



Chapter 11

Safer Injecting: Individual Harm Reduction Advice

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The setting

Wherever there is provision for distribution of injecting equipment, there must be opportunities for giving safer injecting advice. The provision of needles in and of itself is not enough, but rather should be offered as part of a comprehensive treatment programme. There is often a wide range of professionals who come into contact with drug users during the course of their work, all with the potential to help in the reduction of injecting related morbidity and mortality.

Community pharmacists may provide a significant, and in some cases the only, point of contact with the intravenous drug user. They may therefore be in a unique position to offer advice, both written and verbal, about safer injecting, general healthcare and locally available treatment options.

Drug users are likely to present at accident and emergency (A&E) departments for a variety of reasons, ranging from drug overdose to consequences of injecting, e.g. local or systematic infections, thrombosis. The range of services offered by A&E departments will vary considerably depending on local policy; nevertheless, admission to A&E would appear to offer a unique window of opportunity to provide crucial harm reduction advice and onward referral to specialist services.

Primary healthcare practitioners, whether or not they are directly involved in treatment for substance misuse, are likely to see drug users presenting for care. They may be involved in the provision of vaccinations or treatment of injecting wounds. Drug users may present with a variety of medical and social problems. Harm reduction advice is consistent with the role of the primary healthcare team.

A potentially rich, but often neglected, setting for needle exchange and harm reduction advice is the prison service. The UK is not alone in its reluctance to utilise a harm reduction approach with incarcerated injecting drug users. However, a recent review of international prison based syringe exchange programmes found all had positive outcomes with no reports of negative consequences (see Chapter 6).



The specialist drug agency, whether statutory or voluntary, is likely to be able to offer the most comprehensive service for the provision of injecting equipment allied with safer injecting advice. Such services are more likely to be able to offer planned, detailed sessions specifically aimed at teaching and promoting safer injecting techniques. However, this does not negate the need for such services to remain open to providing more *ad hoc* and opportunistic advice as necessary and appropriate.

Whatever the setting, attention needs to be paid to health and safety issues and to maintaining privacy and confidentiality. Each individual service will have its own limitations, but, as a minimum, the environment should feel safe for both client and practitioner.

The process of advice giving

As noted above, different agencies and settings will provide varying opportunities for giving safer injecting advice. Advice can range from suggesting the rotation of injecting sites to an in-depth discussion of the risks and harms connected with the self injection of drugs or the teaching of self injecting techniques. Jargon and ambiguous language should be avoided. As with any health promotion activity, the use of a conversational style and simple language can help to create a non-threatening environment which is conducive to learning. In such an environment, a two minute conversation may provide both important harm reduction advice and the wish to learn more.

The aim of safer injecting advice is to reduce the risks associated with injecting drugs. Sharing any injecting equipment has been implicated in the transmission of blood borne viruses, including human immunodeficiency virus (HIV), hepatitis B and hepatitis C. Other problems may also occur such as blood poisoning (septicaemia), abscess both infected and non-infected, localised infections, endocarditis (infection of the inner heart lining), loss of needles, limb loss, ulcers and circulation problems, swelling to hands and feet and associated risk. Hence, the ramifications of sharing *any* injecting equipment must be addressed with *every* client, and poor injecting technique can lead to the problems listed above. Variations in purity, changes in tolerance levels and poly drug use can contribute to overdose. Comprehensive safer injecting advice should address all these areas.

The nature of safer injecting advice

Whatever the setting and however time limited the intervention, it is vital to reinforce the 'golden rules of safer injecting':

- (1) Always use your own injecting equipment. Injecting equipment means needles, syringes, water, spoons, filters and any other aspect of injecting paraphernalia.
- (2) Don't lend or borrow used equipment to or from *anybody* (including sexual partners).
- (3) Use the smallest bore needle possible.



- (4) Don't inject alone. Try to do it with other people around, and try to make sure you all know what to do in an emergency.
- (5) Use your own equipment once only and dispose of it carefully.

Such information can be provided both orally and in written form, and can be delivered in any setting. Where there is more time and expertise, the planned safer injecting harm reduction interview can provide detailed information and the opportunity to practise safer injecting techniques.

The safer injecting harm reduction interview

Practitioners should ensure that the environment is as comfortable and safe as possible. It is important to protect the privacy and confidentiality of the client, but the safety of both client and practitioner are of paramount importance.

