

Epidemiology

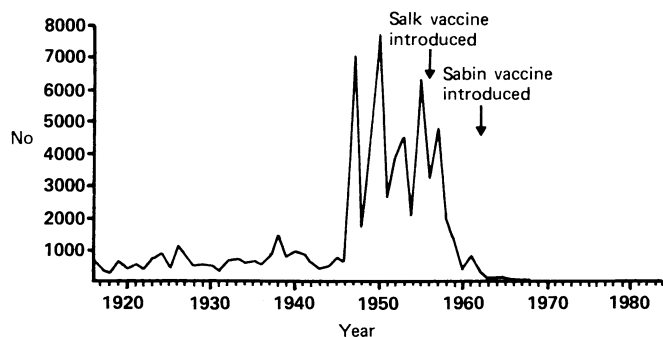
Report from the PHLs Communicable Disease Surveillance Centre

In April a case of paralytic poliomyelitis was reported. The number of infections with *Chlamydia psittaci* increased, and the possible association of infection in sheep with disease in humans received publicity. There were 27 cases of the acquired immune deficiency syndrome (AIDS) reported in Britain in May, bringing the total to 362 since surveillance began in 1982.

Poliomyelitis

In April 1986 bulbar poliomyelitis developed in a 23 year old unimmunised man whose son had been vaccinated with oral poliovaccine 47 days previously. Poliovirus type 3 was isolated from the patient's stools, and the strain is currently being examined to determine if it was likely to have originated from the vaccine or was a wild strain. The timing of the illness in relation to the child's vaccination meets the World Health Organisation definition of a "contact vaccine associated" case.

Poliomyelitis was made notifiable in England and Wales in October 1912, and for 35 years the annual number of notifications ranged between 236 and 1489. Large epidemics took place in the late 1940s and early 1950s, however, with a peak of over 7700 notifications in 1947 (figure). In 1956 killed trivalent poliovaccine



Poliomyelitis: notifications in England and Wales 1919-84.

(Salk) was introduced; this was replaced in 1962 by trivalent live attenuated poliovaccine (Sabin). By 1963 notifications had fallen to fewer than 100 and by 1969 to fewer than 20 a year. Immunisation acceptance rates nationally were maintained at 80% to 90% of the child population, but despite this a geographically widespread outbreak affecting 20 people took place in 1976 and 1977 among unimmunised or partially immunised people, many of whom were gypsies who had missed the opportunity for immunisation because of their itinerant lifestyle. At the same time an outbreak among an unvaccinated religious sect was reported in the Netherlands, where very high levels of acceptance of Salk vaccine have been achieved in the general population. More recently in 1984-5 another outbreak in a Salk vaccinated community with a high uptake of vaccination was reported in Finland, in which wild virus spread widely in the population.

Sabin vaccine has several advantages over Salk vaccine. It induces

a greater intestinal immunity than the killed vaccine as well as a similar humoral immunity. It therefore provides greater herd protection and would be more likely to inhibit the spread of wild virus, such as took place in the Salk vaccinated population of Finland. Furthermore, Sabin vaccine spreads to and immunises contacts—for example, with an acceptance rate of 80% to 85% the proportion of the population immunised may be 5% to 10% higher, between 90% and 95%. It is easier to administer and less expensive than Salk vaccine.

Sabin vaccine has, however, an important disadvantage because vaccination may very rarely be associated with paralytic disease, such as in the case recorded above. The World Health Organisation has estimated this risk of paralysis after Sabin vaccination as less than one per million primary vaccinations and a similar risk for unimmunised contacts of vaccinees. In the 15 years 1970-84 there were 70 cases of paralytic poliomyelitis in England and Wales, 29 of which were in vaccinees or their contacts and may possibly have been caused by the vaccine. Eleven other cases were in travellers abroad and 30 in people infected in Britain in whom the source of infection was not identified.

A change to Salk vaccine in England and Wales to prevent these one to two vaccine associated cases a year would result in a fall in population immunity to that of the proportion vaccinated—that is, 80% to 85%—and a decline in intestinal immunity. In these circumstances there would be an increased risk of poliomyelitis due to wild virus in the unimmunised which might well result in a greater number of paralysed cases a year than we experience today. The best policy seems, therefore, to continue Sabin vaccination of the child population and, indeed, to attempt to reach higher levels of uptake, and at the same time to continue to ensure that travellers to endemic areas are adequately protected.

Psittacosis

Chlamydia psittaci infects many species of birds and mammals. In sheep it causes abortion, stillbirth, and sickly lambs, but these ovine strains are thought to be of low pathogenicity to man. Infection from birds is transmitted to man by inhalation of dust from desiccated droppings or feathers from infected birds or by aerosol in poultry processing plants. Person to person spread has been described, but it is unusual.

National surveillance of this infection is maintained by monitoring laboratory reports. These have more than doubled in the past 10 years, and over 400 cases are now reported a year, an increase which is thought to be mainly real and not due to better laboratory diagnosis or improved reporting. Most of the cases appear to be sporadic, and only about one fifth have any known association with birds. Small outbreaks have been reported in workers in duck processing plants, and one outbreak in a school was reported which may have been due to person to person spread. These outbreaks do not explain the overall increase in human psittacosis, however, the cause of which remains obscure.

In the past four years there have been at least five reports in the United Kingdom of acute infection in pregnant women tending sheep during the lambing season where the sheep have been infected with *C psittaci*. All the women were seriously ill with loss of the fetus or death of the newborn child. The risk to women of infection and

abortion in these circumstances is unknown, but, because of these recent reports, pregnant women should probably be advised to avoid contact with sheep during the lambing season.

