The expense of silicone implants for impotence and incontinence has led to the concentration of the work in special centres. £800 may seem a lot of money for a two-thirds chance of curing incontinence, but it is a relatively small price for a dramatic change in the patient's way of life, his ability to work, his contribution to the community, and the relief from being socially ostracised by his anxiety that others may be aware of the uriniferous smell. In the same way the price may be acceptable for the young man who has been rendered impotent either by trauma or by diabetes for it may provide him and his wife with an almost normal life. However, some age limit should perhaps be imposed on such a procedure. Operations on 10 patients between the age of 60 and 69 and one patient aged over 70 for impotence[9] might be an unjustifiable financial imposition on our National Health Service.

[1] *British Medical Journal*, 1977, **1**, 254.
[2] Furlow, W L, *Mayo Clinic Proceedings*, 1976, **51**, 325.
[3] Scott, F B, Bradley, W E, and Timm, G W, *Urology*, 1973, **2**, 80.
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[6] Pearman, R O, *Journal of Urology*, 1972, **107**, 802.
[7] Small, M P, Carrion, H M, Gordon, J A, *Urology*, 1975, **5**, 479.
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Animal ringworm

Ringworm fungus infections may be divided into two groups: those which infect only man (anthropophilic species) and those which primarily infect animals, when human infection is acquired from the animal sources (zoophilic species). The three common animal species are cattle ringworm (*Trichophyton verrucosum*), cat and dog ringworm (*Microsporum canis*), and small mammal ringworm (*T mentagrophytes* var *granulare*).

In Britain the most common animal ringworm infection in man is that due to cattle ringworm. It usually infects exposed areas but any part of the skin may be affected. Patches have a red, scaly, and active edge and tend to clear in the centre—as with any ringworm infection. In addition, follicular pustules are often present, and these are prominent, particularly in hairy areas. The whole lesion is red, raised, and purulent (kerion), closely mimicking pyococcal infection. Cattle ringworm develops more slowly than impetigo and boils, taking a few weeks to reach the maximum response. The hair over the site can be removed easily and later falls out. The condition usually takes three to six months to resolve unless the patient is treated with griseofulvin.

Cat and dog ringworm causes a ringed lesion with an active edge, and, though it is not so inflamed as that due to cattle ringworm, there may be some follicular pustules. The scalp is commonly affected, when there are circular patches of redness and scaling with short broken hairs. These hairs will fluoresce under Wood's light in a similar way to that seen with the species causing human ringworm (*M audouini*), which up to three decades ago was so common.

Small mammal ringworm also produces lesions with an active edge and ringed patches. These are usually in exposed sites, particularly on the face, forearms, and lower legs. Commonly there are one or two patches, but the condition may be widespread. The various animals concerned (ranging from hedgehogs and voles to rats and mice) usually have their own specific variety of fungus, which can be identified in culture. An interesting epidemiological survey of animal ringworm infection among agricultural workers by Chmel *et al*[1] has recently been reported from Bratislava. Mammals were trapped in different natural localities, and over two years 1288 animals of 13 species were examined mycologically. Ringworm fungi were isolated from 57, and it was found that the animals harbouring the fungus most commonly were voles (5·6%). Field mice and shrews (3·6%) and house mice (3%) were also quite frequently infected. The study did not include hedgehogs—a common source of ringworm infection in Britain. Morris and English[2] have shown that 20% of British hedgehogs harbour the fungus of hedgehog ringworm, *T mentagrophytes* var *erinacei*. British voles are commonly infected with *M persicolor* and infection with *T mentagrophytes* is very rare.[3] Neither of these studies, however, refers to tame small mammals, which are one of the commoner sources of small mammal ringworm in patients other than agricultural workers.

Discussing their epidemiological findings, Chmel *et al* point out that the importance of these natural foci of infection depends on the density of distribution of the mammals concerned, their migration, and their close contact with man. Those which frequent barns and granaries are most likely to pass on infection. They also mention that of 445 infected workers working with animals 72% were infected with *T verrucosum* and 28% with *T mentagrophytes* var *granulare*, while of the 137 infected workers working with crops *T mentagrophytes* var *granulare* occurred in 77% and *T verrucosum* in only 32%. The small mammal ringworm apparently affects the face in 22% of men and only 6% of women, while the lower legs were affected in 26% of women and only 4% of men, presumably because in Bratislava women do not wear trousers.

[1] Chmel, L, Buchvald, J, and Valentova, M, *International Journal of Epidemiology*, 1976, **5**, 291.
[2] Morris, P, and English, M P, *Sabouraudia*, 1969, **7**, 122.
[3] English, M P, and Southern, H N, *Sabouraudia*, 1967, **5**, 302.

Insulin regimens for diabetic ketoacidosis

Recommendations on the use of insulin in treating diabetic ketoacidosis vary considerably as to the best route, dose, and timing. Recently the newer regimens of continuous intravenous infusion or regular hourly intramuscular injections of insulin have greatly simplified treatment. Previous uncertainties have been eliminated, because the treatment is now continuous and the dose of insulin the same for almost all patients.

The aim in giving insulin is to achieve an effective serum insulin concentration of 20 to 200 μ units/ml as quickly as possible.[1] Intravenous insulin does this most rapidly[2] and most reliably, but because the half life is short (roughly four minutes[3]) continuous infusion is needed to maintain an adequate serum concentration. Sönksen[1] first observed the effect of a small dose infusion in correcting ketoacidosis during insulin infusion studies. The technique is very simple, using either an infusion pump or the addition of insulin to the delivery chamber of a paediatric giving set[4]; no loading dose is needed. Intermittent bolus intravenous injections given hourly,[5] or over 10-15 minutes every hour,[6] are also effective,