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**Bundesamt für Gesundheit BAG**  
Direktionsbereich Öffentliche Gesundheit

# **Epidemiology of hepatitis A: Who is at increased risk of getting infected?**

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## **Hepatitis A and health care workers (HCW): questions addressed**

- At increased risk of exposure?
- Most appropriate prevention measures?
- Recommendations regarding vaccination?
- What risk of transmission outside of work?
- Worthwhile for employers to offer vaccination to HCW?



## Are health care workers (HCW) at increased risk of exposure to hepatitis A virus (HAV)?



- HAV-antibody prevalence found among health care workers (HCW) and among the general population<sup>(Ref 1,2)</sup>: similar



- HAV sero-prevalence in HCW working in pediatric clinics and those working in other domains<sup>(Ref 3)</sup>: No difference
- If HCW follow standard hygiene measures the transmission of HAV can be prevented efficiently.

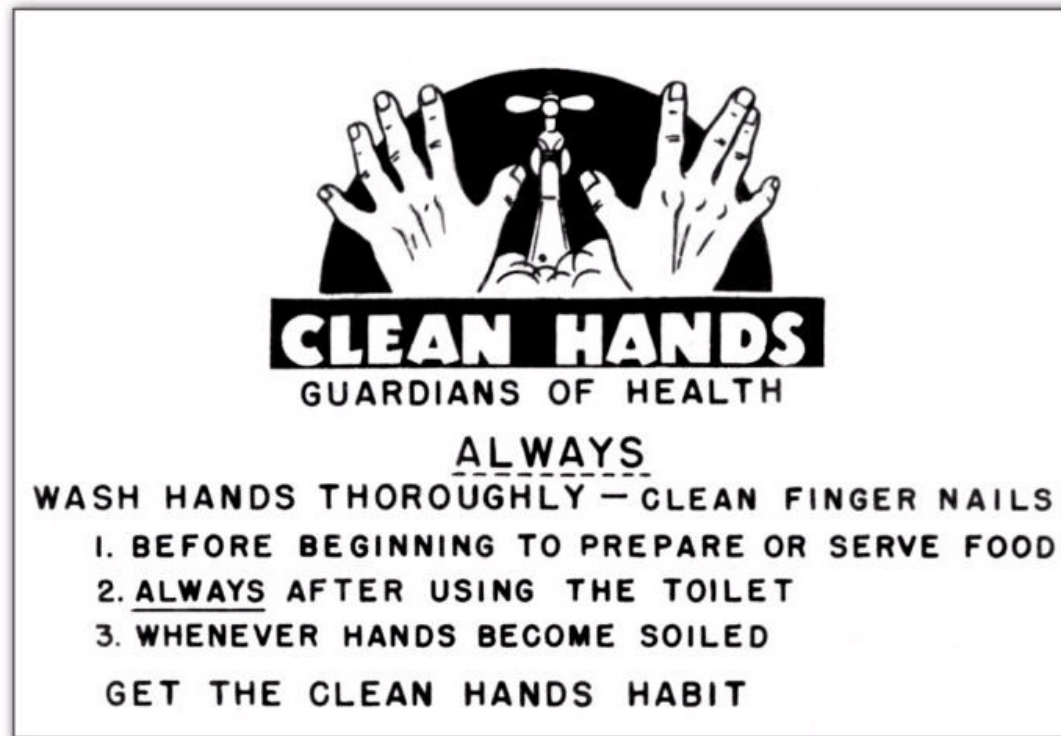
(1) Franco E, Giambi C, Ialacci R. **Risk groups for hepatitis A virus infection.** Vaccine 21 (2003) 2224–2233

(2) Rosa C, Coppola b, Alessandro R, Zanetti cVranckx R, Jacques P, Moens G. **Prevalence of hepatitis A antibodies in a large sample of Belgian health care workers.** Infection 1999;27(4-5):256-8.

(3) Pool CJM, Shakespeare AT. **Immunity to hepatitis A in paediatric and nursery nurses.** Occup Med 1996;46(5):361-3.



# Mainstay of prevention against HAV infection: Standard hygiene measures

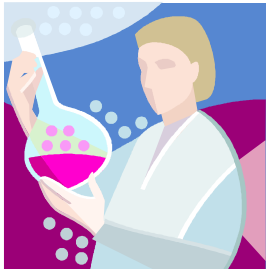


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## In Switzerland vaccination is recommended for HCW in following context (Ref 1)



- Laboratory staff who deal with HAV or who handle fecal samples.



- Persons who are in close professional contact with persons at increased risk to suffer from hepatitis A, for example intravenous drug users (IDUs) or persons from countries with medium to high endemicity, e.g. refugees [especially children].

**(1) Recommendations on Hepatitis A Prevention in Switzerland [Empfehlungen zur Hepatitis-A-Prävention in der Schweiz]** January 2007, Federal Office of Public Health, Swiss Expert Group for Viral Hepatitis (SEVHep), Swiss working group for travel medicine consultation, Commission fédérale pour les vaccinations



## Recommendations on vaccination against HAV by Federal Office of Public Health (cont.)

- Besides these risk groups, no specific group of HCW identified which should receive vaccination against HAV.
- Sometimes HCW in pediatrics and in gastroenterology are mentioned as risk groups.
- Not recommended to vaccinate all HCW in Switzerland.

