paracetamol 650 mg was more effective than dextropropoxyphene 65 mg for the relief of pain following episiotomy. No greater benefit was derived by using the two drugs concomitantly, and dextropropoxyphene alone was no better than a placebo. The analgesic effectiveness of Distalgesic is therefore largely due to its paracetamol content.

There is no doubt that Distalgesic is popular among patients and it is common knowledge among general practitioners that once Distalgesic has been prescribed for any length of time for whatever type of pain—but particularly in musculoskeletal disease, where psychosomatic factors are so prevalent—it becomes increasingly difficult to stop or change it. But this resistance by the patient is not due to the analgesic effectiveness of Distalgesic.

There are many reports in the literature⁴⁻⁶ that prolonged use of dextropropoxyphene leads to dependence. Your own leading article⁷ emphasises this and highlights the growing addiction to this drug, especially in the United States. It is this property of the drug and not its analgesic potency which makes it so popular.

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¹ Eddy, N B, *et al*, *Bulletin of the World Health Organization*, 1969, **40**, 1.

² National Academy of Sciences—National Research Council Panel on Drugs for Relief of Pain, *Medical Letter on Drugs and Therapeutics*, 1970, **12**, 5.

³ Hopkinson, J H, *et al*, *Journal of Clinical Pharmacology*, 1973, **13**, 251.

⁴ Seventeenth Report of the WHO Expert Committee on Drug Dependence, *World Health Organization Technical Report Series*, No 437, 1970.

⁵ Claghorn, J L, and Schooler, J C, *Journal of the American Medical Association*, 1966, **196**, 1089.

⁶ Wolfe, R L, *et al*, *Annals of Internal Medicine*, 1969, **70**, 773.

⁷ *British Medical Journal*, 1977, **1**, 668.

Human milk banking

SIR,—Our recent studies in Oxford on human milk banking (13 January, p 80) have shown that if human milk is collected into sterile vessels and stored in the donor's domestic refrigerator for three to four days before being transported to the special care baby unit, then accurate pasteurisation eliminates potentially pathogenic organisms. These studies were conducted during the winter months of 1977. Over the period May to August 1978 we found that the pre-pasteurisation bacterial counts of donated milk became progressively higher than we had observed before, perhaps relating to less effective domestic refrigeration at higher summer temperatures. It is well established that the initial bacterial count in milk determines the efficacy of pasteurisation, and the elevated prepasteurisation bacterial counts from July to mid-August 1978 resulted in nine out of 20 consecutive pasteuriser runs (45%) failing to eliminate potentially pathogenic organisms *Escherichia coli* and *Staphylococcus aureus* (table). While these residual potential pathogens in the nine samples were present in low numbers after pasteurisation ($<2 \times 10^2$ viable colony-forming units/ml), we considered that this milk was unsuitable for feeding to preterm neonates, though others have been prepared to use milk contaminated with *S aureus* in these numbers.^{1,2}

In view of our findings we elected to change our milk-banking procedure, and donors were instructed to store their milk after collection in the freezer compartment of their refrigerator, each 24-hour collection being stored in a separate sterile container. After the intro-

Post-pasteurisation bacteriology* of milk stored 3-4 days in a domestic refrigerator compared with milk stored up to 7 days in the frozen state: 20 pasteurisation runs in each group.

	No growth	Unlikely **pathogens only	pathogens
Home refrigeration	5	6	9
Home freezing	19	1	0

*Anaerobic and aerobic cultures performed on 0.2 ml inocula into standard media: limit of detection, 5 viable colony-forming units/ml of milk.

***S albus*, *Lactobacilli*, *Bacillus* spp, *S faecalis*.

duction of home freezing (rather than refrigeration) there was an immediate marked reduction in the prepasteurisation bacterial flora of the milk, and following the next 20 consecutive pasteurisation runs during late August and September we were unable to isolate any potential pathogens. Indeed, all but one of the 20 cultures were "sterile" (fewer than five viable colony-forming units/ml) following pasteurisation. The difference between frozen stored and refrigerator stored milk, with respect to the efficacy of pasteurisation in eliminating potential pathogens, was highly significant ($P < 0.001$ by Fisher's exact probability test).

