] receptive anal intercourse, group sex, fisting, chemsex), and ulcerative STI(s), or STI-related proctitis (Workowski, 2021); (Pufall, 2018); (Daskalopoulou, 2017); (Page, 2016); (Apers, 2015); (Vanhommerig, 2015); (NHS, 2014); (Witt, 2013); (Wandeler, 2012); (CDC, 2011); (Schmidt, 2011); (Bottieau, 2010); (Danta, 2007); (van de Laar, 2007); (Gambotti, 2005); (Götz, 2005); (Browne, 2004); (Ghosn, 2004).

Screening should be performed using an HCV antibody test in most instances. However, individuals with self-reported recent high-risk exposures and/or newly elevated alanine aminotransferase levels should have HCV screening with both HCV antibody and HCV RNA tests due to concern for acute HCV infection. Those found to have chronic HCV infection should be offered antiviral treatment to prevent liver disease progression and transmission to others. These persons should also be counseled about risk factors for HCV transmission and the potential for HCV reinfection after cure (Ingiliz, 2017); (Ingiliz, 2014); (Lambers, 2011). Subsequent care for acute HCV infection should be as detailed in the Management of Acute HCV section.

Prevention of HCV Infection

To reduce the risk of sexually transmitted HCV and other STIs, MSM should be counseled to use condoms with all sex acts. They should also be informed about the substantial risk of HCV transmission associated with sharing any equipment used for preparing and injecting or snorting drugs. If indicated (and available), clinicians should offer referrals to syringe service programs and culturally competent counseling/drug treatment, and

encourage individuals to seek testing for STIs if they have been at risk. Among persons who are using opioids, discussion of preventing HCV infection is also an opportunity to provide opioid education and naloxone distribution, which is an effective intervention to prevent overdose deaths.

Although PrEP can prevent sexual transmission of HIV, it is not protective against HCV or other STIs. MSM without HIV infection who present for PrEP should receive risk reduction counseling. MSM without HIV infection on PrEP should also receive at least annual HCV screening for identification of incident infection.

Treatment

Recommendation on Treatment of HCV in Men Who Have Sex With Men (MSM)	
RECOMMENDED	RATING
Antiviral treatment for MSM with HCV infection should be coupled with ongoing counseling about the risk of HCV reinfection, and education about methods to reduce HCV reinfection risk after cure.	I, B

Because MSM may be at high risk of transmitting HCV to others, HCV infection should be treated both for individual benefit and to prevent HCV transmission. MSM with HIV infection are considered an important population for HCV elimination through treatment as prevention (WHO, 2022);(NASEM, 2017);(Martin, 2015). The population-level benefit of expansion of HCV treatment in populations of MSM with HIV infection has been evaluated in modeling studies (Wu, 2024); (Martin, 2016); (Salazar-Vizcaya, 2016). Additionally, real-world data support the potential for HCV treatment as prevention in cohorts of MSM with HIV/HCV coinfection. Analysis of data from the Dutch acute HCV in HIV study group showed a 50% reduction in acute HCV incidence between 2014 and 2016 within 1 year of expansion of HCV therapy through unrestricted direct-acting antiviral availability to MSM with HIV infection (Boerekamps, 2018). Similarly, a pooled analysis from 6 cohorts of people living with HIV infection who had previous HCV infection that either cleared spontaneously or had been cured through treatment found that as access to direct-acting HCV therapy expanded, the incidence of HCV reinfection fell (Sacks-Davis, 2024).

HCV treatment should be coupled with education addressing the potential for HCV reinfection and risk factors for transmission to reduce the risk of transmission to others and subsequent reinfection after HCV cure. Brief counseling interventions delivered in clinical settings have been shown to reduce HIV transmission risk and may be effective in reducing HCV transmission risk (Boerekamps, 2018); (Myers, 2010); (Richardson, 2004).