One advantage of the planned interview is that the practitioner can have all the necessary equipment to hand. Such equipment may include pen, paper, assessment tools, educational materials and examples of injecting equipment. A range of learning materials, such as posters or models, can assist in making the session more enjoyable and stimulating. If these are not to hand when needed, the practitioner may appear disorganised and the session may be less effective.

The practitioner should begin by introducing themselves and reinforcing the reason for the session. It is the responsibility of the practitioner to ensure that the session remains focused on safer injecting unless a more urgent issue arises.

Safer injecting advice must, by necessity, be preceded by an assessment of an individual's injecting behaviour. In our clinical experience, clients are happy to provide this information if it is seen as part of the helping process. Use of open-ended questions allows the client to describe their drug use history and assists the practitioner in identifying current risks. Closed questions may elicit 'yes' or 'no' answers, increasing the possibility of missing vital information about potentially harmful practices. Assessment can also assist with raising the client's awareness of current and potential risks and harms. It is always worth bearing in mind that people tend to learn best in response to a perceived need. Following assessment, information gained should be fed back and summarised objectively in order to clarify the client's current knowledge and behaviour. Learning is more likely to take place when new material is related to old, and it is a good educational principle to build on what is already known.

When giving advice, it is usually most helpful to begin by addressing the riskiest behaviour. Should the interview end prematurely, this will allow for at least some harm reduction message to be given to the client. Safer techniques, which the client is already practising, can be reinforced towards the end of the session, allowing the interview to end on a positive note. As people tend to retain knowledge if it is put to immediate use, clients should be offered the opportunity to practise techniques with immediate feedback. Practitioners should never be afraid to inform the client of the potential risks and harms of their behaviour.



Risks associated with specific drugs

Injecting any drug carries risks. However, there are specific risks associated with certain substances and preparations: some of the most common are listed below. Clients may be injecting one or all of them. It is important to reinforce the message that injecting combinations of drugs carries an increased risk of overdose.

Injecting heroin

Injecting heroin always carries a high risk of overdose. This risk is increased when heroin is taken in combination with alcohol, other opiates, or benzodiazepines. Loss of tolerance can occur following a relatively short period of abstinence, thus increasing the risk of overdose. Dose fluctuation is a continual risk, and clients should be reminded that knowing their supplier is no guarantee of level of purity. It is always advisable to inject a small amount slowly in order to judge its effects. If there are no unusual effects, injecting can continue. It is advisable to inject with somebody else, so that they can call for emergency assistance in the case of overdose. The majority of fatal overdoses occur when the person is alone. Different agencies will have different policies regarding the provision of first aid and resuscitation advice to clients and their families. As a minimum, we would suggest that the professional has a duty to dispel myths and to ensure that the client is aware of how to contact the emergency services.

Injecting cocaine

Clients need to be aware that cocaine has local anaesthetic properties, which can lead to deadening of pain at the site of injection. Lack of pain may mean that they are unaware of damage to injection sites, leading to further trauma and the formation of abscesses. For this reason, it is particularly important to rotate injection sites. Cocaine effects are of a relatively short duration and clients may need to inject several times per day, leading to increased trauma. In addition, cocaine constricts blood vessels when injected, thus greatly reducing blood supply to the injured area and possibly leading to tissue necrosis.

Injecting amphetamine

Street amphetamine in Britain is usually no more than 5% pure. Injecting amphetamine will therefore involve injecting a high level of impurities, many of which are likely to cause vein trauma or may be harmful in and of themselves. Deaths from amphetamine use are rare, but are invariably related to injecting.



Injecting tablets

Injecting tablets is not advised and is considered to be extremely dangerous. Chalk from tablets is one of the major causes of collapsed veins, leading to infection, deep vein thrombosis and potential loss of limbs. Practitioners need to consider whether giving advice in this area is acceptable. If tablets are to be injected, they should be crushed to the finest powder possible and drawn up through a filter.

Injecting oral methadone

Clients should be advised that under no circumstances is it safe to inject oral methadone, which causes vein contraction and rapid vein collapse.

