

Shared equipment can lead to hepatitis B outbreaks

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Patient-to-patient transmission of hepatitis B virus (HBV) can occur as the result of routine clinical practices incorrectly thought to be risk-free. A review of 33 HBV outbreaks, published in the open access journal *BMC Medicine*, has shown that the most frequent HBV transmission routes are administration of drugs using multi-vial compounds and capillary blood sampling (e.g. for glucose monitoring) using non-disposable devices.

Simone Lanini led a team of researchers from the Istituto Nazionale per le Malattie Infettive Lazzaro Spallanzani, Rome, who performed a systematic review of HBV [outbreaks](#) published between 1992 and 2007 within the European Union and the United States. Lanini said, "HBV remains an important cause of [liver disease](#) in developed countries. Moreover, the virus has long been recognized as one of the most insidious viral agents within healthcare settings, and in fact a number of HBV outbreaks in healthcare are reported yearly in the USA and the European Union".

The authors included 30 papers in their review, featuring information on 33 HBV outbreaks, involving 471 patients and 16 fatal cases. Sixteen out of the 33 outbreaks were from EU countries; the remaining 17 outbreaks were from the USA. There were no significant differences in the main epidemiological parameters between the two areas. The majority of the outbreaks originated among patients already affected by one or more underlying conditions causing some degree of immunodepression.

According to Lanini, "Our review highlights several topical factors. Firstly, we found that dialysis units accounted for the highest number of outbreaks (10 out of 33), and that such outbreaks were the ones with the shortest duration and the fewest number of cases. These data might be explained by the fact that, both in USA and in most of EU countries, dialysis units have widely improved and mandatory protocols for serological surveillance of blood-borne infections. The consciousness of the risk of HBV [transmission](#) might also explain the higher frequency of reporting in dialysis units than in other settings. We also found that the highest number of such outbreaks were associated with the use of multi-vials, which is not unexpected".

The authors conclude, "We have found that several breaches in infection control measures, related to some routine clinical practices thought to be risk-free (e.g. point of care blood glucose monitoring or preparation and administration of common parenteral drugs with multi-vial compounds) could result in patient-to-patient transmission of HBV".

Patient to patient transmission of [hepatitis B](#) virus: a systematic review of reports on outbreaks between 1992 and 2007,
Simone Lanini, Vincenzo Puro, Francesco N Lauria, Francesco M Fusco, Carla Nisii and Giuseppe Ippolito, *BMC Medicine* (in press),
www.biomedcentral.com/bmcmed/

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