Testing for HCV Reinfection

Recommendation on Prevention of HCV Reinfection in Men Who Have Sex With Men (MSM)	
RECOMMENDED	RATING
At least annual (and risk-based, if indicated) HCV testing with HCV RNA is recommended for sexually active MSM after successful treatment or spontaneous clearance of HCV infection.	IIa, C

High HCV reinfection rates, ranging from 7.3 to 15.2/100 person-years, have been reported after HCV treatment and cure among MSM with HIV infection (Munari, 2023); (Ingiliz, 2017); (Martin, 2015b); (Lambers, 2011). A 2023 meta-analysis that included 38 published studies of HCV reinfection rates demonstrated the incidence of reinfection among MSM was 7.37/100 person-years; that rate was statistically significantly higher than the rate of HCV reinfection among people who inject drugs (2.84/100 person-years) (Munari, 2023). In an analysis of 606 MSM from 8 centers in Europe, an increase in HCV reinfection incidence rates was reported with each subsequent reinfection (HCV reinfection incidence 7.3/100 person-years for the first reinfection and 18.8/100 person-years for the second reinfection) (Ingiliz, 2017). For this reason, it is important to provide individuals with clear, nonjudgmental, accurate information about reducing their risk for sexually transmitted HCV. This counseling should be ongoing. Additionally, clinicians should monitor and test for HCV reinfection in sexually active MSM after cure, regardless of HIV status. Individuals found to be HCV reinfected should be retreated. HCV treatment in this setting should be as detailed in the Initial Treatment of HCV section.

Related References

Apers L, Vanden-Berghe W, De Wit S, et al. **Risk factors for HCV acquisition among HIV-positive MSM in Belgium**. *J Acquir Immune Defic Syndr*. 2015;68(5):585-593.

Boerekamps A, van den Berk GE, Lauw FN, et al. **Declining hepatitis C virus (HCV) incidence in Dutch human immunodeficiency virus-positive men who have sex with men after unrestricted access to HCV therapy**. *Clin Infect Dis*. 2018;66(9):1360-1365. doi:https://doi.org/10.1093/cid/cix1007.

Bottieau E, Apers L, Van Esbroeck M, Vandenbruaene M, Florence E. **Hepatitis C virus infection in HIV-infected men who have sex with men: sustained rising incidence in Antwerp, Belgium, 2001-2009**. *Euro Surveil*. 2010;15(39):19673.

Browne R, Asboe D, Gilleece Y, et al. **Increased numbers of acute hepatitis C infections in HIV positive homosexual men; is sexual transmission feeding the increase?** *Sex Transm Infect*. 2004;80(4):326-327.

Centers for Disease Control and Prevention (CDC). Sexual transmission of hepatitis C virus among HIV-infected men who have sex with men--New York City, 2005-2010. *MMWR Morb Mortal Wkly Rep*. 2011;60(28):945-950.

Danta M, Brown D, Bhagani S, et al. **Recent epidemic of acute hepatitis C virus in HIV-positive men who have sex with men linked to high-risk sexual behaviours**. *AIDS*. 2007;21(8):983-991.

Daskalopoulou M, Rodger AJ, Phillips AN, et al. **Condomless sex in HIV-diagnosed men who have sex with men in the UK: prevalence, correlates, and implications for HIV transmission**. *Sex Transm Infect*. 2017;93(8):590-598.

Foster AL, Gaisa MM, Hijdra RM, et al. **Shedding of Hepatitis C Virus Into the Rectum of HIV-infected Men Who Have Sex With Men**. *Clin Infect Dis*. 2017;64(3):284-288.

Gambotti L, Batisse D, Colin-de-Verdiere N, et al. **Acute hepatitis C infection in HIV positive men who have sex with men in Paris, France, 2001-2004**. *Euro Surveill*. 2005;10(5):115-117.

Ghosn J, Pierre-Francois S, Thibault V, et al. **Acute hepatitis C in HIV-infected men who have sex with men**. *HIV Med*. 2004;5(4):303-306.

Gonzalez-Serna A, Macias J, Palacios R, et al; HEPAVIR study group. Incidence of recently acquired hepatitis C virus infection among HIV-infected patients in southern Spain. *HIV Med*. 2021;22(5):379-386. doi: 10.1111/hiv.13039.

Götz HM, van Doornum G, Niesters HG, Hollander JG, Thio HB, de Zwart O. **A cluster of acute hepatitis C virus infection among men who have sex with men--results from contact tracing and public health implications**. *AIDS*. 2005;19(9):969-974.

Hegazi A, Lee M, Whittaker W, et al. **Chemsex and the city: sexualised substance use in gay bisexual and other men who have sex with men attending sexual health clinics**. *Int J of STD AIDS*. 2017;28(4):362-366.

Hoornenborg E, Achterbergh RCA, Schim van-der-L, et al. **MSM starting preexposure prophylaxis are at risk of hepatitis C virus infection**. *AIDS*. 2017;31(11):1603-1610.