**(1) Recommendations on Hepatitis A Prevention in Switzerland [Empfehlungen zur Hepatitis-A-Prävention in der Schweiz]** January 2007, Federal Office of Public Health, Swiss Expert Group for Viral Hepatitis (SEVHep), Swiss working group for travel medicine consultation, Commission fédérale pour les vaccinations



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# Switch viewpoint

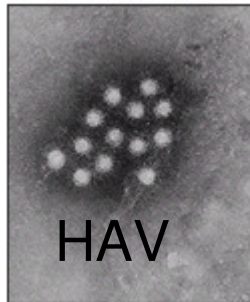
## Epidemiology outside of the health care setting



## Most common risk factors for HAV transmission among Swiss population



- Most frequently mentioned risk factor is journey to countries with a medium to high endemicity of HAV (see Map).
- Second most frequently reported (suspected) mode of transmission was contact with an infected person.



I can survive up to one month at room temperature, so beware...



## HAV and travellers risk

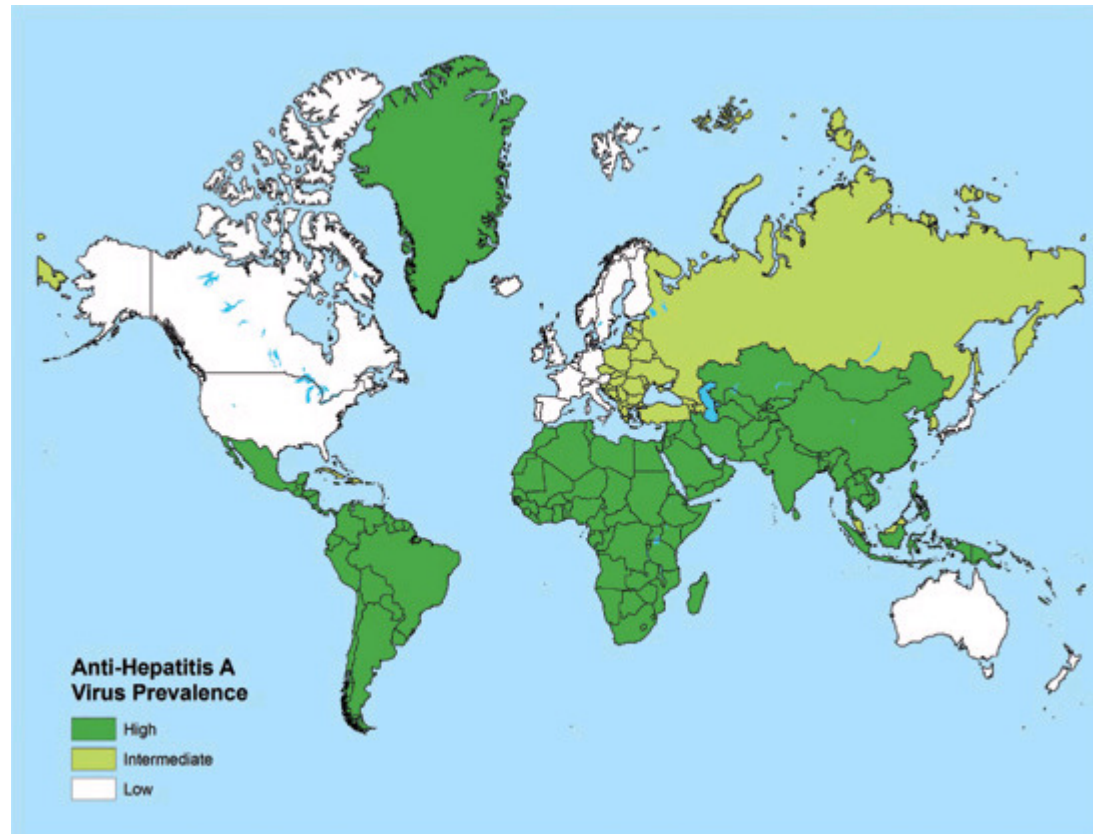
- High number of journeys to regions with medium to high endemicity by Swiss population. (Ref 1)
- Survey among Swiss residents aged 20-60 in 2007: lifetime prevalence of traveling to countries “at risk” for HAV of 73.5% (Ref 2)

(1) Federal Office of Statistics. **Reiseverhalten der schweizerischen Wohnbevölkerung 2005 [travel behaviour of the Swiss resident population]**

(2) Mohler-Kuo M, et al **Prevalence of hepatitis A virus risk factors in a very low endemic country, Switzerland.** Vaccine 25 (2007) 8718–8725



## World map HAV endemicity



Source: WHO

Epidemiology of hepatitis A: who is at increased risk of infection?  
Samuel Ery



## HAV and travellers risk (continued)

- HAV is one of the most common vaccine-preventable travel-associated risks.(Ref 1)
- BUT many travelers underestimate or ignore the risk → reflected in low vaccination coverage. (Ref 1)

(1) Mutsch M, et al. **Hepatitis A virus infections in travelers, 1988-2004**. Clin Infect Dis. 2006 Feb 15;42(4):490-7.



## May be worth for employers to offer HAV vaccination to their employees?

- On average 27 work-days are lost per HAV case. (Ref 1)
- Incremental cost per vaccinated person is moderate if a combined vaccine against HAV and HBV is given instead of hepatitis B vaccination alone (which is recommended for all HCWs).
- Employers may want to consider whether to offer the vaccine and cover the costs to employees outside of work-related indications.

(1) Berge JJ, et al. **The cost of hepatitis A infections in American adolescents and adults in 1997.** Hepatology 2000;31:469-73.



## Conclusions

- If HCW follow usual hygiene rules, they are not at increased risk of HAV transmission compared to general population.
- In Switzerland vaccination of HCW against HAV is only recommended for well defined high risk groups.
- Employers may still consider to offer combined HAV/Hepatitis B (HBV) vaccination to their employees, e.g. against travel-related risk, at only marginally increased costs when compared to HBV vaccination alone.