

## The Curse of Unnecessary and Unsterile Injections

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### Commentary

In many parts of the world injections are the preferred treatment for many illnesses. The act of injecting something into the body is a potent symbol of medicine and patients or their mothers, will often demand an injection and go to someone who will give it, for consultations without treatment are not paid. But injections require needles and syringes which are expensive and, like the medicines which are injected, must also be sterile. If they are re-used they must be properly cleaned and sterilised. In one study, needles had been reused twenty five times, but each syringe was reused for over seven hundred patients. As the needle is withdrawn, small amounts of blood are drawn in and if the patient is infected with HIV or hepatitis virus, the next person may be infected. Drug users draw blood into the syringe to rinse out any left over drug before re-injecting. Especially in prisons where syringes are forbidden, this habit leads to epidemics of HIV infections. Doctors and nurses, forgetting their training, may reuse needles and syringes.

To prevent reuse, new 'disable syringes' are disabled after one use and have to be thrown away: in Tanzania these syringes will be the only ones in use in government hospitals and clinics. No doubt, there are factories now producing kits to enable them to be used! In India, such used syringes are now being repackaged and sold. Perhaps the majority of injections are given by local healers in villages and not in hospitals. Any worker in a hospital is tempted to steal syringes and give injections to family and friends. The dangers are real: the highest incidence of hepatitis, a disease of the liver, coincides with the highest use of injections. We must educate everyone that injections can be harmful and that most are unnecessary. WHO, with its Safe Injection Global Network, has made health workers aware of the dangers of unsafe injections. But people still smoke, overeat, do not use condoms and have unwanted pregnancies. Local beliefs and habits may still persist in spite of official good practice. In Assam I found that local tradition forbade the use of injections and scarification. But in Chennai, 100 women health workers all knew of children who were paralysed after an injection: 'the child was going to be paralysed in the leg and the doctor injected a drug, but the drug was not powerful enough to prevent the paralysis' – all said they would want an injection for their child. In many third world countries, a child with fever will probably be given an injection for presumed malaria. Farmers use the same syringes for their animals, family and their friends. In the first two decades of the twentieth century the arsenic drug Salvarsan or 606 was used to cure the horrible tropical disease of yaws. The drug, which cured syphilis, with one (large) injection, cured the disfiguring related

bacterial disease in only twelve days: no wonder it was called 'The Magic Bullet'. In New Guinea, the local health workers clamoured to be given injections of this wonder drug. Unfortunately, the 'magic' became fixed on the injection itself, rather than the drug, so that injections became essential medical treatment. Later, when penicillin became the drug of choice, sex workers began to adopt a weekly preventative injection. At the beginning of the HIV epidemic, I suggested that the reuse of syringes in the clinics used by these sex workers in the Congo led to the explosion of the virus among the workers and their clients [1]. It is not only injections which are harmful, any scarification or exchange of blood can lead to transfer of infection. The history of injections has an unexpected lesson for all doctors. From 1914, but only recognised in the 1950's, some children given sterile injections appeared a few days later with the limb paralysed by poliomyelitis. This unexpected complication of the injection caused a poliovirus infection to invade motor neurones. Injections were afterwards only given in months with low poliovirus infections. From the 1960's, doctors in India noticed that a child given an injection for fever, often developed paralysis a day later. A study of children with polio showed that about one quarter had no injections, but the same number incubating non-paralytic infections were converted by injections to paralysis. The rest had paralysis which was made more severe by injections [2]. In our hospital, only a few cases died from polio, but all had received injections, in each arm and leg! Injections can be deadly. Who could have foreseen the tragic consequences that the small trauma caused by an injection of a vaccine might result in paralysis some days later? Or that a similar injection for a fever might, by a different mechanism in the CNS, result in severe paralysis 24 hr later? Fortunately, this use of injections has almost ceased with the eradication of polio, but we must always be on the lookout for the unexpected.

### Conclusion

Pills and suppositories may seem to be less urgent and immediate. But are safer and more effective. Injections spread infections.

### References

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