

SYRINGE HYGIENE

A MAJOR ROUTE of transmission of the human immunodeficiency virus (HIV) is through needle sharing by injecting drug users. Fourteen per cent of HIV antibody positive reports to the Communicable Disease Surveillance Centre in the six months up to April 1988 were injectors. Inevitably a much larger proportion of AIDS cases in the future will be from this group.

Where stored sera have been examined retrospectively, the spread of infection has often been shown to have been very rapid. In Edinburgh, within six months of the introduction of the virus into a community of heroin injectors, 22 per cent were HIV-positive and at the end of a year this had risen to 41 per cent.¹ Differences in infection rates between those who reported sharing needles "usually", "sometimes", or "never" were statistically significant, confirming that needle sharing had played a critical role in the spread of infection.

In Tayside, 40 per cent of the 246 injectors tested between July 1985 and July 1986 were positive. The spread of infection was rapid; none of the sera stored from injectors in 1983 were positive; in 1984, 48 per cent were positive; by 1985, the proportion positive had reached 63 per cent.² Similar findings have been reported from the United States³ and Italy.^{4,5}

Most injecting drug users are heterosexual, so they provide a bridge for the transmission of HIV infection to the heterosexual population. Associated with this is the fact that injecting drug use is also responsible for most AIDS in newborn babies. Among heterosexual contacts of drug users in Tayside, two out of 56 were HIV seropositive, as were a third of the infants born to mothers who had injected drugs.³ In the USA approximately 80 per cent of the 990 children with AIDS reported to the end of May 1988 had been born to an injector or to a mother infected by a drug using partner.

Intervention strategies for preventing HIV transmission are twofold — reduction of needle sharing and promotion of syringe hygiene. However, changing needle sharing behaviour may be difficult, since sharing is intimately associated with socialisation, communal feelings and protection.

One approach is to provide needle exchanges. An evaluation of Amsterdam's exchange programme showed no increase in intravenous drug use among exchangers, and a major reduction in those 'high risk' situations where injectable drugs were in possession but no clean needle and syringe was available.⁶ Similar schemes under evaluation in the UK appear to reach only a

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'Bleach out, boiling in' was Druglink's summary of the DHSS's latest advice on syringe hygiene. Now new work at the Public Health Laboratory Service has led the DHSS to refer the whole problem back to the experts. Tony Ellam of the PHL reviews the issues: back to bleach is his conclusion.

Anthony Ellam

minority of injectors.

The important US School Health Education Evaluation programme has shown that while it is relatively easy to change people's knowledge base, it is difficult to change deeply ingrained, socially determined habits.⁷ Despite this it may be possible to alter elements of the sharing habit to reduce the risk of HIV transmission. Although most drug users do not enter treatment programmes, they will nevertheless practice needle hygiene if it does not interfere with the drug using process.^{8,9} In practice, decontamination of syringes must meet the following criteria: fast, convenient, effective, inexpensive, and safe.

Boiling and bleaching

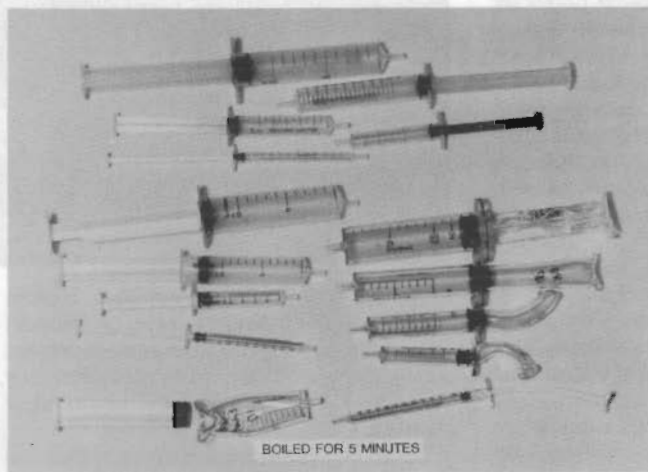
SCODA has recently published advice¹⁰ that after use syringes and needles should be flushed with water and washing up liquid, and then boiled for five minutes.

This procedure, although it will kill both HIV and (contrary to popular opinion) the hepatitis B virus, may damage the syringe. Several types of syringes in use in the UK deform within seconds when boiled (see photo).