Human milk banking is still a poorly defined science and the effects of introducing each new procedure need to be assessed carefully. Previously we had tried to avoid prepasteurisation freezing of milk since Gibbs *et al* demonstrated that freezing may damage antimicrobial components in milk.³ However, Gibbs showed that these effects were related to the length of time the milk was stored in the frozen state,³ and we have therefore chosen not to allow home storage to exceed seven days. Further work is needed to evaluate the effects of freezing on human milk, but the studies reported here indicate that home freezing of donor milk in some circumstances is of value as an adjunct to precision pasteurisation.

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¹ Williamson, S, *et al*, *British Medical Journal*, 1978, **1**, 393.

² Lucas, A, Goddard, P, Baum, J D, *British Medical Journal*, 1978, **1**, 78.

³ Gibbs, J H, *et al*, *Early Human Development*, 1977, **1**, 227.

Norethisterone oenanthate as an injectable contraceptive

SIR,—In a recent non-comparative clinical trial at King's College Hospital, London, Dr O F Giwa-Osagie and his colleagues (24 June, p 1660) reported on the use of norethisterone oenanthate (NET-OEN), 200 mg given at eight-week intervals, in a sample of 295 women observed for 1606 months. The authors reported no pregnancies and very low termination rates for amenorrhoea.

The World Health Organisation's Special Programme of Research, Development and Research Training in Human Reproduction is currently conducting a multinational randomised comparative controlled clinical trial of

depot-medroxyprogesterone acetate (DMPA) and NET-OEN in 11 countries. The injections of NET-OEN are given at eight-weekly intervals for the first six months of therapy, and then 50% of the NET-OEN subjects are randomly assigned to a 12-weekly injection schedule while the other 50% of subjects remain on the eight-weekly regimen. By 1 August last year, 1186 subjects had received NET-OEN and 13 344 women-months of experience had been accumulated.

Since the WHO trial is an ongoing study, detailed findings cannot be released at this juncture. However, contrary to the results presented by Giwa-Osagie *et al*, there have been a number of pregnancies among women receiving NET-OEN at eight-week intervals. Furthermore, the termination rates for amenorrhoea among subjects receiving eight-weekly NET-OEN injections is substantially higher than that reported by Giwa-Osagie *et al*, and higher than the rates observed in a previous WHO trial, in which NET-OEN was administered at 12-week intervals.¹

The discrepancy between the findings of the ongoing large-scale WHO trial and the King's College Hospital study illustrate the problems that may arise with the interpretation of results derived from small samples, especially if the duration of observation is limited. From table III of the paper by Giwa-Osagie *et al*, it is clear that 70% of the total duration of observation on the 295 subjects entering the trial was attributable to women who had used the drug for six months or less.

It can be misleading to present cumulative data for prolonged periods of observation, such as one year, when most of the information is derived from a shorter duration of study. This is particularly a problem with long-acting injectable contraceptives, as amenorrhoea and the infrequent follow-up contacts may lead to delays in the diagnosis of pregnancies.

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¹ World Health Organisation; *Contraception*, 1977, **15**, 513; and 1978, **17**, 395.

Mumps deafness

SIR,—The paper by Mr G A Westmore and colleagues (6 January, p 14) will be interpreted as showing that deafness in mumps is due to the presence of the virus in the perilymph, entering the inner ear by haematogenous spread. It is surely quite impossible, however, for a generalised viraemia to cause the unilateral or sudden deafnesses that occur in viral infections.

In mumps, virus is very hard to demonstrate in the blood as opposed to other body fluids.¹ It is far more likely that the widespread viral dissemination occurs via the lymphatic vessels, and that this is how it can get into the cerebrospinal fluid in cases of meningo-encephalitis. Since there is cervical lymphoedema in mumps, there will be an ascending stasis and large hydrostatic pressures may be transmitted backwards into the labyrinthine fluids, since one of the CSF drainage routes into the cervical lymph nodes passes through the inner ear.² This will predispose to a sudden rupture of a labyrinthine window. A stapedectomised ear is likely to have a weak oval