Preparing to inject safely

Safer injecting begins at the preparation stage. Clients should be informed that *all* equipment should be clean and sterile, and hands should be washed. New equipment is preferable in order to reduce the risks of infection, cross infection and needle trauma. If new equipment is not available, there are cleaning techniques which clients can be taught.

Clients need to be aware that the environment can be a means of transmitting infections including viruses such as HIV, hepatitis B and hepatitis C. It may be useful at this stage to offer brief information about blood borne viruses. Hepatitis C, in particular, has been known to survive for some considerable time outside the body in microscopic amounts of blood. An apparently clean surface may be anything but that. To create a clean field, we recommend the use of a clean piece of paper for laying out injecting equipment: clean newspapers or magazines are acceptable; as with any other equipment, these need to be disposed of safely. When choosing needles, the smallest bore possible should be used to minimise trauma to veins and/or surrounding area. Intramuscular injections will require a larger needle than intravenous injections. Sterile water should be used when possible, but is not always available. As an alternative we would recommend using cooled freshly boiled water. Water should not be shared.

In order to dissolve some drugs, such as brown street heroin, so that they are suitable for injection, an acidifier needs to be used. We strongly discourage the use of lemon juice as it can cause fungal infection with potentially serious consequences. Citric acid is recommended as the safer alternative, and clients are advised to use the smallest amount possible to minimise the risks of vein trauma. A burning sensation suggests that too much is being used. Effervescent tablets are not recommended, as they are likely to cause further vein trauma.

Drugs should be heated gently using a freestanding heat source, and for a short time only to prevent wastage through evaporation. Wastage leads to further injections and



further vein trauma. If using spoons, it is not advisable to use silver spoons as these have a tendency to tarnish. Disposable metal containers are available in some areas and their use should be encouraged.

Filters are used to filter out particles and impurities. Cigarette filters are preferable to cotton wool, which is more likely to have loose fibres that risk being injected into the bloodstream. These may in turn lead to thrombosed veins. Filters should not be reused because of the risks of fungal infection. If the filter is cut, the cut side should be placed down to avoid drawing up loose fibres.

We would suggest that best practice would be to use different needles for drawing up and injecting, to minimise trauma from blunt needles. This is not always possible, however, and an alternative would be to take greater care not to hit the spoon with the needle when drawing up. To further minimise bluntness, the needle aperture needs to be pointed down when drawing up. Clients are advised not to lick the end of the needle, as this is likely to increase the spread of bacteria.

Safer intravenous administration

In order to inject safely, some basic knowledge of anatomy is necessary. Clients need to know the differences between veins and arteries and the way in which blood circulates around the body. Such knowledge may help to make safer injecting advice more relevant and meaningful. It is, of course, vital that practitioners are competent to give such information. Clients should also be taught what to do if they hit an artery. The needle should be withdrawn and firm pressure applied. It is always advisable to seek immediate medical assistance.

The safest site for intravenous administration is the cubital fossa or crook of the elbow. Veins in the hands and feet are particularly fragile, and injecting in these areas is likely to be painful. If using these sites, clients are advised to use the smallest needle possible, inject very slowly and take particular care. All jewellery should be removed. Women should be advised that injecting in the breasts carries particular risks. Veins may look prominent but have a tendency to collapse. Milk ducts can become blocked and mastitis is not uncommon. Men should be advised not to inject into the penis under any circumstances. Likewise, the neck and groin are both highly dangerous places to inject, and it is debatable whether any safer injecting advice is possible. In the neck, the carotid artery and jugular vein are in close proximity, and the same is true of the femoral artery and femoral vein in the groin. Whilst some agencies teach clients how to avoid arteries in these areas, individual anatomical differences mean that certainty cannot be guaranteed. Our view is that it is not possible to inject safely in these areas and that this should be reinforced to clients.

Clients may need reminding that injection sites need to be cleaned before administering the drug. Alcohol swabs may be used if there is no access to soap and water. If so, the alcohol should be left to dry after swabbing as it will not be sterile whilst wet. To minimise damage to veins, alternative injection sites need to be used. In order to raise a



vein some clients prefer to use a tourniquet. If so, they should be advised to use one that is easy to release, not to tie it too tightly, leave it on for a short time only and release it before injecting. A tourniquet that is too tight will cut off blood flow. Asking the client to demonstrate how they would use the tourniquet may be a useful way of assessing practice and correcting as necessary.