It is not possible to tell by their appearance which syringes will withstand boiling. Injecting drug users, aware that some syringes are destroyed by boiling, may be reluctant to use this method *in case* it destroys their syringe, even if their particular brand would in fact survive. An alternative cleaning method is therefore required. Although the recommended flushing with water and washing up liquid is of value, the use of bleach is an advantage.

The following method is suggested as the simplest way to disinfect syringes:

1. The syringe is flushed with cold water.
2. Undiluted domestic bleach is slowly drawn all the way up into the syringe, and squirted out.



Mixed results from the five-minute boiling procedure for decontaminating syringes recommended by the DHSS. Some survive, others don't. Even syringes that don't distort become harder to use as the lubricant is removed. ■ See page 6 for related news story.

1. Robertson J.R. *et al.* "Epidemic of AIDS related virus (HTLV-III/LAV) infection among intravenous drug abusers." *British Medical Journal*: 1986, 292, p.527-529.

2. Communicable Diseases Scotland Report 87/09.

3. Weiss S. *et al.* "Risk factors for HTLV-III infection among parenteral drug abusers." *Proceedings of ASCO*: 1986, 5.

4. Tirelli U. *et al.* "HTLV-III transmission among intravenous drug abusers (IVDAs): role of sharing of contaminated needles vs. heterosexual contact." *Proceedings of ASCO*: 1986, 5.

5. Lazzarin A. *et al.* "Epidemic of LAV/HTLV III infection in drug addicts in Milan: serological survey and clinical follow-up." *Infection*: 1985, 13 (5), p.216-218.

6. Hartgers C. *et al.* Abstract presented at the "Global Impact on AIDS" conference, London, March 1988.

7. Connell D.B. *et al.* "The effectiveness of school health education." *Morbidity mortality weekly reports*: 1986, 35 (38), p.593-595.

8. Watters J.K. *et al.* In: US National Institute on Drug

Abuse. *Community epidemiology work group proceedings*. Rockville, Md: NIDA, 1986: 2, p.137-143.

9. Des Jarlais D.C. *et al.* In: *The social dimensions of AIDS: method and theory*. Feldman D.A. *et al.*, eds. New York: Praeger, 1986, p.111-127.

10. Standing Conference on Drug Abuse. *AIDS: how drug users can avoid it*. 2nd ed. SCODA: 1988.

11. Resnick L. *et al.* "Stability of HTLV-III/LAV under clinical and laboratory environments." *Journal of the American Medical Association*: 1986, 255, p.1887-1891.

12. Personal communication with Dr Samuel Friedman, New York Division of Substance Abuse Services.

13. Becker G.L. *et al.* *Oral Surg. Oral Med. Oral Pathol.*: 1974, 38, p.633-638.

14. Herrman J.W. *et al.* *Journal of Endodontics*: 1979, 5 p.160.

15. Hoy R.H. *American Journal of Hospital Pharmacy*: 1981, 38, p.1512-1514.

16. Froner G. "Disinfection of hypodermic syringes by IV drug users." *AIDS*: 1987, 1, p.133.

17. Personal communication with John Watters, Haight-Ashbury Free Medical Clinics, San Francisco.

3. Steps 1 and 2 are repeated.
4. The syringe is flushed twice with water.

The process takes about a minute and a half, and must be repeated before every use. If after use the syringe is not going to be used again right away, it should immediately be flushed through with cold water or filled with water to prevent residual blood coagulating.

Domestic bleach kills HIV and hepatitis viruses in dilutions as low as one part in a 100. Bleach at this strength totally inactivates HIV within one minute even when the virus is present in concentrations 10,000 to 100,000 times greater than those found in human blood.¹¹ Using *full strength* bleach means the 20-30 seconds the bleach is in contact with the inside of the syringe is ample time to kill any HIV present, and the delay of two to three minutes is acceptable to most sharing injectors. Injectors find it difficult to wait longer than this. There is increasing evidence that the act of purchasing the drug to be injected increases the withdrawal syndrome.¹²

Used in this way, bleach harms neither the user nor the syringe. There have been reports of undiluted bleach being accidentally injected,^{13,14} resulting only in pain and oedema which resolved within one and two weeks respectively. Even when 30cc was inadvertently infused, the patient recovered.¹⁵ Neither does bleach damage the syringe. Immersion of an insulin syringe in full strength bleach for 48 hours caused no damage.¹⁶

Effective hygiene

Injecting drug users should not share works, but if they have to, two alternatives are available: boiling, and bleach. Boiling may have some practical drawbacks, but bleach conforms to many of the ideal requirements for use by injecting drug users. It is fast, easily available, inexpensive, of low toxicity and effective against a very wide range of bacteria and viruses. Anxieties about accidental injection of the small amounts that may remain after cleansing are unfounded. Problems raised about the difficulty of explaining how to dilute the bleach, or that diluted bleach is less effective over time, are irrelevant when the bleach is used *undiluted*.