Acquired immune deficiency syndrome

During May 27 cases of AIDS were reported; at least eight of these reports were in response to a special appeal to clinicians to report all their suspected or confirmed cases in confidence to the Communicable Disease Surveillance Centre, 61 Colindale Avenue, London NW9 5EQ (tel 01 200 6868). Of the 27 cases, 22 were in homosexual or bisexual men, three in men with haemophilia, one in a immigrant from Zambia, and one in a baby girl whose parents were seropositive and who is thought to have contracted the infection by vertical transmission (see table).

A majority recommendation was recently made by the Nomenclature Committee of the International Committee on the Taxonomy of Viruses that the causative virus of AIDS, known as human T cell lymphotropic virus type III (HTLV-III) and lymphadenopathy associated virus (LAV), should in future be known as human immunodeficiency virus (HIV). Perhaps the simpler name "AIDS

Cases of acquired immune deficiency syndrome in United Kingdom to 31 May 1986

Patient characteristic	No of cases			No of deaths
	Men	Women	Total	
Homosexual or bisexual men	318	0	318	151
Haemophiliacs	17	0	17	16
Recipients of blood	5	1	6	5
Intravenous drug abusers	3	1	4	2
Heterosexual contact	0	2	2	1
Visited Caribbean or United States and were at possible risk	3	0	3	1
Associated with Africa:				
Direct	3	5	8	8
Indirect	0	2	2	0
Paediatric	0	1	1	0
Other	1	0	1	0
Total	350	12	362	184

virus" would be a better choice for general use, however, because it is more readily understood by both lay and professional people and because HIV may cause some confusion with HAV (hepatitis A virus).

Medicine and the Media

IF MY SURGEON, Mr John Dinley of Bournemouth, had not approved it for my use and if the *BMJ* had not invited me to write on the subject of my orthopaedic scooter (26 April, p 1121) I would not have known that doctors are not the conservative folk I had always supposed them to be. I have been astonished by the many letters of encouragement from doctors, surgeons, and hospitals urging me to go into production. I have also received several immediate orders, some from surgeons and businessmen who like me had damaged themselves and wanted to get back to work. A small batch was made but was soon exhausted—so we are now in production.

Among the first users was Mr Alan Crockard, a consultant neurosurgeon at the National Hospital for Nervous Diseases, who ruptured his Achilles tendon playing squash (14 June, p 1599). He urgently requested K9 and was soon amusing the staff at his hospital of incarceration by shooting up and down corridors and immediately shooting back to work. Another client was Professor John Palmer, an American urological surgeon with the same injury as Mr Crockard. He is using his scooter for long distance commuting from his London home to hospital and keeps requiring new and better tyres for his marathons. I am expecting him to want a motor soon. He wrote: "... it has outdistanced my maximal speculation on its manoeuvrability... I've had tremendous increase in my ability to get around, it is a convenient leg rest in restaurants and trains. It has returned me to the operating theatre with great comfort."

The head of an international computer company, Mr Aaron Gershfield, who broke his ankle in three places wrote: "I cannot overstate the benefit K9 has afforded me. There was a delay in my starting to use him (you see he's no longer referred to as 'it') as I wanted to get approval from my surgeon. Since that time, I have run, walked, stood up for several hours at a time, been best man at a wedding, travelled on the train, walked around the West End of London, and played table tennis. My only complaint is that a Porsche can still beat me on 0-60 mph. Thank you for breaking your leg." To give himself exercise he habitually walks K9 wherever he can—up to five miles recently. Try that on crutches.

Professor Grainger, professor of diagnostic radiology in Sheffield, who was lecturing in Winchester recently, collected a K9 for his

wife who had suffered a fracture. He wrote: "... within 10 minutes she had discarded her crutches and was preparing a meal. She was transformed from previous immobility into a reasonably active person and her morale was greatly improved."

Hospitals have begun to order K9 for their orthopaedic departments and one for its department of rheumatology. One physician who ordered some remarked: "The crutch has been around since biblical times but obviously hadn't caught up with the invention of the wheel."

An article in *The Times* by Olivia Timbs prompted others to order. One gentleman whose general practitioner gave him the *BMJ* to read has to look after an invalid wife and needed K9 because of his gout. Each morning the mail brings more inquiries and demands; a telex from Singapore demanded immediate air freight—and so on.

I was asked by Professor Wallace, the head of the department of orthopaedics at Queen's Medical Centre, University Hospital, Nottingham, to provide a K9 for one of his patients and at the same time to demonstrate the device to about 30 visiting orthopaedic surgeons and physiotherapists from all over Europe. The patient they hoped would be mobilised by using K9 had been operated on for Paget's disease of his right shin and was 72 and quite frail. He could not manage crutches because of shoulder problems and arthritis in the knee of his working leg. I did not think he would be a suitable candidate, but the physiotherapists persisted enthusiastically and to my surprise the patient managed, within a short time, to acquire the knack. When I left he could go the length of his ward by himself.

Up until now we have been making three sizes—short, medium, and tall adult—but I have now developed and tested an adjustable model. It can be dismantled into four pieces and will fit in a suitcase. But I need more advice, which should be sent to me at the address below. (1) While using K9 I developed a seat panel which clipped onto the shin box, allowing me to sit and rest awhile. It is proving popular with other users, but is it worth incorporating as a standard part? (2) Should we make a miniature for children and, if so, from what age?—

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