A warm environment, warm baths or warm flannels around the limb will help to raise veins. However, excessive heat may lead to burns or scalds. Palpating the vein, tightening the fist and squeezing the biceps may all help to raise veins. It is often possible to feel a vein even when it is not visible, and feeling a vein increases the chance of hitting it. Anxiety can make it more difficult to raise a vein – injecting is easier if the client is able to relax. Clients are advised never to inject where a pulse can be felt, as this indicates an artery rather than a vein.

Remind clients to use the smallest needle possible and to make sure that the aperture is facing up. This ensures that the sharpest point of the needle pierces the skin and the aperture does not rest on the bottom of the vein thus causing further trauma. Needles should be pointed towards the heart, in the direction of blood flow, at an angle of 45 degrees. Demonstration of the correct angle by the practitioner is highly recommended. Care should be taken to ensure that needles do not go straight through the vein and into surrounding tissue, leading to pain and trauma. To minimise the risks, needles should be inserted slowly and clients advised to stop pushing when resistance is felt. Clients are advised to draw back gently to check the presence and colour of blood. Venous blood is dark red as opposed to arterial blood which is bright red. Use of coloured diagrams may help clients to distinguish between the two. If venous access is achieved, administration can continue. At this point, tourniquets should be released, if used, to prevent pressure on veins. Administration should continue slowly, as rapid injection can lead to overdose. The practice of ‘flushing’ or repeatedly pushing down and drawing back is strongly discouraged as it causes further trauma to the vein and increases the likelihood of infection. Following administration, the needle should be removed slowly to reduce trauma and prevent the vein collapsing. Pressure should then be applied to the site for approximately 1 minute to stem the blood flow. Clean cotton or tissue is preferred to alcohol swabs which can disrupt the healing process.

Safer intramuscular (IM) administration

Intramuscular administration should be discouraged. However, if venous access is difficult, clients may attempt IM administration. If so, the thigh is the least risky site. Clients should be advised to alternate legs and inject into different places within the front top part of the thigh where there is most muscle. Needles for intravenous use will generally be too small for intramuscular use and are more likely to break, potentially leading to embolism or infection. The leg should be in a comfortable position with the muscle relaxed. The tenser the muscle, the more painful the procedure. As with intravenous administration, the site needs to be clean and dry. The needle should be inserted at an



angle of 90 degrees to ensure that the drug gets into the muscle. When drawing back, there should be no blood in the syringe as this would indicate that a vein or artery had been hit. If so, the needle should be withdrawn slightly and the plunger drawn back again. If no blood is present administration can continue. Keeping the leg relaxed, the plunger should be pushed in slowly. The needle should then be removed slowly and disposed of safely.

Safer subcutaneous administration

Subcutaneous administration (skin popping) carries a higher risk of infection because absorption is much slower than with the preferred intravenous route. Drugs which are contaminated with bacteria can cause particular problems when injected subcutaneously. If injecting subcutaneously, preferred sites are the stomach or upper thigh.

As with other routes, the site should be cleaned thoroughly. The needle should be inserted at a shallow angle of approximately 15–30 degrees to ensure that it enters the thin layer of fat beneath the skin. As with the IM route, blood should not be present when drawing back. If no blood is present, administration can continue slowly. Clients should be advised to inject no more than 50 ml in any one site; if there is more than 50 ml to inject, different sites should be used. Needles should be withdrawn slowly and the site cleaned. All needles should be disposed of safely.

If the subcutaneous route is chosen, clients need to be particularly alert for symptoms of infection, such as feeling hot, general malaise, swelling, redness or pain around the injection site. Clients should be advised to seek medical attention as a matter of some urgency. Whatever the chosen route, sites should be rotated and clients advised to be alert for symptoms of infection.

Safer disposal and cleaning of used injecting equipment

It is the responsibility of the user to dispose safely of all injecting equipment, a message that should be reinforced at every opportunity. Assisting the client to understand the potential consequences of discarding used equipment may be helpful; it is vital to do this in a way that is relevant to the client. Reinforcing the message regularly with every client will promote the diffusion of the message throughout the drug using community.