Ingiliz P, Lutz T, Schewe K, Baumgarten A, et al. Recently acquired HCV infection in men who have sex with men in Germany in the direct-acting antivirals era and during the COVID-19 pandemic. *HIV Med*. 2024;25(8):967-975. doi: 10.1111/hiv.13651.

Ingiliz P, Krznaric I, Stellbrink H-J, et al. **Multiple hepatitis C virus (HCV) reinfections in HIV-positive men who have sex with men: no influence of HCV genotype switch or interleukin-28B genotype on spontaneous clearance: HCV reinfection in HIV-positive MSM**. *HIV Med*. 2014;15(6):355-361.

Ingiliz P, Martin TC, Rodger A, et al. **HCV reinfection incidence and spontaneous clearance rates in HIV-positive men who have sex with men in Western Europe**. *J Hepatol*. 2017;66(2):282-287.

Jin F, Matthews GV, Grulich AE. **Sexual transmission of hepatitis C virus among gay and bisexual men: a systematic review**. *Sex Health*. 2017;14(1):28-41.

Lambers FA, Prins M, Thomas X, et al, et al. **Alarming incidence of hepatitis C virus re-infection after treatment of sexually acquired acute hepatitis C virus infection in HIV-infected MSM**. *AIDS*. 2011;25(17):F21-F27.

Mao L, Kippax SC, Holt M, Prestage GP, Zablotska IB, de Wit JBF. **Rates of condom and non-condom-based anal intercourse practices among homosexually active men in Australia: deliberate HIV risk reduction?** *Sex Transm Infect*. 2011;87(6):489-493.

Martin NK, Vickerman P, Dore GJ, Hickman M. **The hepatitis C virus epidemics in key populations (including people who inject drugs, prisoners and MSM): the use of direct-acting antivirals as treatment for prevention**. *Curr Opin HIV AIDS*. 2015;10(5):374-380.

Martin TCS, Singh GJ, McClure M, Nelson M. **HCV reinfection among HIV-positive men who have sex with men: a pragmatic approach**. *Hepatology*. 2015;61(4):1437-1437.

Martin NK, Thornton A, Hickman M, et al. **Can hepatitis C virus (HCV) direct-acting antiviral treatment as prevention reverse the HCV epidemic among men who have sex with men in the United Kingdom? Epidemiological and modeling insights**. *Clin Infect Dis*. 2016;62(9):1072-1080.

Matthews GV, Hellard M, Kaldor J, Lloyd A, Dore GJ. **Further evidence of HCV sexual transmission among HIV-positive men who have sex with men: response to Danta et al.** *AIDS*. 2007;21(15):2112 - 2113.

Munari SC, Traeger MW, Menon V, et al. Determining reinfection rates by hepatitis C testing interval among key populations: a systematic review and meta-analysis. *Liver Int*. 2023;43(12):2625-2644. doi: 10.1111/liv.15705.

Myers JJ, Shade SB, Dawson RC, et al. **Interventions delivered in clinical settings are effective in reducing risk of HIV transmission among people living with HIV: results from the Health Resources and Services Administration (HRSA)'s special projects of national significance initiative**. *AIDS Behav*. 2010;14(3):483-492.

National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on a National Strategy for the Elimination of Hepatitis B and C; Buckley GJ, Strom BL, eds. *A National Strategy for the Elimination of Hepatitis B and C, Phase Two Report*. National Academies Press; 2017.

National Health Service, United Kingdom. ***ChemSex and Hepatitis C: A Guide for Healthcare Providers.*** Published 2014. Accessed May 1, 2025. https://www.chelwest.nhs.uk/services/hiv-sexual-health/professionals/links/ChemSex-Hep-C-Guide.pdf.

Page EE, Nelson M. **Hepatitis C and sex**. *Clin Med (Lond)*. 2016;16(2):189-192.

Popping S, Cuypers L, Claassen MAA, et al. Persistent transmission of HCV among men who have sex with men despite widespread screening and treatment with direct-acting antivirals. *Viruses*. 2022;14(9):1953. doi: 10.3390/v14091953.

Pufall EL, Kallan MJ, Shahmanesh M, et al, et al. **Sexualized drug use ('chemsex') and high-risk sexual behaviours in HIV-positive men who have sex with men**. *HIV Med*. 2018;19(4):261-270.