The theoretical danger that bleach might only serve to harden coagulated blood in the syringe, making the equipment more difficult to clean, is not borne out in practice.

In San Francisco, the MidCity Consortium has been using undiluted bleach since 1986. Although over 90 per cent of drug injectors there regularly share needles, studies have shown that since the bleach programme was introduced, HIV seroprevalence levels among heterosexual white injecting drug users have stabilised at around 10 per cent. This reduction was associated with an increase in the regular use of bleach from 3 per cent before intervention to 68 per cent in spring 1987.¹⁶ In two years only 3.8 per cent of a small cohort of 113 seronegative drug users became HIV seropositive.¹⁷ These figures contrast dramatically with the spread of infection in Edinburgh and Dundee. □

WRAPS AGAINST AIDS

How can you bring the anti-AIDS message before drug users each time they take drugs? Brighton's Drug Advice and Information Service found a novel solution.

Andrew Fraser

IDEALLY, A HEALTH education/harm-minimisation campaign aimed at drug users would include the following features:

- ▶ Its impact would be limited to the target group, meaning it could transmit information and use language inappropriate in a more general campaign.
- ▶ It would harness the close (and closed) networks of the drug using community as a positive strength in disseminating the message.
- ▶ Its messages would be positive rather than negative. For example, it is better to give information about local syringe availability rather than just tell injectors never to share.

On these grounds it is easy to be critical of government harm minimisation strategies propagated through mass multimedia campaigns, but it is more important to look constructively for local agency initiatives to complement (or compensate for) the government's efforts.

Brighton's Drug Advice and Information Service (DAIS) started with the development of existing links with the Sussex AIDS Helpline, which has considerable experience of working with the gay community but little contact with drug users. DAIS and the AIDS Helpline combined forces by pooling knowledge, sharing training, and planning joint campaigns. An outcome from this cooperation and a vital part of our strategy is that the helpline has regular sessional input into DAIS.

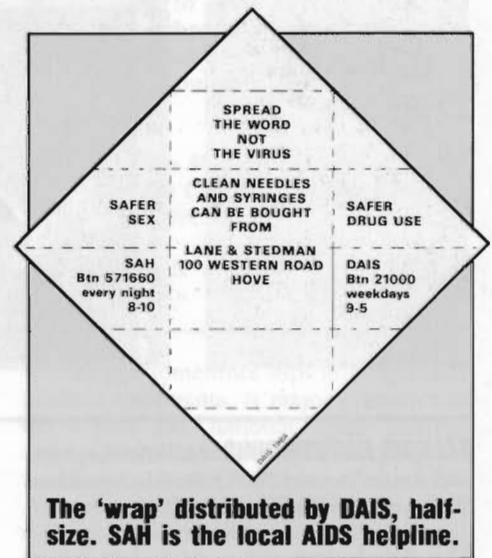
In our first year we had introduced small emergency helpline cards. Staff noticed these were popular with clients, both for the intended purpose and as roaches for joints! As a result of this alternative application, knowledge of the agency spread rapidly through user networks.

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Capitalising on this earlier experience, we decided to evaluate the feasibility of using a similar mechanism to target drug users with harm minimisation messages about HIV infection.

It was decided to produce pads of printed paper squares of the size used to make 'folds', 'bundles', 'bindles', 'wraps' or 'bags' for packaging heroin or amphetamine deals at retail level. These 9cm squares will hold a £10 deal of heroin or up to a gram of amphetamine sulphate. They were produced in pads of 24 sheets, with printed text and dotted fold-lines.

The wrap pads are distributed to drug



users who visit DAIS and via them are circulating through dealer networks, spreading the harm minimisation message to users who are not DAIS clients — a low cost way of harnessing socialisation and dealing networks among drug users to harm/minimisation objectives.

IT WAS CONSIDERED important that the slogan on the wraps should be a positive one. It also promotes concepts of responsible action and self-help, and endorses the value of 'street grapevine' networks (see illustration). Also included is information on a local pharmacy which will sell syringes and needles to drug users and on access to local services, each of which can advise on safer drug use and safer sex. To avoid 'answerphone trauma', the hours stated are when the lines are staffed. □