The safest way of disposing of injecting equipment is to use a sharps box which should be provided by the agency offering needle exchange. Sharps boxes are more likely to be used if they are relatively easy to obtain. Clients should be reminded of the need to store them out of the reach of children. When full, they should be returned to the issuing agency or approved facility, depending on local policy. If there is no sharps box to hand, needles and syringes need to be stored safely until they can be disposed of. Needles can be placed inside the syringe and then into a drinks can to prevent needlestick injury to others. Breaking the needle will discourage reuse.



The reuse of equipment should be strongly discouraged. However, in the real world some reusing of equipment is probably inevitable. As such, it is good practice to teach the safest method of cleaning whilst acknowledging the risks. Clients should be made aware that no cleaning method is completely safe, particularly if they continue to share equipment with others. The following cleaning method may help to prevent transmission of HIV, but offers little protection against hepatitis C.

Thin bleach should be drawn up with the used needle and syringe, left for a few seconds and flushed out into the sink. This step should be repeated twice before drawing up and flushing out cold water and repeating two or three times. Alternatively, equipment can be flushed out with cold water and immersed in bleach for up to an hour before flushing out again with cold water. Spoons may be cleaned in a similar way. There is no safe way of reusing filters and these should always be disposed of after use. Thin bleach is recommended as it may be impossible to draw thick bleach through needles. Cold water is used because warm water encourages blood to coagulate, thus making it difficult to flush out.

Training and supervision needs

Practitioners involved in teaching safer injecting techniques to drug users should ensure that they have the ability to do so. To provide wrong or inaccurate information is both unethical and potentially dangerous. Individual agency requirements will differ according to local protocols but a competent practitioner should have:

- knowledge and understanding of the subject, including drug effects and administration, basic anatomy and physiology, pharmacology and first aid
- communication skills – both verbal and non-verbal
- basic teaching skills and the ability to assess client's motivation and ability to learn.

Clear local standards, protocols and guidelines allied with good quality supervision should help to reduce the ethical dilemmas associated with this vital aspect of harm reduction.



Appendix: Rules and Guidelines for Safer Injecting

Six golden rules of self injecting

- (1) Use your own injecting equipment.
- (2) Don't lend or borrow used injecting equipment.
- (3) Use your own spoon, water, filter.
- (4) Use the smallest needle appropriate.
- (5) Don't inject alone. Try to do it with other people around, and try to make sure you all know what to do in an emergency.
- (6) Use your own works once only.



Safer preparation checklist

- Wash hands
- Use new equipment
- Aim for sterile field
- Lay out equipment on paper
- Prepare smallest needle for area injecting
- Sterile or pre-boiled water, allowed to cool
- Use smallest amount of citric acid
- Put water into spoon slowly so as not to spill drug and only enough for powder to dissolve
- Heat with free standing heat source
- Heat gently, do not boil
- Stir gently with needle sheath
- Use clean fibre coated cigarette filter broken lengthways in half
- Ensure needle aperture is pointing down when drawing up through filter
- Don't rub needle on bottom of spoon
- When drawn up expel air gently by pushing plunger up until a small droplet of drug *just* appears at needle end; *do not lick* end of needle
- While waiting for solution to cool, clear up
- **Keep a 'safe disposal bin' close by at all times**

Reason for giving this advice

- Prevention of cross infection*
- Prevent cross infection, sharp needle reduces local trauma*
- Prevention of cross infection*
- Prevention of cross infection*
- Reduce trauma to skin and veins*
- Prevents infection and reduces vein trauma*
- Reduces the risk of burning and vein trauma*
- Wasting the drug means need for more injections*
- Keeps hand(s) free to stir the drugs on the spoon*
- Boiling leads to evaporation and therefore more drug needed*
- Mixes the drug into the liquid*
- Filter reduces some adulterants getting into the syringe*
- Ensures more drug gets into the syringe*
- Blunting the needle will lead to trauma of vein and skin*
- Air can cause pain on injecting, licking the end adds more bacteria to the needle end and therefore to the skin and vein*
- Avoid having paraphernalia around when intoxicated*
- Disposal of needles and sharps is the responsibility of the user*



