



**DEPARTMENT OF VETERANS AFFAIRS**  
**Veterans Benefits Administration**  
**Washington, D.C. 20420**

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Director (00/21)  
All VA Regional Offices

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**SUBJ: Relationship Between Immunization with Jet Injectors and Hepatitis C Infection as it Relates to Service Connection**

**BACKGROUND:** In August 2003, one regional office issued a rating decision granting service connection for hepatitis C virus (HCV) infection as the result of immunization with a "jet air gun." A misleading statement, incorrectly ascribed to Lawrence Deyton MSPH, MD Chief Consultant, Public Health Strategic Health Care Group, US Department of Veterans Affairs, Washington, DC is posted on the Internet (<http://www.hcvets.com/>). On this site, the following is incorrectly ascribed to Dr. Deyton: "Anyone who had inoculations with the jet injector were [sic] at risk of having hepatitis C and should be tested."

**KEY POINTS:**

- HCV is spread primarily by contact with blood and blood products. The highest prevalence of HCV infection is among those with repeated, direct percutaneous (through the skin) exposures to blood (e.g., injection drug users, recipients of blood transfusions before screening of the blood supply began in 1992, and people with hemophilia who were treated with clotting factor concentrates before 1987).
- Since the 1990's, injection drug use has been the principal mode of transmission of HCV. Because of screening procedures, HCV is now only rarely transmitted by blood product transfusion or organ transplant. Clotting factor concentrates are processed in such a way that the virus is inactivated; these viral inactivation procedures have virtually eliminated clotting factor concentrates as a source for HCV.
- Population studies suggest HCV can be sexually transmitted. However, the chance for sexual transmission of hepatitis C is well below comparable rates for HIV/AIDS or hepatitis B infection. Researchers studied five groups of

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monogamous couples, in which only one was infected with HCV. Less than five percent of the uninfected partners became infected with HCV during the time periods studied.

- Occupational exposure to HCV may occur in the health care setting through accidental needle sticks. A veteran may have been exposed to HCV during the course of his or her duties as a military corpsman, a medical worker, or as a consequence of being a combat veteran.
- When needles (and other objects that puncture the skin) are contaminated with HCV infected blood and are then used by others, HCV can be transmitted. HCV can potentially be transmitted with reuse of needles for tattoos, body piercing, and acupuncture.
- The hepatitis B virus is heartier and more readily transmitted than hepatitis C. While there is at least one case report of hepatitis B being transmitted by an airgun injection, thus far, there have been no case reports of HCV being transmitted by an airgun transmission.
- The source of infection is unknown in about 10 percent of acute HCV cases and in 30 percent of chronic HCV cases. These infections may have come from blood-contaminated cuts or wounds, contaminated medical equipment or multi-dose vials of medications.

**CONCLUSION:**

The large majority of HCV infections can be accounted for by known modes of transmission, primarily transfusion of blood products before 1992, and injection drug use. Despite the lack of any scientific evidence to document transmission of HCV with airgun injectors, it is biologically plausible. It is essential that the report upon which the determination of service connection is made includes a full discussion of all modes of transmission, and a rationale as to why the examiner believes the airgun was the source of the veteran's hepatitis C.

/s/

Carolyn F. Hunt  
Acting Director  
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