Table 2 - Hepatitis C transmission risk by exposure type

Exposure		Risk per exposure
Needlestick	Healthcare setting, source patient (serology) known	0-10% [83-85]. Average 1.8% [219] Increased risk if – hollow needle [84], deep injuries [86], co-infection with HIV [117], high viral load [86].
	Healthcare setting, source patient unknown, or unable to test source patient (serology unknown)	Unknown source – negligible risk [91]. Risk assessment required
	Community setting	Risk not accurately determined [87]. Risk assessment required. If local PWID population has seroprevalence of 50-90%, the estimated risk of HCV transmission in a community needlestick injury is 1.62% [53].
Exposure prone procedure by infected healthcare worker		0-3.7% [88-90]. Risk may increase to 6% for certain procedures, e.g. open heart surgery [89]. Risk assessment required.
Non healthcare related occupational sharp injuries		Risk not accurately determined, but transmission possible [92], [74]. Risk assessment required.
Tattoos		Risk not accurately determined. Pooled odds ratio 2.73 (95% CI 2.38-3.15) [93]. Risk assessment required. Increased risk if larger tattoos or tattoos in non-professional locations.
Mucous membrane exposure to blood		Very low risk. Case reports only [94], [95]. Risk assessment required.
Intact skin exposed to blood		No recognised risk
Non-intact skin, body fluid exposure		Very low risk. Case report describes transmission of HIV and HCV from co-infected source [119]. Risk assessment required.
Human bite injuries		Very low risk [99]. Case reports only. Risk assessment required. Possible higher risk of transmission of HCV than HIV if the source patient is co-infected with HCV and HIV [121].
Sexual exposures	Heterosexual exposures in general	Inefficient transmission [122], but transmission possible as seen in stable heterosexual relationships [104-106], and in those with history of multiple sexual partners [107, 108]. Possible increased risk of transmission if source co-infected with HIV [122].
	MSM	Inefficient transmission [220, 221]. Co-infection with HIV increases the risk of transmission [122], [222-224].

Note: In England, between 1997 and 2007, there were only 14 reported cases of HCV transmission from a patient to a healthcare workers, with a transmission rate calculated as 1.6% [Health Protection Agency (UK), 2008].

Risk assessment

- Type/details of the injury – as above
- Source status – increased risk with high viral load
- Recipient status – increased risk if immunocompromised
- For unknown source, consider where injury occurred – community setting versus hospital setting
    - If in hospital, consider high-risk ward/patients
    - If in community – consider prevalence of HCV and of PWID locally
- Consider where the needle was found and the temperature of environment – longer virus survival in cold temperatures thus potential increased risk of transmission [87].