Safer administration checklist

Remember all the preparation advice

- Raise a vein; if using tourniquet don't have it too tight
- Ensure you have the smallest needle possible for your type of injection
- Ensure aperture is facing up
- Point needle towards the heart, in direction of flow
- Syringe at 15 to 45 degrees for intravenous injection (IVI)
- Syringe at 90 degrees for intramuscular injection (IMI)
- Syringe at 15 to 30 degrees for subcutaneous (SC) injection
- Insert needle slowly, feel for reduction in resistance, stop pushing when this is felt
- Draw back gently
- IVI: blood present, if dark red continue, if bright red *stop*
- For IMI and SC look for blood (not good)
- Release tourniquet if IVI
- 'Continue' to push plunger slowly; if there is any pain, unusual sensation or anything different *stop*
- When finished, remove needle and syringe slowly
- Use clean cotton or tissue to stem any blood flow
- Immediately dispose of sharps in appropriate safe disposal receptacle, not just in a waste bin!**
- An overtight tourniquet will cause veins to reduce in size as it cuts off the arterial flow*
- Reducing trauma to the vein or area into which you are injecting*
- If aperture is down it may rest on bottom of the vein and cause trauma*
- Pushing against the blood flow will cause pressure on the vein and cause trauma*
- Shallow angle prevents needle touching the vein walls*
- More upright angle ensures drug gets into the muscle*
- Angle needs to be shallow to get needle into the thin fat layer*
- Reduction in resistance means vein is entered; more pushing may pass the needle through the vein into the tissue and cause pain and trauma*
- Dark blood will mean vein access has been achieved; if bright red would mean an artery has been hit*
- IM drugs should not be inserted into blood directly; therefore stop and withdraw slightly, pull back again and if no blood continue*
- Injecting while tourniquet attached will cause pressure and trauma*
- Needle may have moved through the vein, or the strength of the drug may be stronger with risk of overdose*
- Slow removal will reduce trauma*
- Do not use finger to stem flow; dispose of tissue or cotton in a bin to prevent spread of blood borne virus and local infection*
- Prevents the risk of children or others injuring themselves on used sharp equipment*



Advice on what to do when injecting intravenously

Ensure that you are:

- hydrated
- relaxed
- sitting or lying down.

Site preparation:

- vein prominent
- skin cleaned with swab
- allow alcohol to evaporate
- stretch skin below vein if another person is injecting.

Insert needle:

- in direction of venous blood flow
- aperture facing up (down if drawing up)
- 15 to 45 degree angle
- up and along the vein
- only part way in.

Raising veins in hand and arms

- Choose fullest looking vein
- raise less prominent veins, improving access, by:
 - being in warm environment
 - applying tourniquet, not too tight (Too tight will result in reduced size of veins; if client complains of tingling/pins and needles when applying tourniquet, it is too tight.)
 - palpating (gentle tapping) the area close to the entry point
 - lowering limb
 - clenching fist
 - applying warmth to site, not too hot as burning can occur and this will reduce chance of finding vein
 - massaging arm from wrist to elbow, with care and very gently
 - squeezing biceps
- Explore other sites: 'look with fingers', clients may feel a vein they cannot see.



Advice on what to avoid when injecting intravenously

Avoid:

- injecting standing and unsupported
- damaged or thrombosed/collapsed veins
- swollen skin or tissues
- rolling veins, ones that move easily
- arteries (bright red frothy blood)
- inserting needle too deep or too shallow (both lead to missing vein and then drug getting into tissue)
- pulling too hard on plunger
- pushing too hard on the plunger (the increased pressure can burst veins).

And remember:

- keep in good health
- inject less frequently
- learn which veins to access
- learn where to avoid
- learn to feel for veins
- rotate sites, so as not to overuse sites
- use sharp needles.

Suggested guide to safer injecting interview

- Have all necessary equipment with you.
- Make sure you are in a comfortable and safe environment.
- Introduce yourself and the purpose of the session.
- Allow person being interviewed to explain their use history and current risks.
- Don't interrupt with advice until they have finished.
- Keep the interview based on the subject agreed unless a more serious matter arises.
- Give the safer injecting advice from the risk perspective first. If client is displaying safer methods in daily practice then make sure you feed this back towards the end of the session.
- Leave the session with the client feeling they have had a positive experience, but *never* be afraid to inform the person that there is potential risk and harm from their behaviour.
- Record the information you have given and the client's history to help prevent repetition for the client when they return.
- *Store this information confidentially and ensure you obtain any permission from the client if you intend to use this information for any other purpose.*