Richardson JL, Milam J, McCutchan A, et al. **Effect of brief safer-sex counseling by medical providers to HIV-1 seropositive patients: a multi-clinic assessment**. *AIDS*. 2004;18(8):1179-1186.

Sacks-Davis R, van Santen DK, Boyd A, et al; InCHEHC collaboration. Changes in incidence of hepatitis C virus reinfection and access to direct-acting antiviral therapies in people with HIV from six countries, 2010-19: an analysis of data from a consortium of prospective cohort studies. *Lancet HIV*. 2024;11(2):e106-e116. doi: 10.1016/S2352-3018(23)00267-9.

Salazar-Vizcaya L, Kouyos RD, Zahnd C, et al. **Hepatitis C virus transmission among human immunodeficiency virus-infected men who have sex with men: modeling the effect of behavioral and treatment interventions**. *Hepatology*. 2016;64(6):1856-1869.

Schmidt AJ, Rockstroh JK, Vogel M, et al. **Trouble with bleeding: risk factors for acute hepatitis C among HIV-positive gay men from Germany--a case-control study**. *PLoS ONE*. 2011;6(3):e17781.

Schmidt AJ, Weatherburn P, Wang H, et al. Still trouble with bleeding: Risk factors for HCV transmission in men who have sex with men and behavioural trajectories from 2019 to 2021. *HIV Med*. 2024;25(8):976-989. doi: 10.1111/hiv.13657.

Shabil M, Yadav A, Shamim MA, et al. Prevalence of hepatitis B and C infections among HIV-positive men who have sex with men: a systematic review and meta-analysis. *Health Sci Rep*. 2024;7(6):e2206. doi: 10.1002/hsr2.2206.

Turner SS, Gianella S, Yip MJ-S, et al. **Shedding of hepatitis C virus in semen of human immunodeficiency virus-infected men**. *Open Forum Infect Dis*. 2016;3(2):ofw057. doi: 10.1093/ofid/ofw057.

Urbanus AT, van de Laar TJ, Stolte IG, et al. **Hepatitis C virus infections among HIV-infected men who have sex with men: an expanding epidemic**. *AIDS*. 2009;23(12):F1-F7.

van de Laar TJW, van der Bij AK, Prins M, et al. **Increase in HCV incidence among men who have sex with men in Amsterdam most likely caused by sexual transmission**. *J Infect Dis*. 2007;196(2):230-238.

van de Laar TJ, Matthews GV, Prins M, Danta M. **Acute hepatitis C in HIV-infected men who have sex with men: an emerging sexually transmitted infection**. *AIDS*. 2010;24(12):1799-1812.

Vanhommerig JW, Lambers FA, Schinkel J, et al. **Risk factors for sexual transmission of hepatitis C virus among human immunodeficiency virus-infected men who have sex with men: a case-control study**. *Open Forum Infect Dis*. 2015;2(3):ofv115.

Wandeler G, Gsponer T, Bregenzer A, et al. **Hepatitis C virus infections in the Swiss HIV cohort study: a rapidly evolving epidemic**. *Clin Infect Dis*. 2012;55(10):1408-1416.

Witt MD, Seaberg EC, Darilay A, et al. **Incident hepatitis C virus infection in men who have sex with men: a prospective cohort analysis, 1984-2011**. *Clin Infect Dis*. 2013;57(1):77-84.

Workowski KA, Bachmann LH, Chan PA, et al. Sexually transmitted infections treatment guidelines, 2021. *MMWR Recomm Rep*. 2021;70(4):1-187. doi: 10.15585/mmwr.rr7004a1.

World Health Organization. *Global Health Sector Strategies on, Respectively, HIV, Viral Hepatitis and Sexually Transmitted Infections for the Period 2022-2030*. Published 2022. Accessed May 1, 2025. https://iris.who.int/bitstream/handle/10665/360348/9789240053779-eng.pdf?sequence=1

Wu HJ, Shih ST, Applegate TL, et al. Impact of simplified HCV diagnostic strategies on the HCV epidemic among men who have sex with men in the era of HIV oral pre-exposure prophylaxis in Taiwan: a modelling study. *J Int AIDS Soc*. 2024;27(5):e26251. doi: 10.1002/jia2.26251.

Last Update: July 12, 2024 **Last Review:** January 15, 2025